

THE LANGUAGES OF BORNEO:
A COMPREHENSIVE CLASSIFICATION

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ABSTRACT

Borneo is the third largest island in the world, and home to some 100 Austronesian languages (language numbers vary greatly depending on where one draws the sometimes arbitrary line between language and dialect). Borneo has been called both a “hot-spot” for linguistic change and a “cross-roads” for Austronesian comparative linguistics. This dissertation is the culmination of three years of research, based primarily on fieldwork in Borneo, and has several aims: 1) to make available new data on languages of Borneo which were previously undescribed or under-described, 2) to use this data to describe the historical phonologies of the languages of Borneo, 3) to delineate lower-level subgroups based on these historical phonologies, 4) to reevaluate Bornean higher-order linguistic subgrouping using Blust’s *Greater North Borneo hypothesis* as the current standard, 5) to discuss, based on the composition, geographic positions, and interrelatedness of these subgroups the history of population movements in Borneo from a linguistic perspective. More than anything, however, this is a reference piece. It is designed to give interested parties the most complete overview of Borneo possible. It is hoped that it will serve as a starting point for many more conversations about these languages.

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LIST OF ABBREVIATIONS

All proto-language abbreviations can appear without the initial P, in which case, they refer to the subgroup rather than the reconstructed proto-language. For example, PMP is listed below as Proto-Malayo-Polynesian. Thus, MP stands for simply Malayo-Polynesian. The same is applicable to all abbreviations below.

| | |
|----------|-----------------------------------|
| PAN | Proto-Austronesian |
| PBIN | Proto-Bintulu |
| PB-LB | Proto-Berawan-Lower Baram |
| PBSLD | Proto-Bidayuh-Southern Land Dayak |
| PCS | Proto-Central Sarawak |
| PDAY | Proto-Dayic |
| PGCP | Proto-Greater Central Philippines |
| PGNB | Proto-Greater North Borneo |
| PKAJ | Proto-Kajang |
| PKAY | Proto-Kayanic |
| PKEN | Proto-Kenyah |
| PKYN | Proto-Kayan |
| PLD | Proto-Land Dayak |
| PMAL | Proto-Malayic |
| PMEL | Proto-Melanau |
| PMP | Proto-Malayo-Polynesian |
| PMÜL | Proto-Müller-Schwaner |
| PMUR | Proto-Murik-Merap |
| PNB | Proto-North Borneo |
| PNES | Proto-Northeast Sabah |
| PNS | Proto-North Sarawak |
| PPUN | Proto-Punan |
| PPUN-MÜL | Proto-Punan-Müller-Schwaner |
| PSM | Proto-Segai-Modang |

PSwS Proto-Southwest Sabah
PWIn Proto-Western Indonesian

CHAPTER ONE

INTRODUCTION

1.1 BORNEO

At 287,000 square miles, Borneo is the third largest island in the world. It is just larger than the U.S. state of Texas (286,000 square miles) but with a population of around 19 million, has only 72% the population of Texas. Borneo is located in Island Southeast Asia, straddles the equator, and is home to one of the world's largest tropical rainforests. The interior is mountainous, and dominated by large river systems which have had a significant impact on historical migrations, settlement patterns, and culture. The majority of the population lives along or near the coast, while the mountainous interior remains sparsely populated. It is the interior, however, where most of the linguistic diversity of Borneo is located. Three nations are found on the island; Brunei is the smallest, and is located in northern Borneo. It is also the only nation entirely located on the island. The two Malaysian states of Sarawak and Sabah are located on the side of Borneo facing the South China Sea to the west and the Sulu Sea to the north. The remainder of Borneo forms the Indonesian province of Kalimantan, which faces the Celebes Sea, Makassar Strait, and the Java Sea. Map 1 below shows the location of political boundaries in Borneo. Note the following translations of terms used in map 1: *Kalimantan Utara* – 'North Kalimantan', *Kalimantan Timur* – 'East Kalimantan', *Kalimantan Tengah* – 'Central Kalimantan', *Kalimantan Selatan* – 'South Kalimantan', and *Kalimantan Barat* – 'West Kalimantan'

Map 1

Political boundaries of Borneo



This dissertation has 5 goals, 1) to make available new data on languages of Borneo which were previously undescribed or under-described, 2) to use this data to describe the historical phonologies of the languages of Borneo, 3) to delineate lower-level subgroups based on these historical phonologies, 4) to reevaluate Bornean higher-order linguistic subgrouping using Blust's *Greater North Borneo hypothesis* (2010) as the current standard, 5) to discuss, based on the composition, geographical positions, and interrelatedness of these subgroups the history of population movements in Borneo from a linguistic perspective. In all, it is hoped that this work will provide the most complete and up-to-date linguistic reference for any scholar interested in Borneo, its languages, and their speakers.

1.2 River maps

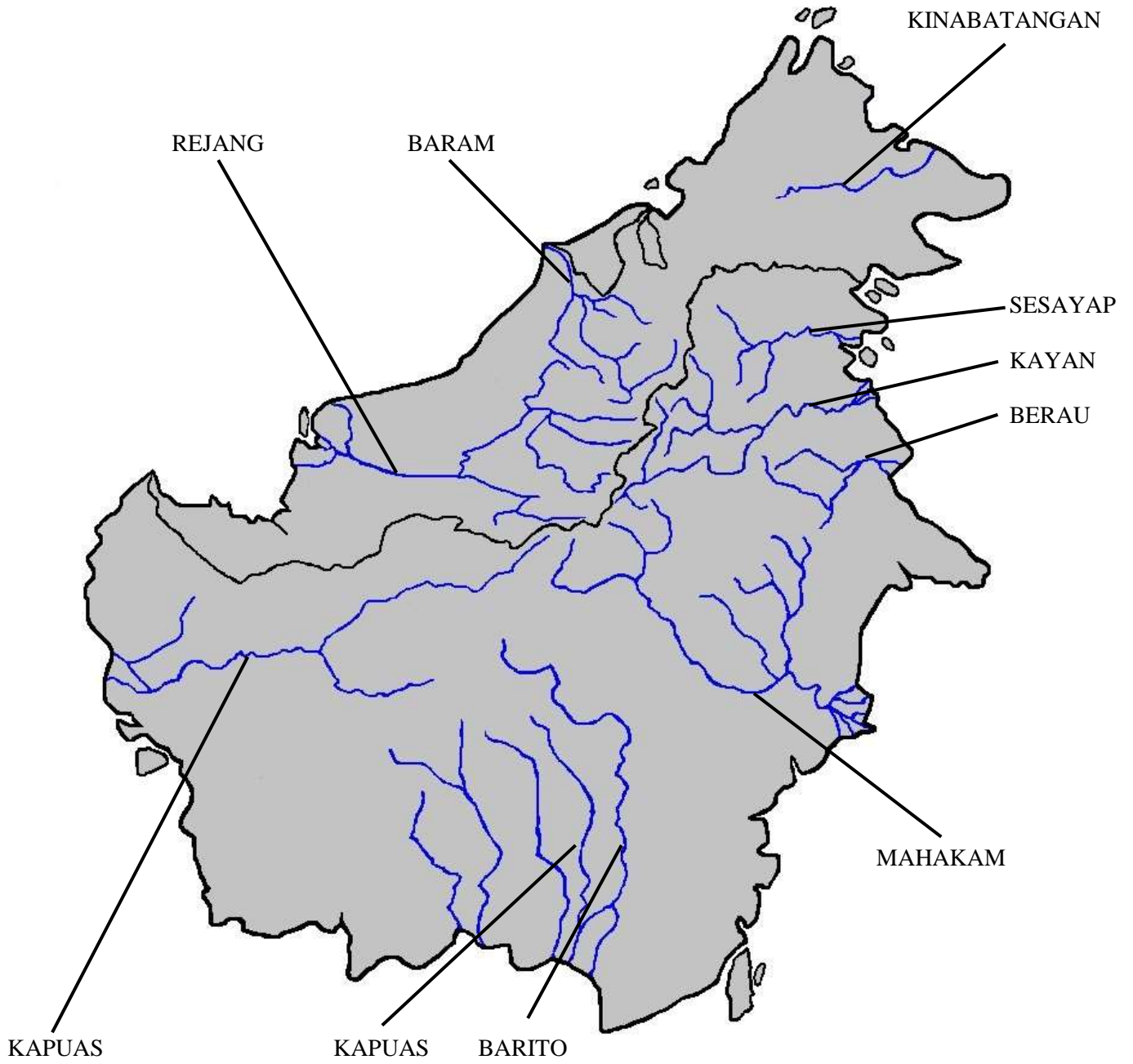
In order to follow much of the discussion in chapter four, and to have an understanding of where languages are spoken on Borneo, one first needs to have a general understanding of the geography of the island, including the location of major rivers and modern cities, which are referenced throughout the dissertation. This section contains customized maps which are intended to give the reader an accurate understanding of Borneo's river systems. Each map is introduced with a description and list of important features. Later, a list of languages will also reference these maps. All maps are aligned with north at the top.

1.2.1 Borneo and major rivers

Map 2 outlines the major river systems of the entire island. The most important thing to understand from looking at this map is that several major rivers, including the Baram, Sesayap, Kayan, Rejang, Mahakam, Kapuas, and Barito Rivers flow from various sources in the center of the island. This area, referred to as the central Borneo watershed, forms the border between modern day Sarawak and Kalimantan. It is also an area of high mobility, where past migrations, from one side of the island to the other occurred with relative ease as travelers were able to quickly move from the headwaters of one major river system to another.

Map 2

Borneo and major rivers

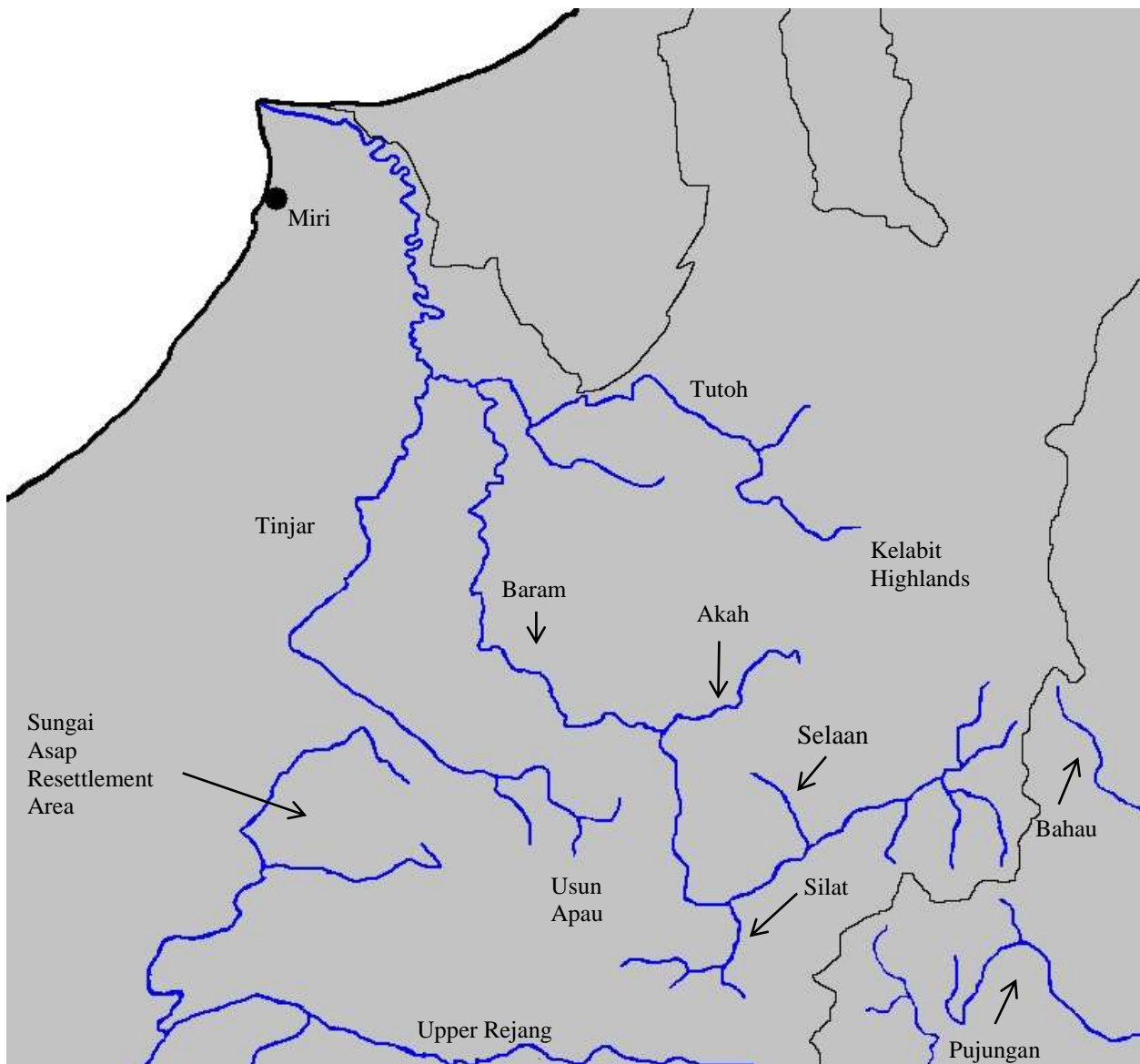


1.2.2 The Baram River system

The Baram River flows from headwaters near the Kelabit highlands, Usun Apau, and the border with Indonesia down to the South China Sea north of the city of Miri, as shown in Map 3. Major tributaries of the Baram include the Tutoh and Tinjar. The Bahau River and Pujungan River, both tributaries of the Kayan River, are a day's hike from the upper Baram.

Map 3

The Baram River system

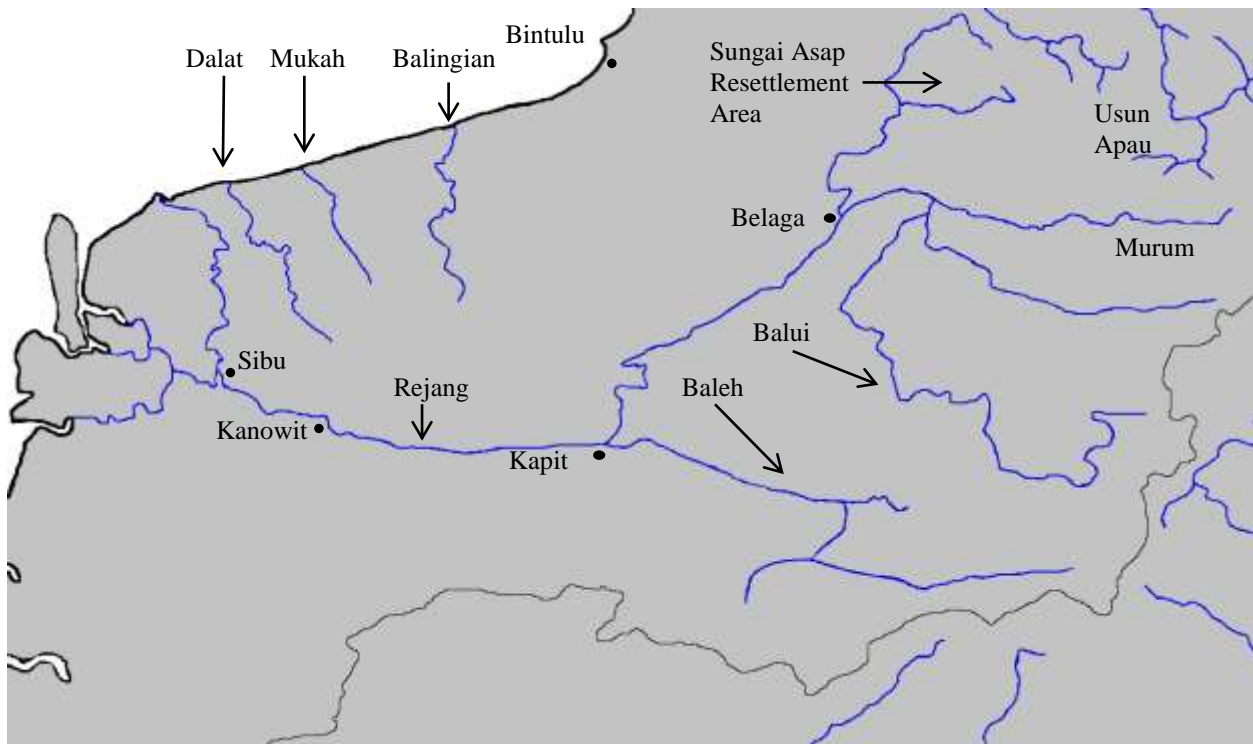


1.2.3 The Rejang River system

The Rejang River is the longest river in Malaysia, and flows from a large watershed area that includes much of the border between Sarawak and Indonesia as shown in Map 4. Parts of the river flow from the Usun Apau area, and are short distances from the Tinjar and Baram Rivers. Major tributaries include the Baleh River which flows from an area near the Kapuas River (see Map 5), the Murum River which flows from areas near the Usun Apau, and the Balui River which flows from the Apo Kayan area.

Map 4

The Rejang River system



1.2.4 The Kapuas River system

The Kapuas River is the longest river in Indonesia. It flows from a central watershed area near the headwaters of the Mahakam and Rejang Rivers. Pontianak, the capital of West Kalimantan, is located in the lower reaches of the river. In the upper Kapuas, Putussibau is the largest city. Major tributaries are the Landak, Melawi, Pinoh, and Embaloh Rivers. There are several smaller tributaries in the far reaches of the Kapuas. The Baleh tributary of the Rejang is a short distance from the Embaloh River. There are several shallow lakes near the estuary of the Embaloh, labeled on Map 5.

Map 5

The Kapuas River system

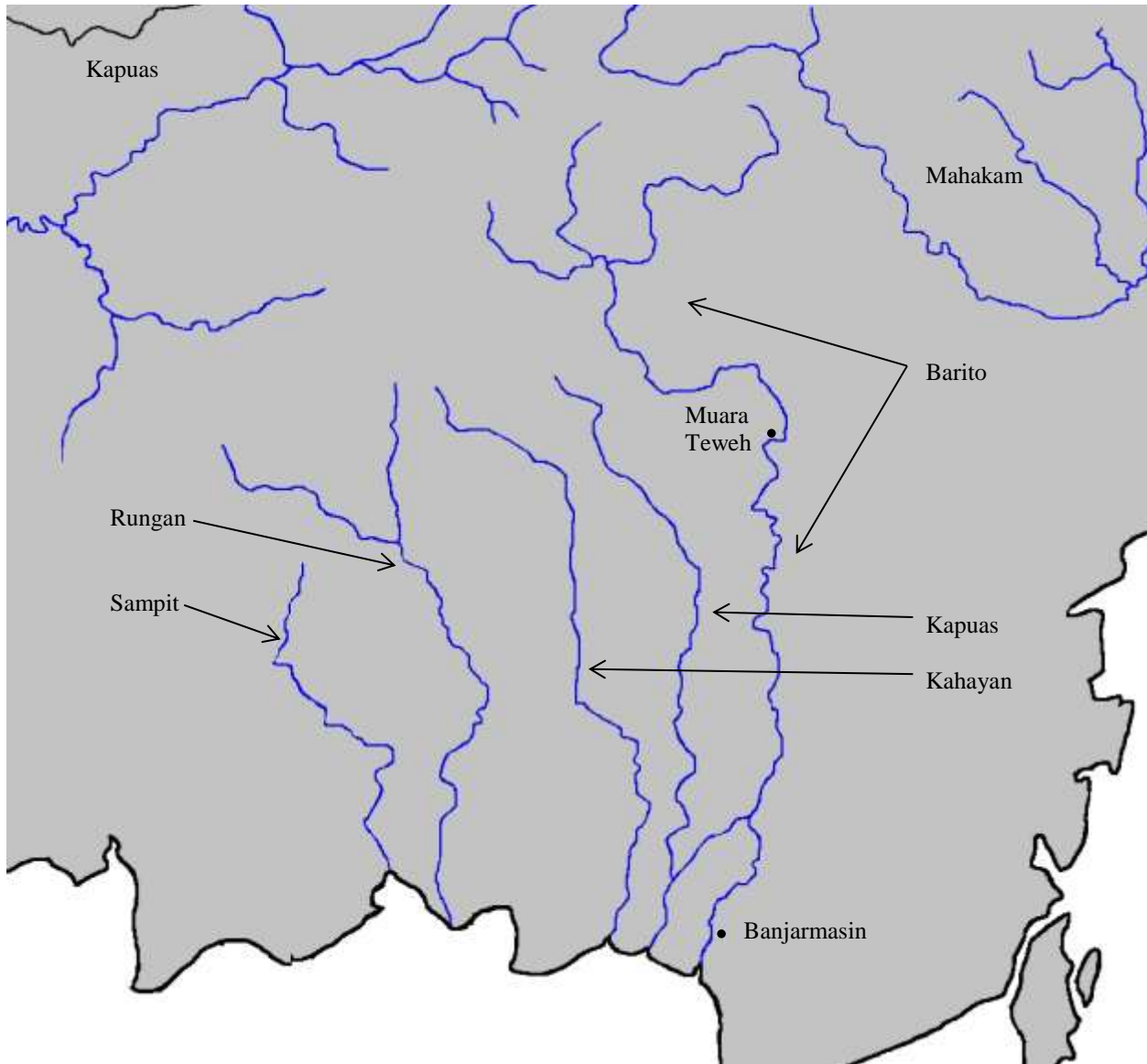


1.2.5 The Barito Basin area

The Barito area has several major rivers. Important among these is the Barito River itself, which begins in the central watershed area near the sources of the Kapuas and Mahakam Rivers. Two large cities are located on the Barito River, Banjarmasin, the capital of Central Kalimantan, and Muara Teweh, located a distance upriver. There is a Central Kalimantan Kapuas River, located just to the west of the Barito, which is distinct from a river of the same name in West Kalimantan. The Kahayan, Rungan, and Sampit Rivers are also located to the west of the Barito.

Map 6

The Barito Basin area

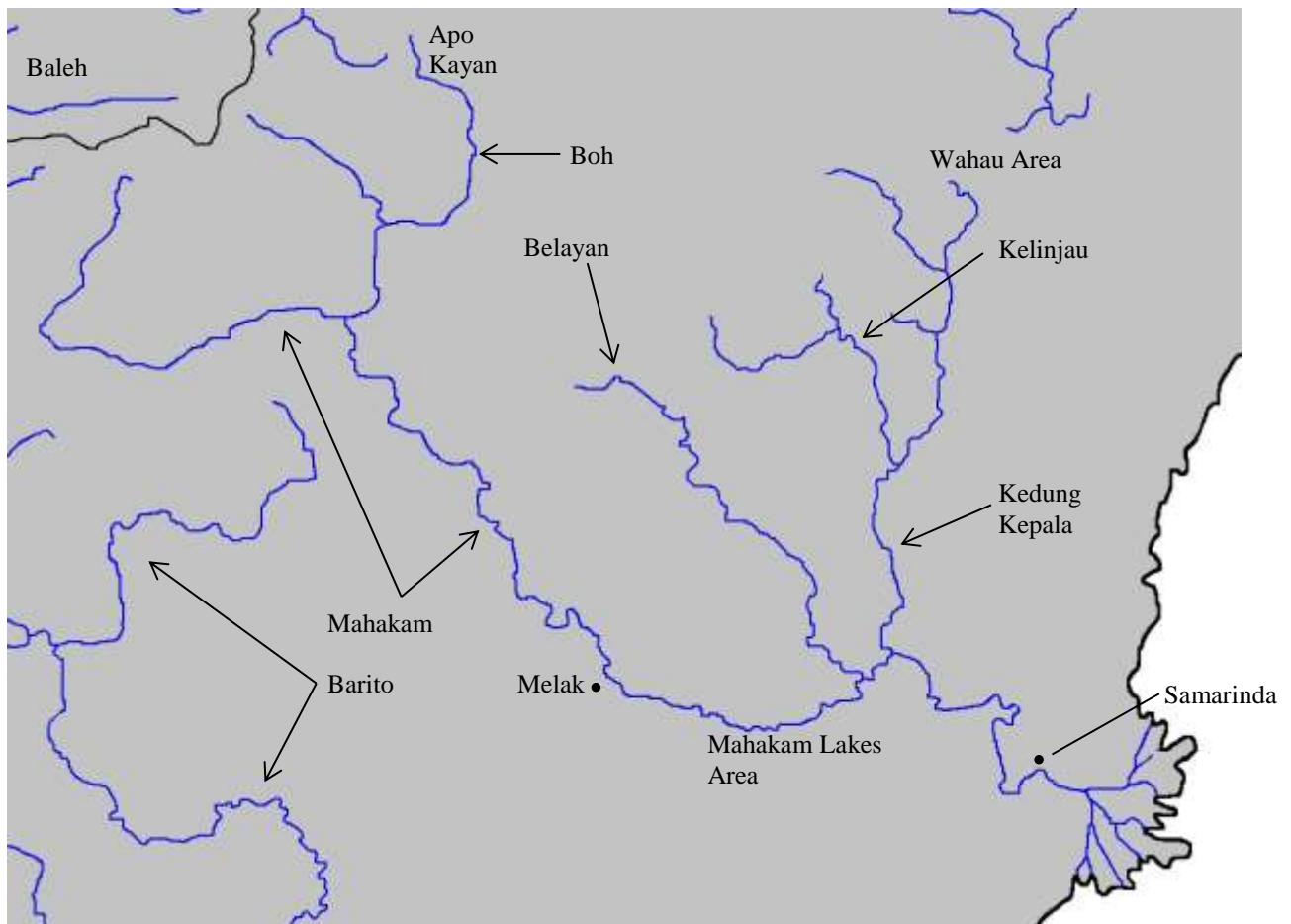


1.2.6 The Mahakam River system

The Mahakam River flows from the central watersheds, including the Apo Kayan highlands, to the Makassar Strait where it enters the sea in a large delta system. Major tributaries include the Boh River (which flows from the Apo Kayan into the far upper Mahakam) the Belayan River, and the Kedung Kepala River. The latter two tributaries are major rivers in their own right. The Belayan flows from an area near the Apo Kayan, and the Kedung Kepala flows from the Wahau area, near the Berau regency and Kelayi river (Map 8). The Kelinjau river is a major tributary of the Kedung Kelapa. Like the West Kalimantan Kapuas River system, there are several shallow lakes located in the middle course of the Mahakam River, just above where the Belayan and Kedung Kepala Rivers enter the Mahakam. The Kayan River is a very short distance from the Boh, and the Upper Mahakam is not far from both the Kapuas and Baleh.

Map 7

The Mahakam River system

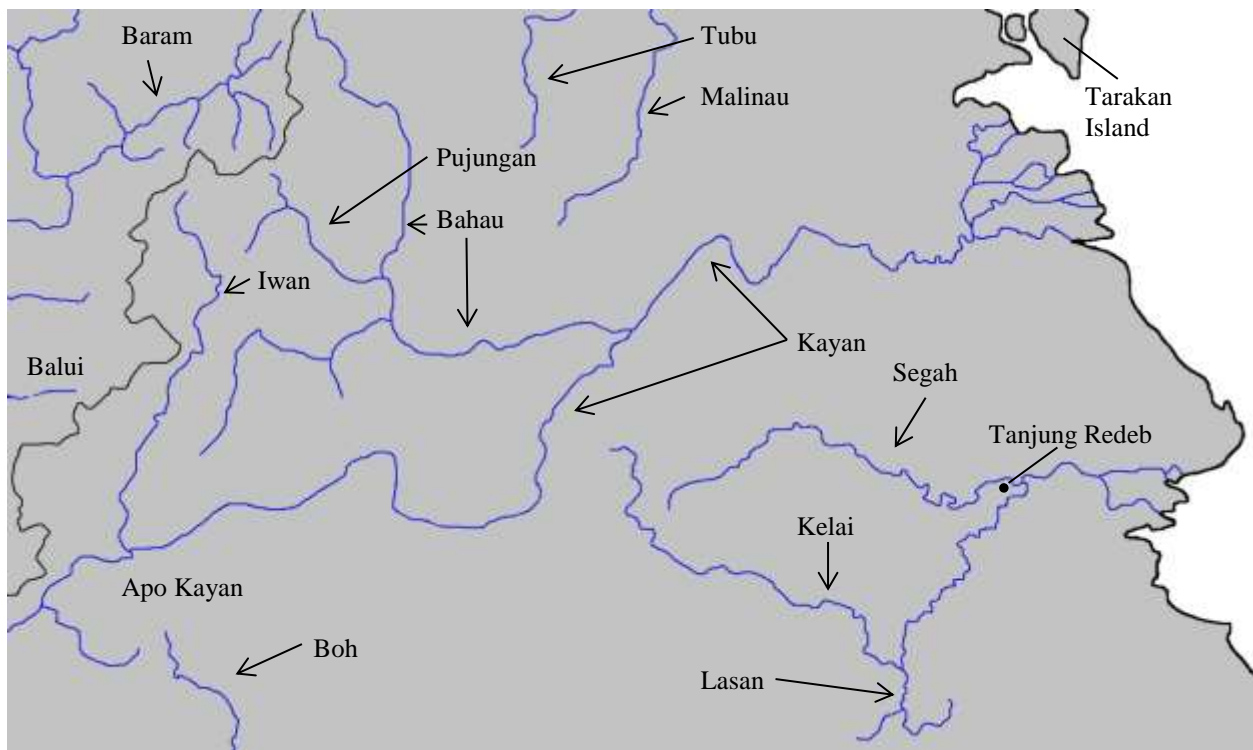


1.2.7 The Kayan and Berau river systems

Because of the geography of northern Kalimantan, two large river systems are included in this map. The Berau is fed by two rivers, the Segah and Kelai. Both flow from a watershed which separates them from the Kayan. The Lasan River flows from the Wahau area, near the headwaters of the Kedung Kepala (Map 7). Tanjung Redeb is the only city on the river, and is located on the peninsula formed where the Segah and Kelai Rivers meet. The Kayan is much larger, and is located in North Kalimantan. It is fed by the Bahau and Iwan Rivers. The Iwan River enters the upper Kayan, and flows from the upper Pujungan area roughly parallel with the north-south border with Sarawak. The Bahau enters the Kayan along its middle section, and flows from an area near the Bario highlands in Sarawak. It is fed by an important tributary, the Pujungan, which also flows from an area adjacent to the upper Baram. There are no major cities located along the Kayan, but the city of Tarakan, on Tarakan island, is near the Kayan River delta. Also on this map are the Tubu and Malinau Rivers, tributaries of the Sesayap, just north of the map's edge.

Map 8

The Kayan and Berau systems



1.3 Languages and isolects found in this dissertation

Because the aim of this dissertation is to describe the phonology, history, and subgrouping of all the languages of Borneo, it relies on data from a large number of languages. Most of this data was gathered during research conducted between 2014 and 2016. Some of the data, however, comes from secondary sources. What follows is a complete list of the languages used in this dissertation, along with the location of each language and the data source (primary or secondary). The data is organized with the language name as head, followed by the subgroup, location where the language is spoken, and the consultant(s) who provided linguistic data.

Isolects for which primary data were gathered:

| | |
|---------------|---|
| Ambalo | South Sulawesi. Spoken in Ukit-Ukit along the Labian tributary of the Kapuas River, West Kalimantan, Indonesia. Near Pusussibau (map 5). Consultants: Theo Fani and Apolonius Arya. |
| Aoheng | Müller-Schwaner. Also widely known as Penihing, an exonym. Spoken at Long Apari and Tiong Bu'u, along the upper reaches of the Mahakam river, above the Boh tributary (map 7), East Kalimantan, Indonesia. Consultants: Lorensius Antonius and Monica. |
| Badeng | Kenyah. Spoken at Lio' Mato, along the Baram River, Sarawak, Malaysia. Above the Selaan tributary (map 3). Consultant: Bobby Enjok. |
| Bahau | Kayanic. Spoken at Tring, along the Mahakam River, just upriver from Melak (map 7). East Kalimantan, Indonesia. Consultants: Pak Hibau and Simon Devung. |
| Bakumpai | Barito. Spoken throughout the Barito River as a wider language of communication, Central Kalimantan, Indonesia (map 6). Consultant: Edena. |
| Banyadu | Land Dayak. Spoken around Darit, Landak Regency, West Kalimantan, Indonesia. Just west of the Landak river (map 5). Consultant: Edi Pradinata. |
| Basap (Lebo') | Basap. Spoken in and around the settlement of Keraitan, East Kalimantan, Indonesia. Just south and east of the Wahau area (map 7). Consultants: Siti Jaria, Siti Patima, Minum, Suroso. |

| | |
|---------------|---|
| Bekatan | Punan. Spoken at Kampung Tubol, along the Belayan tributary of the Mahakam River, East Kalimantan, Indonesia (map 7). Consultant: Elin Ester. |
| Bekati | Land Dayak. Spoken in Lumar, Bengkayang Regency, West Kalimantan, Indonesia. Northwest of the Landak river, closer to the border with Sarawak (map 5). Consultant: Alo. |
| Bekati Rara | Land Dayak. Spoken around Lamat Payang, Bengkayang Regency, West Kalimantan, Indonesia. Northwest of the Landak river, closer to the border with Sarawak (map 5). Consultant: Lisa. |
| Bentian | Barito. Spoken in Lamputi, near the Mahakam River, East Kalimantan, Indonesia. Southwest of Melak (map 7). Consultant: Hengki Kuriawan. |
| Benuaq | Barito. Spoken at Sendawar, along the Mahakam River, East Kalimantan, Indonesia. Very close to Melak (map 7). Consultant: Pak Son. |
| Buket | Müller-Schwaner. Spoken along the border with Sarawak, in the upper Kapuas River, West Kalimantan, Indonesia, Around the Embaloh tributary (map 5). Consultant: Lorensius Antonius. |
| Bulusu | Murutic/Tidung. Spoken in Susua, Malinau regency, North Kalimantan, Indonesia. Consultant: Sintang Pandi. |
| Busang | Kayanic. Spoken at Long Lunuk, along the Mahakam River, East Kalimantan, Indonesia. Below the Boh river, but above Melak (map 7). Consultant: Pak Helaq. |
| Dalat | Melanau. Spoken in Kampung Tanam, Sarawak, Malaysia. Near the mouth of the Dalat river (map 4). Consultant: Mathias Raya. |
| Dusun Witu | Barito. Spoken in South Barito Regency, east of the Barito River, Central Kalimantan, Indonesia (map 7). Consultant: Andi Jordan, and his extended family. |
| Eastern Penan | Kenyah. Spoken at Long Mubui, along the Selaan tributary of the Baram river, Sarawak, Malaysia (map 3). Consultant: Taga Jame. |
| Gaai | Kayanic. Spoken at Long Laai, along the upper Segah river, East Kalimantan, Indonesia (map 8). Consultant: Herman Anye. |

| | |
|--------------------|--|
| Golik | Land Dayak. Spoken in Sendongo, Sanggau Regency, West Kalimantan, Indonesia (map 5). Consultant: Deri. |
| Hliboi Bidayuh | Land Dayak. Spoken in Merendeng, Siding, West Kalimantan, Indonesia. North of Sanggau, located right along the border with Sarawak (map5). Consultant: Subandi. |
| Hovongan | Müller-Schwaner. Spoken in Nanga Lapung, upper Kapuas, West Kalimantan, Indonesia. Above Putussibau (map 5). Consultant: Yefta. |
| Iban (Kapuas) | Malayic. Spoken in Dusun Sadap along the Embaloh tributary of the Kapuas River, West Kalimantan, Indonesia (map 5). Consultant: Novianus Doni. |
| Jangkang | Land Dayak. Spoken in Semirau, Sanggau Regency, West Kalimantan, Indonesia (map 5). Consultants: Linis and Amel. |
| Kadorih | Barito. Spoken along the Pinang river, Central Kalimantan, Indonesia. North of Muara Teweh (map 6). Consultant: Igin Suntak. |
| Kalis | South Sulawesi. Spoken in Nanga Tubuk, upper Kapuas near Putussibau, West Kalimantan, Indonesia (map 5). Consultant: Yosef Joni. |
| Kanowit | Melanau. Spoken in Kampung Bedil, Near Kanowit town, along the Rejang River, Sarawak, Malaysia (map 4). Consultants: Patrick Bin Muku and Raymon Bin Ibeng. |
| Kantu | Malayic. Spoken in Teluk Sindur, upper Kapuas River, West Kalimantan, Indonesia. Near Putussibau (map 5). Consultants: Agustus Edison and Susi. |
| Kapuas | Barito. Spoken along the Kapuas and Kahajang rivers, Central Kalimantan, Indonesia (map 6). Consultant: Edena. |
| Kayan (Balui Liko) | Kayanic. Spoken in the Sungai Asap resettlement area, Sarawak. Formerly spoken along the Balui tributary of the Rejang River, now part of the Bakun dam reservoir, Sarawak, Malaysia (map 3, 4). Consultant: Miku. |
| Kayan (Baram) | Kayanic. Spoken at Long Naah, along the Baram River, Sarawak, Malaysia. Downriver from the Akah tributary (map 3) Consultant: Richard Lasa Wan. |

| | |
|----------------------|--|
| Kayan (Data Dian) | Kayanic. Spoken at Data Dian, in the Apo Kayan highlands along the upper Kayan River, North Kalimantan, Indonesia (map 7, 8). Consultant: Kornelius. |
| Kejaman Malaysia. | Kajang. Spoken at Long Liten, along the Rejang River, Sarawak, Just upriver from Belaga (map 4). Consultants: Lunya Ladin and Mering Jenó. |
| Kelabit | Dayic. Spoken in the Bario highlands, near the border with North Kalimantan, Sarawak, Malaysia (map 3). Consultant: Gerawat Tuan. |
| Kendayan | Malayic. Spoken in and around Pontianak, West Kalimantan, Indonesia (map 5). Consultants: Dani and Satoro. |
| Keninjal | Malayic. Spoken at Kota Baru, upriver from Nanga Pinoh along the Pinoh river, West Kalimantan, Indonesia (map 5). Consultant: Hida ya tul Kahair. |
| Kereho | Müller-Schwaner. Spoken in Kereho town, along the Keriau tributary of the upper Kapuas River above Putussibau, West Kalimantan, Indonesia (map 5). Consultant: Pietrus. |
| Ketapang | Malayic. Spoken in Serongkah on the Pesaguan river, West Kalimantan, Indonesia. This area is located in the far south-west corner of Borneo, not near any major river (check map 2). Consultant: Fransisko Turino. |
| Lahanan | Kajang. Spoken in the Sungai Asap resettlement area, Sarawak. Formerly spoken along the Rejang River, now part of the Bakun dam reservoir (maps 3, 4). Consultant: Rainly Tigang. |
| Lawangan | Barito. Spoken in the same areas as Taboyan and Paser (map 6). Consultant: M. Edy. |
| Lebo' Vo' | Kenyah. Spoken at Long San, Long Selaan, and Long Ikang, along the Baram River, Sarawak, Malaysia. Very close to the Akah tributary (map 3). Consultants: Michael Laing Serang and Mina Meneng Ngau. |
| Lepo' Gah | Kenyah. Spoken at Long Selatong (Tanjung Tepalit), along the Baram river, Sarawak, Malaysia. Between the Akah and Silat tributaries (map 3). Consultant: Gabriel Ingan Njau. |

| | |
|-------------------|---|
| Lepo' Jalan | Kenyah. Spoken along the Segah river, East Kalimantan, Indonesia (map 8). Consultant: Tingai. |
| Lepo' Laang | Kenyah. Spoken at Long Palai, along the Baram River, Sarawak, Malaysia. Between the Silat and Selaan tributaries (map 3). Consultants: Flora Telon and Tugang Lahang. |
| Lepo' Sawa | Kenyah. Spoken at Long Anap, along the Baram River, Sarawak, Malaysia. Between the Silat and Selaan tributaries (map 3). Consultant: Jimmy Keping. |
| Lepo' Tau | Kenyah. Spoken at Long Moh, along the Baram River, Sarawak, Malaysia. Just above the Selaan tributary (map 3). Consultant: Weng Jok. |
| Long Gelat | Kayanic. Spoken at Long Gelat (the language was only referred to by its location), along the Mahakam River, East Kalimantan, Indonesia. Where the Boh tributary enters the Mahakam (map 7). Consultant: Ismail Gaq. |
| Lun Dayeh | Dayic. Spoken at Long Bawan near the border with Sarawak, North Kalimantan, Indonesia. Just above the edge of the map, along the Sarawak river (map 8). Consultants: Robi and Boi. |
| Maanyan | Barito. Spoken near Muara Teweh, Central Kalimantan, Indonesia (map 5). Consultants: Andi Jordan and his extended family. |
| Merap | Kayanic. Spoken at Langap, along the Malinau river, North Kalimantan, Indonesia (map 8). Consultant: Ingan Faunaliwan. |
| Modang (Kelinjau) | Kayanic. Spoken at Woeq Helaq, along the Kelinjau tributary of the Mahakam River, East Kalimantan, Indonesia (map 7). Consultants: Pak |
| Jiu | Luai and Pak Hibau. |
| Mualang | Malayic. Spoken around Senkadau, West Kalimantan, Indonesia. upriver from Sanggau (map 5). Consultant: Victor Sebastian. |
| Ngaju | Barito. Spoken in Rungan Tumbang Jutuh, between the Katingan and Kahayan rivers, Central Kalimantan, Indonesia (map 6). Consultant: Derry Andaka. |
| Ngorek | Kayanic. Spoken at Long Semiang, along the Baram River, Sarawak, Malaysia. Upriver from the Selaan tributary (map 3). Consultant: Peter Ding Tingang. |

| | |
|--------------------------|--|
| Paser | Barito. Spoken throughout Pasir Regency, East Kalimantan, Indonesia. Near the eastern coastline on map 6. Consultant: Hadi Sahrandi. |
| Punan Aput | Punan. Spoken at Long Sule, along the Belayan tributary of the Mahakam river, East Kalimantan, Indonesia (map 7). Consultant: Yuriana Long. |
| Punan Bah | Punan. Spoken on the Bah tributary of the Rejang River, Sarawak, Malaysia. Between Kapit and Belaga (map 4). Consultant: Mai Lagiw Kupa. |
| Punan Kelai | Kayanic. Spoken at Long Lamjan (also known as Long Palai) along the Kelai river, East Kalimantan, Indonesia (map 8). Consultant: Yotam. |
| Punan Lisum | Punan. Spoken at Long Sule, along the Belayan tributary of the Mahakam river, East Kalimantan, Indonesia (map 7). Consultant: Ilip Asung. |
| Punan Tubu | Punan. Spoken at Respen Tubu, along the Malinau river near the Tubu river estuary, North Kalimantan, Indonesia (map 8). Consultants: Pendi, Noferlan, and family. |
| Ribun | Land Dayak. Spoken at Pusat Damai, West Kalimantan, Indonesia. North of Sanggau (map 5). Consultant: Mater Daniel Muhatir. |
| Sanggau | Land Dayak. Spoken in and around Sanggau, West Kalimantan, Indonesia (map 4). Consultant: Helmut. |
| Seberuang | Malayic. Spoken in Sepauk along the Sepauk tributary of the Kapuas river, West Kalimantan, Indonesia. Upriver from Sanggau (map 5). Consultant: Markus Sintang. |
| Sekapan | Kajang. Spoken at the Sungai Panjang tributary of the Rejang River, Sarawak, Malaysia. Around the Belaga area (map 4). Consultants: John Lupai and Singem Sirik. |
| Seputan River, far Iulus | Müller-Schwaner. Spoken at Long Penane Dua, along the Mahakam River, East Kalimantan, Indonesia. Currently near the Boh river, formerly above where the Boh enters the Mahakam (map 7). Consultant: Dikin. |
| Simpang | Land Dayak. Spoken in Kampar Sembomban, West Kalimantan, Indonesia. South of Sanggau, west of the Pinoh river (map 5). Consultant: Adrianus. |

| | |
|---------------|---|
| Sungkung | Land Dayak. Spoken in Bengkayang regency near the Sarawak border, West Kalimantan, Indonesia. Northwest of the Landak river (map 5). Consultant: Daniel Dilik. |
| Taboyan | Barito. Spoken east of the Barito River into Paser Regency, Central and East Kalimantan, Indonesia (map 6). Consultant: Arbanus. |
| Taman | South Sulawesi. Spoken in Ingko Tambe, along the upper Kapuas River, West Kalimantan, Indonesia. Near Putussibau (map 5). Consultant: Agustinus Lasa. |
| Tunjung | Barito. Spoken at Sendawar, along the Mahakam River, East Kalimantan, Indonesia. Very close to Melak (map 7) Consultant: Son. |
| Ukit | Punan. Spoken in the Sungai Asap resettlement area, Sarawak. Formerly spoken along the Rejang River, now part of the Bakun dam reservoir (map 3, 4). Consultants: George Siru and March Majole. |
| Uma' Pawe | Kenyah. Spoken at Long Apu, along the Baram River, Sarawak, Malaysia. Below the Silat tributary (map 3). Consultant: Theresa Awing. |
| Western Penan | Kenyah. Spoken at Long Beku, and Long Jekitan along the Baram River and the Silat tributary and in the Sungai Asap resettlement area, Sarawak, Malaysia (map 3, 4). Consultants: Arong Lubong, Anyi Katan, Kelem Ngang, and Anthony Ngang Avun. |

Isolects where secondary data is used:

| | |
|-----------------|--|
| Northern Borneo | The majority of data on languages of Northern Borneo are from Lobel (2016), with some supplements from Blust and Trussel (ongoing). There are dictionaries available for individual Northern Borneo languages, but they were generally used as cross-checking references. Note that primary data were gathered for Bulusu, a Tidung language (Southwest Sabah) spoken in North Kalimantan. |
| Melanau | Data on Sarikei, Matu, Balingian from Blust (n.d.), and Mukah from Blust (1988a). Located at the mouths of the rivers for which they are named (map 4). |
| Bintulu | Blust (n.d.). Located in and around Bintulu town (map 4). |

| | |
|--------------|--|
| Miri | Berawan-Lower Baram. Blust (n.d.). Formerly located around Miri (map 3). |
| Narum | Berawan-Lower Baram. Blust (n.d.). Located between Miri and where the Tinjar enters the Baram River (map 3). |
| Kiput | Berawan-Lower Baram. Blust (2002b, 2003). Located near the Tinjar and Tutoh rivers (map 3). |
| Long Jegan | Berawan-Lower Baram. Blust (n.d.). Located on the lower Tinjar (map 3). |
| Long Terawan | Berawan-Lower Baram. Blust (n.d.). Located on the lower Tinjar (map 3). |
| Pa' Dali | Dayic. Blust (n.d.). Upper Baram, near Bario (map 3). |
| Long Semadoh | Dayic. Blust (n.d.) |
| Long Lellang | Dayic. Blust (n.d.) |
| Sebop | Kenyah. Spoken at Long Loyang, along the Tinjar tributary of the Baram river, Sarawak, Malaysia (map 3). Data from a privately circulated wordlist, (Sabang 2015). |

In addition to data from modern languages, many arguments in this dissertation rely on sound changes and lexical replacement innovations which occur between Proto-Malayo-Polynesian and a particular language or subgroup in Borneo. All reconstructed Proto-Malayo-Polynesian words (and a few Proto-Austronesian words) are from Blust and Trussel (ongoing), where one can find a full list of reconstructions and extensive data sets supporting each reconstruction.

1.4 Methodology

This dissertation employs the comparative method when determining relatedness and internal subgrouping among languages. The comparative method is a strict set of procedures by which historical linguists test and justify claims that similarities between two or more languages are inherited from a common ancestor, and are not the product of chance, diffusion, or any other non-genetic explanation whereby two unrelated languages may seem similar. Further, the comparative method can be used within a language family to determine to what degree various languages are related to one another; i.e. linguistic subgrouping. The following section explains the fundamentals of the comparative method, and how it is used in the remainder of this

dissertation. I use Blust (2014) as a recent standard in how the comparative method should be used in research, and much of the following arguments are based on this earlier work.

1.4.1 Determining relatedness

The first task of determining if two or more languages are similar is compiling a comparative wordlist of basic vocabulary. Some languages are well described and have dictionaries, large wordlists, grammatical descriptions, or other basic documentary materials which aid the task of compiling a word list. Other languages have no such material, and fieldwork must be undertaken with the purpose of collecting comparative materials. Basic vocabulary is the core lexicon of any language. It is less likely to be replaced through innovation or borrowing and is thus widely considered the most stable part of the lexicon. Basic vocabulary includes body part terminology, basic kinship (although kinship can be borrowed and altered to a great degree, particularly with non-nuclear relations), basic numerals (1-10), general terms for nature, human life, traditional societies, basic emotions, basic verbs and descriptors, positionals, core function words, and widely recognized animal and plant names (which vary from region to region, but in Borneo the environment is entirely tropical). On the other hand, cultural items, innovative technology, and innovative concepts are unstable, prone to replacement and borrowing, and should be avoided when compiling comparative wordlists. The 200 item basic Swadesh list (Swadesh 1952, 1955) was designed for quickly gathering basic vocabulary, but I have attempted to record between 800 and 1,000 core vocabulary items in each language, to cast a wider net and gather as much potentially relevant data as possible. Roughly 100 pages of sentences were also gathered, but that data is not used in the present work, as it is not relevant to the goals of the dissertation, which focus on linguistic subgrouping. It is my intention, however, to publish the sentence data at a later time.

After assembling a comparative wordlist of two or more languages, one must compare words and locate instances of similarity in both word shape and semantics. Generally speaking, even distantly related languages will have certain immediately recognizable cognates. When comparing similar words in multiple languages, one must rule out alternative explanations for similarity before making a subgrouping hypothesis. Below, several types of similarity are discussed in detail: similarity due to chance, borrowing, linguistic universals, and convergence.

1.4.1.1 Similarity due to chance

Both unrelated and related languages may show similarities in specific words which are entirely due to chance. Several examples of chance similarities are given below in figure 1:

Figure 1

Chance similarities between unrelated languages

| | | |
|-------------------------------------|---------------|-------------------------------------|
| Japanese <i>aru</i> ‘to be’ | is similar to | Lebo' Vo' Kenyah <i>ari</i> ‘to be’ |
| Sanskrit <i>dva</i> ‘two’ | is similar to | Malay <i>dua</i> ‘two’ |
| Ainu <i>abe/api</i> ‘fire’ | is similar to | Malay <i>api</i> ‘fire’ |
| Swahili <i>kaka</i> ‘older brother’ | is similar to | Malay <i>kaka</i> ‘older sibling’ |

Although the similarities between these words can sometimes be striking, they are nothing more than chance resemblances. In order to show that languages are related, similar words must have regular sound correspondences (discussed more in section 1.4.1.5, table 2 figure 2). Simply put, the above examples represent an expected level of random similarity, and such examples will exist between any two languages, regardless of their relatedness.

1.4.1.2 Similarity due to borrowing

Two languages may show similarities as a result of contact, where one language has directly or indirectly borrowed a word from another language. Borrowings are generally easy to pick out. Innovative concepts or technologies which are introduced to a community from speakers of other languages are especially prone to borrowings. In Malay, for example, *faham* ‘to understand’ is a clear Arabic loan word, while Sehop *bon* ‘ball’ is an English loan (Sehop does not allow final *l*, so it was changed to *n*). In this dissertation, some time is dedicated to identifying and explaining loanword origins in Bornean languages (chapter 3) and the reader is directed to that chapter for more.

1.4.1.3 Similarity due to linguistic universals

There are lexical, typological, and semantic types of linguistic universals which conspire to create similarity in words throughout the world’s languages. Lexically, Jakobson (1960) suggested that universal similarities in words for ‘mother’ and ‘father’ (*mama* and *papa/baba*)

are best explained as the product of an infant’s inability to effectively manipulate the tongue in early life. Infants do, however, possess full control of lip/mouth closure, and can therefore produce speech-like sounds early in life involving the lips.

Other linguistic universals include the tendency for head-final languages to be head-final throughout their structure (verb finality entails post-positions for example), and for head initial languages to be head initial throughout (verb medial languages tend to have prepositions). Semantically, Blust (2014:303) lists several examples across language families supporting the “universal tendency for the morpheme for ‘eye’ to be used in the sense of ‘center, most salient or important part’”. This results in striking similarities in words like Malay *mata hari* ‘sun: literally eye of the day’, Thai *ta^Lwan^M* ‘sun: literally eye of the day’, and Irish *súil an lae* (eye-of-day) ‘sunrise’. Such similarities, being human universals, do not provide evidence that two languages are related, rather, they only show that languages are indeed spoken by humans.

1.4.1.4 Similarity due to convergent sound change (drift)

Often, particularly when dealing with common sound changes, two related languages may share similarities that appear inherited, but which are in fact independent of one another. These are called convergent sound changes (or drift) and are not usable as comparative evidence. A telling example of convergent change is found in the addition of *-h* to words with final vowels in a number of languages in Borneo, as represented in table 1 below.

Table 1

Convergent addition of -h in Borneo

| | Sebop | Bario Kelabit | Long Terawan | Golik | Kejaman |
|-------|-------|---------------|--------------|-------|---------------------|
| *duha | duah | duəh | ləbih | duih | dəg ^v ah |
| *təlu | təluʔ | təluh | təloh | taruh | təʔəw |
| *tali | taliʔ | - | taleh | torih | taʔəy |

As the above table makes clear, several languages have added an *-h* after words ending in a vowel. Close inspection of the data, however, reveals inconsistencies in the correspondences. Some languages, Kelabit, Long Terawan Berawan, and Golik, have added *-h* after every final vowel. Sebop and Kejaman have added *-h* only after *a. Also, inspection of data sets from closely related languages reveal that *-h* was not added in Sebop’s close relative Lebo’ Vo’

Kenyah, where *dua became *lui*. Sekapan, a close relative of Kejaman, also lacks *-h* addition in *dəg^wa* ‘two’ and Bekati, a close relative of Golik, has *duaʔ*. The addition of *-h*, then, is a convergent sound change, where identical changes in distantly related languages have given the illusion of inheritance and close relationship.

1.4.1.5 Similarity due to inheritance

After all other possibilities have been ruled out, the only remaining plausible explanation for similarity is inheritance. Given the basic principle that sound changes are regular, and that a single sound change in a proto-language will be inherited in its daughter languages, determining if two languages are similar through inheritance relies on identifying regular sound correspondences between suspected cognate words. To demonstrate this process, the following example from Blust (2014:304-305) is reprinted below. The data uses five words to demonstrate beyond any reasonable doubt that similarities between Malay and Hawaiian are the result of inheritance from a common ancestor. Table 2 lists the Malay and Hawaiian words, while figure 2 lists sound correspondences using the formula X : Y, which is read as, phoneme X in Malay corresponds regularly to phoneme Y in Hawaiian. The more examples of regular sound correspondences one gathers, the stronger the evidence that the languages are related.

Table 2

Comparisons between Malay and Hawaiian cognates

| Cognate number | Malay | Hawaiian | English |
|----------------|--------|----------|---------------------|
| 1 | mata | maka | eye |
| 2 | kutu | ʔuku | louse |
| 3 | ikan | iʔa | fish |
| 4 | lanjit | lani | sky |
| 5 | tanjis | kani | cry, weep; to sound |

Figure 2

Regular sound correspondences between Malay and Hawaiian

| No. | Malay | : | Hawaiian | Examples |
|-----|-------|---|----------|----------|
| 1. | t | : | k | 1, 2, 5 |
| 2. | k | : | ʔ | 2, 3 |
| 3. | -C | : | ∅ | 3, 4, 5 |
| 4. | ŋ | : | n | 4, 5 |

The above data convincingly demonstrates that Hawaiian and Malay, two languages spoken between 5,000 and 7,000 miles apart, are genetically related, i.e. they are descended from a common ancestor. In Borneo, it is widely agreed that all indigenous languages belong to the Malayo-Polynesian branch of Austronesian. This assumption will not be challenged anywhere in this dissertation, which is more specifically dedicated to the subgrouping of AN languages in Borneo.

1.4.2 Subgrouping

Determining that a group of languages are related to one another is the first task of historical linguistics. Of equal importance is determining the interrelatedness of related languages, that is, determining which languages are more closely related to one another than they are to other languages of the same family. This is called subgrouping, and it is based on the qualitative analysis of inherited sound changes from reconstructed proto-languages.

1.4.2.1 Qualitative data

Language data in the comparative method is analyzed qualitatively. That is to say high-quality sound changes which provide evidence for a genetic relationship between two languages are more valuable than a larger number of low-quality changes. In some cases, a single piece of high-quality evidence can override more quantitative data with which it disagrees. A linguist's inferences on "high-quality" and "low-quality" sound change are informed through a broad understanding of both synchronic and diachronic phonology, and more general knowledge about what is common and uncommon in phonological change. For example, the avoidance of unreleased voiced stops in word-final position is found throughout the languages of the world,

and sound changes associated with this are quite common. These include the devoicing of word-final voiced stops (*-d > -t), releasing voiced stops into the following word or releasing them at the end of an utterance (*-d' > -d), or altering the [+obstruent] feature to allow uninhibited airflow. The latter sound change is found in cases where previous word-final voiced stops become their corresponding nasals (*-d > -n), liquids (*-d > -l), approximates (*-d > -r), or fricatives (*-b > -v). Of these changes to word-final voiced stops, devoicing is the most common, but the other types are reported and have a clear phonetic motivation. On the other hand, word-final voicing, where a voiceless stop in final position becomes voiced (*-t > -d) is exceptionally rare. Therefore, the use of word-final consonant devoicing to support a claim that two languages must be closely related is weak, given how common that sound change is cross-linguistically. It is likely that such languages independently devoiced final stops, and that they did not inherit devoicing from a common ancestor. If, however, two related languages voiced word-final stops, it would be compelling evidence that they form a subgroup and that the change occurred only once in an immediate common ancestor. Uncommon sound changes thus provide the strongest evidence for a subgrouping relationship between languages.

1.4.2.2 Exclusively shared lexical (replacement) innovations

Identifying exclusively shared lexical innovations between two or more languages serves two purposes in this dissertation 1) to complement phonological data, thus forming a stronger subgrouping argument and 2) to provide insights where exclusively shared phonological innovations fail to justify a subgrouping hypothesis. There is no doubt that sound changes are the most reliable means of subgrouping available to comparative linguists. However, lexical innovations, particularly lexical replacement innovations, can provide critical insights into language history when care is taken in assuring that these are due to inheritance and not borrowing.

Using the same logic for positing inheritance in sound changes, a lexical replacement innovation which contains regular sound correspondences and is found in a group of languages can provide relatively strong evidence that the languages where it is found form a subgroup. For example, Proto-Malayo-Polynesian *isaŋ/*hasaŋ ‘gills’ is reflected throughout Borneo, in Malay *insaŋ*, Kapuas *hisaŋ*, Lebo Basap *saŋ*, Kanowit *asaŋ*, Long Bawan Lun Dayeh *asaŋ*, and many

other languages. In Kayanic languages, however, there are no reflexes of *isaŋ/*hasaŋ. Instead, one finds the lexical replacement innovation *ŋad, which is reflected in Data Dian *ŋan*, Balui Liko *ŋar*, Busang *ŋar*, Bahau *ŋa:l*, Long Gelat *ŋin*, Gaai *ŋal*, and Kelai *ŋæ:l*. Thus, Proto-Kayanic *ŋad replaced *isaŋ/*hasaŋ and *ŋad was then inherited by its daughter languages in much the same way that a phonological innovation is inherited. In such cases these words provide additional evidence for subgroups wherever they can be identified.

1.5 Phonetic and phonemic symbols

This dissertation uses a range of symbols, both standard and non-standard, to describe the sound systems of the languages of Borneo. Linguists who are unfamiliar with the traditional orthographic practices of Austronesian linguistics will find this section particularly helpful.

1.5.1 IPA

When writing phonetic transcriptions the International Phonetic Alphabet is employed between square brackets. When writing phonemic representations, italics are used. In many cases, particularly when dealing with historically relevant sound changes which do not result in phonemic change, a phonetically supplemented phonemic representation is employed, still written in italics. For example, three languages of the upper Rejang River in Sarawak, Malaysia form a Kajang subgroup. One feature of this group is spirantization of the liquid *l* in the onset of final syllables. Thus, *julan* ‘nine’ is pronounced [juʎan]. Although this is an allophonic variation (ʎ is not a phoneme), I have decided to write ‘nine’ as *juʎan*. This is important because *-l- > *-ʎ- is a unique sound change found only in Kajang, and thus should be written out every time so as to avoid confusion and to make historically relevant changes as apparent as possible. As this dissertation was written as a reference piece, these phonetic details need to be immediately accessible wherever they are relevant. Linguistic data in the appendices also contain phonetic details which may be non-phonemic, but serve the purpose of openness and will help scholars who mine the appendix for data develop a better understanding of the nature of these languages.

1.5.2 Common orthographic practices in Austronesian linguistics

In keeping with the general orthographic traditions of the field, I make the following adjustments to the IPA when writing phonemic representations in italics:

Figure 3

Non-standard phonetic symbols and their IPA equivalents in brackets

| | |
|----------|--|
| <i>ñ</i> | [ɲ] |
| <i>y</i> | [j] |
| <i>c</i> | [tʃ]; When written in word-final position, this is an unreleased voiceless palatal stop [c̚] |
| <i>j</i> | [dʒ] |

Other symbols follow the IPA standard and any phonetic transcription written within square brackets will use the IPA, rather than the general Austronesian orthography. There is also a long standing orthographic tradition for PAN and PMP which is used throughout this dissertation when writing reconstructed words or stating sound changes, summarized below in figure 4:

Figure 4

Orthography of PAN and PMP with IPA equivalents in brackets

| | |
|----|---|
| *z | [dʒ] |
| *j | [gʲ]/[j] |
| *R | [r] |
| *r | [r] |
| *c | [tʃ] |
| *ñ | [ɲ] |
| *N | (PAN only. It is generally agreed that *N was a lateral distinct from *l, but its exact phonetic value remains in question. *N and *n merged as *n in PMP.) |
| *C | [ts] (PAN only. *C and *t merged as *t in PMP.) |

The distinction between *z and *j is important, as some scholars have mistakenly written *z > j as a sound change, when what appears to be a sound change is simply a change in orthography. *z is only used as *[dʒ] at the PAN and PMP levels. Below that (PWIn, PGNB, and so on), *j is

used for *[dʒ]. It is a bit confusing at first, but it's important that PAN and PMP *z [dʒ] and *j [gʷ]/[ɟ] be formally separated in the orthography since they were separate phonemes. It has also been a longstanding tradition to write schwa as *e in reconstructed forms, although I have chosen to instead write schwa as *ə.

1.5.3 Shorthand conventions

Historical linguists employ a small set of shorthand conventions, which are summarized below. An asterisk (*) before a word indicates a proto-word, that is, a reconstructed word that belonged to a past language. A double asterisk (**) before a word indicates a non-word, an incorrect pronunciation, or ungrammaticality. A capital C is used as a shorthand for any consonant, while a capital V is used for any vowel. So a change stated as *C > ∅ is read “any consonant was deleted”. A hyphen after a phoneme indicates that it occurs in initial position. Thus, *C- > ∅ is “any consonant in initial position was deleted”. Hyphens on either side of a phoneme indicates that it is found in medial position. Thus, *-C- > ∅ is read “any consonant in medial position was deleted”. The shorthand *-əCVC means “schwa in the penultimate syllable”. Here, the vowel schwa can be replaced with any vowel, eg. *-iCVC “i in the penultimate syllable”. Finally, a hyphen preceding a phoneme indicates that it occurs in final position. Thus, *-C > ∅ is read “any consonant in final position was deleted”. Also, the symbol “>” is often used as a shorthand for the word “became”. Thus, a sentence written as follows “in Proto-Kenyah, *R > *h” is read “in Proto-Kenyah, *R became *h”.

1.6 Suggested readings

As there is a long history of linguistic scholarship in Borneo, this dissertation at times will make reference to a small number of landmark publications which have shaped the conversation on Bornean languages and history. The following list is the basic minimum which one should familiarize oneself with to fully understand the arguments in the following chapters. Annotations for Hudson (1967) and Adelaar (1995b) are quoted directly from Blust and Smith (2014).

The Greater North Borneo hypothesis (Blust 2010)

The most current classification of Bornean languages. It provides a careful analysis of data and, perhaps most importantly, does not attempt to make hypotheses on the classification of languages for which quality data was unavailable. Section 1.7.3 contains a more detailed overview of this work.

Borneo as a cross-roads for comparative Austronesian linguistics (Adelaar 1995b)

This comparative work focuses on four subgroups, 1) the southeast Barito subgroup, which includes Malagasy, 2) the Malayic subgroup, 3) the Tamanic languages which Adelaar includes in the South Sulawesi subgroup, and 4) the Land Dayak languages. Concerning the latter, the author notes similarities with Aslian languages and suggests either a historical shift from Aslian to Austronesian languages in Land Dayak or a shared substratum in Aslian and Land Dayak. Adelaar is careful to point out that it is too early to make any strong claims, but proposes evidence for a possible connection in the existence of preploded nasals in both Aslian and Land Dayak as well as two shared lexical items, ‘to die’ *kəbəs* and ‘to bathe’ *mamuh*.

The Barito isolects of Borneo: A classification based on comparative reconstruction and lexicostatistics (Hudson 1967)

An important collection of comparative vocabularies for 20 language communities in the Barito River basin and neighboring areas of southeast Borneo, along with comparable data for Bahasa Indonesia and Malagasy. The material for indigenous groups represents perhaps seven or eight distinct languages, three of which are traditionally known as Ot Danum, Ngaju Dayak and Maayan. The vocabularies consist of a 215-item Swadesh list, an additional 104 terms chosen for relevance to the local physical or cultural environment, and 52 kinship terms defined by explicit kin specifications (e.g. Sb+, Sb-, Co 1 – Co 5, PaBr+, PaBr-, etc.). Among the most valuable features of this material are its illumination of dialect differences within Ngaju Dayak, the establishment of a Barito subgroup of languages to which Malagasy clearly belongs, and the sole published vocabulary for Tunjung of the Lake Jempang region to the west of Samarinda. Despite its carefully constructed elicitation schedule for kinship terms, however, it overlooked the crucially important cross-sibling terms *ñahæ* ‘brother (woman speaking), *betau* ‘sister (man

speaking)', which were recognized for Ngaju Dayak by Hardeland (1859), related forms of which may exist in other languages of the area (Blust 1993).

Linguistic relations among Bornean peoples with special reference to Sarawak: An interim report (Hudson 1978)

This is one of the earliest methodologically sound attempts to classify all languages of Borneo, but nevertheless suffers in a number of areas. See section 1.7.2 below for a fuller description.

The classification of Tamanic languages (Adelaar 1994)

This is an important piece in that it provides a robust, methodologically sound, and convincing argument for subgrouping the Tamanic languages (Taman, Kalis, Embaloh) with the South Sulawesi group, located on the island of Sulawesi, across the sea from Borneo. What is most interesting about this classification is the fact that Tamanic languages are today culturally indistinguishable from their Bornean neighbors, and Tamanic villages themselves are found rather far in the interior. How and why pre-Tamanic speakers left Sulawesi and came to reside in this part of Borneo remains a mystery.

Malgache et Maanjan: une comparaison linguistique (Dahl 1951)

This is a landmark publication, as it is the first subgrouping hypothesis which places Malagasy firmly in the Barito group of languages. Although Dahl originally compared Malagasy specifically to Maanyan, it is generally understood that Malagasy is more broadly related to the entire Southeast Barito subgroup (Hudson 1967). Dahl (1991) provides a more recent argument along the same lines, in English.

1.7 Works on the languages of Borneo with similar scope

There are a few works which have attempted to classify all languages of Borneo. They are addressed below, where I point out their strengths and weaknesses. Generally speaking, all works which have attempted a full classification have suffered from the same problem, a lack of data for languages of East and North Kalimantan.

1.7.1 Ray (1913)

For what is the first attempt to present data for languages of the entire island, Ray's *The Languages of Borneo* is certainly groundbreaking. The publication contains 143 pages of word lists covering the majority of the island. There is not much analysis of the data, however, and the publication, while important as a source of data on some of the lesser-known languages of Borneo, does not go beyond simply reporting wordlists. For some of the phonetically more difficult languages, the orthography should be treated with caution, but for a majority of the languages, Ray's writing system is adequate.

The languages are organized geographically, but there appears to have been at least some effort on Ray's part to group similar languages together, and present the data accordingly. The following large groups are identified in Ray, although there is no statement on the interrelatedness of these groups, no hierarchical structuring of the groups, and no attempted internal subgrouping:

Figure 5

The languages of Borneo according to Ray (1913)

Languages of Lower Sarawak

1. Milano
 - a. Muka, Oya, Bruit
 - b. Bintulu
 - c. Narom, Miri, Dali, Tutong, Lemiting, Lelak
 - d. Long Kiput, Long Pata, Batu Bla, Berawan
 - e. Kanowit, Tanjong, Siduan
2. Sea Dayak

Sibuyau, Batang Lupar, Batang Ai, Balau, Sekarang, Bugau
3. Land Dayak

Lara, Lundu, Krokong, Singhi, Grogo, Sauh, Sennah, Quop, Sentah, Beta, Sadong, Milikin, Bunan

Languages of Kalimantan

1. Sangau, Behe, Menjulei, Sidin
2. Maloh
3. Sampit, Katingan
4. Pari
5. Lawangan
6. Siang
7. Maanyan
8. Ngaju
9. Biaju
10. Modang
11. Tidung

Bolongan, Tarakan, Sesayap, Simbakong, Sibuku, Nonukan

Languages of Upper Sarawak

1. Kayan
Rejang Kayan, Uma Blubo', Uma Poh, Uma Baloi
2. Kenyah
Kinjin, Lepo' Tau, Lepo' Anan, Lepo' Pohun, Lepo' Sawa, Lepo' Pun, Malang,
Madang, Long Aki
3. Murik
4. Kelabit, Tring, Murut
5. Kejaman
6. Punan
7. Sebop
8. Ukit, Bakatan
9. Kadayan, Bisaya

North Borneo Languages

1. Tagal
2. Dusun, Idaan, Lanun

3. Buludupi
4. Sulu
5. Malay

This list is primarily a geographic grouping of various languages. Group 3 in “languages of lower Sarawak” for example, is Land Dayak, but so too are the languages listed in group 1 in “Languages of Kalimantan”. Lawangan, Siang, Maanyan, and Ngaju are all listed in separate groups, despite the modern consensus that these are more closely related Barito languages. The section on North Borneo, which includes Malay and the “Sulu Language” (Greater Central Philippine languages of the Sulu archipelago) is remarkably sparse, and bears little resemblance to linguistic classifications found below.

In the present work, no data from Ray is used in subgrouping arguments, as the majority of languages in his publication have been supplanted by either primary data, or more recent and linguistically sound secondary sources. Because the work contains little analysis, and because the geographic grouping of languages is so different from the linguistic realities, the remainder of this dissertation will make few references to Ray (1913).

1.7.2 Hudson (1978)

Hudson acknowledges from the beginning that lack of available data hinders all attempts to classify the languages of Borneo. As a result, his entire subgrouping proposal was based on numeral data (1-10) with limited reference to other basic vocabulary. In doing so, Hudson was able to make a viable proposal for the subgrouping of all of the languages of Borneo, but was forced to work with data that obscures the historical facts. As a result, his classification has many errors which have become clear in recent years, although it would not be fair to fault Hudson for all of these errors, given his limited data set.

The following classification of the languages of Borneo can be inferred from Hudson’s work. He did not name each subgroup, and where no name was provided I have created a hyphenated name based on the first and last language he lists as being a member of that group.

Figure 6

Classification of Bornean languages after Hudson (1978)

EXO-BORNEAN (Malayic, Idahan, and Tamanic have no special relationship to one another, and are three independent groups that are found on Borneo, but, according to Hudson, originate from outside Borneo)

1. MALAYIC

Malay, Iban, Other Malayic Dayak

2. IDAHAN

a. Murut-Tidong

Tidong, Bolongan, Tarakan, Tinggalan, Tagal, Idahan Murut Isolects

b. Dusun-Bisaya

Bisaya, Tutong, Idahan Dusun Isolects

3. TAMANIC

Taman, Kalis, Pari, Mbaloh

ENDO-BORNEAN (Seven equidistant groups, East Barito, West Barito, Barito-Mahakam, Land Dayak, Apo Duat, Rejang-Baram, and Kayan-Kenyah)

1. EAST BARITO

a. Northeast Barito

Taboyan, Pasir, Benuaq, Bentian, Lawangan, Bawu

b. Southeast Barito

Maanyan, Paku, Semihim, Dusun Witu, Dusun Malang, Malagasy

2. WEST BARITO

a. Southwest Barito

Kapuas, Katingan, Ba'amang, Kahayan, Ngaju

b. Northwest Barito

Siang, Dohoi, Ot Danum (Kadorih), Murung Varieties

3. BARITO-MAHAKAM

Tunjung, Ampanang

4. LAND DAYAK

Lara', Lundu, Singhi, Kuap, Beta, Bukar Sandong, Sau, Berang, Karangan, Jagoi,
Sentah, Binyadu', Ribun, Pandu, Sanggau

5. APO DUAT (Dayic in Blust 2010)

a. Kelabitic

Kelabit Isolects

b. Sesayap-Trusan

Lun Dayeh and Lun Bawang Varieties, Adang, Trusan, Tabun, Treng,
Kemaloh, Sa'ban

6. REJANG-BARAM

a. Baram-Tinjar

i. Lelak-Miri

Lelak, Dali, Narom, Miri

ii. Belait Jati-Long Kiput

Belait Jati, Lemiting, Long Kiput

iii. Tutong

Tutong

iv. Berawan-Long Pata

Berawan, Long Pata

b. Rejang-Bintulu

i. Bintulu

Bintulu

ii. Lahanan

Lahanan

iii. Kejaman-Sekapan

Kejaman, Sekapan

iv. Bukutan-Sru

Bukutan, Punan Batu, Bukut, Bukitan, Bakatan, Ukit, Beketan,

Punan Busang, Sru

c. Lower Rejang

i. Melanau

Rejang Melanau, Mukah, Teh, Siduan, Matu, Oya

ii. Kanowit

Kanowit

iii. Tanjong

Tanjong

d. Rejang-Sajau

i. Punan Bah-Punan Biau

Punan Bah, Punan Biau

ii. Punan Merap

Punan Merap

iii. Sajau Basap

Sajau Basap

7. KAYAN-KENYAH

a. Kenyah

i. Jamuk-Uma Bem

Jamuk, Sambup, Lepo La'an, Lepo Sawa, Lepo Tau, Lepo
Tukung, Long Abung, Long Aki, Long Bangan, Madang, Malang,
Uma Bem

ii. Bah Malei -Sebop

Bah Malei, Lirong, Long Pokun, Sebop

iii. Lepo Pohun-Long Wat

Lepo Pohun, Lepo Pun, Long Wat

iv. Uma' Timiai

Uma' Timiai

b. Punan-Nibong

Bok Punan, Nibong, Punan Gang, Punan Lusong, Punan Silat, Speng

c. Kayanic

i. Western Kayanic

Baram Kayan, Rejang Kayan, Uma Poh, Busang, Ma'aging

ii. Lepak Aru Bahau-Muric

Lepak Aru Bahau, Long Hubung Bahau, Muric

iii. Long Gelat-Long Bentuk

Long Gelat, Segai, Long Wai Modang, Long Bentuk Modang

iv. Long Paka' Kayan-Penyabung

Long Paka' Kayan, Long Blu'u Kayan, Penihing, Seputan,
Penyabung

Note that Jamuk-Uma Bem is roughly equivalent to Highland Kenyah (Blust 2010, Smith 2015a, 2015b). Bah Malei-Sebop, Lepo Pohun-Long Wat, and Uma' Timiai are roughly equivalent to Lowland Kenyah (Blust 2010, Smith 2015a, 2015b) and Punan-Nibong is equivalent to Penan, part of Lowland Kenyah. Lepak Aru Bahau-Muric is equivalent to Murik (Blust 1974b), Long Gelat-Long Bentuk is equivalent to Segai-Modang (this work), and Long Pak' Kayan-Penyabung is roughly equivalent to Müller-Schwaner (Sellato and Soriente 2015).

1.7.3 Ethnologue

The *Ethnologue* classification of the world's languages (Lewis et al. 2016) is drawn from an amalgamation of work from numerous scholars. In some cases, this has resulted in a sort of Frankenstein's monster of linguistic classification. This is true in Borneo, where aspects of Hudson 1978 (in the Rejang-Sajau and Barito classifications), Blust (from numerous publications, but North Borneo, North Sarawak and the inclusion of Sama-Bajaw in Barito are all from Blust's works), Soriente (her classification of Kenyah and Kayan languages heavily influences the *Ethnologue*), Rensch (*Ethnologue's* classification of Land Dayak is essentially based on his work), and Sellato (Müller-Schwaner) are combined into a larger subgrouping proposal.

Figure 7

Classification of Bornean languages after Lewis et al. (2016)

1. NORTH BORNEO (four groups, including Melanau-Kajang, North Sarawak, Rejang-Sajau, and Sabahan)
 - a. Melanau-Kajang
 - i. Kajang
Bukitan, Kejaman, Lahanan, Punan Batu, Sekapan, Sian, Ukit

ii. Melanau

Central Melanau, Daro-Matu Melanau, Kanowit-Tanjong Melanau,
Sibu Melanau, Seru

b. North Sarawak

i. Berawan-Lower Baram

Berawan

Berawan West

Central East

Berawan Central, Berawan East

Lower Baram

Belait, Kiput, Lelak, Narom, Tutong

ii. Bintulu

Bintulu

iii. Dayic

Kelabitic

Kelabit, Lengilu, Lun Bawang, Putoh, Sa'ban, Tring

Murutic

Murut

Murut Keningau, Murut Selungai, Murut Timugon,

Okolod, Paluan, Tahoi

Northern

Bookan

Tidong

Bolongan, Kalabakan, Murut Sembakung, Murut

Serudung, Tidung Northern, Tidung Southern

iv. Kayan-Kenyah

Kayanic

Kayan Proper

Bahau, Kayan Mahakam, Kayan Baram, Kayan

Busang, Kayan River Kayan, Kayan Mendalam,

Kayan Rejang, Kayan Wahau

Modang

Modang, Segai

Müller-Schwaner Punan

Aoheng, Bukat, Hovongan, Kereho, Punan Aput,

Punan Merah

Murik

Murik

Kenyah

Mainstream Kenyah

Kayanic Kenyah

Wahau Kenyah, Long Wat, Sebop

Upper Pujungan

Uma' Lasan, Uma' Lung,

Penan

Eastern Penan, Western Penan

v. Punan Tuvu

c. Rejang-Sajau

Basap, Burusu, Punan Bah-Biau, Punan Merap, Sajau Basap

d. Sabahan

i. Dusunic

Bisaya

Sabah Bisaya, Tatana

Southern Bisaya

Brunei Bisaya

Dusun

Gana, Kilas River Kadazan, Kimaragang, Kota Marudu

Talantang, Kuijau, Lotud, Papar, Rungus, Tobilung

Central

Kadazan Dusun, Sugut Dusun, Minokok

Eastern

Labuk-Kinabatangan Kadazan

Dumpas

ii. Ida'an

Ida'an

iii. Paitanic

Abai Sungai, Tombonou

Upper Kinabatangan

Upper Kinabatangan, Lanas Lobu, Tampias Lobu

2. BARITO

a. Barito-Mahakam

Tunjung, Ampanang

b. East

i. Central-South

Central

Dusun Deyah

South

Dusun Malang, Dusun Witu, Ma'anyan, Paku

ii. Malagasy

Various Dialects

iii. North

Lawangan

Pasir, Benuaq, Various other dialects, Taboyan

c. Sama-Bajaw

i. Yakan

ii. Abaknon

iii. Sulu-Borneo

Borneo Coast Bajaw

Bajaw, Mapun

Inner Sulu Sama

Sama, Balangingih, Sama, Central, Sama, Southern

Western Sulu Sama

Sama, Pangutaran

- d. West
 - i. North
 - Kohin, Ot Danum, Siang
 - ii. South
 - Bakumpai, Ngaju

The most glaring mistake in the above tree is the inclusion of Murutic languages in the Dayic group, apparently through an error which placed anything called “Murut” in a single group. Some Lun Dayeh speakers do refer to themselves as Murut, but the above tree also contains several “Murutic” languages, which, despite their name, are more closely related to languages of Northern Borneo than to languages of northern Sarawak. A similar situation is found in Barito languages, where several groups call themselves “Dusun”, a term which is also used widely in Sabah. With Dusun, however, *Ethnologue* was able to keep these distinct groups separate.

1.7.4 Blust (2010)

This is the most recent subgrouping proposal for the languages of Borneo. Its most important contribution is the grouping of all languages of Borneo, other than Barito, plus several languages in western Indonesia into a large Greater North Borneo subgroup based on a robust list of lexical replacement innovations. Also of importance is his proposed Western Indonesian subgroup, a large group which contains Barito and all other indigenous Austronesian languages in western Indonesia (excluding Sulawesi) which do not belong to Greater North Borneo. Western Indonesian is based on a smaller list of innovations and has not yet received wide acceptance.

Figure 8

Classification of the languages of Borneo according to Blust (2010)

WESTERN INDONESIAN (Three groups, Greater North Borneo, Greater Barito, and the languages of Indonesia west of Borneo. The inter-relatedness of languages of Indonesia west of Borneo remains in question)

1. GREATER NORTH BORNEO (Seven groups, of which North Borneo has the most complete internal subgrouping. Others include Kayanic, Melanau, Rejang, Bidayuh, Malayo-Chamic, Sundanese)

- a. North Borneo

- i. Southwest Sabah

Dusunic

Murutic

Paitanic

Tidong

- ii. Northeast Sabah

Bonggi, Ida'an

- iii. North Sarawak

Bintulu

Bintulu

Berawan-Lower Baram

Berawan

Long Terawan, Batu Belah, Long Teru, Long Jegan

Lower Baram

Belait, Miri, Dali', Narum, Lelak, Lemeting, Kiput

Kenyah

Highland

Lepo Tau, Lepo Sawa, Lebu Kulit, Other "Lepo"
dialects

Lowland

Lebo' Vo', Sebop, Penan

Dayic

Kelabit

Bario, Long Lellang, Long Napir, Long Seridan,
Pa' Dalih, Sa'ban, Tring

Murutic

Long Semadoh, Other Lun Dayeh

b. Kayanic

i. Kayan

ii. Murik

iii. Modang

c. Melanau

Mukah, Sarikei, Dalat, Balingian, Kanowit, Matu

d. Kajang

Various languages of the upper Rejang

e. Bidayuh

Various languages also referred to as Land Dayak

f. Malayo-Chamic

Malay, Iban, Malayic Dayak, Chamic

g. Other

Sundanese

Moken, Moklen

Rejang

2. GREATER BARITO (based on Hudson 1978, with the addition of Sama-Bajaw after Blust 2007b)

a. Barito-Mahakam

b. East

c. Sama-Bajaw

d. West

3. All languages in western Malaysia and Indonesia excluding Sulawesi and Tamanic.

1.7.5 Areas of agreement

In general, the basic number and composition of subgroups in Borneo are widely understood and accepted, although there is often little linguistic evidence given to support these subgroups. This section identifies areas of agreement regarding the names, locations, and composition of major subgroups in Borneo.

1.7.5.1 Malayic

It is widely agreed that there is a Malayic Group, which includes Malay (outside Borneo), Iban, Kendayan, Salako, Mualang, Seberuang, Keninjal, various Malay dialects, and the “Malayic Dayak” languages found mostly in West Kalimantan. The exact composition of Malayic, especially when including languages spoken outside of Borneo, is a matter of some debate, but there is general agreement on which languages in Borneo are part of the subgroup (Adelaar 1992a, 2004 and Blust 1994, 2010 provide some solid overviews).

1.7.5.2 Kenyah

It is widely agreed that there is a Kenyah group, which is concentrated along the upper Baram River in Sarawak, and throughout the highlands of East and North Kalimantan. The exact composition of Kenyah, however, has been the topic of some debate. Blust (1974a, 2010) and Smith (2015a, 2015b) include Sebop, Penan, and all groups that identify as Kenyah, (excluding Murik) into a linguistically defined Kenyah subgroup. Soriente (2003) places several Kenyah languages in Kayanic (Lebo Vo, Uma Pawe, Lebo Kulit) and places Sebop and Penan outside of Kenyah. Sercombe (1996, 2000, 2002a, 2002b, 2003, 2006, 2007, 2010a, 2010b) has also published a significant amount on Penan, from both cultural and linguistic perspectives.

1.7.5.3 Kayanic

It is agreed that there is a Kayanic group, which includes the mostly homogenous Kayan languages of the Baram and Rejang River in Sarawak, and the upper Mahakam and Kayan River in East and North Kalimantan and Murik. Long Gelat, Modang, and Segai are included in the Kayanic group, although they are phonologically aberrant, and bear few superficial similarities with other Kayanic languages.

1.7.5.4 Müller-Schwaner

There is a group of languages in the farthest reaches of the Kapuas and Mahakam Rivers sometimes referred to as Müller-Schwaner Punan that includes Aoheng, Hovongan, and Kereho. Most work on these languages has come from Bernard Sellato (1980, 1981, 1982, 1986, 1994, 2001), an anthropologist with a strong interest in linguistics. This group is sometimes placed within Kayanic, as per Hudson (1978). There is widespread acceptance that these languages form a subgroup, although little linguistic evidence has been put forward to support this claim.

1.7.5.5 Dayic

There is a Dayic group (also called Kelabit-Lun Dayeh or Apo Duat) which includes Kelabit dialects in and around the Kelabit Highlands in Sarawak and adjacent highlands in North Kalimantan as well as Lun Dayeh or Lun Bawang dialects, spoken farther north in Sarawak and Kalimantan (Blust 1974a, 2001, 2010, Hudson 1978). The phonologically aberrant language Sa'ban is also included in this subgroup by most scholars.

1.7.5.6 Berawan-Lower Baram

It is widely accepted that there is a Berawan group which includes the Berawan languages of the lower Tinjar and more loosely several Lower Baram River languages including Kiput, Miri, and Narum (Blust 1974a, 2000a, 2002b, 2003, Burkhardt 2014, 2016). Although it is generally agreed that these languages form a subgroup, there is less agreement on their wider position.

1.7.5.7 Melanau

There is a Melanau group of languages found along the coastal areas of central Sarawak, around Sibuan and generally south of Bintulu (Chou 2002, Rensch 2012). Some Melanau dialects are found farther up the Rejang River, especially in the mid Rejang town of Kanowit. Bintulu, a North Sarawak language spoken in and around the town of Bintulu is sometimes included in Melanau, but generally on non-linguistic grounds.

1.7.5.8 Kajang

There is a group of languages spoken in the upper Rejang which include Kejaman, Sekapan, and Lahanan. These languages are often grouped together into a single subgroup, labeled “Kajang”, although this label is often applied to communities that do not speak Kajang languages, including the Punan dialects of the upper Rejang, which are more closely related to other Punan dialects in Kalimantan than they are to Kajang.

1.7.5.9 Land Dayak

There is a Land Dayak group, spoken on both sides of the West Kalimantan-Sarawak border (Rensch et al. 2012). This includes the Bidayuh of Sarawak, and several other groups of west Kalimantan, including the Bekati, Banyadu, Sanggau, Jangkang, Golik, and Ribun. In the past, Kedayan and Salako have been grouped together with Land Dayak, although the general consensus today is that these are Malayic languages.

1.7.5.10 Barito

It is widely agreed that there is a Barito subgroup of languages (Hudson 1967). Within Barito there is an East and West Barito group. Malagasy, spoken on the island of Madagascar off the coast of Africa, subgroups with East Barito. Tunjung, spoken along the middle Mahakam River, is also a Barito language, but is sufficiently distinct that it is placed in its own subgroup within Barito. Blust (2007b) has shown that the Sama Bajaw languages of the Sulu Archipelago and parts of the lesser Sunda islands also subgroup with Barito. He called this newly formed subgroup “Greater-Barito”, a proposal which has also gained wide acceptance.

1.7.6 AREAS OF DISAGREEMENT

While the basic subgroups are mostly agreed upon, there is much more disagreement regarding the details of higher-order subgrouping in Borneo, and how the various subgroups relate to one another. The following section highlights some of the more important areas of disagreement.

1.7.6.1 Kayan-Kenyah

Soriente (2003, 2006a, 2006b, 2008, 2010, 2013) and *Ethnologue* (Lewis et al. 2016) subgroup Kayanic languages with Kenyah, arguing for a Kayan-Kenyah subgroup within Blust's North Sarawak group. Smith (2015a) argued specifically against a Kayan-Kenyah group, citing a lack of strong evidence, and weaknesses in the proposed exclusively shared sound changes from Soriente (2003, 2008). Hudson (1978) also proposed a Kayan-Kenyah group, but does not place it within any larger group. Hudson's Kayan-Kenyah subgroup thus has no special relationship to the other languages of the Baram River, including Kelabit, Berawan, and the Lower Baram languages, effectively denying North Sarawak.

1.7.6.2 Müller-Schwaner and Kayan

Hudson (1978) placed the Müller-Schwaner Punan languages in the Kayanic branch of this Kayan-Kenyah group, where Penihing and Seputan are listed under Long Paka' Kayan-Penyabung, which is itself listed under Kayanic. *Ethnologue* has followed suit, although Sellato and Soriente (2015:350) seem to shy away from claiming that the Müller-Schwaner languages subgroup linguistically with Kayan. Rather, they claim that the languages have been heavily relexified but are ultimately "rooted in an old Western Borneo linguistic substratum", although the source and nature of this substratum are not clear.

1.7.6.3 North Sarawak

The North Sarawak group is defined phonologically by a single yet rare sound change; the development of a distinct series of stops that begin voiced and end voiceless (b^h , d^h , j^h , and g^h) which developed in Proto-North Borneo and are retained in certain Kelabit and Lun Dayeh dialects (Blust 2006). *Ethnologue* lists a North Sarawak group, as does Soriente (2008), although both models have modified Blust's original proposal by placing Kayanic languages inside the North Sarawak group, a hypothesis that Blust (2010) and Smith (2015a) claim lacks supporting evidence. North Sarawak contains Kenyah, Kelabit-Lun Dayeh, Berawan-Lower Baram, and Bintulu (as an isolate within North Sarawak). Hudson (1978) dismantles North Sarawak, placing Bintulu and Berawan-Lower Baram in the same Rejang-Baram group, but placing Dayic (Apo Duat) and Kenyah in two separate subgroups.

1.7.6.4 Punan

There is wide disagreement on the classification of “Punan”. Blust (2010) does not address the subgroup for lack of data, and leaves them out of his discussion. Hudson (1978) created a misleading subgroup “Punan-Nibong” which consists of several so-called Punan languages. The data that he provides for these languages, however, suggests that they are Penan, not Punan. For example, Hudson lists *tujak* ‘seven’ for Punan Gang, which is most likely a mishearing of Western Penan *tujək* ‘seven’. Actual Punan languages in Hudson’s classification are split between two groups, some appear in his Rejang-Bintulu subgroup and others in his Rejang-Sajau group. His reasons for doing so are a small set of shared lexical innovations in Rejang-Sajau, and the presence of glide fortition in Rejang-Bintulu. Sellato (1980, 1986, 1994) has argued for some time that Punan and Müller-Schwaner languages form a subgroup, while the *Ethnologue* classification splits Punan dialects into three separate subgroups: Müller-Schwaner Punan (part of Kayanic), Rejang-Sajau, and Punan Tubu, which is grouped as an isolate within North Sarawak. Blust (2015:204) provides the most recent statement on the classification of Punan, although he does so as a side note. There, Blust suggests that Bukitan, Ukit, Punan Bah, Punan Batu, Punan Busang, and Punan Sajau form a subgroup which excludes the Penan (which Hudson mislabeled Punan). This classification, based on limited data, is the most consistent with data collected for this dissertation.

1.7.6.5 East and North Kalimantan

There is a general lack of available data for languages of this area, which includes the Mahakam River, its large tributaries, the Segah and Kelai rivers, the Kayan River, and the Sesayap river and its upper tributaries the Tubu and Malinau rivers. Many disagreements which involve this area of the island are thus partially the result of a lack of data. Linguists interested in Borneo as a whole have had to rely on spotty reports and limited data sets. Blust (2010), the most recent overall classification, avoids this by not making strong claims about any of these languages.

1.8 Organization of the dissertation

This dissertation is composed of a relatively small number of chapters. There are five, including the introduction and conclusion. The middle three chapters, 2 through 4, contain the

majority of the data and analysis. The remainder of the dissertation is organized as follows. Chapter 2, *Historical phonologies and the composition of linguistic subgroups in Borneo*, is a statement of lower-level subgroups in Borneo. It is a large chapter, and includes subgrouping and historical analysis of nearly every language on the island. Evidence is presented for Kayanic, Kajang, Melanau, Punan, Müller-Schwaner, Land Dayak, Malayic, Southwest Sabah, Northeast Sabah, Basap, and Barito. Chapter 3, *Higher-order subgrouping in Borneo*, organizes large subgroups, as defined in chapter 2, into higher-order subgroups. This chapter critically assesses Blust's 2010 claim that all languages of Borneo (including several languages outside of Borneo) are descended from a single proto-language, Proto-Western Indonesian, and concludes by confirming Blust's overall hypothesis with larger data sets, although several details are altered, including the new hypothesis that Basap and Barito form a larger Basap-Barito group that at one time extended along the entire eastern portion of the island. Chapter 4, *Historical linguistics, initial settlement, and secondary population movements in Borneo*, uses linguistic evidence from chapters two and three to determine historical population movements. This chapter has two focuses, recent migrations which occurred in the past 200 years, and more distant migrations, including the initial settlement of Borneo by Austronesian speakers. Also, this chapter discusses the claims for a non-Austronesian population on Borneo, but concludes that the evidence does not support the idea that non-Austronesian speaking people were on the island during or after initial settlement by Austronesians.

CHAPTER 2

HISTORICAL PHONOLOGIES AND THE COMPOSITION OF LINGUISTIC SUBGROUPS IN BORNEO

2.1 Chapter introduction

This chapter aims to accomplish two major tasks. First, it proposes several all-inclusive subgroupings of the languages of Borneo. To that end, it delineates boundaries between all major groups, establishes the composition of those groups, and states the historical developments of all major subgroups. Few works to date have attempted this, with Ray (1913), Hudson (1978), *Ethnologue* (Lewis et al. 2016), and Blust (2010) offering the most ambitious works in this area. Second, this chapter seeks to provide concrete evidence for each subgroup, adhering strictly to the principles of the comparative method. The evidence presented below comes in two types. The most powerful form of evidence is exclusively shared phonological innovations. The second type of evidence, exclusively shared lexical replacement innovations, can provide quality evidence, but only in cases where borrowing can be reasonably ruled out. As a result of this research, the following findings are presented in chapter two:

- i) The first defense of a Kayanic subgroup based on data from all major Kayanic languages, plus an internal subgrouping that identifies Merap as a dialect of Ngorek, and which, for the first time, presents linguistic evidence for a Segai-Modang subgroup.
- ii) The first detailed account of the phonologies of Kajang languages, as well as their ultimate position in relation to Melanau.
- iii) The first detailed account of Punan, including arguments that Punan is a single language with dialectical variation, and that Punan represents a discrete linguistic unit which excludes all other languages of Borneo. Also, this section contains the most complete delineation of the Punan group, which includes Ukit, Sajau and Sru Dayak, languages that are often placed in other subgroups for purely geographical reasons.
- iv) The first historical phonology of Müller-Schwaner languages.

- v) A detailed account of Land Dayak historical phonologies, with an updated internal subgrouping that differs significantly from that proposed in Rensch et al. (2012). This section also contains the first linguistic data reported for a dialect of Bidayuh known as Hliboi, which has an interesting phonology including initial geminates and voiceless sonorants.
- vi) A complete re-structuring of Barito, which I argue does not form an innovation-defined subgroup, but rather a linkage, with evidence from several sound changes not available in Hudson (1967). The linkage model does not support the hypothesis that Barito languages descend from a single Proto-Barito language.
- vii) The first detailed account of Basap, a still poorly understood group of languages/dialects in far eastern Kalimantan. Basap languages are quite conservative, and do not at first appear to form any subgrouping relationship with other languages of Borneo.
- viii) Phonological evidence for a Northeast Sabah group that includes Bonggi and Idaanic but not Molbog, which subgroups more closely with Philippine languages.

The chapter is organized into several sections, each dedicated to a specific subgroup, except for section 2.10 which is dedicated to the languages of Sabah, a geographic distinction. Each section contains tables stating sound correspondences between PMP and individual languages in each subgroup, for each phoneme where a change has taken place. In cases where a PMP phoneme has not changed in any language of a subgroup (for example, if PMP *t is reflected with *t in all environments in an entire subgroup) then the phoneme is not included in the sound correspondence table, to save space. Phonological evidence is used to justify the existence of each subgroup and to justify the inclusion of each language within the subgroup. In several cases, lexical replacement innovations are included to supplement the data. Five languages, Punan Kelai, Merap, Hliboi Bidayuh, Punan Bah, and Kapuas River Iban, are discussed in more detail, to highlight their uniqueness.

2.2 The Kayanic subgroup

The Kayanic subgroup is large and diverse. It extends over a swath of territory from the middle Kayan River, Mahakam River, and Apo Kayan areas of East and North Kalimantan to the middle Baram River and upper Balui and Rejang Rivers in Sarawak. In this section, primary data on 11 languages will be used to argue for a Kayanic subgroup with two primary divisions composed of three large subgroups. The languages found in this section are listed below in Figure 9

Figure 9

Languages used to argue for a Kayanic subgroup

Long Naah Kayan of the middle Baram River, Sarawak

Balui Liko Kayan spoken in the Sungai Asap resettlement area, Sarawak¹.

Bahau Saq of the middle Mahakam River, East Kalimantan

Busang of the upper Mahakam River, East Kalimantan

Data Dian Kayan of the upper Apo Kayan area, North Kalimantan

Ngorek/Murik of Long Semiang, upper Baram River, Sarawak

Merap (Mpraa) of the Malinau River, North Kalimantan

Gaa of the Segah river, East Kalimantan

Kelai (Punan Kelai) of the Kelai river, East Kalimantan

Modang of the Kalinjau river, East Kalimantan

Long Gelat of the upper Mahakam River, East Kalimantan

Three major subgroups are widely recognized within what I am calling Kayanic: Kayan, Segai-Modang, and Murik-Merap. The term Kayanic refers to the large subgroup that includes all of these languages, while Kayan refers only to the Kayan languages within Kayanic. The naming conventions for these languages has not been clear in the literature, as Kayan is sometimes referred to as “Kayan Proper” (Lewis et al. 2016), or as “Western Kayanic” (Hudson 1967). I am thus attempting to establish a simple naming convention. Proto-Kayanic is the ancestor language

¹ This language, and several others including Ukit (this work) were formerly spoken in what is today the Bakun Reservoir. This large lake used to be the Balui river, home to several Kayan, Kenyah, Kajang, and Punan communities. After the creation of the lake, these communities were relocated to the Sungai Asap area, where they remain.

to all Kayanic languages, while Proto-Kayan is ancestral to the Kayan languages only, which excludes Murik-Merap and Segai-Modang. This section begins with a discussion of each of three Kayanic subgroups, before it moves on to discuss linguistic evidence for Kayanic as a whole.

2.2.1 Kayan

Kayan languages are typically conservative, with few distinguishing sound changes. They were formerly spoken in the Apo Kayan area of North Kalimantan, along the present day border between Indonesian and Malaysian Borneo. The area is today mostly occupied by Kenyah speaking communities, and the Kayan are found in various strongholds along the Baram, Rejang, and Mahakam Rivers. Long Naah, Data Dian, Balui Liko, Busang, and Bahau are presented below as Kayan, along with sound correspondences for the consonants and vowels.

2.2.1.1 Kayan phonological evidence

This section addresses the phonological evidence supporting a Kayan subgroup of languages within Kayanic. Tables of sound correspondences with PMP reconstructions are presented below with discussion of important sound changes immediately after. The following tables are difficult to evaluate in isolation, and are discussed in much greater detail after. Table 4 on the vowel reflexes contains a separate set for reflexes of *-a?, as Data Dian reflects long vowels in this environment only. Note that in sound correspondence tables, two reflexes listed with semi-colon (?; Ø) means that the first listed reflex is the regular reflex, and the reflex(es) appearing after the semi-colon are conditioned or irregular.

Table 3

Kayan consonant reflexes

| PMP | Long Naah | Data Dian | Balui Liko | Busang | Bahau |
|------|-----------|-----------|------------|--------|-------|
| *q- | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q- | ʔ | ʔ | ʔ | ʔ; ∅ | ʔ |
| *-q | ∅ | ʔ | ∅ | ʔ | ʔ |
| *-b- | v | f | v | v | f |
| *-b | m | m | v | v | p |
| *-d- | r | r | r | r | r |
| *-d | n | n | r | r | l |
| *-j- | r | r | r | r | r |
| *-j | n | n | r | r | l |
| *-z- | j | j | j | j | s |
| *-z | s | s | s | s | s |
| *mb | b | b | b | b | b |
| *nd | d | d | d | d | d |
| *nj | j | j | j | j | j |
| *ŋg | g | g | g | g | g |
| *-l | n | n | l | l | l |
| *s- | h | h | h | h | h |
| *-s- | s; h | s | s | s | h |
| *-s | h | h | ∅ | ∅; h | h |
| *R- | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-R- | h | h | h | h | ∅ |
| *-R | h | h | h | h | h |

Table 4

Kayan vowel reflexes

| PMP | Long Naah | Data Dian | Balui Liko | Busang | Bahau |
|--------|-----------|-----------|------------|---------------|-------|
| *-a | aʔ | aʔ | aʔ | aʔ | a:ʔ |
| *-aC | a | a; e̞ | a | a | a: |
| *-aʔ | aʔ | a:ʔ | aʔ | aʔ | a:ʔ |
| *-aCVC | a | a | a | a; i; u; e; o | a |
| *-u | oʔ | oʔ | oʔ | oʔ | o:ʔ |
| *-uC | u; o | u; o | u; o | u; o | u; o |
| *-i | eʔ | eʔ | eʔ | eʔ | e:ʔ |
| *-iC | i; e | i; e; i̞ | i; e; i̞ | i; e | i; e |
| *-əC | ə; a | ə; a | ə; a | ə; a | a |
| *-ay | ay | ay | e | e | ay |
| *-aw | aw | aw | o | o | aw |

Figure 10

PMP to PKYN sound changes

- *-b- > *v
- *-d-/-j- > *r
- *mb > *b
- *nd > *d
- *nj > *j
- *ŋg > *g
- *s- > *h
- *-V > *-V? (accompanied by lowering of final high vowels)
- *R- > *Ø
- *-R- > *h

2.2.1.1.1 Glottal stop addition and deletion in Kayan

All Kayan languages closed open final syllables with a glottal stop. Where glottal stop was added to high vowels, the vowels lowered. Some examples are shown in table 5 below.

Table 5

Closing of word-final vowels in Kayan

| PMP | Long Naah | Data Dian | Balui Liko | Busang | Bahau |
|-------------------|-----------|-----------|------------|--------|--------|
| *mata ‘eye’ | matan | matan | mataʔ | matan | mata:ʔ |
| *dua ‘two’ | duaʔ | duaʔ | duaʔ | duaʔ | dua:ʔ |
| *təlu ‘three’ | təloʔ | təloʔ | təloʔ | təloʔ | təloʔ |
| *bulu ‘body hair’ | - | buloʔ | buloʔ | bulun | buloʔ |
| *tali ‘rope’ | taleʔ | taleʔ | taleʔ | - | taleʔ |
| *taqi ‘excrement’ | taʔeʔ | taʔeʔ | - | teʔeʔ | taʔeʔ |

Kayan is far from the only group in Borneo where open final syllables were closed with a glottal stop. Similar changes in Borneo are found in Murik-Merap (Kayanic), Benyadu (Land Dayak), Ibanic (sporadically), and several Barito languages including Kadorih, Ngaju, Kapuas, Taboyan, Benuaq, and Tunjung. Kayan and Murik-Merap, however, are the only subgroups where glottal stop addition is associated with high vowel lowering (where final high vowels become mid vowels in the changes *-i > *-eʔ and *-u > *-oʔ). Additionally, certain Kayan languages reflect

what appears superficially to be an “alpha-switch” (referring to Harms 1968 where two segments *x* and *y* may be transformed to *y* and *x* in a single rule change), where inherited glottal stops were deleted apparently at the same time that innovative glottal stops were added. Compare the data in the above table with similar data in Table 6 below, which shows where glottal stops were deleted. Note that *q had become *ʔ in pre-Proto-Kayanic.

Table 6

Inherited final glottal stop in several Kayan dialects

| PMP | Long Naah | Data Dian | Balui Liko | Busang | Bahau |
|------------------------|-----------|-----------|------------|--------|--------|
| *m-ataq ‘raw’ | ata | mata:ʔ | - | ataʔ | mata:ʔ |
| *daRaʔ ‘blood’ | daha | daha:ʔ | daha | dahaʔ | daha:ʔ |
| PKAY *tujuʔ ‘to point’ | tusu | tusuʔ | tusu | tusuʔ | tusuʔ |
| *buluq ‘bamboo’ | bulu | buluʔ | bulu | buluʔ | buluʔ |
| PKAY *ləbiʔ ‘evening’ | ləvi | ləfiʔ | - | ləviʔ | ləfiʔ |
| *putiq ‘white’ | puti | putiʔ | puti | putiʔ | putiʔ |

Direct comparison of words in table 5 with table 6 reveals interesting historical patterns, where PMP *mata ‘eye’ became Long Naah Kayan *mataʔ* but *m-ataq ‘raw’ became PKAY *m-ataʔ and later Long Naah Kayan *ata*. Also of interest is the historical realities in cases from Data Dian, Busang, and Bahau, where final glottal stop was not deleted. Blust (2002a) addresses this problem at length, and at risk of cutting the present discussion short, the reader is referred to this earlier work for details on the history of final glottal stop in Kayan. To summarize, vowels in final syllables were phonetically lengthened before *inherited* glottal stops, and innovative glottal stops were later added to open final syllables, which all had short vowels². The result was a distinction between long and short in *i, *u, and *a only before final glottal stop, a situation which allowed inherited and innovative glottal stops to be distinguished from one another. Short high vowels then lowered before glottal stop, and some (but not all) dialects further deleted glottal stop after long vowels. A summary of the historical changes is presented in the figure below:

² Check Data Dian Kayan, in the figures below and Blust (2002a), for evidence of this past length distinction. It is also worth noting that Busang, a language that also maintains inherited glottal stop, does not maintain long vowels in the dialect that I recorded. Where Data Dian distinguishes *dahaʔ* ‘they’ from *daha:ʔ* ‘blood’ for example, Busang has the homophones, *dahaʔ* ‘they’, and *dahaʔ* ‘blood’.

Figure 11

Historical derivation of final vowels and final glottal stop in Kayan dialects with an apparent alpha-switch

| | *mata 'eye' | *m-ataq 'raw' | *bulu 'body hair' | *buluq 'bamboo' | *tali 'rope' | *putiq 'white' |
|--------------------------------|----------------|------------------|----------------------|--------------------|-----------------|-------------------|
| lengthen vowels before *-ʔ | - | *m-ata:ʔ | - | *bulu:ʔ | - | *puti:ʔ |
| add ʔ after *-V | *mataʔ | - | *buluʔ | - | *taliʔ | - |
| lower short vowels | - | - | *buloʔ | - | *taleʔ | - |
| delete *ʔ after long vowels | - | *m-ata: | - | *bulu: | - | *puti: |
| result | <i>mataʔ</i> | <i>m-ata</i> | <i>buloʔ</i> | <i>bulu</i> | <i>taleʔ</i> | <i>puti</i> |

The following Figure shows the historical derivations which led to languages where inherited glottal stop is retained (where the change “delete *ʔ after long vowels” did not apply). Note that in the final forms, it is not necessary to write length in *-uʔ* [u:ʔ] and *-iʔ* [i:ʔ] because the short vowels lowered, and there are no modern high short vowels from which these forms are distinguished.

Figure 12

Historical derivation of final vowels and final glottal stops in Kayanic dialects without apparent alpha-switch

| | | | | | | |
|-------------------------------|----------------|------------------|----------------------|--------------------|-----------------|-------------------|
| | *mata 'eye' | *m-ataq 'raw' | *bulu 'body hair' | *buluq 'bamboo' | *tali 'rope' | *putiq 'white' |
| lengthen vowels before *-ʔ | - | *m-ata:ʔ | - | *bulu:ʔ | - | *puti:ʔ |
| add ʔ after *-V | *mataʔ | - | *buluʔ | - | *taliʔ | - |
| lower short vowels | - | - | *buloʔ | - | *taleʔ | - |
| result | <i>mataʔ</i> | <i>m-ata:ʔ</i> | <i>buloʔ</i> | <i>buluʔ</i> | <i>taleʔ</i> | <i>putiʔ</i> |

This specific history of vowel lengthening, glottal stop addition, short vowel lowering, and optional glottal stop deletion after long vowels is unique to Kayan and Murik-Merap. Although it does not provide evidence for Kayan as a subgroup (because it is found outside of Kayan in Murik-Merap), it does provide fairly strong evidence that Kayan and Murik-Merap form a larger subgroup to the exclusion of any Kayanic languages which do not have this set of changes.

2.2.1.1.2 PMP *z in Proto-Kayan

In table 3 above, PMP *z is reflected with *s* in all Kayan languages, but it is unlikely that this sound change can be reconstructed to Proto-Kayan because Bahau reduced *-s- to *h*, but reflexes of *-z- did not reduce. Had *-z- become *-s- in Proto-Kayan, the following feeding order would have resulted in a further *-z- > *-s- > *h* change in Bahau:

Figure 13

*Predicted historical derivation if *-z- > *-s- had fed *-s- > -h-*

| | | |
|-------------------|----------------|---------------|
| PMP | *pusuq 'heart' | *quzan 'rain' |
| PKAY *-z- > *-s- | - | *usan |
| Bahau *-s- > *-h- | *puhuʔ | *uhan |
| result | <i>puhuʔ</i> | <i>**uhan</i> |

Bahau reflects *quzan with *usan*, so the above ordering is impossible. *-z- must have become *-s- in parallel sound changes in Kayan languages. It is possible, however, that *-z- had become *-c- in Proto-Kayan, which would then be more likely to further change to *-s-. Evidence from Segai languages, where *-z- is reflected as *c*, suggests that the sound change *-z- > *-c- may actually be assignable to Proto-Kayanic.

2.2.1.1.3 PMP *-s and *-R in Proto-Kayan

All Kayan languages reflect the change *-s > *-h, while Balui Liko and Busang reflect a further change to \emptyset . Other Kayan languages merged *-R and *-s as *-h but because Balui Liko and Busang deleted final *s but not final *R, the merger could not have taken place in Proto-Kayan, and must have been a parallel innovation in several of the daughter languages. For example, *təlaʔus > Busang *təluʔu* ‘barking deer’ with *-s > \emptyset but *təluR > Busang *təloh* ‘egg’ with *-R > h. If *-R and *-s had merged, then they would have identical reflexes. Thus, either both *-s and *-R must be reconstructed to Proto-Kayan, or PMP *-R may be reconstructed as PKYN *-h and PMP *-s as PKYN *-s, assuming that *-s was deleted without going through an intermediate stage in Balui Liko and Busang. The second scenario is complicated by reflexes of *-s as *h* only after schwa in the final syllable in Busang, for example *bəRas ‘husked rice’ > *baha* and *bətis ‘calf’ > *bəti* but *hapəjəs ‘smarting pain’ > *pərah* and *qali-ipəs ‘cockroach’ > *lipah*. This of course implies that there was indeed an intermediate stage where *-s > *-h. This remains a poorly understood historical process.

2.2.1.1.4 Busang reflexes of *a

There are six vowels in Bahau Busang, and *a is reflected with five of them, *i*, *e*, *a*, *o*, and *u* (although *a* is the most typical reflex). In word-final position *a is reflected with *aʔ*, including an innovated word-final glottal stop. Examples include *tuba > *tuvaʔ* ‘derris root’, *duha > *duaʔ* ‘two’, and *lima > *limaʔ* ‘five’. In a closed final syllable, it is reflected again with *a*, as in *zəlaq > *jəlaʔ* ‘tongue’, *uRat > *huat* ‘vein’, and *qudaŋ > *uraŋ* ‘shrimp’.

In the penultimate syllable, *a has five reflexes, depending on the effects of vowel harmony, where *a changed to match the vowel in the final syllable, but only when separated with a glottal stop or *h*. Thus, *aʔu > *uʔu*, *ahi > *ih*i, and so on. Examples include PKAY *pahu > *pohoʔ* ‘grasshopper’, *taqi > *teʔeʔ* ‘excrement’, PKYN *kahuŋ > *kuhuŋ* ‘head’, and PKAY *baʔik

> *biʔik* ‘short’. In all other cases, *a remained the same in the penultimate syllable. Examples include *asu > *asoʔ* ‘dog’, *kasih > *kaseh* ‘fin’, and *anak > *anak* ‘child’. The vowel harmony rule interacted with word medial glottal stop deletion, preventing the deletion of glottal stop in words where the vowels were not historically identical. To summarize, in word medial position, *q is only reflected with ʔ when between two identical vowels. If the vowels are different, *q was deleted. Thus, *puʔun > *puʔun* ‘base; origin’ but PKYN *duʔiʔ > *duiʔ* ‘to drink’, PKAY *miʔaŋ > *miaŋ* ‘wake up’, and *ñaʔat > *ñiʔat > *ñiat* ‘sharp’. Examples such as *baʔik > *biʔik* ‘short’ show that vowel harmony preceded glottal stop deletion³.

2.2.1.1.5 High vowel off-gliding and raising of *a

Both Data Dian and Balui Liko (and Uma Juman Kayan according to Blust 1977) have off-gliding high vowels before velar consonants, similar to those found in Melanau, Kajang, and Punan Bah. In these Kayan examples however, off-gliding occurs only with *i, never *u, which is retained unchanged in Data Dian, but lowers to *o* in Balui Liko before final velar consonants. In Data Dian as well, *a in the final syllable before a velar stop fronted to *e, and developed a schwa off-glide in a sound change that directly parallels that found in Mukah Melanau, Sekapan, Kejaman, and Punan Bah (all are discussed further in subsequent sections of this chapter). Some examples are shown in table 7 below.

Table 7

Off-gliding in Data Dian and Balui Liko

| PKAY | Data Dian | Balui Liko |
|----------------------|-----------|------------|
| *utiŋ ‘domestic pig’ | utiəŋ | utiəŋ |
| *masik ‘fish’ | masiək | masiək |
| *manuk ‘bird’ | manuk | manok |
| *laʔuŋ ‘back’ | laʔuŋ | laʔoŋ |
| *lubəŋ ‘hole’ | lufeəŋ | luvaŋ |
| *anak ‘child’ | aneək | anak |

³ Another, equally plausible explanation is that vowel harmony occurred unless *blocked* by a post-glottal consonant (all consonants other than glottal stop and h). The comparative data, however, do not provide the proper words to test such a hypothesis. A more robust data set may shed light on the specifics of this change.

2.2.1.1.6 Summary of the Phonological evidence for Kayan

In all, the phonological evidence for a Kayan group within Kayanic is relatively weak. The innovation of word-final glottal stops after all final vowels and the simplification of homorganic nasal-stop clusters to their non-nasal component are perhaps slightly more significant than the other sound changes. Even so, word-final glottal stop addition is widespread in Borneo, and it is also found in the Murik-Merap branch of Kayanic under the same conditions, so it has no value as subgrouping evidence for a Kayan subgroup. The simplification of homorganic nasal-stop clusters to their voiced obstruent counterparts (*mb > *b for example) is also found in Segai-Modang, so again, it does not have subgrouping value for Kayan.

2.2.1.2 Kayan lexical replacement innovations

Additional evidence for a Kayan subgroup is found in the lexicon. The following list of exclusively shared replacement innovations in basic vocabulary support a Kayan subgroup:

| | | |
|------------|---|---------------|
| *pusəj | > | *ubut ‘navel’ |
| Long Naah | | <i>ubut</i> |
| Data Dian | | <i>ubut</i> |
| Balui Liko | | <i>ubut</i> |
| Busang | | <i>ubut</i> |
| | | |
| *palaj | > | *kamah ‘palm’ |
| Long Naah | | <i>kamah</i> |
| Data Dian | | <i>kamah</i> |
| Balui Liko | | <i>kamah</i> |
| Busang | | <i>kamah</i> |
| Bahau | | <i>kamah</i> |

| | |
|--------------|----------------------|
| PKAY *ayam > | *utiŋ ‘domestic pig’ |
| Long Naah | <i>utiŋ</i> |
| Data Dian | <i>utiʔŋ</i> |
| Balui Liko | <i>utiʔŋ</i> |
| Busang | <i>utiŋ</i> |

| | |
|------------|---------------|
| *hikan > | *masik ‘fish’ |
| Long Naah | <i>masik</i> |
| Data Dian | <i>masiʔk</i> |
| Balui Liko | <i>masiʔk</i> |
| Busang | <i>masik</i> |
| Bahau | <i>mahek</i> |

| | |
|------------|-------------------|
| *bulud > | *ŋalaŋ ‘mountain’ |
| Long Naah | <i>ŋalaŋ</i> |
| Data Dian | <i>ŋaleʔŋ</i> |
| Balui Liko | <i>ŋalaŋ</i> |
| Busang | <i>ŋalaŋ</i> |

| | |
|------------|----------------|
| *inum > | *duʔiʔ ‘drink’ |
| Long Naah | <i>duʔiʔ</i> |
| Data Dian | <i>duʔiʔ</i> |
| Balui Liko | <i>duiʔ</i> |
| Busang | <i>duiʔ</i> |
| Bahau | <i>du:ʔ</i> |

| | |
|-------------------|---------------|
| *labuq ‘to fall’> | *ləgak |
| Long Naah | <i>ləgak</i> |
| Data Dian | <i>ləgeʔk</i> |
| Busang | <i>ləgak</i> |
| Bahau | <i>ləgak</i> |

*iban ‘in-law’ > *diban (irregular addition of *d-)

Long Naah *divan*

Data Dian *difan*

Busang *divan*

Bahau *difan*

Uma’ Pawe Kenyah *divan* is probably a borrowing from a Kayan source, as all other Kenyah languages reflect *iban.

- *salas/salaR ‘empty’

Long Naah *halah*

Data Dian *halah*

Busang *halah*

In the above example, the data is ambiguous as to whether final *R or final *-s should be reconstructed, as both are reflected with *-h* in the languages where this form is attested. Word-initial *h* however, has only one source, *s-.

2.2.1.3 Summary

Kayan is internally diverse, but Proto-Kayan was phonologically conservative, and no strong phonological evidence supports a Kayan subgroup. The list of lexical innovations, however, does seem to suggest that Kayan forms a group which excludes other Kayanic languages.

2.2.2 Murik-Merap

Murik-Merap contain two distinct groups of languages, the Murik group which consists of Murik/Ngorek⁴, Pua’, and Huang Bau (Soriente 2003), and the Merap language, which is spoken in the Malinau area of North Kalimantan. Synchronically, Merap and Murik could not be more different. Merap has strong word-final stress, 26 vowels including diphthongs, triphthongs,

⁴ Murik and Ngorek both appear in the literature in reference to the same language. Because the speakers I worked with at Long Semiang preferred to be called “Ngorek” I will use that term to refer to the specific dialect of Murik-Merap spoken at Long Semiang, and Murik to refer to the larger group, which contains Pua’ and Huang Bau.

length, and nasality distinctions, while Murik is a conservative language, even by Kayanic standards, and has weak penultimate stress with a standard six vowel inventory of *i, e, a, o, u*, and *ə*.

2.2.2.1 Murik-Merap phonological evidence

This section addresses the phonological evidence supporting a Murik-Merap subgroup of languages within Kayanic. Tables of sound correspondences with PMP reconstructions are presented below. To show the vast differences in these languages, the tables below directly compare reflexes of PMP phonemes in Ngorek and Merap in both the consonants and vowels. Again, the following tables of sound correspondences are difficult to evaluate in isolation, so an extended discussion on the significance of Murik-Merap evidence is provided after. A discussion that focuses solely on the phonology of Merap is also included afterward, and a full summary of Merap historical phonology, much too difficult a topic for the present work, can be found in Smith (2017).

Table 8

Ngorek and Merap consonant reflexes of PMP consonant Phonemes

| | Ngorek | Merap |
|------|--------|--|
| *p- | p | p; Ø |
| *-p | p | ?; c; k ^w ; p |
| *t- | t | t; k |
| *-t | t | ?; c; k ^w ; t |
| *-k | k | ?; k |
| *q- | Ø | Ø |
| *-q- | ? | ? |
| *-q | Ø | Ø |
| *b- | b | m; b (b), Ø |
| *-b- | b | ḃ |
| *-b | p | p |
| *d- | l | l |
| *-d- | r | r |
| *-d | n | n, ŋ ^w ; Ø (plus nasality on preceding vowel) |
| *-j- | r | r |
| *-j | n | n, ŋ ^w ; Ø (plus nasality on preceding vowel) |
| *z- | j; s | ñ |
| *-z- | s | c/f |
| *mb | mp | mp |
| *nd | nt | nt |
| *nj | nc | nc |
| *ŋg | ŋk | ŋk |
| *-l | n | n, ŋ ^w ; Ø (plus nasality on preceding vowel) |
| *s- | Ø | h |
| *-s- | h | h |
| *-s | h | h |
| *R- | Ø | Ø |
| *-R- | Ø | Ø |
| *-R | h | h |

Table 9

Ngorek and Merap reflexes of PMP vowel phonemes.

| | Ngorek | Merap |
|--------|--------|----------------------------------|
| *-a | aʔ | aʔ; iəʔ; uəʔ |
| *-aC | a | yə; ə; âə; îə; ûə; a: |
| *-aCVC | a | a |
| *-u | oʔ | aʊʔ; əwʔ; əwŋ ^w ; owʔ |
| *-uC | u; o | au; əw; ow; u:; awə; u:ə; aʊ |
| *-uCVC | u; o | ∅; o; u |
| *-i | eʔ | ayʔ; oyʔ; eyʔ |
| *-iC | i; e | ay; ayə; i:ə; ey; uy |
| *-iCVC | i; e | ∅; i; ε |
| *-əC | ə; a | ə; a |
| *-əCVC | ə | ∅; ə |
| *-ay | e | a:ə; aʊ; ey |
| *-aw | o | a:ʊ; εʊ |

Despite what appear to be major differences in the historical phonologies of Ngorek and Merap (particularly in the vowels), three sound changes which appear in only these two languages, and in no other languages of Borneo, strongly suggest that Merap is in fact a highly sister language of Ngorek, and that together they form a Murik-Merap subgroup within Kayanic. This evidence is found in reflexes of Proto-Kayanic word-final voiced obstruents (*-b > *-p and *-d > *-n) and nasal-voiced obstruent consonant clusters (nasal+voiced homorganic obstruent > nasal+voiceless homorganic obstruent).

2.2.2.1.1 Reflexes of word-final voiced obstruents in Kayanic

Proto-Kayanic retained voicing in reflexes of PMP *-b, *-d, *-j, and *-g, as evidenced by reflexes of word-final voiced stops in modern languages, where *-b is reflected with -p, -m, -v, and -w, and *-d and *-j with -l, -r, -n (tables 3, 8, and 14). Most Kayanic languages either reflect the final voiced stops as nasals, or as other, non-nasal segments. Ngorek, however, has been viewed as unique among Kayanic languages in that it reflects *-b with a non-nasal p, but *-d and *-j with n (Blust 1974b). The data in table 8 above shows that Merap also reflects *b with p and *-d with n. Examples are, PKAY *kaʔub ‘lie prone’ > Merap kaʔawk^w (where final -p from *-b is reflected as a labialized velar after historic final syllable *u) and *kələb ‘turtle’ > Merap klap

but *quləj ‘worm; maggot’ > PKAY *uləd > Merap *luən* and PKAY *tulad ‘animal’ > *PMUR *tulan > Merap *klüə* (where final *-n from *-d deleted after all vowels other than schwa, and nasalized the preceding vowel). Table 10 below summarizes reflexes of final voiced obstruents in all Kayanic languages for which primary data is available.

Table 10

Reflexes of word-final voiced obstruents in Kayanic

| | *-b | *-d |
|------------------|-----|-----|
| Long Naah Kayan | -m | -n |
| Data Dian Kayan | -m | -n |
| Balui Liko Kayan | -v | -r |
| Busang | -v | -r |
| Bahau | -p | -l |
| Modang | -w | -n |
| Gaai | -w | -l |
| Kelai | -w | -l |
| Ngorek | -p | -n |
| Merap | -p | -n |

2.2.2.1.2 Reflexes of *mb, *nd, *nj, and *ŋg in Kayanic

Most Kayanic languages simplified nasal-obstruent clusters, and reflect them with simple voiced stops, thus, *mb > b, *nd > d, *nj > j, and *ŋg > g. Only two groups did not undergo this change, Ngorek and Merap. These two groups devoiced the obstruent, but maintained the cluster, thus *mb > mp, *nd > nt, and *ŋg > ŋk. Devoicing of the non-nasal segment constitutes an innovation found in no other Kayanic language, as the following table makes clear:

Table 11

Reflexes of nasal-stop clusters in Kayanic

| | *mb | *nd | *nj | *ŋg |
|------------------|-----|-----|-----|-----|
| Long Naah Kayan | b | d | j | g |
| Data Dian Kayan | b | d | j | g |
| Balui Liko Kayan | b | d | j | g |
| Busang | b | d | j | g |
| Bahau | b | d | j | g |
| Modang | b | d | s | ? |
| Gaai | b | d | c | ? |
| Kelai | b | d | c | ? |
| Ngorek | mp | nt | nj | ŋk |
| Merap | mp | nt | nc | ŋk |

2.2.2.1.3 Summary of Murik-Merap evidence

The phonological evidence for calling Merap an aberrant dialect of Ngorek is quite strong. There are no other languages in Borneo that reflect *-b with *p* but *-d with *n*. It is thus unlikely that both Ngorek and Merap show the changes *b > *p* and *-d > *n* as the result of a convergent innovation. In addition, the devoicing of obstruents in nasal-obstruent clusters provides a second piece of evidence linking Merap and Ngorek. Although certain dialects of Highland Kenyah languages also devoiced obstruents in this environment (Lepo' Tau and Badeng for example, from Smith 2015a), the changes appear unrelated since other dialects of Kenyah did not devoice. Devoicing, because it is also found in Kenyah, is thus weaker evidence, but it is still rather uncommon. Combined with reflexes of *-b and *-d, the evidence for Murik-Merap is strong.

Despite the phonological changes that have taken place in Merap, both Merap and Ngorek are lexically conservative. Few lexical replacement innovations have taken place in Merap, Ngorek, and in fact, most Kayanic languages show the same tendency for slow lexical replacement. Ngorek and Merap share 90% of their vocabulary with each other, while Merap and Data Dian Kayan share 81%, and Merap and Modang share 57%⁵.

⁵ Cognate percentages do not imply any type of subgrouping relationship, as clearly demonstrated in Blust (2000b). Segai-Modang languages in general show a much higher tendency for lexical replacement than other Kayanic languages, but without phonological evidence, this alone does not mean that Murik-Merap is any more closely related to Kayan than it is to Segai-Modang.

2.2.2.2 More on Merap

Merap, being such an extraordinary language for its large number of vowel, diphthong, and triphthong contrasts, deserves special attention. In the following section the basics of Merap phonology are presented, including a tentative inventory of 26 vowels and some discussions on distinctive nasality, allophony in final velar consonants, and consonant cluster developments. The reader is referred to Smith (2017) for more on Merap.

Table 12

Merap Consonants

| | labial | alveolar | palatal | velar | glottal |
|-------------------|----------------|----------|---------|-------|---------|
| voiceless plosive | p | t | c | k | ʔ |
| voiced plosive | b ⁶ | d | j | g | |
| nasal stop | m | n | ɲ | ŋ | |
| fricative | | s | | | h |
| lateral | | l | | | |
| trill | | r | | | |

Table 13

Merap Vowels

| | front | mid | back |
|---------|-----------------|--|-----------------|
| high | i ĩḿ, iḿ, iw | | u ũḿ, uḿ, uy |
| central | ɛ ɛy, ɛyḿ | ə əw | o oyḿ, oy |
| low | | a, a:, ãḿ, aḿ, ayḿ, aḿ, aḿ, awḿ, aḿ, aḿ | |

Justifying the above vowel inventory is dependent on one's analysis of stress. Merap is a stress-final language, where the final syllable is always stressed. In every vowel phoneme presented above, stress falls on the initial segment. Thus, *a* is stressed as ['a], *əw* is stressed ['əw], *ĩḿ* is stressed ['ĩḿ], and *ayḿ* is stressed ['ayḿ]. If, for example, one were to interpret *ayḿ* as *ayə*, that is, with the schwa as a separate syllable, one would have to explain why stress is penultimate ['a.yə] and not final [a.'yə]. Some words do have legitimate vowel clusters, like *kiawḿ* 'the Myna bird' which is stressed [ki'awḿ] and reflects *kiuŋ. Thus, the argument for a 26 vowel inventory is

⁶ Note that *b* has the allophone *β* in the onset of final syllables. This also adds to the argument that *awḿ* is a triphthong, not two separate nuclei, because 'head hair' is *βawḿʔ*.

fairly strong (Smith 2017 contains more on this, as the vowel inventory has proven somewhat controversial).

2.2.2.2.1 Nasal vowels

Three diphthongs in Merap contrast with a nasal counterpart, $a_{\text{̃}}$ and $ã_{\text{̃}}$, $i_{\text{̃}}$ and $ĩ_{\text{̃}}$, and $u_{\text{̃}}$ and $ũ_{\text{̃}}$. The distinction only occurs in open final syllables. In this respect, Merap is unique among all of the language of Borneo, and is one of only a handful of Austronesian languages to have a nasal-oral contrast in the vowels.

It's difficult to find an example where $a_{\text{̃}}$ is distinguished from $ã_{\text{̃}}$ in final position, as historical processes have confined $a_{\text{̃}}$ almost exclusively to closed final syllables. However, $\eta a_{\text{̃}}$ 'scaly anteater' does have an oral diphthong, which appears to form a near minimal pair with $h\etaã_{\text{̃}}$ 'breath; the act of breathing'. Oral-nasal contrasts for the diphthongs $ũ_{\text{̃}}$ and $ĩ_{\text{̃}}$ are easier to find. Some examples are given in figure 14 below:

Figure 14

Nasal-oral vowel minimal pairs in Merap

$kũ_{\text{̃}}$ 'scabbard for a machete'

$ku_{\text{̃}}$ 'the two of you'

$bĩ_{\text{̃}}$ 'parent-in-law; child-in-law'

$bí_{\text{̃}}$ 'underneath'

2.2.2.2.2 Word-final velars /k/ and /ŋ/

All stops are found in word-final position in Merap, including the palatal stops c and \tilde{n} and labialized velar consonants k^w and η^w (found *only* in final position). However, $-c$, $-\tilde{n}$, $-k^w$, and $-\eta^w$ are all conditioned by the quality of the preceding vowel, and appear to be allophones of $-k$ and $-\eta$. The conditioning factors for these allophones are discussed below.

$-c$ only appears in a palatal environment, which is to say, only when immediately preceded either with the vowel i or with the glide y [j]. In Merap, all voiceless consonants appear in word-final position after a past schwa (which became Merap short a .), but after i/y only c and $ʔ$ occur.

-*ñ* also only appears in a palatal environment. Like the voiceless stops, all nasals (except for *ñ*) appear in word-final position where they historically followed a schwa. After other vowels, however, final nasals either deleted (after *a), merged as *ŋ^w* (after *u), or merged as *ñ* (after *i). The result is that there is no distinction in word-final nasals after vowels other than historical schwa.

Labialized allophones of /k/ and /ŋ/ are also found in final position, when immediately following a labial vowel. These conditioning factors are discussed at greater length below:

-*k^w* only appears in a labial environment, which is to say, only when immediately preceded by either *u* or *w*. It is in complementary distribution with *-c* and both are allophones of *k*.

-*ŋ^w* also only appears in a labial environment. As noted above, it is in complementary distribution with *-ñ*, and both are allophones of *ŋ*.

The following examples show how final velars appear allophonically palatal or labial depending on their environment. Throughout this dissertation, examples from Merap are written in a phonetic-phonemic script so that historical changes remain easily observable. These palatal and labial allophones are one case where, for example ‘sap’ is written *pləwk^w* and ‘sky’ *laŋayc* to make the historical facts clear. In the following examples, however, I have written purely phonemic forms in angled brackets for distinction.

Figure 15

Examples of labial and palatal allophones of -k and -ŋ in Merap

| | |
|-------------------------------|------------------------------|
| [<i>ˈpləwk^w</i>] | /pləwk/ ‘sap’ |
| [<i>laˈŋayc</i>] | /laŋayk/ ‘sky’ |
| [<i>ˈhləwŋ^w</i>] | /hləwŋ/ ‘fingernails; claws’ |
| [<i>laˈmayñ</i>] | /lamayŋ/ ‘floor’ |

2.2.2.2.3 Word-initial consonant clusters and voiceless sonorants

Merap allows several word-initial consonant clusters, and is unique in Borneo in that it allows clusters of three consonants. There are some constraints on the shape of clusters, 1) no clusters begin with *d*, *g*, or *t*, 2) an obstruent can only be immediately followed by *r* or *l*, 3) obstruents can only be preceded by nasals, 4) clusters with three consonants can only be of two types, Nasal+obstruent+*l/r* or *h*+Nasal+any consonant. All of the attested consonant clusters in Merap are listed below, with an illustrative word. Voiceless sonorants which are formed with *h*+sonorant clusters are discussed later. Note that in the following table, *mpr*- and *mbl*- are underlyingly *mr*- and *ml*, with automatic obstruent addition, creating a surface three consonant cluster over an underlying two consonant cluster.

Figure 16

Examples of initial consonant clusters in Merap

| | | | |
|-----|---------------------------------------|-----|---------------------------|
| pl | <i>pləɔ</i> ‘ten’ | pr | <i>prawəʔ</i> ‘feelings’ |
| kl | <i>klanaɔ</i> ‘finger’ | kr | <i>kraɛ</i> ‘now’ |
| bl | <i>bluhuəʔ</i> ‘to stab from below’ | mp | <i>mpau</i> ‘smelly’ |
| mt | <i>mtɛyh</i> ‘to lean’ | mj | <i>mjah</i> ‘waterfall’ |
| nc | <i>ncɛy</i> ‘one’ | nt | <i>ntaɔh</i> ‘bathe’ |
| ŋk | <i>ŋkayəʔ</i> ‘to bring’ | ŋg | <i>ŋgua</i> ‘fruit’ |
| ŋl | <i>ŋlatawk^w</i> ‘to float’ | mbl | <i>mblayəʔ</i> ‘to buy’ |
| mpr | <i>mpruyc</i> ‘alive’ | ŋgl | <i>ŋgla</i> ‘sticky’ |
| ŋkr | <i>ŋkrawəʔ</i> ‘snore’ | hmp | <i>hmpiən</i> ‘to sneeze’ |
| hmn | <i>hmnɛyəʔ</i> ‘bright’ | hŋk | <i>hŋkiət</i> ‘every’ |

All sonorants in Merap can also be pronounced without voicing, when immediately preceded by *h*. Historically, these consonant clusters have several origins, but in the modern language the following voiceless sonorants have been observed.

Figure 17

Examples of initial voiceless sonorants in Merap

| | |
|------------------------|--|
| <i>hlaɔʔ</i> ‘they’ | <i>hlɔɯ.ŋ^w</i> ‘fingernail’ |
| <i>hmũã</i> ‘to eat’ | <i>hmneyã</i> ‘bright’ |
| <i>hmayh</i> ‘sweet’ | <i>hnaɯ</i> ‘full’ |
| <i>hñãã</i> ‘tortoise’ | <i>hŋkiãt</i> ‘every’ |
| <i>hɲiãt</i> ‘bee’ | <i>hrĩã</i> ‘when’ |

Whether or not these are phonemic voiceless sonorants, or allophones where voicing was lost next to *h* is still problematic. They are treated as consonant clusters here, but further testing is needed to come to a definitive conclusion. A possible avenue of research is secondary stress testing in words with clusters in medial position. For example, words with CVCCVC structures receive a secondary stress in Merap; ,CVC'CVC. If a word like *ŋahŋãã* ‘to breathe’ receives secondary stress, it would indicate a consonant cluster, not a single voiceless sonorant.

2.2.2.2.4 Summary of Merap

Merap phonology is an interesting topic. Other than Smith (2017) few resources are available on this language (Soriente 2015 and Guerreiro (1996b) contain limited data). Further publication is undoubtedly necessary, as Smith (2017) is fundamentally a historical analysis, and much work remains to be done on the synchronic phonetic and phonological properties of Merap.

2.2.3 Segai-Modang

The historical phonologies of Segai and Modang languages are too complex to address in exhaustive detail here, but it is still possible to discuss the basics of Segai-Modang historical phonology and to identify sound changes which define the group. In this section all data is primary, but limited data on Segai and Modang languages can also be found in Wati et al. (2002a, 2002b) Revel-Macdonald (1982), Astar et al. (2002), and Guerreiro (1983, 1989, 1996b).

2.2.3.1 Segai-Modang phonological evidence

All Segai-Modang languages have strong word-final stress, an areal feature of the part of Borneo where these languages are found. Many of the sound changes that have affected Segai-Modang are motivated by this strong stress. Some of these changes can be found in more distantly related languages, and it is necessary to ensure that convergence is ruled out in sound changes which are claimed to define the group. The following tables provide a list of reflexes of PMP phonemes in four Segai-Modang languages, Modang (of the Kalinjau river), Long Gelat, Gaai, and Kelai, with discussion after.

Table 14

Reflexes of PMP consonant phonemes in Segai-Modang

| | Modang | Long Gelat | Gaai | Kelai |
|------|------------|---------------|------------|---------------|
| *p- | p | p | p; b | p; b |
| *t- | t | t | t; k | t; k |
| *k- | k | k | k; g | k |
| *b- | b; w; Ø; p | b; w; u; Ø; p | b; w; u; p | b; w; u; Ø; p |
| *-b- | w; g / u_a | w; g / u_a | w; g / u_a | w; g / u_a |
| *-b | w | w | w | w |
| *d- | l; d | l; d | al; d | l; d |
| *-d- | l | l; (y) | l; y | l; y |
| *-d | n | n | l | l |
| *-j- | l | l | l; y | l; y |
| *-j | n | n | l | l |
| *z- | s | s | c | c |
| *-z- | s | s | c | c |
| *l- | Ø; l | Ø; l | Ø; al | Ø; l |
| *-l- | l; n / _C | l; n / _C | l | l |
| *-l | n | n | l | l |
| *s- | s | s; h | s | s |
| *-s | h | h | s | s |
| *R- | Ø | Ø | Ø | Ø |
| *-R- | h | h | h | h |
| *-R | h | h | h | h |
| *mb | b | b | b | b |
| *nd | d | d | d | d |
| *nj | s | s | c | c |
| *-w- | g | g | g | g |
| *-y- | j | j | j | j |

Table 15

Reflexes of PMP vowel phonemes in Segai-Modang

| | Modang | Long Gelat | Gaai | Kelai |
|--------|-------------------|--|---|--|
| *-a | a _{ɔ̃} ʔ | a _{ɔ̃} ʔ | oʔ | ɛʔ |
| *-aC | e; i; u; a | i; u; ü; e | a; æ; e _{ɔ̃} , i, u | æ; u; i |
| *-aCVC | ə; Ø | ə; Ø; a | Ø; a | Ø; a |
| *-u | a _{ɔ̃} | a: | aw | aw |
| *-uC | əw; o; u | ə; ə _{ɔ̃} ; u; o; o _{ɔ̃} | o [ə _{ɔ̃} , o _{ɔ̃}], ɒ | u, o [ə _{ɔ̃} , o _{ɔ̃}], ɒ |
| *-uCVC | ə; Ø | ə; Ø | Ø | Ø |
| *-i | a _{ɛ̃} | a _{ɛ̃} | ay | ay |
| *-iC | e; ay | a _{ɛ̃} ; ey | e [e; ɛ] | e [i, e] |
| *-iCVC | ə; Ø | ə; Ø | Ø | Ø |
| *-əC | a: | a:; e _{ɔ̃} | a, o | a, o |
| *-əCVC | ə; Ø | ə; Ø | Ø | Ø |
| *-ay | ey | ɛy | a:y | a:ɛ̃ |
| *-aw | e _{ɔ̃} | i _{ɔ̃} | e _{ɔ̃} w | æw |

Based on data from the above tables, the following list of sound changes defines the Segai-Modang group. The evidence itself is quite strong, and lexical evidence is not needed to further show the validity of this subgroup.

Figure 18

Segai-Modang sound changes

Penultimate vowels reduced to schwa

- *-y- > j
- *-w- > g
- *b- > b; w
- *-b- > w
- *-b- > g / u_a
- *-b > w
- *d- > l; d
- *l- > Ø; l

2.2.3.1.1 Three splits in Segai-Modang

Unconditioned splits are rare, and in a subgrouping argument even a single unconditioned split, if regular across member languages, provides good subgrouping evidence. Proto-Segai-Modang apparently had *three* major splits, two seemingly unconditioned, which provide good evidence for a discrete Segai-Modang group.

2.2.3.1.1.1 A split in reflexes of *b-

In initial position, *b is reflected with two sets, a fortis set where *b > *b* or *p* (under specific conditions), and a lenis set where *b > *w* or \emptyset , (again, under specific conditions). In the table below, the first several examples show lenis reflexes of *b-. Note that in Long Gelat, Gaai, and Kelai if a lenis reflex of *b occurred before *a, then *ba- became *u-, and before *u, the entire syllable containing *bu- is optionally deleted. Proto-Segai-Modang devoiced fortis reflexes of *b- before *s in the onset of the following syllable (see reflexes of *bəsuR ‘satiated’ in the table below).

Table 16

*Fortis and Lenis reflexes of *b-*

| | | Long Gelat | Modang | Gaai | Kelai |
|--------|----------------------------|------------|---------|---------|---------|
| lenis | *bəRuɑŋ ‘bear’ | wahguɑŋ | wahguɑŋ | wahguɑŋ | wahguɑŋ |
| | *batu ‘stone’ | uta: | wətaə | utaw | utaə |
| | *buqaya ‘crocodile’ | wahjawʔ | wahjawʔ | wahjoʔ | wajɛʔ |
| | *buluq ‘bamboo’ | ləwʔ | ləwʔ | ləwʔ | ləwʔ |
| fortis | *bəRəqat ‘heavy’ | bəhit | bəheət | bəhat | bəhæt |
| | *bulu ‘body hair’ | bələn | bəluən | bloən | bloən |
| | *bəs <u>u</u> R ‘satiated’ | pəsəh | pəsəh | psəh | psəh |

2.2.3.1.1.2 A conditioned split in reflexes of *d-

In initial position, *d- is reflected with either *l* or *d*. Although the majority of examples show *d > *l*, three lexemes resisted this change in Segai-Modang, *dali ‘thunder’ > Long Gelat and Modang dələə, Gaai *ndlay*, and Kelai *dlay*, *dəhaləm ‘yesterday’ > Long Gelat *dahalam*, and *dahlam* in all other languages, and *dələm ‘deep’ > Long Gelat and Modang *dələ:m*, and Gaai *dlam*. This split appears to have a condition, where *d- did not become *l* if followed by *l in any following syllable. *dəhaləm shows that *-l- blocked reduction of *d- even from a distance.

2.2.3.1.1.3 A split in reflexes of *l-

Although all Segai-Modang languages are either monosyllabic or sesquisyllabic⁷, there are relatively few deletions, and the majority of consonants are maintained. In initial position however, one phoneme, *l-, was especially prone to deletion, and there appears to be a split where roughly half of the examples of *l- show deletion, and half show retention. Some examples are given in the table below.

Table 17

*l- > *l/∅ in Proto-Segai Modang

| | PKAY | Long Gelat | Modang | Gaai | Kelai |
|---------------|-------------------|------------|---------|----------|---------|
| *l- retention | *lanit ‘sky’ | lən̩it | lən̩et | al̩n̩eət | l̩n̩eət |
| | *lumut ‘moss’ | ləm̩ət | ləm̩oət | al̩moət | lm̩ut |
| | *laʔu ‘hungry’ | ləʔa: | ləʔaə̯ | alʔaw | ləʔaw |
| | *las ‘skin’ | lih | leə̯h | las | læs |
| *l- deletion | *luban̩ ‘hole’ | guə̯ŋ | guə̯ŋ | guə̯ŋ | guə̯ŋ |
| | *lima ‘five’ | mawʔ | mawʔ | moʔ | mɛʔ |
| | *liuʔ ‘island’ | jəwʔ | jəwʔ | jɔʔ | jɔʔ |
| | *ləpaw ‘grainary’ | piə̯ | peə̯ | peə̯w | - |

2.2.3.1.2 Glide fortition and *-b- > *-w- counter feeding.

In Proto-Segai-Modang, phonemic glides *-y- and *-w-, as well as phonetic transition glides like *dəhian [dəhiyan] ‘durian’ and *dua [duwa] ‘two’ strengthened to *j* and *g*. Additionally, *-b- weakened to *-w- in intervocalic position, but this did not feed the later change *-w- > *g*, which implies a counter-feeding order in the history of these sound changes where *-w- > *-g-, and later *-b- > *-w-. In one environment, however, it appears that *-b- had become *-w- before *-w- > *-g-. That environment is, between *u and *a. Using Modang as an example, these ordered changes play out as follows:

⁷ The term “sesquisyllabic” indicates a canonical word shape of a short unstressed initial syllable with reduced vowels and a long stressed final syllable.

Figure 19

*Historical derivation of *-b- weakening and *-w- strengthening in Modang*

| | | | |
|-------------|--------------|----------------|---------------|
| PMP | *abu ‘ashes’ | *sawa ‘spouse’ | *luban ‘hole’ |
| *uba > *uwa | - | - | *luwan |
| *-w- > *g | - | *səgwa | *ləgwan |
| *-b- > *w | awu | - | - |
| result | əwaə | səguən | guən |

This counter-feeding ordering is found in all Segai-Modang languages as table 18 below makes clear:

Table 18

**b > *w, *w > g counter-feeding in Segai-Modang*

| | Long Gelat | Modang | Gaai | Kelai |
|----------------|------------|--------|-------|-------|
| *abu ‘ashes’ | awa: | awaə | awaw | awəw |
| *sawa ‘spouse’ | səgün | səguən | sguən | - |
| *luban ‘hole’ | guən | guən | guən | guən |

All of this phonological evidence taken together forms quite a strong argument that Long Gelat, Modang, Gaai, and Kelai form a subgroup. Segai-Modang is defined by splits in reflexes of *b-, *d-, and *l- as well as a counter-feeding ordering for the changes *-w- > *g and *-b- > *-w- except where *-b- > *-w- occurred in the environment *u_a, where a feeding order is observed. Long Gelat and Modang, including all the languages of East Kutai, where speakers self-identify as Modang, form a single subgroup within Segai-Modang, while Gaai, Punan Kelai, and all similar languages of the Berau area along the Segah and Kelai rivers belong to the Segai group.

2.2.3.2 More on Punan Kelai

The Punan Kelai language is spoken in several communities along the Kelai river, Berau regency, East Kalimantan. I have chosen to spend some time giving a brief description of Kelai phonology, as a sort of introduction to the types of phonologies found in the Segai-Modang subgroup, and because Kelai has innovated a remarkable number of word-initial consonant

clusters which deserve to be discussed further. Kelai’s phoneme inventory is presented in the following tables:

Table 19

Kelai Consonants

| | labial | alveolar | palatal | velar | glottal |
|----------------------|--------|----------|---------|-------|---------|
| voiceless plosives | p | t | c | k | ʔ |
| voiced plosives | b | d | j | g | |
| nasals | m | n | ɲ | ŋ | |
| voiceless fricatives | | s | | | h |
| approximates | | l/(r) | | | |
| glides | | | | w | |

Table 20

Kelai Vowels

| | Front | Central | Back |
|------|------------|-----------------|---------|
| High | i iw | | u uy |
| Mid | e, ε ew | ə əw | o oy |
| Low | æ æw | a aɔ, aɪ, aɛ | ɒ |

Like Merap, Kelai has expanded its vowel system. The above table contains 18 distinctions, including a number of diphthongs, but no triphthongs. The historical development of these vowels is quite interesting, and is explained in detail below:

2.2.3.2.1 Reflexes of *a

In word-final position, *-a was closed with a glottal stop. If it was preceded by *i or by a glide *y, then it is reflected as ε. Some examples include *buqaya > *wajeʔ* ‘crocodile’, *ɲipa > *pεʔ* ‘snake’, and *lima > *mεʔ* ‘five’. If preceded with *u or *w, it is reflected as o, as in *dua > *agoʔ* ‘two’. After *a or *ə, it is reflected as a. For example, *paRa > *phaʔ* ‘firewood storage area above the fireplace’, *dəpa > *paʔ* ‘fathom’, and *baRah ‘ember’ > *baha > *uhaʔ*.

In a closed final syllable the typical reflex of *a is æ, as evidenced by the following examples, *əpat > pæt ‘four’, *palaj > plæɫ ‘palm of the hand’, and *daʔan > lʔæn ‘branch’. When preceded by *i or *u in the penultimate syllable, *a > u or i. Examples include *kulat > klut ‘mushroom’, *utaq > tuʔ ‘vomit’, *sunjay > nyuy ‘river, PKAY *jəpitan > jəptin ‘nine’, and *kitan > ktin ‘binturong’. This change, termed “reverse-umlaut” in Smith (2017) is a widespread feature of the languages of this area. Also in Smith 2017, arguments are proposed which claim that these are indeed reverse umlaut effects, and not simple metathesis of *-VC- to *-CV-.

2.2.3.2.2 Reflexes of *u

In word-final position *u became aw, for example, *udu > law ‘grass’, *asu > asaw ‘dog’, and *paku > pkaw ‘fern’.

In a closed final syllable, reflexes of *u are more complex. *u became əw before *ʔ and *ŋ if it was preceded by *u in the penultimate syllable; *puluq > pləwʔ ‘ten’, *tutuŋ > təwŋ ‘afire’. Before *t, *k, and *n it became o, with a schwa off-glide before *t and *n; *ulun > loʔn ‘person’, *takut > tkoʔt ‘afraid’, and *manuk > mnok ‘bird’. Before *s, *h, *ŋ and *ʔ it became v, as long as it was not preceded by *u in the penultimate syllable; *təlaʔus > vs ‘mousedeer’, *əluŋ > ləŋ ‘estuary’, *təluR > *təluh > kləh ‘egg’, and *liuʔ > jəʔ ‘island’. Finally, after penultimate *u and before any consonant other than *ʔ or *ŋ, *u is reflected as u; *lumut > lmut ‘moss’, and *nubus > wus ‘to plant’.

2.2.3.2.3 Reflexes of *i

In word-final position, *-i is reflected with aɨ (distinct from aɛ). Examples include *kəɫasi > kəɫsaj ‘the red-leaf monkey’, *tali > tɫaj ‘rope’, and *punti > ptaj ‘banana’.

In a closed final syllable reflexes of *i are much tamer than reflexes of *u. In all cases, *i > e. Before an alveolar stop, *i > ɪ, but this has not produced a new phoneme. Before other consonants, there is typically a schwa off-glide. Reflexes of *i do not seem to have been affected by the quality of the preceding vowel to the same extent as *u and *a were. Examples include *kapit > kpet [kpit] ‘wing’, *tipis > pes [pɪs] ‘thin’, *kuliR > kleh ‘leopard’, *dinding > deŋ ‘wall’.

2.2.3.2.4 Reflexes of *ə

Schwa was deleted in the penultimate syllable, as were all vowels. In the final syllable, however, schwa became *a*. Several examples include *ənəm > *nam* ‘six’, *gatəl > *ktal* ‘itchy’, and *quləj > *lal* ‘worm; maggot’. Note that *a had become *æ before *ə became *a, and a merger was thus avoided.

2.2.3.2.5 Reflexes of final diphthongs

The diphthongs *-ay, -aw, *-iw, and *-uy occurred only in final position in PKAY. In Kelai, while *-i became -ay and *-u became -aw, merger was avoided as *-ay became *aɛ* and *-aw became -æw. Some examples are *laŋaw ‘a fly’ > *lɲæw*, and *panaw ‘walk’ > *pnæw*, *qatay ‘liver’ > *ataɛ* and *pajay ‘rice in the field’ > *plaɛ*. In one example, *-iw is reflected as -ew in *baliw ‘transform; become’ > *blew*. PMP *-uy is reflected as *oy* in two examples, *hapuy ‘fire’ > *əpoy* and *babuy ‘wild boar’ > *awoy*.

2.2.3.2.6 Word-initial consonant clusters

Kelai is quite remarkable in that it allows a wide range of word-initial consonant clusters. These clusters arose through the regular deletion of penultimate vowels, resulting in the following sound change *C₁VC₂VC > *C₁C₂VC. Interestingly, C₁ and C₂ have largely resisted any form of assimilation, resulting in a number of difficult-to-pronounce consonant clusters in word-initial position. The following table indicates all attested initial consonant clusters and should be read as follows: the vertical column on the left indicates the first consonant in a cluster, which is combined with the consonants in the top horizontal row to form a word-initial cluster.

Table 21

Attested consonant clusters in word-initial position

| | p | t | c | k | ʔ | b | d | j | g | s | h | l | m | n | ɲ | ŋ |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| p | | pt | pc | pk | | | pd | | pg | ps | ph | pl | | pn | pɲ | |
| t | | | | tk | | | | | | ts | th | tl | tm | tn | | tɲ |
| c | | | | | | | | | | | | | | | | |
| k | kp | kt | | | | kb | kd | | | ks | kh | kl | | kn | | |
| ʔ | | | | | | | | | | | | | | | | |
| b | | | | | | | bd | bj | | | | bl | | | | bɲ |
| d | | | | | | | | | | | | dl | | | | |
| j | | | | | | | | | | | | | | | | |
| g | | | | | | | | | gg | | | gl | | | | |
| s | sp | st | | sk | sʔ | sb | sd | | | | | sl | sm | | | sɲ |
| h | | | | | | | | | | | | | | | | hɲ |
| l | | | | lk | lʔ | lb | | | | ls | lh | | lm | ln | | lɲ |
| m | | mt | | mk | mʔ | | md | | mg | ms | mh | ml | | | mɲ | mɲ |
| n | np | nt | | nk | nʔ | | nb | | | | nh | nl | nm | | nɲ | nɲ |
| ɲ | | | | | | | | | | | | | | | | |
| ŋ | | | | | ŋʔ | | | | | | | ŋl | | | | ŋɲ |

Although the chart above is surely incomplete, some patterns can be observed. 1) Palatal stops are banned as the first segment in a word-initial consonant cluster. 2) Glottal stop is banned as the first segment, and *h* is only found in one example, *hɲ*. 3) Glottal stop appears as the second segment only after sonorants and fricatives. There are no plosive-glottal stop clusters. 4) There are no voiced-voiceless plosive clusters. 5) *c* and *j* are quite rare in any consonant clusters, and where they do occur, it is only after *p* (as *pc*) or *b* (as *bj*). Some lexical items which show these clusters are presented below:

Figure 20

Examples of initial consonant clusters in Kelai

- ptaɛ* ‘corpse’ (from *patay)
pciək ‘thigh’ (source unknown)
pkaw ‘fern’ (from *paku)
kbaʔ ‘loosely woven rattan bag’ (from *kiba)
kdeŋ ‘goat’ (from *kadiŋ)
phaʔ ‘firewood storage area’ (from *paRa)
thuən ‘collapse’ (source unknown)
khæs ‘traditional skirt’ (from *taRas, *t > *k irregular)
tmæŋ ‘thick’ (from *təmaŋ)
pñat ‘to tamp soil’ (source unknown)
bloən ‘body hair’ (from *bulu-n)
glæʔ ‘fishing net’ (source unknown)
sʔaɛ ‘frog’ (from *saʔay)
lʔæn ‘branch’ (from *daʔan)
ŋʔæŋ ‘the Bornean horned toad’ (source unknown)
ŋñæn ‘name’ (from *ŋajan, ñ irregular)
nhaɔ ‘eagle’ (from *ñahaw?)
bŋeʔ ‘rice wine’ (from *bəŋiʔ)

The creation of initial consonant clusters, plus the expansion of the vowel system to eight pure vowels and nine diphthongs (17 syllable nuclei, as the diphthongs have the same distribution as the pure vowels) has given Kelai one of the most interesting synchronic phonologies in Borneo. It certainly deserves much more attention than this work is prepared to offer, as do many of the Kayanic languages of this part of Borneo.

2.2.4 Residual issues In Kayanic

There are specific issues with the internal subgrouping of Kayanic languages that will likely cause disagreements among those who work in this area. Some of these issues are 1) do Kayan and Murik-Merap form a subgroup within Kayanic which excludes Segai-Modang, 2)

Does Bahau subgroup with Kayan, with Murik-Merap, or does it constitute its own branch, 3) might a linkage model be more appropriate for these languages 4) considering how conservative the phonology of Proto-Kayanic probably was, is the phonological evidence strong enough to justify a Kayanic subgroup at all? Each of these issues is addressed below.

2.2.4.1 Do Kayan and Murik-Merap form a subgroup within Kayanic which excludes Segai-Modang?

The closure of all original word-final vowels with glottal stop, and the subsequent lowering of high vowels after innovated glottal stops but not after inherited glottal stops is seen as one of a number of defining characteristics of Kayanic (Blust 2002a) but Segai-Modang, as the table below shows, did not add glottal stops after high vowels:

Table 22

Word-final Glottal stops in Kayanic languages

| | *-a | *-u | *-i |
|------------------|-----|-------|-----|
| Long Naah Kayan | aʔ | oʔ | eʔ |
| Data Dian Kayan | aʔ | oʔ | eʔ |
| Balui Liko Kayan | aʔ | oʔ | eʔ |
| Busang | aʔ | oʔ | eʔ |
| Bahau | aʔ | oʔ | eʔ |
| Ngorek | aʔ | oʔ | eʔ |
| Merap | aʔ | awʔ | ayʔ |
| Modang | aɔʔ | aɛ/a: | aɛ |
| Gaai | oʔ | aw | ay |
| Kelai | ɛʔ | aw | ay |

Segai-Modang did not delete glottal stops, as attested in reflexes of *puluq, Long Gelat and Modang *pələwʔ*, Gaai and Kelai *pələwʔ* nor did it add glottal stops to final vowels as attested in reflexes of *asu ‘dog’, Long Gelat *sa:*, Modang *saɛ*, and Kelai *saw*. Because of this, word-final glottal stop addition cannot be reconstructed to Proto-Kayanic. It is possible, however, that it can be reconstructed to a lower level subgroup which includes Kayan and Murik-Merap but excludes Segai and Modang

The absence of a single sound change, and one which is well attested throughout Borneo, is not very strong evidence for a Kayan-Murik subgroup which excludes Segai-Modang. The details of glottal stop innovation in Kayan and Murik-Merap, however, are more specific than

this. Final glottal stop addition is associated with the lowering of high vowels, and although many individual languages have added glottal stops to words that originally ended in a vowel, other languages in Borneo almost never lower high vowels after innovated glottal stops but not before inherited glottal stops⁸. It appears rather straightforward then to subgroup Kayan with Murik-Merap after Blust (1974b, 2002a). The only objection to this is the fact that Segai-Modang simplified nasal-obstruent clusters (*mb > b, *nd > d and so on) which result in identical reflexes of these sequences between Kayan and Segai-Modang but not Murik Merap. One may interpret this fact as pointing to a dialectally diverse network in the Apo Kayan area, where changes overlap in a linkage pattern. However, the reduction of nasal-obstruent clusters, a change which is not uncommon in AN languages more generally, must ultimately be judged as less significant than the apparent identical development of innovated and inherited word-final glottal stops in Kayan, Merap, and Murik. As such, this chapter endorses the view that Proto-Kayanic developed into Proto-Kayan-Murik-Merap and Proto-Segai-Modang before PKM further diversified into PKYN and PMUR.

2.2.4.2 Does Bahau subgroup with Kayan, Murik-Merap, or does it constitute its own branch?

Bahau reflects *-b with -p but *-d with -l. Although this is not identical to the change in Murik-Merap where *b- > -p and *-d > -n, it may reflect an earlier stage. In Murik and Merap, *-d and *-l merged as -n. If this merger happened after *-d had become *-l, then one could argue that while Murik and Merap do form an exclusive group with themselves, the Murik-Merap subgroup is likely part of a slightly larger Murik-Merap-Bahau group. The following sound changes show how this might have happened.

⁸ Kapuas river Iban, section 2.8.5, provides an additional case where high vowels were lowered only before innovated glottal stops.

Figure 21

Historic derivation of word-final voiced obstruents which might show a subgrouping relationship between Murik-Merap and Bahau.

| | | | |
|--------------------------|----------------|-----------------|-----------------|
| PMP | *kapal ‘thick’ | *tulad ‘animal’ | *kələb ‘turtle’ |
| *-d > l | - | *tulal | - |
| *-b > p | - | - | *kələp |
| Proto Murik-Merap-Bahau: | *kapal | *tulal | *kələp |
| *-l > n | *kapan | *tulan | - |
| Ngorek | <i>kapan</i> | <i>tolan</i> | <i>kələp</i> |

The issue with this is that Bahau simplified homorganic nasal-stop clusters to the non-nasal component, which is found in Kayan but *not* in Murik-Merap, where the clusters are retained but the voiced obstruents were devoiced. Unless it is assumed that simplification in Bahau is parallel to simplification in other Kayanic languages, it creates a complication for proposing a Murik-Merap-Bahau subgroup⁹. Thus, the phonological evidence is mixed, which leads to issue three:

2.2.4.3 Might a linkage model be more appropriate for these languages?

A linkage model might explain why there is such a mixed phonological picture. Considering the fact that Proto-Kayanic was probably spoken by a group of people who inhabited the highlands of the Apo Kayan in the headwaters of the Kayan River, there might have existed at one point a dialect network. Some sound changes would have made their way through some but not all of these dialects, giving rise to the phonological uncertainty we find today. Specifically, the addition of final glottal stops followed by lowering of high vowels spread through Data Dian, Long Naah, Bahau, Busang, Balui Liko, Murik, Merap, but not to Modang or Segai, while the simplification of homorganic nasal-obstruent clusters spread through Data Dian, Long Naah, Bahau, Busang, Balui Liko, Modang, Segai, but not to Murik or Merap.

⁹ Bahau and Murik-Merap are also the only Kayanic groups where word medial *s became *h; Merap *maha:*, Bahau *baha?*, but *basa?* in all other Kayanic languages. This sound change carries very little weight, however, because it is so common. Bahau also changed *-b- to *-v- and further to *-f-*, a sound change it shares with Kayan but not Murik Merap. This is also too common to use in a subgrouping argument.

Bahau has a special place in this argument, because it is the only language outside of Murik-Merap that reflects *-b with -p. It may be that Bahau’s historic position was between a zone of Kayan influence (as evidenced by the simplification of nasal-obstruent clusters) and a zone of Murik influence (as evidenced by devoicing of *-b), which made its historical phonology more difficult to penetrate than some other languages in the area. It’s difficult to say however, and to take this train of thought any further would seem to be an exercise in speculation, rather than informed inference, which is why a linkage model is not used here.

2.2.4.4 Is the phonological evidence strong enough to justify a Kayanic subgroup at all?

To appreciate the argument that Kayanic may be invalid due to a lack of phonological evidence, one must first compare PMP phonology to PKay. Table 23 provides such a comparison:

Table 23

Proto-Kayanic

| | | | | | | | | | | | | | | |
|------|----|----|----|---------|----|--------|------|---------|----|----|--------|----|----|----|
| PMP | *p | *t | *k | *q | *b | *d | *j | *z [dʒ] | *g | *l | *R | *s | *h | *r |
| PKAY | *p | *t | *k | *Ø?/?/? | *b | *d/r/d | *r/d | *j/c | *g | *l | *h/h/R | *s | Ø | *r |

| | | | | | | | | | | | | | | | | |
|------|----|----|----|----|-----|-----|-----|-----|----|----|----|----|------|------|------|------|
| PMP | *m | *n | *ñ | *ŋ | *mb | *nd | *nz | *ŋg | *a | *i | *u | *ə | *-aw | *-ay | *-iw | *-uy |
| PKAY | *m | *n | *ñ | *ŋ | *mb | *nd | *nj | *ŋg | *a | *i | *u | *ə | *-aw | *-ay | *-iw | *-uy |

There are essentially zero high quality sound changes present in Proto-Kayanic which serve to distinguish it from any other group in Borneo. Without any strong innovations, there is no strong argument that Kayanic forms a valid subgroup. This is especially true with regard to Segai-Modang, which shares little in common with Kayan and Murik-Merap from a historical point of view.

However, the lexical evidence for Kayanic paints a rather different picture, particularly with regard to reflexes of *bibiR ‘lips’ throughout the subgroup (elaborated on below). The full list of apparent lexical replacement innovations in Proto-Kayanic only adds weight to the argument that Proto-Kayanic was a phonologically conservative language, spoken somewhere in the area of the Kayan and Segah-Kelai river systems, and that it had developed lexically as a unit before it began to diverge phonologically. The lexical evidence is introduced below.

2.2.4.4.1 Kayanic lexical evidence

The following list contains only lexical evidence for Kayanic from its two primary branches, Kayan-Murik-Merap Kayan and Segai-Modang. Even with such standards for inclusion, the list of Kayanic lexical replacement innovations is fairly robust.

| | | |
|--------------------|---|---------------|
| *bibiR | > | *sibih ‘lip’ |
| Murik | | <i>ebeh</i> |
| Long Naah | | <i>siveh</i> |
| Data Dian; Bahau | | <i>sifeh</i> |
| Balui Liko; Busang | | <i>hiveh</i> |
| Long Gelat; Modang | | <i>səwaəh</i> |
| Kelai | | <i>suweh</i> |

This is one of the stronger pieces of evidence linking Kayan, Murik-Merap, and Segai-Modang into a single subgroup. It looks like an irregular change, where initial *b is reflected with *s while Proto-Kayanic typically reflected *b- and *s- unchanged in initial position. *bibiR has a well-established etymology, and there doesn't seem to be any potential borrowing source, both because ‘lip’ is a stable word, unlikely to be borrowed in the first place, and also because Kayanic languages are the only languages in Borneo (or anywhere in the Austronesian world for that matter) where this irregular change is attested. It thus provides strong evidence for a large Kayanic subgroup.

| | | |
|-----------------|---|---------------|
| *away | > | *hinəŋ ‘face’ |
| Merap | | <i>naŋ</i> |
| Long Naah | | <i>nəŋ</i> |
| Data Dian | | <i>hinaŋ</i> |
| Balui Liko | | <i>nəŋ</i> |
| Bahau | | <i>inaŋ</i> |
| Kelinjau Modang | | <i>ña:ŋ</i> |
| Gaii | | <i>noŋ</i> |

| | | |
|-----------------------|---|---------------------|
| *idus/*hijus | > | *irək ‘snot’ |
| Merap | | <i>riək</i> |
| Long Naah | | <i>irək</i> |
| Data Dian | | <i>irək</i> |
| Bahau | | <i>irək</i> |
| Gaai | | <i>lok</i> |
| | | |
| *likud | > | *laʔuŋ ‘back’ |
| Murik | | <i>laʔoŋ</i> |
| Merap | | <i>laʔawə</i> |
| Long Naah; Balui Liko | | <i>laʔoŋ</i> |
| Data Dian | | <i>laʔuŋ</i> |
| Long Gelat | | <i>oəŋ</i> |
| | | |
| *gəlaŋ/wati | > | *saləŋ ‘earthworm’ |
| Murik | | <i>aləŋ</i> |
| Merap | | <i>haləŋ</i> |
| Long Naah | | <i>aləŋ</i> |
| Data Dian; Balui Liko | | <i>haləŋ</i> |
| Modang | | <i>sələŋ</i> |
| Gaai | | <i>slaŋ</i> |
| | | |
| *batik/bilalaŋ | > | *pahu ‘grasshopper’ |
| Murik | | <i>pauʔ</i> |
| Merap | | <i>paʔ</i> |
| Kayan (all varieties) | | <i>pahoʔ</i> |
| Long Gelat | | <i>pəha:</i> |
| Modang | | <i>pəhaə</i> |
| Gaai | | <i>phaw</i> |
| Kelai | | <i>phaʔ</i> |

| | | |
|----------------------|---|-------------------|
| *buhət | > | *təlis ‘squirrel’ |
| Murik | | <i>təleh</i> |
| Merap | | <i>klayh</i> |
| Long Naah; Data Dian | | <i>təlih</i> |
| Balui Liko; Busang | | <i>təli</i> |
| Long Gelat; Modang | | <i>təlaəh</i> |

| | | |
|-----------------------|---|----------------|
| *alud | > | *haruk ‘canoe’ |
| Merap | | <i>harowə?</i> |
| Long Naah; Balui Liko | | <i>harok</i> |
| Data Dian; Bahau | | <i>haruk</i> |
| Long Gelat | | <i>hələk</i> |
| Modang | | <i>hələwk</i> |
| Kelai | | <i>halok</i> |

This word is found sporadically in a few languages outside of Kayanic, including Kejaman *aruək*, Punan Tubu *aruk*, and Punan Lisum *haruk*. Each of these languages, however, is under heavy Kayan influence (see chapter 3 section 3.2.1.1). Note that Sekapan and Lahanan both have *saʒuy* Punan Bah, has *saluy*, Beketan has *aluy*, and Ukit and Buket both have *haluy*. It’s clear then, that any apparent reflex of *haruk outside of Kayanic is most likely due to borrowing, not inheritance.

| | | |
|--------|---|---------------------------|
| *baŋun | > | *maʔud ‘wake up’ |
| Murik | | <i>maʔun</i> |
| Merap | | <i>maʔawŋ^w</i> |
| Busang | | <i>muʔur</i> |
| Modang | | <i>məʔoəŋ</i> |
| Gaii | | <i>ʋl</i> |
| Kelai | | <i>mʔʋl</i> |

| | | |
|---------------------|---|-------------------|
| *zaŋan | > | *puhak ‘handspan’ |
| Murik | | <i>puak</i> |
| Merap | | <i>puak</i> |
| Data Dian; Busang | | <i>puhak</i> |
| Long Gelat | | <i>pəhakan</i> |
| Modang; Gaai; Kelai | | <i>pahkan</i> |

| | | |
|------------------|---|--------------------------------|
| *upak/kulit kayu | > | *kul kayu ‘handspan’ |
| Ngorek | | <i>kun kayoʔ</i> |
| Merap | | <i>kəwŋ^w kayawʔ</i> |
| Long Naah | | <i>kun kayoʔ</i> |
| Data Dian | | <i>kun kayoʔ</i> |
| Busang | | <i>kul kayoʔ</i> |
| Modang | | <i>koʔn kəjo</i> |

| | | |
|-------------------|---|---------------|
| *lawas | > | *luʔuŋ ‘body’ |
| Data Dian | | <i>luʔoŋ</i> |
| Busang | | <i>luʔuŋ</i> |
| Bahau | | <i>luʔuŋ</i> |
| Long Gelat/Modang | | <i>oʔŋ</i> |
| Gaai/Kelai | | <i>vŋ</i> |

| | | |
|--------------|---|--|
| *isaŋ/*hasaŋ | > | *ŋad ‘gills; specifically the inner portion’ |
| Data Dian | | <i>ŋan</i> |
| Balui Liko | | <i>ŋar</i> |
| Busang | | <i>ŋar</i> |
| Bahau | | <i>ŋal</i> |
| Long Gelat | | <i>ŋiʔn</i> |
| Gaai | | <i>ŋal</i> |
| Kelai | | <i>ŋæʔ</i> |

| | | |
|------------|---|---------------------|
| - | > | *manduŋ ‘fat (adj)’ |
| Long Naah | | <i>maduŋ</i> |
| Balui Liko | | <i>madon</i> |
| Busang | | <i>maduŋ</i> |
| Bahau | | <i>maduŋ</i> |
| Long Gelat | | <i>mədəŋ</i> |
| Kelai | | <i>mdəwŋ</i> |

2.2.5 Summary

The above lexical innovations, including the diagnostic *bibiR > *sibih ‘lips’ provide fairly solid evidence that Kayan, Murik-Merap, and Segai-Modang do indeed form a large, internally diverse subgroup which extends throughout most of East and North Kalimantan. The internal subgrouping of Kayanic, as argued throughout this section, is presented below.

Figure 22

Internal subgrouping of Kayanic

KAYANIC

1. Kayan-Murik-Merap

a. Kayan

Baram River Kayan (Long Naah among others)

Balui Liko-Uma Juman-Busang (Kayan languages of the upper Rejang area and the upper Mahakam)

Bahau

Kayan of the Apo Kayan and Kayan Rivers (including Data Dian)

Kayan of the Upper Kapuas

b. Murik-Merap

Murik

Murik (Ngorek), Pua', Huang Bau

Merap

Merap

2. Segai-Modang

a. Segai

Gaai, Kelai

b. Modang

Kelinjau Modang, Wahau Modang, Long Gelat

2.3 THE MELANAU-KAJANG SUBGROUP

Melanau-Kajang is a large subgroup located primarily on the Rejang River, and along the low-lying marsh areas around the Rejang River delta, north to Balingian town. Melanau-Kajang languages are traditionally split into two main groups, Melanau and Kajang, although there has never been a true justification for assuming that Melanau and Kajang form a larger Melanau-Kajang subgroup. Kajang languages are spoken by the inhabitants of a small group of villages in the upper Rejang and Balui River systems, near the town of Belaga, and the newly constructed Bakun dam/Bakun reservoir. Melanau languages are typically spoken closer to the coast, but Kanowit and Tanjung, located near Kanowit town and Kapit town, are further inland than other

Melanau languages. The following languages appear in this section. Sarikei, Mukah, Matu, and Balingian Melanau data are from Blust (n.d.) and the rest of the data is primary.

Sekapan of the upper Rejang River, just below the Bakun dam, Sarawak

Kejaman of the upper Rejang River, just below the Bakun dam, Sarawak

Lahanan of the upper Rejang River, just below the Bakun dam and Sungai Asap, Sarawak

Tanjung, near Kapit town, upper Rejang, Sarawak

Kanowit, near Kanowit town, Sarawak

Sarikei Melanau, near Sarikei town, and downriver from Sarikei, Sarawak

Dalat Melanau, just south of Mukah, in the delta of the Rejang River, Sarawak

Mukah Melanau of Mukah town, Sarawak

Matu Melanau, around the Rejang River delta, Sarawak

Balingian Melanau of Balingian town, north of Mukah and south of Bintulu

2.3.1 Kajang

This section focuses solely on evidence for a Kajang subgroup, and leaves the discussion of Melanau for section 2.3.2, further below.

2.3.1.1 Kajang phonological evidence

The Kajang languages are phonologically more unitary than Melanau, which contains several languages/dialects in a complex dialect network. The following tables present reflexes of PMP phonemes in Sekapan, Kejaman, and Lahanan. The sound changes will be discussed after.

Table 24

Reflexes of PMP Consonant Phonemes in Kajang

| | Sekapan | Kejaman | Lahanan |
|------|----------------|---------------------------------------|--------------------------|
| *-k | ʔ | k | k |
| *q- | ∅ | ∅ | ∅ |
| *-q- | ʔ | ʔ | ʔ |
| *-q | ʔ | ʔ | ʔ |
| *-b- | v; b / ə_ | v; b / ə_ | v; b / ə_ |
| *-b | p | p | p |
| *-d- | r | r | r |
| *-d | t | t | t |
| *-j- | r | r | r |
| *-j | t | t | t |
| *-ŋ | ∅ | ŋ | ŋ |
| *-l- | l; ʎ / _VC# | l; ʎ / _VC# | l; ʎ / _VC# |
| *-l | n | n | n |
| *-s- | c | c | s |
| *-s | ∅; h | ∅; h | ∅; h |
| *R- | ∅ | ∅ | ∅ |
| *-R- | ∅ | ∅ | ∅ |
| *-R | ∅; h; y | ∅; h; y | ∅; h; y |
| *-w- | g ^w | g ^w ; ŋ ^w / NV_ | g ^w ; ŋ / NV_ |
| *-y- | z | z; ñ / NV_ | z; ñ / NV_ |

Table 25

Reflexes of PMP vowel phonemes in Kajang

| | Sekapan | Kejaman | Lahanan |
|--------|-------------------------------|---|-------------------------------------|
| *-a | a | ah | ah |
| *-aC | a eə / _k,ŋ | a eə / _k,ŋ | a |
| *-aCVC | a | a | a |
| *-u | əw | əw | əw |
| *-uC | u uə / _k,ŋ əw / _q | u uə / _k,ŋ əw / _q | u u [uə; o] / _k,ŋ |
| *-uCVC | u o g ^w / _a | u o g ^w / _a ŋ ^w / N_a | u g ^w / _a ŋ / N_a |
| *-i | əy | əy | əy |
| *-iC | i iə / _k,ŋ əy / _q | i iə / _k,ŋ əy / _q | i iə / _k,ŋ |
| *-iCVC | i e z / _a | i e z / _a ñ / N_a | i e z / _a ñ / N_a |
| *-əC | ə a / _h, ? | ə a / _h, ? | ə a / _h, ? |
| *-əCVC | ə Ø / #_ | ə Ø / #_ | ə Ø / #_ |

Kajang languages are fairly innovative, and are unique among Bornean languages in having a voiced lateral fricative, ɬ , as an allophone of l in the onset of final syllables. The fricativization of $*l$ in this position is reconstructable to Proto-Kajang. Kajang languages also strengthened both phonemic glides and phonetic transition glides in intervocalic position. Other Kajang sound changes are less remarkable; high vowels broke in word-final position, there was off-gliding of high vowels before the velar consonants $*k$ and $*ŋ$, and schwa raised to $*a$ before word-final glottalics. These sound changes are all found in other languages, so they have minimal strength as subgrouping evidence, but $*l > \text{ɬ}$, which is unique in all of Borneo, remains quite strong.

In Sekapan and Kejaman, but not Lahanan, $*a$ before a velar consonant $*k$ or $*ŋ$ raised to $*e$ and then developed a schwa off-glide; a change that is directly paralleled in Data Dian Kayan

(discussed earlier in section 2.2.1). In Sekapan (but not Kejaman), final *-k and *-ŋ were subsequently lost; *-k merged with *-q as *-ʔ and *-ŋ was deleted altogether.

All languages have lowered high vowels in the penultimate syllable under conditions which are not immediately clear. For example, Sekapan reflects *quləj ‘worm’ as *uʔəʔ*, but *pusəj ‘navel’ as *posəʔ*. Similarly, *siku ‘elbow’ is reflected as *sikəw* but *silu ‘finger nail’ as *seʔəw*. This may ultimately not be a split, but variation in the pronunciation of vowels in the penultimate syllable.

In several cases, Sekapan and Kejaman reflect derived consonant clusters, where the middle vowel in three syllable words was deleted, as *ʔC* regardless of the quality of the initial consonant. Some examples from Sekapan are *-Rt- > *-ʔt- in *taRutuŋ ‘porcupine’ > *təʔtuʔ*, *-Ry- > *-ʔz- in *duRian ‘durian’ > *duʔzan*, *-ly- > *-ʔz- in PKAJ *kalian ‘light weight’ > *kaʔzeʔ*, *-lw- > *-ʔg^w- in *kəliwa ‘intestinal worms’ > *kəʔg^wah*, and *tuqələŋ ‘bone’ > *toʔʔeʔ* where *q had already become glottal stop. This change, like *l > *ʔ, provides additional subgrouping evidence.

While all languages have diphthongized word-final high vowels (*-u > əw and *-i > əy), only Kejaman and Sekapan have diphthongized high vowels before final glottal stop as well: *putiq ‘white’ became Sekapan and Kejaman *putəyʔ* but Lahanan *putiʔ*, and *pusuq ‘heart’ became Sekapan and Kejaman *pusəwʔ* but Lahanan *pusuʔ*.

Finally, although all Kajang languages strengthened intervocalic glides, Kejaman and Lahanan also nasalized the strengthened segments after a nasal consonant in the onset of the preceding syllable as a result of progressive nasalization, but Sekapan did not. For example, while *dua ‘two’ became Sekapan *dəg^wa*, Kejaman *dəg^wah* and Lahanan *ləg^wah*, the word for first person exclusive dual (the two of us excluding the listener), reflects a fused form of *kami dua, Pre-PKAJ *mua, which became Kejaman *məŋ^wa*, Lahanan *məŋa*, but Sekapan *məg^wa*.

Also of interest is the closing of word-final *-a with *h* in Kejaman and Lahanan but not Sekapan. Thus, the internal subgrouping of Kajang produces mixed results. A Sekapan-Kejaman subgroup is supported by high vowel breaking before final glottal stop and raising of *a to *e before the velars *-k and *-ŋ. On the other hand, a Kejaman-Lahanan subgroup is supported by nasalization of strengthened transition glides after a nasal consonant and addition of *h after final *-a. Ultimately, these are all phonetically plausible and motivated sound changes. Raising of *a to *e is found under identical conditions in Punan Bah, Data Dian Kayan, and several Melanau

languages. Nasalization of transitional glides after a preceding nasal is also well attested (again Punan Bah contains the example *kayaw* ‘the act of headhunting’ and *məŋaŋaw* ‘to headhunt’) so there is no satisfactory internal subgrouping of these languages on any phonological grounds.

Figure 23

Proto Kajang Sound Changes

| | | |
|------|---|-----------------|
| *b | > | *v; b |
| *l | > | *ɭ / _VC# |
| *-w- | > | *g ^w |
| *-y- | > | *z |
| *-u | > | *əw |
| *-i | > | *əy |
| *-uŋ | > | *uəŋ |
| *-uk | > | *uək |
| *-iŋ | > | *iəŋ |
| *-ik | > | *iək |
| *-əh | > | *-ah |
| *-əʔ | > | *-aʔ |
| *CC | > | *ʔC |

2.3.1.2 Kajang Lexical evidence

A modest list of exclusively shared lexical replacement innovations complements the phonological evidence for a Kajang subgroup. That list is shown below:

| | |
|---------|-------------------|
| *ipəs > | aviək ‘cockroach’ |
| Sekapan | aviəʔ |
| Kejaman | aviək |
| Lahanan | aviək |

*pəŋanən > kəmanən ‘python’
 Sekapan, Kejaman, Lahanan *kəmanən*

Most of the languages of Borneo seem to have innovated a word for ‘python’ based on the root *kaən ‘to eat’. While nearly all languages with a *kaən based word for python reflect *pəŋanən (pəŋ-kan-ən), Kajang languages seem to be the only languages that reflect *kəmanən (kəman-ən, ultimately from fossilized *k<um>aən + ən).

*tiduR > *məɟut ‘to sleep’
 Sekapan, Kejaman, Lahanan *məɟut*

Note that Kanowit *məlut* is a suspected loan, as all other Melanau languages reflect PMEL *tuduy ‘sleep’.

*matay > *gətəwʔ ‘to die’
 Sekapan, Kejaman, Lahanan *gətəwʔ*

- > *ñuʔaŋ ‘to push’
 Sekapan *ñuʔeɶ*
 Kejaman *ñuʔeɶŋ*
 Lahanan *ñuʔaŋ*

*ma-qitəm > *usəŋ ‘black’
 Sekapan /osəŋ/ [oçəŋ]
 Kejaman *usəŋ*
 Lahanan *usəŋ*

*ma-iRaq > *jəɟiɶk ‘black’
 Sekapan *jəɟiɶʔ*
 Kejaman *jəɟiɶk*
 Lahanan *jəɟiɶk*

| | |
|---------|-------------------|
| - | *luaʔ ‘dirty’ |
| Sekapan | <i>loaʔ</i> |
| Kejaman | <i>luaʔ</i> |
| Lahanan | <i>luaʔ</i> |
| - | *təbbaŋ ‘to meet’ |
| Sekapan | <i>təbbeŋ</i> |
| Kejaman | <i>təʔbəŋ</i> |
| Lahanan | <i>təbaŋ</i> |

Note that Kajang languages regularly geminate consonants after schwa, which prevented *-əb- from weakening to *-əv-. In Kejaman, gemination surfaces as a glottal stop+consonant cluster rather than pure gemination.

2.3.2 Melanau

This section focuses on the Melanau languages of coastal Sarawak (Mukah, Balingian, Dalat, Matu, and Sarikei) as well as Kanowit, a Melanau language of the interior which is mutually intelligible with Tanjung, which is spoken even farther in the interior.

2.3.2.1 Melanau phonological evidence

A section on Melanau presents the particular difficulty of working in a dialect network, where dialect A and B may be mutually intelligible, B and C may be mutually intelligible, but A and C are not. Sound changes that are characteristically “Melanau”, high vowel breaking in word-final position, and complex innovations of off-gliding vowels before velar consonants (*k and *ŋ but not *g), are found peppered throughout both Melanau, as well as languages outside of Melanau, including Kajang, Punan Bah, Kiput, and some Kayan dialects. Nevertheless, reflexes of PMP phonemes are given in the two tables below, in an attempt to locate any phonological evidence for Melanau as a subgroup.

Table 26

Reflexes of PMP consonants in Melanau

| | Kanowit | Dalat | Mukah | Balingian | Sarikei | Matu |
|------|------------|-----------|-------|-----------|--------------|------|
| *-k | k | ʔ; k | ʔ; k | k | k; ʔ / u,i_ | k |
| *-b- | b | b | b | v | b | b |
| *-b | p | b | b | b | p; b | b |
| *-d- | d | d | d | r | d | d |
| *-d | t | d | d | d | t; d | d |
| *-j- | d | d | d | r | d | d |
| *-j | t | d | d | d | t; d | d |
| *-ŋ | ŋ | Ø; ŋ / ə_ | ŋ | ŋ | ŋ | ŋ |
| *-l | n | n | n | n | l | l |
| *-s | yh | yh | yh | h | s | s |
| *R- | Ø | Ø | Ø | Ø | Ø | ? |
| *-R- | r; (h,y,Ø) | h; y | Ø | h | ɣ; (y, once) | ɣ |
| *-R | y; h | h; y | h | h; y | y | h; y |

Table 27

Reflexes of PMP vowels in Melanau

| | Kanowit | Dalat | Mukah | Balingian | Sarikei | Matu |
|--------|-----------------------------|-------------------------|----------------------------|----------------|---------------------|---------------------------|
| *-a | a; (ah) | a; (ah) | a | a | əh | əh |
| *-aC | a | a i / _k,ŋ# | a eə / _k,ŋ | a | a ə / _ʔ | a ə / _ʔ |
| *-aCVC | a i,u / _ʔi,ʔu | a | a | a | a | a |
| *-u | əw | əw | əw | əw | əw (aw) | əw |
| *-uC | u uə / _k,ŋ o / _ʔ,h# | u o / _k | u uə / _k,ŋ o / _ʔ,h | u o / _h | u uə / _k,ŋ,ʔ,h | u uə / _k, ŋ o / _h |
| *-uCVC | u | u | u | u | u | u |
| *-i | əy | əy [ɛy] | əy | əy | əy (ay) | əy |
| *-iC | i iə / _k,ŋ | i e / _ʔ | i iə / _k,ŋ e / _ʔ,h | i iə / _k,ŋ | i iə / k,ŋ,h,ʔ _ | i eə / _k; ŋ |
| *-iCVC | i | i | i | i | i | i |
| *-əC | ə; e / _s# | ə ey / _s# a / _ʔ | ə ay / _s# a / _ʔ,h | ə a | ə a | |
| *-əCVC | ə Ø / #_ | ə Ø / #_ | ə Ø / #_ | ə Ø / #_ | ə Ø / #_ | ə Ø / #_ |

Like Data Dian, Punan Bah, Sekapan, and Kejaman, *a was fronted and raised in the final syllable where it occurred before *k or *ŋ in Dalat and Mukah Melanau, but not in any other dialect. For example *ma-hasak ‘to cook’ is reflected as *siʔ* in Dalat Melanau while *anak became *aneəʔ* in Mukah Melanau. Like Sekapan, *a fronted before *-k which then became *ʔ while *-ŋ (in Dalat but not Mukah Melanau) was deleted altogether. For example: *tuqəlan ‘bone’ became Dalat Melanau *tuli*, but Mukah Melanau *tuleəŋ*.

Also found in Melanau is a tendency for word-final *-s to be reflected as *-yh, that is, with a palatalizing effect on the preceding vowel, before *s is eventually reduced to h. Similar changes are reported in Kadorih (see section 2.7 on Barito below). For example, *kəbəs ‘to die’

is reflected as *kəbeh* in Kanowit, but as *kəbəs* in Sarikei. Similarly, *təRas ‘hardwood of a tree’ is reflected as Mukah Melanau *taayh* and Dalat Melanau *tayh*, but Sarikei *tayas*.

The voiced stops were retained unchanged in all positions except for Balingian, where, apparently under influence from nearby Bintulu, *-b- became *v* and *-d- became *r*. Also, Kanowit is the only Melanau language where final voiced stops were regularly devoiced, but data from Blust (n.d.) indicates that voiced stops were at least optionally devoiced in younger speakers of Sarikei Melanau.

2.3.2.1.1 Reported fronting of velar consonants in Melanau

Blust (2013:655) notes that *-iŋ is reflected with *-in* Sarikei Melanau and Matu Melanau. This sound change would parallel an identical sound change in Sarawak Malay, but all of the examples given by Blust seem to be loan words. Some of these words are reprinted below, with native vocabulary at the bottom, showing different reflexes of velars after *-i-

Figure 24

Loanwords with velar fronting in Sarikei and Matu Melanau

| | | | |
|---|---|--|-------------------|
| Malay <i>dagiŋ</i> ‘flesh’ | > | Sarikei <i>dagin</i> | Matu <i>dagin</i> |
| Malay <i>kuniŋ</i> ‘yellow’ | > | Sarikei <i>kunin</i> | Matu <i>kunin</i> |
| Malay <i>pusiŋ</i> ‘turn in circles; dizzy’ | > | Sarikei <i>bəpusin</i> ‘turn the head’ | - |

Figure 25

Native vocabulary without velar fronting in Sarikei and Matu Melanau

| | | | |
|----------------------------|---|-----------------------|--------------------|
| PMEL *tiliŋ ‘to fly’ | > | Sarikei <i>tiliəŋ</i> | Matu <i>tileəŋ</i> |
| PMEL *pəhiŋ ‘light weight’ | > | Sarikei <i>paiəŋ</i> | - |
| PMEL *ñaliŋ ‘sweet’ | > | Sarikei <i>ñaliəŋ</i> | - |

Also, compare Matu *balit* ‘turn s.t.’ to Matu *baleək* ‘turn the body’, both apparently reflecting *balik. The form with *k > t seems to be a loan, while *baleək* is native. Also note that Mukah *bilit* ‘room’ is marked as a loan in Blust (1988a). It is unnecessary to assume that *bilit* in one Melanau dialect is a borrowing but *bilit* in Matu is native. It is more likely that *bilit* is a

borrowing in both. Because of this, I do not list *ŋ > n / i_# or *k > t / i_# in the charts above, as the native vocabulary disagrees with the borrowed vocabulary.

2.3.2.2 Melanau lexical evidence

There is no strong phonological evidence for a Melanau group. Other than high vowel breaking and off-gliding before velar consonants (except *-g), Melanau languages are fairly conservative. It is likely that word-final high vowels had become *əw and *əy in Proto-Melanau, but even off-gliding before word-final velar consonants is difficult to reconstruct to PMEL because of cases like Balingian where *-uk became *-uk*, and Dalat, where *-uŋ became *-u*. It is likely, however, that off-gliding high vowels before velar consonants had spread throughout most of the Melanau dialect network, as the vast majority of modern dialects show this change. Much of the evidence for a Melanau subgroup is thus lexical, and is given in a list below.

| | | |
|-----------|---|-------------------|
| *inum | > | *tutəŋ ‘to drink’ |
| Balingian | | <i>tutəŋ</i> |
| Matu | | <i>tutəŋ</i> |
| Sarikei | | <i>tutəŋ</i> |
| Dalat | | <i>tutəŋ</i> |
| | | |
| *laŋuy | > | *tuRun ‘to swim’ |
| Balingian | | <i>tuhun</i> |
| Matu | | <i>tuyun</i> |
| Sarikei | | <i>tuyun</i> |
| Mukah | | <i>tuun</i> |
| Dalat | | <i>tuun</i> |

| | | |
|-------------|---|---------------------|
| *tau/*qulun | > | *tənanawan ‘person’ |
| Balingian | | <i>nənanawan</i> |
| Matu | | <i>tonawan</i> |
| Sarikei | | <i>tənanawan</i> |
| Mukah | | <i>tənanawan</i> |
| Kanowit | | <i>tənanawan</i> |

| | | |
|-----------|---|--------------|
| *tuqa | > | *laki ‘old’ |
| Balingian | | <i>lakəy</i> |
| Matu | | <i>lake</i> |
| Sarikei | | <i>lakəy</i> |
| Mukah | | <i>lakəy</i> |
| Dalat | | <i>lakəy</i> |
| Kanowit | | <i>lakəy</i> |

| | | |
|---------|---|-------------|
| *iRaq | > | *sak ‘red’ |
| Matu | | <i>sak</i> |
| Sarikei | | <i>sak</i> |
| Mukah | | <i>seʔʔ</i> |
| Dalat | | <i>siʔ</i> |
| Kanowit | | <i>sak</i> |

*sak apparently came from *əsak ‘ripe’ as a comparison of the color of certain ripe fruits (according to some speakers, the mango) which turn red when ripe.

| | | |
|-------|--|----------------|
| | | *utap ‘shield’ |
| Dalat | | <i>utap</i> |
| Mukah | | <i>utap</i> |

| | | |
|-----------|---|---------------|
| *bahi | > | *məRu ‘woman’ |
| Balingian | | <i>mərəw</i> |
| Matu | | <i>məγəw</i> |
| Sarikei | | <i>məγəw</i> |
| Mukah | | <i>mahəw</i> |
| Dalat | | <i>məγəw</i> |
| Kanowit | | <i>mərəw</i> |

| | | |
|-----------|---|-------------------|
| *baRəq | > | *s-upat ‘swollen’ |
| Balingian | | <i>upat</i> |
| Matu | | <i>supat</i> |
| Mukah | | <i>upat</i> |
| Dalat | | <i>upat</i> |
| Kanowit | | <i>supat</i> |

Note that Sarikei Melanau alone has an apparent reflex of *baRəq: Sarikei *bayəʔ*. because there are no other Melanau languages with a retention, *s-upat is still reconstructed, but it may have been used alongside *baRəq in Proto-Melanau.

| | | |
|---------|---|--------------|
| *zalan | > | *aRuh ‘road’ |
| Matu | | <i>ayoh</i> |
| Sarikei | | <i>ayuəh</i> |
| Dalat | | <i>ayoh</i> |

| | |
|---------|----------------------|
| | <i>*paŋay</i> ‘wind’ |
| Matu | <i>paŋay</i> |
| Sarikei | <i>paŋay</i> |
| Mukah | <i>paŋay</i> |
| Dalat | <i>paŋay</i> |

There are multiple competing reconstructions for ‘wind’ listed on Blust and Trussel (ongoing). **paŋay*, however, does not appear to reflect any of these.

| | | |
|-----------------|---|--------------------------|
| <i>*tuləqid</i> | > | <i>*tigah</i> ‘straight’ |
| Balingian | | <i>tigah</i> |
| Sarikei | | <i>tigəh</i> |
| Mukah | | <i>tigah</i> |
| Dalat | | <i>tigah</i> |
| Kanowit | | <i>tigah</i> |

2.3.3 Melanau-Kajang internal subgrouping

From the data, it is clear that Sekapan, Kejaman, and Lahanan form a subgroup, based on shared lexical innovations and the fricativization of *l in the onset of final syllables (*l > ʎ). Kanowit, Tanjung, and the Melanau languages of the lower Rejang and central Sarawak coastal area are excluded from this subgroup, as they lack Kajang innovations. Subgrouping within the smaller Melanau group is more difficult, for several reasons, discussed in more detail below:

The Melanau languages of the lower Rejang area form a dialect network, as reported in Blust (1988a:152) and as such, attempts at an internal subgrouping of Melanau are difficult. Some sound changes, particularly changes in the vowels, are found scattered throughout the Melanau group, with few forming any recognizable “clusters” which may indicate a subgrouping relationship. Chou (2002) which is summarized in Rensch (2012) proposes six groups of languages, but no internal subgrouping or statements of the interrelatedness of these six groups. Much of Chou (2002) and Rensch (2012) uses lexical similarity percentages, which are not themselves useful for subgrouping arguments. The phonological evidence that is offered seems in many cases to be either dealing with common sound changes overall (like changes to *R, *s),

sound changes with sporadic distribution throughout Melanau (like vowel off-gliding, deletion of *-k, and the like) or seem to be either misreported or in error (Chou did not, for example, report on the creation of diphthongs where *s > yh, vowel off-gliding in Kanowit, and some details about the addition of -h after *-a in Kanowit and Dalat). In this study, three sound changes of moderate strength are identified as possibly providing evidence for two separate chains in a linkage that includes all of the Melanau languages. In one chain, that of the immediate area around the mouth of the Rejang River, Sarikei Melanau and Matu Melanau have raised *a to *ə before word-final *ʔ and *h (including examples where *-h is secondary). In the other chain, Kanowit, Mukah, Dalat, and Balingian have all changed word-final *-l to *-n and reduced *-s to *h, with all groups except Balingian developing an off-glide, -yh. The table below summarizes these changes in six Melanau languages:

Table 28

Evidence for internal subgrouping in Melanau

| | Kanowit | Dalat | Mukah | Balingian | Sarikei | Matu |
|----------------------|---------|-------|-------|-----------|---------|-------|
| *tigah ‘straight’ | tigah | tigah | tigah | tigah | tigəh | tigəh |
| *ubaʔ ‘word’ | ubaʔ | ubaʔ | - | - | ubəʔ | ubəʔ |
| *kapal ‘thick’ | kapan | kapan | kapan | məkapan | kapal | kapal |
| *bəRas ‘husked rice’ | bahah | bəyeh | - | bahah | bəyas | bəyas |

Based on this evidence, one might hypothesize a primary distinction between Sarikei-Matu and all other Melanau languages. However, given the weak quality of the phonological evidence (*-s > h and *a > əh are both found frequently outside of Melanau) Blust’s statement that the Melanau languages form a dialect chain with no non-arbitrary breaking point remains valid. In the Melanau tree at the end of this section, I place Balingian, Mukah, Dalat, and Kanowit together, but make no formal separation of these dialects from Sarikei and Matu.

2.3.3.1 Melanau and Kajang, rather than Melanau-Kajang

The phonological and lexical data certainly support a Melanau group, and a Kajang group. It is generally assumed that the two form a larger Melanau-Kajang group, but on what linguistic grounds? As alluded to above, it’s difficult to reconstruct the sound changes which define Melanau, and Kajang, to a Proto-Melanau-Kajang language. The only sound change found throughout both is high vowel breaking in word-final position. This is hardly strong

evidence for a Melanau-Kajang subgroup however, as vowel breaking is found in a plethora of languages in Borneo, including Penan, Lower-Baram languages, Berawan, Sa’ban, Merap, Segai-Modang and to a lesser extent, in some of the Malayic and Land-Dayak languages of West Kalimantan. So to rely on this sound change alone to justify Melanau-Kajang is precarious at best. The lexical evidence does not fare much better. Several Melanau-Kajang innovations were identified while writing this section, but three of them (*jiliɔŋ ‘rainbow’, *ipuɔŋ ‘primary forest’, and *bajaw ‘naked’) are found between only Kanowit and Kajang, which suggests borrowing from Kajang to Kanowit. Thus, there are six items which appear to be Melanau-Kajang exclusive innovations; *pəluʔ-ən ‘ten’, *ubəl ‘mute’, *labaw ‘to ask’, *buyaʔ ‘because’, *sidəp ‘aflame’ and *kalianɔŋ ‘light weight’. The evidence is presented below, with brief discussions where necessary.

| | |
|----------------|------------------|
| *sa-ŋa-puluq > | *pəluʔ ən ‘ten’ |
| Balingian | <i>pluʔən</i> |
| Matu | <i>pluʔən</i> |
| Sarikei | <i>pəluʔən</i> |
| Dalat | <i>pələwʔ ən</i> |
| Kanowit | <i>pəlɔʔən</i> |
| Sekapan | <i>pələwʔ ən</i> |
| Kejaman | <i>pləwʔ ən</i> |
| Lahanan | <i>pələwʔ ən</i> |

This is a tricky lexeme. First, although numerals can provide good evidence for subgrouping, ‘ten’ is particularly prone to borrowing. The form above is also found outside Melanau-Kajang, in Punan Bah where it was borrowed as *paluʔ en* and in Bintulu as *puʔən*, which again, shows that ‘ten’ is fairly regularly borrowed between languages. One must question the strength of this innovation in light of these facts. There is no good way to show that Kajang languages did not borrow *pəluʔ-ən just as Punan Bah and Bintulu have.

*(u)bəl ‘mute’

| | |
|---------|--------------|
| Dalat | <i>mabəl</i> |
| Kanowit | <i>ubəl</i> |
| Sekapan | <i>obən</i> |
| Kejaman | <i>ubən</i> |
| Lahanan | <i>uvən</i> |

The vowel in Dalat *mabəl* is irregular, and no explanation can be put forward as to why.

*(k)utaña > *labaw ‘ask’

| | |
|---------|----------------|
| Dalat | <i>məlabaw</i> |
| Kanowit | <i>nəlabaw</i> |
| Sekapan | <i>məlavaw</i> |
| Kejaman | <i>ŋəlavaw</i> |
| Lahanan | <i>nəlavaw</i> |

*buyaʔ ‘because’

| | |
|-----------|--------------|
| Balingian | <i>buyaʔ</i> |
| Matu | <i>buyəʔ</i> |
| Dalat | <i>buyaʔ</i> |
| Kanowit | <i>buyaʔ</i> |
| Sekapan | <i>muzaʔ</i> |
| Kejaman | <i>buzaʔ</i> |

*tutuŋ > *sidəp ‘aflame’

| | |
|---------|--------------|
| Sarikei | <i>sidəp</i> |
| Kanowit | <i>sidəp</i> |
| Kejaman | <i>sirəp</i> |
| Lahanan | <i>sirəp</i> |

| | | |
|---------|---|------------------------|
| *Raqaŋ | > | *kaliaŋ ‘light weight’ |
| Matu | | <i>liaŋ</i> |
| Mukah | | <i>lieʔŋ</i> |
| Sekapan | | <i>kaʔzeʔ</i> |
| Kejaman | | <i>kaʔzeʔŋ</i> |
| Lahanan | | <i>kazaŋ</i> |

The question one must ask about the above data is, are these innovations strong enough to suggest inheritance from an immediate common ancestor? Even in smaller subgroups, like Punan or Lower Baram (14 lexical replacement innovations in each group) lexical innovations are numerous, and of relatively high quality. The evidence in the list above seems to lack both quality and quantity. Some of the similarities others have noticed between Melanau and Kajang may be a product of data availability. Other languages of the area, namely Punan and Müller-Schwaner, also share several lexical items with both Melanau and Kajang. It is thus possible that researchers have noticed similarities shared between all four of these subgroups, but because of a lack of Punan and Müller-Schwaner data in general, have mistakenly taken those similarities as evidence for Melanau-Kajang. This topic will be discussed at length in Chapter three. For now, Melanau and Kajang are separated in my proposed tree.

Figure 26

A subgrouping of Melanau and Kajang without a Melanau-Kajang node

MELANAU

Balingian

Mukah

Dalat

Kanowit

Sarikei

Matu

KAJANG

Lahanan

Kejaman

Sekapan

2.4 The Punan subgroup

The language spoken by the Punan forms a discrete linguistic subgroup. Their language is not closely related to Penan, despite their similar group names and historical nomadism. As far as can be inferred through my research, all dialects of Punan are mutually intelligible, with some delayed intelligibility between Punan Bah and the Punan of Kalimantan¹⁰. The Punan Kelai speak a Segai-Modang language, despite their using the Punan name, so they are excluded from the discussion below. The Punan dialects found in this chapter are in figure 27, below.

¹⁰ In Punan Bah, I took a video recording of a recounting of traditional Punan funeral customs. In Kalimantan, this recording was replayed for speakers of Punan Lisum, Punan Aput, and Bekatan. All three understood the recording and commented that it was understandable, but that the accent was of a type they have never heard before. Punan Bah is the most divergent of all Punan dialects, and this off-the-cuff intelligibility test indicates that generally speaking Punan is a single language.

Figure 27

List of Punan dialects

Punan Bah of the middle Rejang River, between Kapit and Belaga towns, Sarawak

Punan Aput of East and North Kalimantan

Punan Lisum of East and North Kalimantan

Punan Tubu of Malinau regency, North Kalimantan

Beketan of East and west Kalimantan, near the headwaters of the Mahakam, Boh, and Kapuas.

Ukit of the Sungai Asap resettlement area, Sarawak.

Buket, of the upper Kapuas, West Kalimantan

Sajau of Berau regency, East Kalimantan

Sru Dayak, extinct. formerly of the lower Rejang River, Sarawak

2.4.1 Punan phonological evidence

Sound correspondences between PMP and various Punan dialects are displayed in tables 29 and 30 below, with discussion after. Table 31 also contains a direct comparison of the phonology of PPUN and PMP.

Table 29

Reflexes of PMP consonant Phonemes in Punan

| | P. Tubu | P. Bah | P. Aput | Beketan | Ukit |
|-----------|---------|--------|---------|---------|------|
| *-k | k | ʔ | k | k | k |
| *q- | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q- | ʔ | ʔ | ʔ | ∅ | ∅ |
| *-q | ʔ | ʔ | ʔ | ʔ | ʔ |
| *-b- | f | v | v | v | v |
| *-b | p | p | p | p | p |
| *d- | d | d | d | d; l | d |
| *-d-/*-j- | r | r | r | r | r |
| *-d/*-j | t | t | t | t | t |
| *-z- | c | s | j | j | j |
| *R- | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-R- | ∅ | ∅ | ∅ | ∅; h | ∅; h |
| *-R | ∅; h; y | ∅; y | ∅; y | ∅; y | ∅; y |
| *-l- | l | l | [l] | [l] | l |
| *-l | n | n | n | n | n |
| *s- | ∅ | ∅; s | s | ∅ | s |
| *-s- | ∅ | ∅; s | h; s | h; s | s |
| *-s | ∅ | ∅ | ∅ | ∅ | ∅ |

Table 30

Reflexes of PMP vowel phonemes in Punan

| | P. Tubu | P. Bah | P. Aput | Beketan | Ukit |
|--------|---------------|---------------|------------|------------|------|
| *-a | oh | o | o | o | ə |
| *-aC | a | a; eə / _ŋ, k | a | a | a |
| *-aCVC | a; ə / _Ca | a; e, o / _Ca | a | a | a |
| *-u | uh | u | u | u | u |
| *-uC | u | u; uə / _ŋ, k | u | u | u |
| *-uCVC | u | u | u | u | u |
| *-i | ih | i | i | i | i |
| *-iC | i | i; iə / _ŋ, k | i | i | i |
| *-iCVC | i | i | i | i | i |
| *-əC | o; e / u, iC_ | o; e / u, iC_ | o; e / uC_ | o; e / uC_ | ə |
| *-əCVC | ə; o; ∅ / #_ | e; o | a; o | a; o | a |

Table 31

Proto-Punan

| | | | | | | | | | | | | | |
|------|----|----|----|--------|--------|--------|------|--------|----|--------|--------|--------|----|
| PMP | *p | *t | *k | *q | *b | *d | *j | *z [j] | *g | *l | *R | *s | *h |
| PPUN | *p | *t | *k | *Ø/?/? | *b/b/p | *d/r/t | *r/t | *j | *g | *l/l/n | *Ø/h/Ø | *s/s/Ø | *Ø |

| | | | | | | | | | | | |
|------|----|----|----|----|----|--------|----|----|----|------|------|
| PMP | *r | *m | *n | *ñ | *ŋ | *a | *i | *u | *ə | *-ay | *-aw |
| PPUN | ? | *m | *n | *ñ | *ŋ | *a/a/ə | *i | *u | *ə | *-ay | *-aw |

Proto-Punan had not undergone any major changes. *R and *s had begun leniting, where *R > Ø in initial and final position, and was probably in the process of being deleted intervocalically, but a few Punan languages sporadically retain *R as *h* intervocalically, so it was likely present in this position in Proto-Punan. *b, *d, and *j (which had merged with *d as *d) had begun to weaken in intervocalic position to *v and *r, and word-final *a had been raised to *ə, although this change may have been allophonic (where *-ə was an allophone of *a) subsequent changes split *-ə and its reflexes from *a. With so few phonological changes, the following section with lexical data provides all of the evidence for a Punan subgroup. A more careful discussion of Punan sound change is reserved for the section on Punan internal subgrouping, found just after the lexical evidence.

2.4.2 Punan lexical evidence

Lexical evidence for a Punan group is strong, with a single irregular metathesis in reflexes of *təlaʔus ‘barking deer’ providing convincing evidence. Additional lexical innovations are also listed below.

| | | |
|-------------|---|-----------------------------|
| *təlaʔus | > | PPUN*təlasuʔ ‘barking deer’ |
| Punan Tubu | | <i>təlauʔ</i> |
| Punan Bah | | <i>təlouʔ</i> |
| Beketan | | <i>təlahuʔ</i> |
| Punan Lisum | | <i>təlahuʔ</i> |
| Punan Aput | | <i>təlauʔ</i> |
| Ukit | | <i>təlahuʔ</i> |
| Buket | | <i>təlahuʔ</i> |

I consider this metathesis to be one of the stronger pieces of evidence for a Punan subgroup, which excludes all other Austronesian languages (including the Müller-Schwaner group, which does not show this change). All Punan dialects have switched ʔ and s in this word only. Because this is a native animal that was probably named by the first group of Austronesian speakers to reach Borneo, it is unlikely that this was borrowed between Punan groups. The only viable explanation appears to be inheritance from Proto-Punan. For comparison, data below demonstrates that other languages in Borneo regularly reflect *təlaʔus:

| | | |
|-------------|---|---|
| Seputan | | <i>toraʔu</i> |
| Kayan | | <i>təlaʔuh</i> |
| Kelai | | <i>vs</i> (with multiple syllable deletion, but the <i>s</i> in word-final position shows that there was no metathesis) |
| Kenyah | | <i>təlaʔo</i> |
| Berawan | | <i>təlaʔoʔ</i> |
| Kadorih | | <i>tarouyh</i> (*-s > yh) |
| Taboyan | | <i>təlaus</i> |
| Basap | | <i>təlaʔus</i> |
| Sekapan | | <i>təlaʔu</i> |
| *si-ia | > | *hen ‘he/she/it’ |
| Punan Tubu | | <i>hen</i> |
| Punan Bah | | <i>en</i> |
| Beketan | | <i>hen</i> |
| Punan Lisum | | <i>en</i> |
| Punan Aput | | <i>en</i> |
| Ukit | | <i>en</i> |
| Buket | | <i>en</i> |

| | | |
|----------------|---|--------------|
| *hutək ‘brain’ | > | *utək ‘head’ |
| Punan Tubu | | <i>utok</i> |
| Punan Bah | | <i>utoꞤʔ</i> |
| Beketan | | <i>utok</i> |
| Punan Lisum | | <i>utok</i> |
| Ukit | | <i>utok</i> |
| Buket | | <i>utok</i> |

Two other languages in Borneo, Taboyan and Paser (dialects of the same language) also show this semantic shift from ‘brain’ to ‘head’, which lessens its strength somewhat. However, every Punan dialect reflects *hutək as ‘head’ so it is likely inherited from Proto Punan.

| | | |
|-------------|--|----------------------|
| | | *lahaut ‘animal’ |
| Beketan | | <i>lahut</i> |
| Punan Lisum | | <i>laut</i> |
| Punan Aput | | <i>laut</i> |
| Ukit | | <i>lahaut</i> |
| Buket | | <i>həlaut</i> (met.) |

This is an interesting innovation, because of similar words meaning either ‘fish’ or ‘animal’ in widely separated languages in Borneo. Kendayan , Benyadu *laok* ‘animal’, Keninjal, Seberuang *laok* ‘fish’, Kapuas *lauk* ‘fish’, Long Bawan Lun Dayeh *lawid*. The Punan form, however, seems to be sufficiently unique in both shape (-t versus -k for most) and primary meaning to justify reconstruction as a lexical innovation.

| | | |
|-----------------|--|---------------|
| *hular/*nipay > | | *acay ‘snake’ |
| Punan Tubu | | <i>cay</i> |
| Punan Bah | | <i>esay</i> |
| Beketan | | <i>asay</i> |
| Punan Lisum | | <i>asay</i> |

| | | |
|-------------|---|----------------------------------|
| *qaRəm | > | *ayam ‘pangolin; scaly anteater’ |
| Punan Tubu | | <i>am</i> |
| Punan Bah | | <i>am</i> |
| Punan Lisum | | <i>ayam</i> |
| Ukit | | <i>ayam</i> |
| Buket | | <i>eam</i> |

This looks like an irregular change where *R > *y, although the reflex of *a for PMP *ə is also irregular. Two irregular sound changes in a single word, despite its apparent similarities with *qaRəm are troubling. Even so, however, *ayam still has value as a purely lexical innovation, even if it is rejected as an irregular reflex of *qaRəm. Note that this word is most likely not related to *qayam ‘domesticated animal’ given the fact that the scaly anteater is both wild, and not very easily located.

| | | |
|-------------|---|---------------|
| *labuq | > | *matek ‘fall’ |
| Beketan | | <i>matek</i> |
| Punan Lisum | | <i>matek</i> |
| Ukit | | <i>mətek</i> |
| Buket | | <i>matek</i> |

| | | |
|-------------|---|----------------|
| *ma-həmis | > | *kañiŋ ‘sweet’ |
| Beketan | | <i>kañiŋ</i> |
| Punan Lisum | | <i>kañiŋ</i> |
| Punan Aput | | <i>kañiŋ</i> |
| Ukit | | <i>kañiŋ</i> |
| Buket | | <i>kañiŋ</i> |

*baqaRu > *uba(h) ‘new’

Punan Tubu *ufah*

Punan Bah *uva*

Beketan *uva*

Punan Lisum *uva*

Ukit *uva*

Buket *uva*

*putiq > *buhak ‘white’

Beketan *buhak*

Punan Lisum *buhak*

Ukit *buhak*

Buket *buhak*

*balum ‘finish’

Beketan *ba|um*

Punan Lisum *ba|um*

Punan Aput *balum*

Ukit *balum*

Buket *balum*

*tipis > *diriŋ ‘thin’

Punan Bah *maliriŋŋ*

Beketan *diriŋ*

Punan Lisum *diriŋ*

Punan Aput *liriŋ*

Ukit *diriŋ*

Buket *diriŋ*

| | | |
|-------------|---|-------------------------------|
| | | *karən ‘every’ |
| Punan Bah | | <i>karen</i> |
| Punan Lisum | | <i>karən</i> |
| Punan Aput | | <i>koren</i> |
| Ukit | | <i>karən</i> |
| Buket | | <i>karən</i> |
| *zalan | > | *taduŋ ‘road; path’ |
| Beketan | | <i>taduŋ</i> |
| Punan Lisum | | <i>taduŋ</i> |
| Ukit | | <i>taduŋ</i> |
| - | > | *limu/*lumu ‘naked’ |
| Punan Tubu | | <i>umuh</i> |
| Punan Bah | | <i>lumu</i> |
| Beketan | | <i>limu</i> |
| Punan Lisum | | <i>limu</i> |
| Punan Aput | | <i>limu</i> |
| Ukit | | <i>limu</i> |
| Buket | | <i>limu</i> |
| - | > | *obet ‘animal trap (general)’ |
| Punan Tubu | | <i>ofet</i> |
| Punan Bah | | <i>ovet</i> |
| Beketan | | <i>ovet</i> |
| Punan Lisum | | <i>ovet</i> |
| Punan Aput | | <i>ovet</i> |
| Ukit | | <i>ovet</i> |

2.4.3 Punan internal subgrouping

Because Punan seems to be a single language with several dialects, rather than a subgroup with several languages, internal subgrouping might be a bit premature. However, certain sound changes seem to show that before the Punan spread out to their current dispersed locations, they were evolving in several compact communities. Sound changes which differentiate Punan dialects are confined to reflexes of *a and *ə, but provide conflicting results, as discussed in the following sections.

2.4.3.1 Raising of *-a to *-ə

Although Proto-Punan had raised final *-a to schwa, only Ukit, Buket and Punan Lisum retain PPUN *-ə (from *-a) unchanged. All other Punan dialects have backed *-ə to o. This is shown below in table 32.

Table 32

*Backing of *-ə in final syllables.*

| | P. Tubu | P. Bah | Beketan | P. Aput | P. Lisum | Ukit | Buket |
|-------------------|---------|--------|---------|---------|----------|-------|-------|
| *uRəŋ ‘horn’ | wəŋ | uaŋ | uoŋ | uhəŋ | wəŋ | wəŋ | uəŋ |
| PPUN *jək ‘I; me’ | hək | oəʔ | hək | ok | jək | jək | jək |
| *maləm ‘night’ | malom | malom | maləm | malom | maləm | maləm | maləm |
| PCS *kəbəs ‘die’ | kəfoh | movo | kavo | kavo | kavə | kavə | kavə |
| *lima ‘five’ | limoh | limo | limo | limoʔ | limə | limə | limə |
| *daləm ‘deep’ | - | lalom | laləm | lalom | - | laləm | - |

Data in the above table supports a subgroup that includes Punan Tubu, Punan Bah, Punan Aput, and Beketan based on the innovative change *-ə(C) > *-o(C). As will be shown below, however, this sound change contradicts more robust evidence for grouping Punan Bah and Punan Tubu together against other Punan dialects.

2.4.3.2 Dissimilatory raising of penultimate *a

Punan Tubu and Punan Bah show an oddly conditioned split of reflexes of *a in the penultimate syllable. Where *a was followed by *a again in the final syllable (*-aCaC) it became schwa. In Punan Bah, *ə in the penultimate syllable then fronted to *e. In the following table, Punan Bah appears to have an exception, *mato*, from *mata ‘eye’. Note, however, that raising of

word-final *a to *ə is assignable to PPUN, and this example shows that where Punan Tubu closed *a with the general possessive suffix *-n, it did not raise and the environment for dissimilatory raising of penultimate *a was retained, where it was lost in Punan Bah.

Table 33

*Raising of *a in the environment _Ca(C)# in Punan Bah and Punan Tubu*

| | P. Tubu | P. Bah | Beketan | P. Aput | P. Lisum | Ukit | Buket |
|--------------------|---------|---------|---------|---------|----------|--------|-------|
| *jalaw ‘earthworm’ | - | jeluow | jalow | jalow | jalo | jalo | jalo |
| *matan/*matə ‘eye’ | mətan | mato | mata | matan | matan | matə | matə |
| *maram ‘rotten’ | məram | meram | maram | maram | maram | - | maram |
| *kapal ‘thick’ | məkəpan | məkopan | kapan | kapan | kapan | kapan | kapan |
| *alaw ‘day’ | low | eluow | alow | low | alo | alo | alo |
| *m-ataq ‘raw’ | taʔ | etaʔ | ataʔ | - | - | m-ataʔ | ataʔ |
| *salaR ‘nest’ | la | ela | ala | sala | sala | sala | sala |

In the above table, a single Punan Bah example, *makopan* ‘thick’ shows raising and backing of *a, but in all other examples, *a became *e*. Also, note that in words that begin with *a (‘day’, ‘raw’, and ‘nest’ through deletion of initial *s-) Punan Tubu apparently raised *a to schwa, then deleted schwa in initial position. Punan Bah examples, however, show that raising did indeed take place in initial position.

2.4.3.3 Reflexes of *z in Punan

Punan Bah and Punan Tubu also devoiced *z intervocalically, where *z > c in Punan Tubu and *z > s in Punan Bah. If one assumes that Punan Bah *s* is from an earlier stage where *z had become *c, then the change is also exclusive to these two dialects.

2.4.3.4 Merger of penultimate schwa with *a

The changes *aCaC > *əCaC and *z > *c are innovations which define a Punan Tubu-Bah subgroup within Punan. Another innovation supports the hypothesis that other Punan dialects form a second subgroup within Punan. Here, penultimate schwa merged with *a in all Punan dialects except Punan Tubu and Punan Bah, as shown in Table 34, below.

Table 34

*Lowering *ə in penultimate syllables*

| | P. Tubu | P. Bah | Beketan | P. Aput | P. Lisum | Ukit | Buket |
|----------------|---------|--------|---------|---------|----------|-------|-------|
| *kəvə ‘die’ | kəfoh | kovo | kavo | kavo | kavə | kavə | kavə |
| *təlu ‘three’ | təlu | telu | talʉ? | talun | taləŋ | talo | talo |
| *təbəŋ ‘fell’ | nəfoŋ | tovoŋŋ | taboŋ | - | navəŋ | navəŋ | navəŋ |
| *ləpaw ‘hut’ | - | lopuow | - | lapow | lapow | lapo | lapo |
| *əpat ‘four’ | pat | pat | apat | pat | apat | apat | apat |
| *pənu? ‘full’ | pənu? | penu? | - | panu? | panu? | panu? | panu? |
| *qapəju ‘gall’ | pərun | laporu | parun | parun | parun | parun | parun |

When analyzed together, the evidence supports a primary split in Punan with Punan Bah and Punan Tubu forming a subgroup against other Punan dialects. Although this contradicts the fact that *ə in final syllables backed to *o in Punan Tubu, Bah, Aput, and Beketan, the evidence that this change is convergent is rather significant. The backing of *ə is common throughout the AN family, and does not in itself provide strong subgrouping evidence, especially when stronger, contradictory evidence can be presented. Subgrouping evidence is summarized in Figure 28 below. Note that although Punan Lisum, Ukit, and Buket retain *ə unchanged in final syllables, this does not count as subgrouping evidence, since it is a retention. There are no innovations which support grouping only these three dialects together.

Figure 28

*Internal subgrouping evidence for Punan***Punan Tubu-Bah**

*a > *ə / _Ca(C)#

*z > *c

Other Punan

Penultimate *ə > *a

2.4.3.5 Sru Dayak

In 1963, the Borneo Literature Bureau published *The Sea Dayaks and other races of Sarawak*, which contained a short vocabulary by D.J.S. Bailey (Bailey 1963) of 170 items on a language spoken by the “Sru Dayaks”. The article provides little linguistic information and since the publication of that document, the Sru Dayak have been completely overrun by Iban and their

language is no longer spoken. From that short list, however, several lexical items stand out, and appear to be cognate with a number of items in Punan, particularly Beketan and Punan Lisum. The full list is given below.

| Sru | Punan |
|-----------------------------|--|
| <i>a</i> ‘man; human being’ | <i>aʔ</i> (Punan Tubu) |
| <i>tabun</i> ‘snake’ | <i>təvun</i> (Punan Aput) |
| <i>kəboh</i> ‘die’ | <i>kəvo</i> |
| <i>bila</i> ‘river’ | <i>bilaʔ</i> (Beketan) |
| <i>tugaw</i> ‘tooth’ | <i>tuku</i> (Seputan, note there is a regular g : k correspondence.) |
| <i>tura</i> ‘stomach’ | <i>toraʔ</i> (Punan Lisum, Buket) |
| <i>labo</i> ‘back’ | <i>lavoʔ</i> (Punan Lisum, Beketan) |
| <i>komo</i> ‘to eat’ | <i>kamoʔ</i> (Punan Lisum, Beketan) |
| <i>kroŋo</i> ‘to hear’ | <i>kəriŋo</i> (Punan Lisum, Beketan) |

The above words are all exclusively shared between Sru and Punan. It leaves little doubt that the Sru spoke a Punan language, but some important differences between the Sru and Punan are apparent. First, the Sru are the only Punan dialect which did not change *-b- to *-v-, which has implications for reconstructing Proto-Punan phonology. Second, the Sru language underwent word-final high vowel breaking, which is apparent when one compares Seputan *tuku* with Sru *tugaw* and PMP *asu with Sru *asaw* ‘dog’. No cases of final -ay from *-i are available in the data, but one must suspect that if high vowel breaking affected *-u, then it most likely affected *-i.

Little else can be said about the Sru. The detailed phonetics of the language are impossible to extract from the wordlist. 170 words are the only linguistic material that was ever collected for this now-extinct language. At the very least, however, we are now able to state with a fair amount of certainty that the Sru spoke a Punan language. This was only made possible after the collection of Punan data for the present work.

2.4.3.6 Summary

In all, the following internal subgrouping of Punan dialects is supported by the phonological evidence. Of importance is the placement of Ukit, which has been listed on Ethnologue (Lewis et al. 2016) as being part of the Melanau-Kajang subgroup, and Punan Bah, which has been placed in the defunct Rejang-Sajau subgroup (Hudson 1978). Sajau is a Punan dialect but has been erroneously placed in a number of other subgroups. It's position in Punan is supported by lexical evidence, for example, Guerreiro (2015:158) lists Latti *ihuk* 'hair' which is directly comparable to Punan Bah *ivuəʔ*, Punan Tubu *ifuk*, and Ukit *ivuk*. Only Punan and Müller-Schwaner languages reflect initial *i- in this word, and it is highly diagnostic. Latti *tuniŋ* 'ear' is also an innovation shared exclusively between Latti, Punan Tubu (*tuniŋ*), and Punan Bah (*tuniəŋ*), which suggests that Latti and Sajau are most closely related to Punan Tubu and Bah, against other Punan dialects. Finally, Latti *makaho* 'to die' also links the language to other languages of central and southern Sarawak, including not only Punan, but Müller-Schwaner, Melanau, and Land Dayak. Figure 29 summarizes Punan internal subgrouping, as argued above.

Figure 29

Punan internal subgrouping

PUNAN

1. Sru
2. Punan Tubu-Bah
 - Punan Tubu, Punan Bah, Sajau, Latti
3. Punan
 - Beketan, Punan Lisum, Punan Aput, Ukit, Buket

2.4.4 More on Punan Bah

Of the Punan dialects that I have experience with, Punan Bah has been affected the most by its neighbors. The Bah river is a small tributary of the much larger Rejang River of central Sarawak, and speakers of Punan Bah were historically surrounded by speakers of Kajang and Melanau languages, but are now surrounded primarily by Iban. Many of the sound changes in Punan Bah are directly comparable to changes which have taken place in nearby Sekapan, Lahanan, Kejaman, Tanjung, and Kanowit.

2.4.4.1 Development of off-glides before velar consonants

In final syllables, the high vowels *i and *u developed a schwa off-glide immediately before velar consonants, while *a was raised to *e, which then developed a schwa off glide in the same environment. Although the data is limited, *ə appears to have raised to *o in this environment, and, like *i, *u, and *e (<*a), has developed a schwa off-glide, producing oɔ̯. Because Punan Bah is the only Punan dialect to have undergone these changes, they are almost certainly the result of contact with neighboring Kajang languages, and do not provide evidence for any special subgrouping relationship between Punan Bah and Kajang.¹¹

Table 35

Comparison of schwa off-glide development in Punan Bah, Sekapan, and Kejaman

| | Punan Bah | Sekapan | Kejaman |
|------------------|-----------|---------|---------|
| *lubəŋ ‘hole’ | luveəŋ | luveə | luveəŋ |
| *bədʊk ‘macaque’ | bəruəʔ | bəruəʔ | bəruək |
| *kiŋkiŋ ‘pinky’ | ikiəŋ | - | - |
| *dik ‘chicken’ | - | diəʔ | diək |
| *masək ‘enter’ | masoəʔ | - | - |
| *hutək ‘brain’ | - | otaʔ | utək |

Before ʔ, vowels with an off-glide contrast with pure vowels, as demonstrated below.

- *uq > uʔ (*pusuq > *pusuʔ* ‘heart’)
- *uk > uəʔ (*ñamuk > *ñamuəʔ* ‘mosquito’)
- *iq > iʔ (*piliq > *piliʔ* ‘choose’)
- *ik > iəʔ (*mudik > *mudiəʔ* ‘go upriver’)
- *əq > oʔ (*tanəq > *tanoʔ* ‘land’)
- *ək > oəʔ (*ambək > *aboəʔ* ‘valley’)

Although words with final eʔ are not derivable through historical processes, they do exist in Punan Bah, either from direct borrowing or some other unknown source. These words contrast with eəʔ from *ak.

¹¹ Punan Bah speakers identify themselves as “Kajang”, apparently based on official government subdivisions.

- *aʔ > aʔ (*buaq > buaʔ ‘fruit’)
 *ak > eʔʔ (*burak > bureʔʔ ‘rice wine’)
 ? > eʔ (beʔ ‘to carry on the back’, from a Kayan word of the same meaning)

However, analysis of the Punan Bah lexicon shows that there are no examples of word-final *-k, which means that *-ek-* and *-eʔʔ*, *-uk-* and *-uʔʔ*, and *-ik-* and *-iʔʔ* are in complementary distribution, with off-glides and glottal stop appearing word-finally, and pure vowels and *k* appearing elsewhere. The correct synchronic analysis then would assume that *uʔʔ*, *iʔʔ*, *eʔʔ*, and *oʔʔ* are allophones of *uk*, *ik*, *ek*, and *ok* in final position. These are the only environments where vowel breaking is found in Punan Bah, so the allophony is still fairly transparent. The following table lists the six Punan Bah vowels, and includes allophones in parentheses. Note that (eʔ) is an allophone of *e*, although it is historically derived from *a. In the same spirit, (oʔ) is an allophone of *o*, although it is historically derived from *ə.

Table 36

Punan Bah vowels

| | Front | Central | Back |
|------|-----------|---------|-----------|
| High | i (iʔ) | | u (uʔ) |
| Mid | e (eʔ) | ə | o (oʔ) |
| Low | | a | |

All other Punan dialects have a standard six vowel system, with *i*, *e*, *a*, *o*, *u*, and *ə* and no off-gliding allophones. In dialects like Ukit and Buket, where *ə* is found word-finally, it is realized as [ə̃], that is, slightly higher than *ə* in all other positions.

2.4.4.2 Triphthongs in Punan Bah

A particularly interesting feature of Punan Bah is reflexes of PMP *-ay and *-aw. Typically, in other Austronesian languages where these diphthongs were altered they coalesced as *e and *o or *i and *u. Some of the strong stress final languages have more interesting

reflexes, but Punan Bah reflects these phonemes as phonetic triphthongs. To summarize, *ay > ey [ɛ̣ɛ̣] and *aw > ow [ɔ̣ọɔ̣]. In both cases, the initial segment is an in-gliding high lax vowel, the middle segment is the nucleus, and the final segment is more-or-less identical to the in-gliding initial segment. No other languages in the vicinity of Punan Bah have phonetic triphthongs, and neither do other Punan dialects. Hliboi Bidayuh (see section 2.6.5 below) and Kiput (Blust 2002b, 2003) do have similar triphthongs, but those cases must be independent innovations.

2.5 The Müller-Schwaner subgroup

Although they sometimes (but not always) self-identify as Punan, and several sources have grouped the Müller-Schwaner languages together with the Punan in a larger subgroup, I have decided to list the two groups separately here, and save a discussion on their relatedness for Chapter three. The Müller-Schwaner languages, which are quite distinct, include the following languages in the Upper Kapuas/Upper Mahakam areas:

Figure 30

Müller-Schwaner languages

Aoheng of the upper Mahakam River, above the Boh tributary, East Kalimantan

Seputan of the upper Mahakam River, traditionally above the Boh tributary, East Kalimantan

Hovongan of the upper Kapuas River, West Kalimantan

Kereho of the upper Kapuas River, West Kalimantan

2.5.1 Müller-Schwaner phonological evidence

Sound changes that define Müller-Schwaner are discussed at length below. There is much to talk about in this area, but first, two tables are given to state sound correspondences between PMP and several Müller-Schwaner languages. In much of this section, I use Seputan data exclusively, rather than Seputan and Aoheng, since these two groups speak nearly identical languages.

Table 37

Reflexes of PMP consonants in Müller-Schwaner

| PMP | Seputan | Kereho | Hovongan |
|-----------|-----------|-----------|-----------|
| *-k | Ø/? | ʔ | ʔ |
| *q- | Ø | Ø | Ø |
| *-q- | ʔ | ʔ | ʔ |
| *-q | Ø/? | ʔ | Ø/? |
| *-b- | v | v(w) | v |
| *-b | p | p | p |
| *-d-/*-j- | r | r | r |
| *-d/*-j | t | t | t |
| *z | c | c | c |
| *g | k | k | k |
| *R-/*-R- | h | h | h |
| *-R | Ø (met) | Ø (met) | Ø (met) |
| *l- | l; d / _i | l; d / _i | l; d / _i |
| *-l- | Ø; r; l | Ø; l; r | Ø; l; r |
| *-l | ɪ | i | e |
| *-s | Ø | Ø | Ø |

Table 38

Reflexes of PMP vowels in Müller-Schwaner

| PMP | Seputan | Kereho | Hovongan |
|--------|------------|------------|-----------|
| *-a | o | o | o |
| *-aɪ | ɪ | i | e |
| *-u | ʉ | u | u |
| *-uC | u; o / _k# | u; o / _k# | u |
| *-əC | o | o | o |
| *-əɪ | ɪ | i | e |
| *-əCVC | o | o | a; Ø / #_ |
| *-ay | i | e | e |
| *-aw | u | o | o |
| *-uy | i | i | i |

Table 39

Proto Müller-Schwaner

| PMP | *p | *t | *k | *q | *b | *d | *j | *z [j] | *g | *l | *R | *s |
|-----|----|----|--------|--------|--------|--------|------|--------|----|----------|------------|----|
| PMÜ | *p | *t | *k/k/? | *Ø/?/? | *b/v/p | *d/r/t | *r/t | *c | *k | *l;d/l/Ø | *h/h/(met) | Ø |

| PMP | *h | *r | *m | *n | *ñ | *ŋ | *a | *i | *u | *ə | *-aw | *-ay | *-uy |
|-----|----|----|----|----|----|----|-----------|----|--------|------|------|------|------|
| PMÜ | Ø | ʔ | *m | *n | *ñ | *ŋ | *a/a/o; ɪ | *i | *u/u/ʉ | *ə/o | *-aw | *-ay | *-i |

Figure 31

Müller-Schwaneer sound changes

*z > c

*g > k

*-k > -ʔ

*l- > d / _i

*-l- > l/t/Ø

*s > Ø

*-u > -u

*-al; əl > *-ɪ

*-aCuR > -oCa

The phonological evidence for a Müller-Schwaneer group is fairly robust, and many of the sound changes are unusual. For example, where a word ended in *uR, the vowel became *a*, as in *bəsuR ‘satiated’ > *bosa*, *təluR ‘egg’ > *toa*, *ñiuR ‘coconut’ > *oña*. Interestingly, in words with *u in the penultimate vowel, *-R seems to have passed through an intermediate stage where it became *y. For example, *tuduR ‘sleep’ is reflected as *tore* in Seputan. Such an analysis is problematic however, as the regular reflex of *-uy is *i*. If one were to assume that *tuduR > *tudy > *tore* then one has to explain why the reflexes are irregular (one expects ***turi*). Another possibility is to assume that *tore* actually reflects *tiduR. Under this scenario, metathesis explains the vowels, *tiduR > *tidiR > *tore*. Even so, the lowering of the vowels cannot be easily explained. *R may have become *h, which would have lowered *i, giving *tureh. Vowel harmony effects might have then lowered the penultimate vowel, resulting in the modern form. All of these scenarios are problematic, however, in that they rely on assumptions about intermediate stages that cannot be tested. At any rate, the result is a unique sound correspondence not found in any other subgroup in Borneo.

2.5.1.1 Additional sound changes

The other sound changes in Müller-Schwaner are more common, but nevertheless form an impressive set, which complement the more unusual changes. PMP *z became PMÜL *c, but *z > c is also found in Kayanic, several languages in the Barito area (Kadorih, Tunjung), in Kiput of the Lower Baram group, among others. *g > k occurred intervocalically, as well as initially, which is an odd environment. Devoicing intervocalically is phonetically difficult to explain, but *g has historically been a common target for devoicing in Austronesian languages, because of the shorter distance between the point of articulation and the vocal folds, which inhibits extended voicing. *-k > -ʔ is reconstructable to PMÜL but again is also fairly common throughout Borneo, and is found in Malayic, Lower-Baram, Punan, and Kajang, and various Melanau dialects. Strengthening of *l to *d* before high front vowels is found in Southeast Barito languages, and in other languages scattered throughout the Austronesian family¹².

2.5.1.2 Reconstructing *i and *u

In Aoheng and Seputan, the vowel inventory has been expanded from six to eight, with the innovation of two additional high vowels, *ɪ* and *ʉ*, which contrast with *i* and *u* (see Sellato and Le Roux 2004, Sellato and Soriente 2015). Phonetically, the difference between *i* and *ɪ* is slight and it is difficult to distinguish between the two. *ʉ* is more noticeable, and is pronounced with spread, only slightly rounded lips. Hovongan and Kereho do not have these two vowels, but some evidence suggests that they were present in PMÜL, and that evidence is presented below.

1.5.1.2.1 Evidence for *i

First, in Hovongan *e* in word-final position corresponds to *ɪ* in Seputan but *i* in Kereho, for example, *gatəl ‘itchy’ > Hovongan *kate*, Seputan *kati*, Kereho *kati* and *kapal ‘thick’ > *kape*, *kapi*, and *kapi* respectively. Deletion of *-l is the only known condition for historical innovation of *i, and from this evidence, it is clear that the quality of *i from *-al and *-əl was different from *i in Proto-Müller-Schwaner. Reflexes of final diphthongs became mid vowels in both Hovongan and Kereho (*qatay > *ate* ‘liver’), and high vowels in Seputan and Aoheng (*ati*

¹² In Bashiic, *l > x *unless* it was followed by *i, in which case it is preserved as *l* (Tsuchida et al. 1987). It seems that high front vowels have a natural tendency to strengthen liquids in their environment.

‘liver’). Thus, the existence of separate correspondence sets, outlined in table 40 below, compels one to reconstruct *ɪ, although its exact phonetic value is still uncertain.

Table 40

Correspondence sets involving high or mid front vowels in Müller-Schwaner

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|-----------|----------|--------|---------|--------|
| *-aɪ/*-əɪ | e | i | ɪ | ɪ |
| *-i | i | i | i | i |
| *-ay | e | e | i | i |

2.5.1.2.2 Evidence for *ɯ

The environment for the innovation of *ɯ was much broader than *ɪ; in word-final position *-u > *-ɯ. Evidence for this change can be found in Seputan, *kutɯ* ‘louse’, *batɯ* ‘stone’ and Seputan *katɯ* ‘tree; wood’. If one reconstructs *ɯ to PMÜL, then it must be argued that in Hovongan and Kereho, *ɯ merged with *u as *u*. Considering the evidence that *ɪ was also simplified in these two languages, it is not a stretch to argue the same for *ɯ. The issue, however, is lack of direct evidence that *ɯ existed in PMÜL. Several pieces of evidence must be considered in order to make an informed inference about PMÜL *ɯ. The most important is that *u had become *ɯ before some sound changes that are assigned to PMÜL.

2.5.1.2.2.1 Reflexes of PMP *-ɪ

Proto-Müller-Schwaner deleted word-final *-ɪ. In cases where *-ɪ occurred after schwa or *a, it also changed the quality of the preceding vowel (as discussed earlier with regard to *ɪ). All Müller-Schwaner languages reflect a raised and fronted vowel where *-ɪ was deleted, so it follows that deletion of *-ɪ occurred in PMÜL. Regarding *ɯ, Seputan shows fronted reflexes of *u only in words where *u was historically word-final, *batu > *batɯ*, *kutu > *kutɯ* for example. Where *u occurred before final *ɪ, however, *ɪ deleted but *u did not front, as evidenced by *tumpul > *tupu* ‘blunt; dull’. The implication here is, if *-ɪ > Ø in PMÜL, but *-u became *-ɯ only in Seputan and Aoheng (thus, not assignable to PMÜL), then *-ɪ deletion should have fed *-u > -ɯ as follows:

Figure 32

*Historical derivation of *-l deletion and *-u fronting with incorrect ordering*

| | | | |
|-------------------|-------------|----------------|-------------|
| PMP | *batu | *tumpul | *kapal |
| PMÜL *-l deletion | - | *tupu | *kapı |
| Front *-u | *batu | *tupɯ | - |
| Seputan | <i>batɯ</i> | ** <i>tɯpɯ</i> | <i>kapı</i> |

However, what one finds is that *-l deletion occurred in a counter-feeding order with respect to *-u fronting, suggesting that *u fronting occurred before *l deletion, and that both should be assigned to PMÜL, giving the order shown below:

Figure33

*Historical derivation of *-l deletion and *-u fronting with correct ordering*

| | | | |
|-----------------------|-------------|-------------|-------------|
| PMP | *batu | *tumpul | *kapal |
| Pre-PMÜL front *-u | *batu | - | - |
| Pre-PMÜL *-l deletion | - | *tupu | *kapı |
| Seputan | <i>batɯ</i> | <i>tupu</i> | <i>kapı</i> |

2.5.1.2.2.2 Reflexes of PMP *-s

Proto-Müller-Schwaner *s deleted in all environments. Where *s occurred in the final syllable after *u, Seputan shows that the vowel did not front. Reflexes of *təlaʔus ‘barking deer’ show this ordering, Kereho *taaʔu* and Seputan *toraʔu* (rather than ***toraʔɯ*). It follows, through the same logic regarding deletion of final *-l, that *u fronting occurred before *-s deletion. Because *-s deletion is assignable to PMÜL, then *u fronting must also be assignable to this level. While it may not be difficult to imagine parallel deletion of *s, parallel deletion of *-l, including vowel fronting effects on *a and *ə in the environment *-al and *-əl is more difficult to swallow. For these reasons I reconstruct *ɯ to PMÜL.

2.5.2 Müller-Schwaner internal subgrouping

Several sound changes are significant for the internal subgrouping of Müller-Schwaner. They are discussed in detail in the section below.

2.5.2.1 Reflexes of PMP *-l-

In Proto-Müller-Schwaner, *-l- split three ways with conditions, but some exceptions. *l was reflected with either *l, *r (Sellato and Soriente 2015 write this as a retroflex, ɽ, although I did not record a retroflex articulation), or it was deleted in various Müller-Schwaner languages. There are four main correspondence sets between Hovongan, Kereho, Seputan, and Aoheng with reflexes of *-l- (intervocalically in the onset of a final syllable). They are:

Figure 34

*Correspondences of reflexes of *-l- in Müller-Schwaner*

| | Hov | | Ker | | Sep | | Aoh |
|---|-----|---|-----|---|-----|---|-----|
| 1 | l | : | l | : | l | : | l |
| 2 | r | : | r | : | r | : | r |
| 3 | ∅ | : | ∅ | : | r | : | r |
| 4 | ∅ | : | ∅ | : | ∅ | : | ∅ |

Correspondence set 1 appears where *-l- occurred after penultimate *i or *e. Set 2 appears where *-l- occurred before *i. Set 3 appears only in words without *i and which end in either velars (in this case, *-ŋ) or glottal stop. Set 4 appears everywhere else. The four tables below exemplify these conditioned splits (reconstructions are PMP unless otherwise noted).

Table 40

1:1:1:1

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|-----------------------|----------|-----------|---------|------------|
| *ilat ‘wing’ | ilat | elat | elat | elat |
| *silun ‘finger nail’ | silun | silun | silun | silun |
| PCS *iliŋ ‘saliva’ | - | - | - | toaŋ reliŋ |
| PMÜL *təmpiliŋ ‘slap’ | - | nompelenŋ | - | təmpelenŋ |
| *zəlaq ‘tongue’ | - | cela? | cela? | cela |

Table 41

r : r : r : r

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|--------------------------------|----------|---------|---------|---------|
| *kalih ‘dig’ | kari | ɲari | ɲari | ɲari |
| PCS *kəlit ‘insectivorous bat’ | keret | koret | koret | koret |
| *buray ‘left’ | bure | bure | kovuri | huri |
| PWIN *kuliR ‘clouded leopard’ | kuri | kuri | kuri | kuri |
| PMÜL *təvoriʔ ‘red’ | tovori | tovoriʔ | tovoriʔ | təvoriʔ |
| PKAY *təlis ‘squirrel’ | tori | - | tori | tori |

Table 42

Ø : Ø : r : r

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|----------------------|----------|--------|---------|--------|
| *buluq ‘bamboo’ | buu | buuʔ | buru | buru |
| *alaq ‘take’ | aa | aaʔ | ara | ara |
| *tuqəlaŋ ‘bone’ | tuʔaŋ | toʔaŋ | toraŋ | toraŋ |
| PWIN *əluŋ ‘estuary’ | - | ouŋ | oroŋ | oroŋ |
| *zəlaq ‘tongue’ | caaʔ | - | - | - |

Table 43

Ø : Ø : Ø : Ø

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|--------------------|----------|--------|---------|--------|
| *salaR ‘nest’ | saa | saa | saa | saa |
| *maləm ‘night’ | maam | maam | maam | maam |
| *zalan ‘road’ | caan | caan | caan | caan |
| *bulun ‘body hair’ | buun | buun | buun | buun |
| *qulu-n ‘head’ | uun | uun | - | - |
| *pulut ‘sap’ | puut | puut | puut | puut |
| *balu ‘widow’ | bau | bou | baʉ | |
| *əlaw ‘day’ | - | ou | ou | ou |
| *talaw ‘fear’ | tao | tao | tao | tao |
| *təlu ‘three’ | tou | tou | toʉ | toʉ |
| *kələb ‘turtle’ | koop | koop | koop | koop |

The basic pattern in the tables above is that *-l- deleted unless it was in a strengthening environment. In PMÜL, that was any time *-l- was immediately adjacent to *i (and in one case, *e). The interesting thing about the correspondences however is that in Aoheng and Seputan, *-l- also did not delete in words that were closed with a glottal stop (from earlier *-q) or *ŋ. This is a long-distance condition, as *-l- was separated from final *ʔ and *ŋ by a vowel. Thus, while PMP

*bulu-n ‘body hair’ became Seputan *buun*, PMP *buluq became Seputan *buru*. Although this is certainly an odd condition, table 43 above confirms that *-ŋ and *-ʔ blocked l deletion.

After *-l- was deleted, Hovongan and Kereho merged *-l- where it was retained with *-d-, which is realized as -r-, while Seputan and Aoheng flapped *-l-, creating the new phoneme *r. Note that *-l- continued to resist changes when immediately following *i. The two figures below chart the history of *-l- in Hovongan and Kereho (figure 35) and Seputan and Aoheng (figure 36).

Figure 35

*Historical development of *-l- in Hovongan and Kereho*

| PMP | *kalih ‘dig’ | *ilat ‘wing’ | *buluq ‘bamboo’ | *bulu-n ‘body hair’ |
|------------------------------------|--------------|--------------|-----------------|---------------------|
| *-l- > Ø except next to *i | - | - | *buuʔ | *buun |
| *-l- > *-d- > *-r- except after *i | *kari | - | - | - |
| result | *kari | *ilat | *buuʔ | *buun |

Figure 36

*Historical development of *-l- in Aoheng and Seputan*

| PMP | *kalih ‘dig’ | *ilat ‘wing’ | *buluq ‘bamboo’ | *bulu-n ‘body hair’ |
|--|--------------|--------------|-----------------|---------------------|
| *-l- > Ø except next to *i and in words ending in *-ŋ or *-ʔ | - | - | - | *buun |
| *-l- > *-r- except after *i | *kari | - | buruʔ | - |
| result | *kari | *ilat | *buruʔ | *buun |

The result of these series of changes is that Hovongan and Kereho have identical correspondence sets for reflexes of *-l-, while Seputan and Aoheng have a different, identical set. Because of the particularities of *-l- in Müller-Schwane, this is enough to suggest that Seputan and Aoheng be grouped together, separate from Hovongan and Kereho. Two exceptions to the rules above are Hovongan and Kereho *salaʔ* from PMP *salaq (expected ***saaʔ*) and Kereho *puruʔ* from PMP *puluq (expected ***puuʔ*).

Other languages, particularly Kadorih of the Barito group, also reflect *l with *ɾ*. Unlike Müller-Schwaner, however, in Kadorih *l became *ɾ* in all environments, and there is no split in the reflexes. Some of the examples from Müller-Schwaner are reprinted below, with Kadorih words showing no split in reflexes of *-l-. Here, rather, *-l- is regularly reflected as *ɾ* across the board.

Figure 37

**-l- > ɾ in Kadorih*

| PMP | Kadorih |
|-----------------------|--------------|
| *bulu ‘body hair’ | <i>buru?</i> |
| *balu ‘widow’ | <i>baru?</i> |
| *quləj ‘worm; maggot’ | <i>urot</i> |
| *alud ‘canoe’ | <i>arut</i> |
| *tuqəlaŋ ‘bone’ | <i>turaŋ</i> |
| *kalih ‘to dig’ | <i>ɲari?</i> |

Although reflexes of *-l- provide a strong argument for a Seputan-Aoheng group, the position of Kereho, which has an identical correspondence set for *-l- as Hovongan, is less obvious. Several sound changes suggest that Kereho subgroups immediately with Seputan-Aoheng. These are, a split in reflexes of *-əCVC, lowering of the vowel in *-uk, lowering of high vowels in initial position, raising in reflexes of *-ak, and reflexes of initial *ə.

2.5.2.2 Split in reflexes of *-əCVC

In Hovongan, penultimate *ə lowered to *a, but in Kereho, Seputan, and Aoheng it backed to *o. In one case, reflexes of *ə from *zəlaq are *e* in Kereho, Seputan, and Aoheng. This is apparently the result of a palatalizing effect from *z.

Table 44

*Split in reflexes of *-əCVC in Müller-Schwaner*

| PMÜL | Hovongan | Kereho | Seputan | Aoheng |
|---------------------|----------|---------|---------|--------|
| *bəhat ‘heavy’ | bahat | bohat | bohat | bohat |
| *bətəhi? ‘pregnant’ | botehe | botohi? | botohi | bətohi |
| *həcan ‘ladder’ | hacan | hocan | hocan | hocan |
| *cəla? ‘tongue’ | caa? | cela? | cela? | cela |

2.5.2.3 Lowering of *-uk

In Kereho, Seputan, and Aoheng, *u lowered to *o before *k, but it did not in Hovongan.

Table 45 contains evidence for this.

Table 45

*Lowering of *-uk in Müller-Schwaner*

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|----------------------------------|----------|--------|---------|--------|
| *manuk ‘chicken’ | manu? | mano? | mano? | mano? |
| *mabuk ‘drunk’ | mavu? | mavo? | mavo? | mavo? |
| *Rusuk ‘chest’ | usu? | oso? | oso | oso |
| PWIn *bəduk ‘pig-tailed macaque’ | boru? | boro? | boro? | boro? |
| *ñamuk ‘mosquito’ | ñamu? | ñamo? | ñamo? | - |

2.5.2.4 Lowering of high vowels in initial position

High vowels lowered to mid vowels at the beginning of words in Kereho, Seputan, and Aoheng (with a small number of exceptions) but not in Hovongan.

Table 46

Lowering in initial position in Müller-Schwaner

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|-------------------|----------|--------|---------|--------|
| *upət ‘bait’ | upot | upot | opot | opot |
| PMÜL *uRəŋ ‘horn’ | uhəŋ | ohəŋ | ohəŋ | ohəŋ |
| *uvi ‘loincloth’ | uve | ovi | ovi | ovi |
| *qudaŋ ‘shrimp’ | uraŋ | ore | oraŋ | oraŋ |
| *ilat ‘wing’ | ilat | elat | elat | elat |

2.5.2.5 Reflexes of *-ak

PMÜL *-i (from PMP *-ak) lowered to *-e in Kereho, Seputan, and Aoheng, but not in Hovongan.

Table 47

*Reflexes of *-ak in Müller-Schwaner*

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|--------------------------|----------|--------|---------|--------|
| *ma-həsak ‘ripe’ | mosiʔ | moseʔ | mose | mose |
| *anak ‘child’ | oniʔ | aneʔ | ane | ane |
| Pre-PMÜL *əñak ‘fat (n)’ | ñiʔ | oñeʔ | oñe | oñe |

2.5.2.6 Deletion and retention of word-initial *ə

Initial schwa was deleted in Hovongan, but it was retained as *o in Kereho, Seputan, and Aoheng.

Table 48

*Reflexes of initial *ə in Müller-Schwaner*

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|--------------------------|----------|--------|---------|--------|
| Pre-PMÜL *əñak ‘fat (n)’ | ñiʔ | oñeʔ | oñe | oñe |
| *əpat ‘four’ | pat | opat | opat | opat |
| PWIN *əluŋ ‘estuary’ | luŋ | ouŋ | oroŋ | oroŋ |
| *ənəm ‘six’ | nom | onom | onom | onom |
| *əbun ‘smell’ | bun | ovun | ovun | ovun |

2.5.3 Summary

Although the history of *-l- strongly suggests that Seputan and Aoheng share a common ancestor, this is less clear for Hovongan and Kereho. First, if Kereho did belong to a Kereho-Seputan-Aoheng subgroup apart from Hovongan, then one would expect the condition of *-l- preservation before final *ʔ and *ŋ to appear in Kereho as well. It does not, which is an issue because *-l- must have been present in this environment in the immediate ancestor of Seputan and Aoheng. Overall, the sound changes provide a complicated picture, with Kereho sharing sound changes exclusively with both Hovongan and Seputan-Aoheng (see table 49 below). Because of the specific condition where *-l- was retained before final *ʔ and *ŋ, Seputan and Aoheng must be grouped together against all other Müller-Schwaner languages. Because of the

mixed picture regarding Kereho, however, its position remains indeterminate, and it is listed as its own primary branch, pending further research (see figure 38 below).

Table 49

Conflicting correspondences between Kereho and Hovongan, and Kereho and Seputan-Aoheng

| PMP | Hovongan | Kereho | Seputan | Aoheng |
|--------------|----------|--------|---------|--------|
| *-l- (set 2) | r | r | r | r |
| *-l- (set 3) | ∅ | ∅ | r | r |
| *-ay | e | e | i | i |
| *-aw | o | o | u | u |
| PMÜL *-u | u | u | u | u |
| *ə- | ∅ | o | o | o |
| *Cə- | a | o | o | o |
| *u- | u | o | o | o |
| *i- | i | e | e | e |
| *-uk | u | o | o | o |
| *-ak | i | e | e | e |

Figure 38

Müller-Schwane internal subgrouping

MÜLLER-SCHWANER

1. Upper Mahakam
 - Aoheng
 - Seputan
2. Kereho
3. Hovongan

2.6 The Land Dayak subgroup

Land Dayak is a diverse subgroup consisting of a complex language and dialect network in West Kalimantan and southern Sarawak. In this section I identify the historical developments which define the Land Dayak group. Also in this section is an internal subgrouping proposal which draws a rather different conclusion than that reached in another recent classification of Land Dayak languages, Rensch et al. (2012). The following Land Dayak languages are discussed:

Figure 39

Land Dayak languages

Benyadu of Landak Regency, West Kalimantan
Bekati of Bengkayang Regency, West Kalimantan
Rara Bekati of Bengkayang Regency, West Kalimantan
Jangkang of Sanggau Regency, West Kalimantan
Ribun of Sanggau Regency, West Kalimantan
Golik of Sanggau Regency, West Kalimantan
Sanggau of Sanggau Regency, West Kalimantan
Bau Bidayuh of far west Sarawak
Singai of far west Sarawak (a dialect of Bau, from Reijffert 1956)
Bukar-Sadong of south-west Sarawak. (Dreba et al. 2007)
Biatah of south-west Sarawak (Nais 1988)
Hliboi of Bengkayang Regency, West Kalimantan
Sungkung of Bengkayang Regency, West Kalimantan

2.6.1 Land Dayak phonological evidence

A list of reflexes of consonant and vowel phonemes is given below. Land Dayak languages present a particularly difficult task in searching for sound correspondences because of the sheer volume of Malayic (either standard Malay or Ibanic) loanwords. In some cases, I was unable to identify reflexes of reconstructed phonemes because of loanword interference.

Table 50

Reflexes of PMP consonants in Land Dayak

| | Ben | Bek | Hli | Sung | Jang | Rib | Sang | Gol | Bid |
|---------|-----------|-----------|---------|-------|--------|---------|--------|------------------------|-------|
| *p- | p | p | p; h/_n | p | p | p | p | p | p |
| *-p- | p | p | p; bb | p; hp | p | p | p | p | p |
| *-p | p | p | p | p | p | ? | p | p | p |
| *t- | t | t | t; (k) | t | t | t | t | t | t |
| *-t- | (n)t | (n)t | t; dd | ht; t | t | t | (n)t | t | t |
| *-t | t | t | t | t | t | ? | t | t | t |
| *-k- | (ŋ)k | (ŋ)k | k | hk; k | k | k | (ŋ)k | (ŋ)k | k |
| *-k | k | ? | k | k | ? | ? | ? | k | k |
| *q- | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q- | ∅ | ∅ | ? | ? | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q | ? | ∅ | ? | ? | ∅ | ∅ | ∅ | ? | ? |
| *b- | b | b | b; CC | b | b | b | b | b | b |
| *-b- | b | b | b; bb | b | b | b | b | b | b |
| *-b | p | | b | b | p | | ? | p? | b |
| *-d/-j- | (n)d | d | d | d | d | d | d | d | d |
| *-d/-j | t | t | d | d | t? | ? | ? | t | d |
| *s- | s | s | s; hl | s | s | c; s | s | s | s |
| *-s- | (n)s | (n)s | s; jj | s | s | s | s | s | s |
| *-s | s | h; s | s | s | s | h? | s? | s | s |
| *l- | r | ɣ | ∅; l? | ∅ | ɣ | h | ɣ | ɾ | r |
| *-l- | r | ɣ | l | l | ɣ | h | ɣ | ɾ | r |
| *-l | ∅ | ∅ | ? | ∅ | ? | ∅? | ∅? | ∅? | ∅ |
| *R- | | | ∅? | | ∅ | ∅ | ? | ∅? | ∅ |
| *-R- | h, (y, r) | h, (y, r) | ∅ | ∅, y | ∅, (y) | ∅, (y) | ?; (y) | ∅; y | ∅ (y) |
| *-R | h, e | h; e | h | | h; (i) | h; ∅(i) | ∅; h? | ∅; (y) | h |
| *-m | pm, m | p; m | pm; m | pm; m | pm; m | pm; m | | p ² m; m | m |
| *-n | tn, n | t; n | tn; n | tn; n | tn; n | tn, n | | t ² n; t; n | n |
| *-ŋ | kŋ, ŋ | k; ŋ | kŋ; ŋ | kŋ; ŋ | kŋ; ŋ | kŋ; ŋ | | k ² ŋ; k, ŋ | ŋ |

Table 51

Reflexes of PMP vowel phonemes in Land Dayak

| | Ben | Bek | Hli | Sung | Jang | Rib | Sang | Gol | Bid |
|--------|-------|--------|-----------|------|-------|-------|---------|-------|-------|
| *-a | aʔ | ɑ(ʔ)/u | əʔh | ih | uh | uh | uh/(ih) | ih | ih |
| *-aC | a [ɑ] | a/ɑ | a/iə | a/ɪ | a | a/o | a | a | a |
| *-aCVC | a | a | i | a | o/a | o/a | o/a | ɔ/a | o/a |
| *-u | uʔ/u | u | əʔh | uh | uh | uh | uh | uh | uh |
| *-uC | u/o | u/o | əu | u | o | u/o | o, u | u | |
| *-uCVC | u | u | Ø,(i,u,a) | u | u/i | u/i | u | u | u/(i) |
| *-i | i(ʔ) | i | əi | i | is | is | ih | ih | is |
| *-iC | i | i | i/iə | i/ε | ε | i/ε | ε/i | i | i |
| *-iCVC | i | i | Ø | i | i | i | i | i | i |
| *-əC | u/(i) | u | o | i | u/o | i/u | u | u/i/i | i/u |
| *-əCVC | a | a | i/Ø/a | a/i | i/u/o | u/i/o | o/u/i/ε | u/i/ə | a/u/i |
| *-ay | e | e | i | i | i | i | i | i | i |
| *-aw | o | o | uy/u | u | u | u | u | u | u |

A particularly noticeable trait in Land Dayak languages is the development of preploded word-final nasals, where *-m > pm, *-n > tn, and *-ŋ > kŋ. In some cases (Bekati for example) preploded nasals were further simplified to p, t, and k. Reconstructing preploded final nasals to Proto-Land Dayak is difficult however, because most of the Bidayuh languages do not show this change. It is unclear where the center of dispersal was for nasal prepllosion in Land Dayak, but it seems to have begun closer to the south, on the Indonesian side of the border where nearly all examples are found. This sound change also spread to non-Land Dayak languages, like Salako and Kendayan, which shows how this particular feature is areal, and therefore has no subgrouping value. Also note that in Bekati I recorded creaky voiced vowels where words were phonemically closed with a glottal stop, thus /-aʔ/ is realized as [-a̰]. It is not clear if this was a peculiarity of my consultant's speech or a wider feature of the language.

The most prominent sound change with subgrouping value in Land Dayak is the shift of *R > *h and *l > r. Many Land Dayak languages reflect *l as ɣ, but this too is areal, and an intermediate stage, *l > *r > ɣ must be assumed. Hliboi and Sungkung are the only Land Dayak languages in this study that do not reflect *l as *r. However, it's unclear whether this is the result of a later change where *r > l, as loan words with r appear as l: Malay *bəras* was borrowed as Hliboi *bilas*, Malay *goreng* as Hliboi *goleŋ*, and Malay *karəna* as Hliboi *kalna*. Although it may have been “undone” in Hliboi through subsequent sound changes, it does not provide the kind of

strong evidence needed to justify a Land Dayak subgroup as it is not attested in all modern Land Dayak languages. There is, however, a robust list of exclusively shared lexical innovations which support Land Dayak. That evidence is listed below.

2.6.2 Land Dayak lexical evidence

*walu > *mahi ‘eight’

Benyadu *mahi?*

Bekati *mahi*

Hliboi *miih*

Sungkung *mai*

Jangkang *mai*

Sanggau *mai*

Ribun *mai*

Golik *mɔi*

Singai *mai*

Biatah *mai*

*siwa > *piray ‘nine’

Benyadu *pere*

Bekati *pere*

Hliboi *piʔi*

Sungkung *piʔi*

Jangkang *piyis*

Ribun *pihi*

Sanggau *peyih*

Golik *puri*

Singai *prii*

Biatah *pirii*

| | |
|----------|---------------------------------------|
| *puluq > | *sima-ŋ/siməŋ ‘ten’ |
| Hliboi | <i>siməwŋ/məwŋ</i> |
| Sungkung | <i>simi</i> (<i>simi-ŋ dui</i> ‘11’) |
| Jangkang | <i>simoŋ</i> |
| Ribun | <i>simuŋ</i> |
| Sanggau | <i>simuŋ</i> |
| Golik | <i>səmiŋ</i> |
| Singai | <i>simuoŋ</i> |
| Biatah | <i>simiŋ</i> |

| | |
|--------------|--------------|
| *qulu > | *abak ‘head’ |
| Benyadu | <i>abak</i> |
| Bekati | <i>aba?</i> |
| Hliboi | <i>bak</i> |
| Sungkung | <i>bahk</i> |
| Jangkang | <i>ba?</i> |
| Ribun | <i>bo?</i> |
| Sanggau | <i>ba?</i> |
| Golik | <i>bak</i> |
| Singai | <i>bak</i> |
| Bukar-Sadong | <i>ba?ak</i> |

| | |
|----------|----------------------|
| *ibəR > | *rayaŋ/ayəg ‘saliva’ |
| Benyadu | <i>arayaŋ</i> |
| Bakati | <i>rayak</i> |
| Jangkang | <i>ɣoyakŋ</i> |
| Ribun | <i>hoyakŋ</i> |
| Golik | <i>royak</i> |
| Hliboi | <i>iog</i> |
| Sanggau | <i>ayig</i> |

*lawas > *uŋan ‘body’

Benyadu *uŋan*

Bekati *ŋan*

Sungkung *ŋanan*

*sakit > *mandam ‘sick’

Benyadu *anapm*

Bekati *anap*

Hliboi *minapm*

Sungkung *manapm*

Jangkang *monapm*

Ribun *monam*

Sanggau *monam*

Golik *monop*

Singai *anam*

Biatah *mandam*

*hawak > *kəpuŋ ‘waist’

Benyadu *apakŋ*

Bekati *apak*

Sungkung *kihpokŋ*

Jangkang *kopokŋ*

Ribun *kopukŋ*

Golik *kopokŋ*

Singai *kupuŋ*

Biatah *kupuŋ*

Bukar-Sadung *kupuŋ*

*takəd > *kajaʔ ‘leg’

Benyadu *kajaʔ*

Bekati *kajaʔ*

Sungkung *kajaʔ*

Jangkang *kojoʔ*

Ribun *kojo*

Sanggau *koja*

Golik *kojaʔ*

Biatah *kaja*

Bukar-Sadong *kajaʔ*

*sijəm > *subay ‘ant’

Benyadu *sube*

Bekati *sube*

Hliboi *bbi*

Jangkang *subi*

Ribun *subi:*

Sanggau *subi:*

Golik *subi:*

Singai *subi*

Bukar-Sadong *subi*

*ñamuk > *parunʔaŋ ‘mosquito’

Benyadu *parunʔakŋ*

Hliboi *munʔakŋ*

Sungkung *plunʔakŋ*

Jangkang *poʔunʔakŋ*

Ribun *puhunʔakŋ*

Sanggau *poʔŋaŋ*

Golik *pərunʔak*

Singai *pirunʔaŋ*

*qanitu > *(a)mut ‘ghost’

Benyadu *amot*

Bekati *amot*

Jangkang *munt*

Ribun *munt*

Sanggau *munt*

Golik *mũõt*

*panas > *paras ‘hot’

Bekati *payas*

Hliboi *pilas*

Sungkung *palis ?*

Golik *pəɾəs ?*

Singai *paras/poras*

*wahiR/danum > *paʔin/piʔin ‘fresh water’

Benyadu *paitn*

Bekati *paitn*

Hliboi *piʔitn*

Sungkung *piʔitn*

Ribun *piikŋ*

Sanggau *pikŋ*

Golik *pitn*

Singai *piin*

*qapuR > *buñu ‘lime’

Benyadu *buñu?*

Bekati *biñu?*

Jangkang *buñuh*

Ribun *biñuh*

Golik *biñuh*

Sangai *buñux*

*baɲun > *məŋkat/maŋkat ‘wake up’

Bekati *makat*

Hliboi *mikat*

Sungking *mahkat*

Jangkang *moŋkat*

Ribun *moŋka?*

Sanggau *moŋkat*

Golik *moŋkat*

Sangai *məkat*

*baʔay ‘parang’

Benyadu *bae*

Bekati *bae*

Jangkang *bai*

Ribun *bai*

Sanggau *bai*

*qitəm > *siŋət ‘black’

Bekati *suŋut*

Hliboi *hŋuət*

Sungkung *siŋit*

Golik *siŋət*

Bau *siŋit*

| | | |
|----------|---|---------------|
| *taqun | > | *sawa? ‘year’ |
| Bekati | | <i>sawa?</i> |
| Hliboi | | <i>siwa?</i> |
| Sungkung | | <i>sawa?</i> |
| Golik | | <i>sowa?</i> |
| Sanggau | | <i>sowa</i> |
| Bau | | <i>sawa?</i> |
| Singhi | | <i>sowa</i> |

2.6.3 Land Dayak internal subgrouping

The Land Dayak languages are more than diverse enough to warrant an internal subgrouping. The most recent and most comprehensive attempt is Rensch et al. (2012), but the document is difficult to comprehend for the following reasons. On the one hand, Rensch et al. (2012:130) defends the view that Bidayuh and Bekati share an immediate common ancestor, which he names Proto-Bedayuh-Bekati, while the Southern Land Dayak languages combine with Bidayuh-Bekati forming the Land Dayak subgroup. Rensch et al. (2012:226-242) even reconstructs the phonology of a putative Proto-Bedayuh-Bekati. Thus, the wording, organization, and reconstructed proto-languages of Rensch et al. (2012) seem to support the following tree:

Figure 40

Internal subgrouping of Land Dayak according to Rensch et al. (2012)

PROTO-LAND DAYAK

- 1 Bedayuh-Bekati
- 2 Southern Land Dayak

However, a tree with three primary branches (1 Bedayuh 2 Bekati 3 Southern Land Dayak) is shown on page 210. Also, Rensch et al. (2012:211), using an assumption made in Bryant (1990), includes Kendayan in his reconstruction of Proto-Bekati despite fairly robust literature showing beyond any reasonable doubt that Kendayan is a Malayic language (Adelaar 1992a, b, Hudson 1970, 1978). Because of these issues, a new internal subgrouping of Land Dayak is presented

below. The evidence is phonological, and supplemented with lexical evidence wherever possible. Essentially, the phonological and lexical evidence agree that while Proto-Land Dayak most likely diverged in a two way split, Bidayuh and Southern Land Dayak languages are more closely related to each other than either are to Bekati. A tree summarizing the position defended below follows:

Figure 41

Internal subgrouping of Land Dayak as argued in this section

PROTO LAND DAYAK

1 Benyadu-Bekati

2 Bidayuh-Southern Land Dayak

The major piece of evidence grouping Benyadu and Bekati together against all other Land Dayak languages is the full merger of *ə with *a in the penultimate syllable. Other Land Dayak languages show a split in reflexes of schwa. To summarize, *ə and *a merged after all onset consonants *except* the labial stops. This odd conditioned split provides a strong piece of evidence to separate Bidayuh and Southern Land Dayak languages from Benyadu-Bekati. Benyadu-Bekati is also defined by the innovation of glottal stop to close final open syllables and the coalescence of *-ay to *-e and *-aw to *-o. Bidayuh-Southern Land Dayak is supported, in addition to the split in reflexes of penultimate schwa, by raising of *-a to *-i, closing of final open syllables with *h, coalescence of *-ay to *-i and *-aw to *-u. Other sound changes, which are found in specific languages in B-SLD are discussed more throughout this section. The following table highlights these major sound changes.

Table 52

Summary of sound changes in Land Dayak

| | Ben | Bek | Hli | Sung | Sing | Biat | B-S | Jang | Rib | Sang | Gol |
|-----------------|-----|-----|-----|------|------|------|-----|------|-----|------|-----|
| *əCVC > a | YES | YES | | | | | | | | | |
| *-V > -Vʔ | YES | YES | | | | | | | | | |
| *aw, *ay > o, e | YES | YES | | | | | | | | | |
| *aw, ay > u, i | | | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| *-a > *ih | | | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| *-u > *uh | | | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| schwa split | | | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| *ih > uh | | | | | | | | YES | YES | YES | |
| *-aCVC > o/a | | | | | YES | | | YES | YES | YES | YES |
| *-i > *ih | | | | | YES | YES | YES | YES | YES | YES | YES |
| *-i > -itn | | | YES | YES | | | | | | | |

2.6.3.1 A More Detailed look at Land Dayak reflexes of Schwa

The following table is meant to illustrate how *ə is reflected in the penultimate syllable of various Land Dayak languages. It should be read as follows: the leftmost column contains PMP words with schwa in the penultimate syllable and to its right, reflexes of penultimate schwa are given. In order to fit all of the languages into one table, only the reflex of schwa, and not the entire word, are printed in the table (see the appendix for full words). Several words with *a in the penultimate syllable are also presented in the table below, *lamin, *pajay, *hapuy, *paku, *batu, *tanəq, to make clear that some Land Dayak languages have merged schwa with *a in the penultimate syllable. The reconstructed form *kəbəs ‘to die’ is not from PMP, but evidence from Melanau, Kajang, Punan, and Müller-Schwaner support the reconstruction *kəbəs. This example illustrates *ə merging with *a after a velar. The form *pədeʔ ‘salty’ is also a PLD reconstruction.

Table 53

Reflexes of penultimate schwa in Land Dayak

| | Ben | Bek | Hli | Sung | Biat | B-S | Jang | Rib | Gol | Sang | Sing |
|---------------------|-----|-----|-----|------|------|-----|------|-----|-----|------|------|
| *bəsUR ‘satiated’ | a | a | ∅ | i | i | - | u | u | i | u | u |
| *pənuq ‘full’ | a | a | ∅ | i | u | - | u | u | u | u | u |
| *bəli ‘buy’ | a | a | ∅ | i | i | - | i | i | i | i | i |
| *bətis ‘calf’ | a | a | ∅ | - | i | i | i | - | - | - | i |
| *pəde? ‘salty’ | a | a | ∅ | i | i | - | - | - | i | - | - |
| *qapəju ‘gall’ | a | a | i | u | u | - | u | u | u | u | u |
| *təbəŋ ‘fell’ | a | a | i | a | a | - | i | i | - | i | o |
| *təbuh ‘s. cane’ | a | a | i | a | a | a | o | o | o | o | o |
| *təlu ‘three’ | a | a | a | a | a | - | o | a | a | o | a |
| *təRas ‘ironwood’ | - | - | a | a | a | - | a | a | a | - | a |
| *dəpa ‘fathom’ | a | - | - | a | a | a | - | o | - | - | o |
| *təbək ‘pierce’ | - | - | - | a | a | - | - | - | - | - | o |
| *kəbəs ‘to die’ | a | a | i | a | a | - | o | o | o | o | - |
| *lamin ‘room’ | a | a | | a | a | a | o | o | o | o | o |
| *pajay ‘field rice’ | a | a | i | a | a | a | o | o | o | o | a |
| *hapuy ‘fire’ | a | a | i | a | a | a | o | o | o | o | o |
| *paku ‘fern’ | a | a | i | a | a | - | o | - | o | o | o |
| *batu ‘stone’ | a | a | a | a | a | - | o | o | a | o | a |
| *tanəq ‘land’ | a | a | a | a | a | a | - | - | a | - | a |

As can be seen in the above table, reflexes of penultimate schwa in Bekati and Benyadu show a merger of *ə and *a¹³. The Bidayuh-Southern Land Dayak languages, however, show a split. Penultimate schwa in *təbu ‘sugarcane’ is reflected with *i* in Hliboi, *a* in Sungkung, Biat, and Bukar-Sadong, and with *o* in the Southern Land Dayak languages, as well as in Singai. The same correspondences are found with reflexes of *a in penultimate position from *paku ‘fern’, *hapuy ‘fire’, and *pajay ‘field rice’ indicating that in *təbəŋ, *təbuh, *təlu, *təRas, *dəpa, and *təbək penultimate schwa had merged with *a. Penultimate schwa in *bəli ‘to buy’ however, is deleted in Hliboi, and is reflected with *i* everywhere else, while schwa from *pənuq ‘full’ and *bəsUR ‘satiated’ is deleted in Hliboi, again, reflected with *i* in Sungkung, and with *u* everywhere else.

¹³ Note that *qatəluR ‘egg’ has an irregular reflex throughout Land Dayak. It likely underwent vowel metathesis, and became *tuləR, which is reflected in Benyadu *turah*, Bekati *tuyah*, Sungkung *tulah*, Jangkang *tuyo*, Singai *turuoh*, Ribun *tuhu*, and others. As such, reflexes of *təluR were removed from the above table.

Generally, schwa after *p, or *b was deleted in Hliboi, is reflected with *i* in Sungkung, and assimilated to the place of the following vowel in other languages. These correspondences are not perfect, but there is nevertheless a clear split between Schwa after *p and *b, and schwa after other consonants. This evidence is summarized in figure 42, below.:

Figure 42

Important sound changes for Land Dayak internal subgrouping

In Benyadu-Bekati:

Penultimate *ə and *a merged everywhere

In Bidayuh-Southern Land Dayak:

Penultimate *ə did not merge with *a after *p or *b

Penultimate *ə and *a merged everywhere else

2.6.3.2 Lexical Evidence for a Benyadu-Bekati subgroup.

In addition to reflexes of schwa and *a, a set of lexical replacement innovations in Benyadu and Bekati that are absent in all other Land Dayak languages support a Benyadu-Bekati branch. The list is given below.

*kamu > *(a)kum ‘you all’

Benyadu *akupm*

Rara *kupm*

Bekati *kup*

*talinga > *rajak ‘ear’

Benyadu *rajak*

Rara *rajak*

Bekati *raya?*

*away/daqih > *bahas ‘face’

Benyadu *bahas*

Rara *bahas*

Bekati *bahas*

*zəlaq > *rataʔ ‘tongue’

Benyadu *rataʔ*

Rara *rataʔ*

Bekati *yataʔ*

*taŋan > *bariŋ ‘hand’

Benyadu *barekŋ*

Rara *barekŋ*

Bekati *bayek*

*buqaya > *buraw ‘crocodile’

Benyadu *buro*

Rara *burow*

Bekati *buyo*

PWIn *kəRiw > *unteʔ ‘orangutan’

Benyadu *unteʔ*

Rara *unteʔ*

*siaŋ > *ŋakap ‘morning’

Benyadu *ŋakap*

Bekati *ŋakap*

*ñantak ‘jump’

Benyadu *ñantak*

Bekati *ñantak*

*um-aRi > *(u)tuk ‘come’

Benyadu *utukŋ*

Bekati *tuk*

hikam/-amak > *biday ‘mat’

Rara *bidey*

Bekati *bede*

*taŋis > *munse? ‘to cry’

Benyadu *munse?*

Bekati *munse?*

2.6.3.3 Internal subgrouping of Bidayuh-Southern Land Dayak

Within BSLD, the picture is less clear. There are two possible subgroupings, 1) Hliboi and Sungkung form a subgroup against all other BSLD languages which show the change *-i > *-ih, or 2) based on lexical evidence Hliboi, Sungkung, Central Bidayuh (Biatah), Bukar-Sadong Bidayuh, and Western Bidayuh (Bau, Singai) form a subgroup against all other BSLD languages, which also show a split in reflexes of *a in penultimate position between *a* and *o*. In this study, subgroup 2 seems like the most strongly supported, and this has to do with the interpretation of *-i > *-ih.

2.6.3.3.1 Reflexes of *-i in Bidayuh-Southern Land Dayak

In several languages, *-i is reflected with either *-ih* or *-is*. The words ‘rope’ and ‘to buy’ provide good examples:

PMP **tali* ‘rope’

Jangkang *toyis*

Ribun *tohis*

Singai *toris*

Golik *torih*

Sanggau *toyih*

| | |
|----------|---------------|
| PMP | *bəli ‘buy’ |
| Jangkang | <i>miyis</i> |
| Ribun | <i>mihis</i> |
| Singai | <i>miris</i> |
| Biatah | <i>miris</i> |
| Golik | <i>mirih</i> |
| Sanggau | <i>mbeyih</i> |

Reconstructing PBSLD *ih in this case, and not *is, is dependent on understanding the phonetics of *-ih* in Golik and Sanggau, as well as the phonetics of *-uh* in Singai and Golik. Without any further knowledge, the data for ‘rope’ and ‘to buy’ suggest PBSLD *is, which would have then weakened to *-ih* in Golik and Sanggau (a universally common sound change). However, it is more likely the case that PBSLD added *h after all final vowels, where *-a > *ih, *-u > *uh, and *i > *ih. As evidenced by my own field notes as well as Reijffert (1956), *-uh was likely pronounced as [ux] (as it still is in at least Golik and Singai) and *ih as [iç] (as it still is in Golik and Sanggau). In languages that reflect *-i with *-is*, the perceptively distinct sound [ç] was fronted, and merged with phonemic *s. The history of this sound change is presented below in figure 43. It is an interesting case, as it provides at least one example of a counter-intuitive sound change where *-h becomes *-s.

Figure 43

*Historical derivation of *-s from *-h in Land Dayak*

| | | | |
|----------------------|------|--------|--------|
| PMP | *-a | *-u | *-i |
| raise *-a | *-i | - | - |
| add *h | *-ih | *-uh | *-ih |
| assimilate for place | - | *-[ux] | *-[iç] |
| merge *[ç] and *s | - | - | *-is |

This scenario has the benefit of having all open final syllables closed with a single sound change, *-V > *-Vh rather than several, *a > *-ih, *-u > *ux, > *-i > *-is. It also avoids positing an odd historical change where *-Ø > *-s. Assimilation of word-final *h to the preceding vowels is quite expected, and proposing it here should be non-controversial. The critical step, *iç > *-is is less common, but nevertheless phonetically and perceptually motivated.

What is interesting about this proposed sequence of sound changes is that several seemingly separate languages, Jangkang and Ribun of the Southern Land Dayak group and Singai (a Bau Bidayuh dialect), Biatah, and Bukar-Sadong of the Bidayuh group show the change *-ih > *-is but Golik, Simpang, and Sanggau do not. It is unlikely that Golik, Simpang, and Sanggau had *-is at one point, and reduced it to *-ih*, as word-final *-s was not deleted in what appear to be native vocabularies; Sanggau *botis* ‘calf of the leg’, Golik *kəbis* and Sanggau *kəbis* ‘death; to die’, and Sanggau *nojis* ‘to cry’. So it is unlikely that *-s from *[-ç] was found in the immediate ancestor of these languages. Rather, *[-iç] became *-is* at least twice, once in the Bidayuh languages, and at least once in the immediate ancestor of Jangkang and Ribun.

To return to the original point, the fact that *-ih became *-is in what appear to be phonetically motivated parallel developments provides a good argument *against* subgrouping 1) where Hliboi and Sungkung are separated from all other BSLD languages because they do not show reflexes of *-ih. It is likely that Hliboi and Sungkung, which share many lexical innovations exclusively with the Bidayuh group, and not with the Southern Land Dayak group, deleted *[-ç] after *i because of its phonetic uniqueness when compared to the languages’ general phonologies. This interpretation means that reflexes of *-ih in Jangkang, Ribun, Golik, Sanggau, Simpang, Singai, Biatah, and Bukar-Sadong are retentions, while Hliboi and Sungkung are the innovative languages. As a retention from PBSLD, the presence of *-h* and *-s* (from *-h) after historically final vowels cannot be used to group Bidayuh languages with Southern Land Dayak to the exclusion of Hliboi and Sungkung. Figure 44 demonstrates the history of *-h in four BSLD languages.

Figure 44

Historical derivation of -h and -s in four Land Dayak languages

| | Hliboi | Singai | Golik | Ribun |
|------------------|--------|--------|--------|--------|
| PLD | *-i | *-i | *-i | *-i |
| add *h | *-ih | *-ih | *-ih | *-ih |
| assimilate place | *-[iç] | *-[iç] | *-[iç] | *-[iç] |
| merge/delete *ç | *-i | *-is | *-[iç] | *-is |
| result | -i | -is | ih | is |

2.6.3.3.2 A complication in reflexes of *-i

The evidence presented so far has been fairly straightforward, in that *-h was added after all final vowels in Bidayuh-Southern Land Dayak, and interacted with the frontness and backness of *i and *u to give allophonic variation which is responsible for apparent *-i > *-is sound changes in several languages. If *-h was added to Hliboi and Sungkung, it follows that it must have later been deleted after *i, as there is no trace of it. However, Hliboi and Sungkung show a peculiar insertion of *-n *only* after *-i. This consonant insertion does not seem to be morphological as it is found on verbs and nouns, and the phonetic motivation for its addition is very puzzling. The following examples show reflexes of word-final *-i that were closed with *-n (note that *-h in PMP had deleted before PLD, so its presence in PMP *kalih does not pose a problem)

PMP *bəli ‘buy’

Hliboi *mlitn*

Sungkung *bilin*

PMP *tali ‘rope’

Sungkung *talitn*

PMP *kalih ‘dig’

Hliboi *kalitn*

It is not immediately clear what could have motivated Hliboi and Sungkung to close *-i with *-n, but it adds another complication to the assumption that *-i became *-ih, then became *-i only to be closed yet again with *-n. This issue deserves further research.

2.6.3.3.3 Lexical evidence for a Bidayuh-Southern Land Dayak group

There is a short list of lexical innovations which seem to support Bidayuh-Southern Land Dayak, which is presented below.

*həmay > *tubi? ‘cooked rice’

Hliboi *bi?*

Sungkung *tibi?*

Jangkang *tubi?*

Ribun *tubi?*

Sanggau *tubi?*

Singai *tubi*

Biatah *tubi?*

Bau *tubi?*

*aRi ‘come’/ *datəŋ ‘arrive’ > *nəg ‘come; arrive’

Sungkung *manig*

Jangkang *moni?*

Ribun *monik*

Golik *mənik*

Sanggau *moni?*

Singai *nug*

Biatah *nig*

Bau *nig*

*tujaw > *guru? ‘to sit’

Hliboi *gləw?*

Sungkung *gulu?*

Golik *ɲuru?*

Singai *guru*

Biatah *guru?*

Bau *guru?*

*diRi ‘ > *məjug ‘stand up’

Hliboi *njuʒg*

Sungkung *mijog*

Golik *micok*

Singai *mojug*

Biatah *mijog*

Bau *mijog*

*tuqu > *adug ‘true; correct’

Sungkung *dog*

Jangkang *odu?*

Ribun *ɔduk*

Golik *dok*

*putiq > *buda? ‘white’

Hliboi *dda?*

Sungkung *buda?*

Golik *buda?*

Bau *buda*

| | | |
|----------|---|--------------|
| *ka-wiRi | > | *bait ‘left’ |
| Sungkung | | <i>mait</i> |
| Jangkang | | <i>moet</i> |
| Ribun | | <i>moi?</i> |
| Golik | | <i>moit</i> |
| Singai | | <i>bait</i> |

2.6.3.3.4 Lexical evidence for a Bidayuh group which includes Hliboi and Sungkung

The following list of lexical replacement innovations supports the conclusions drawn from phonological evidence, that Hliboi and Sungkung should be placed in the Bidayuh group.

| | | |
|----------|---|-------------------------|
| *kami | > | *kaʔih ‘we (exclusive)’ |
| Hliboi | | <i>kiʔih</i> |
| Sungkung | | <i>keʔeh</i> |
| Singai | | <i>kais</i> |

| | | |
|----------|---|--------------|
| *taliŋa | > | *kajit ‘ear’ |
| Hliboi | | <i>kijit</i> |
| Sungkung | | <i>kajit</i> |
| Singai | | <i>kojit</i> |
| Biatah | | <i>kajit</i> |

| | | |
|--------------|---|--------------------------|
| *lipəs | > | <i>papaŋ</i> ‘cockroach’ |
| Hliboi | | <i>papakŋ</i> |
| Sungkung | | <i>pahpakŋ</i> |
| Bau | | <i>ripapaŋ</i> |
| Bukar-Sadong | | <i>papeŋ</i> |

| | | |
|--------------|---|---------------|
| *badas/pasiR | > | *səmat ‘sand’ |
| Hliboi | | <i>hmiət</i> |
| Sungkung | | <i>sumat</i> |
| Singai | | <i>sumat</i> |
| Biatah | | <i>sumat</i> |

| | | |
|--------------|---|-------------------|
| *bukij | > | *daləd ‘mountain’ |
| Hliboi | | <i>dilod</i> |
| Sungkung | | <i>dalid</i> |
| Singai | | <i>dorud</i> |
| Biatah | | <i>darid</i> |
| Bukar-Sadong | | <i>darid</i> |

| | | |
|------------|---|--------------------------|
| *ma-dinḍin | > | *madud ‘cold’ |
| Hliboi | | <i>midud</i> |
| Sungkung | | <i>madudⁿ</i> |
| Singai | | <i>madud</i> |
| Biatah | | <i>madud</i> |

| | | |
|----------|---|-------------------|
| *lutən | > | *siru? ‘firewood’ |
| Hliboi | | <i>hləw?</i> |
| Sungkung | | <i>silu?</i> |
| Singai | | <i>siru</i> |

2.6.4 Summary

Land Dayak presents a challenging exercise in internal subgrouping, both because of the large number of borrowings found throughout the subgroup, and because of the challenging historical developments in native vocabulary. In the family tree presented below, the primary division between Benyadu-Bekati and Bidayuh-Southern Land Dayak is well supported. Internal divisions within Bidayuh-Southern Land Dayak are more open to debate, but the evidence does seem to point to the following proposal:

Figure 45

Land Dayak internal subgrouping

PROTO LAND DAYAK

1 Benyadu-Bekati

Benyadu

Bekati

Rara

Sara

2 Bidayuh-Southern Land Dayak

a. Bidayuh

Hliboi

Sungkung

Bau-Jagoi

Biatah

Bukar-Sadong

b. Southern Land Dayak

Jangkang

Ribun

Golik

Sanggau

Simpang

Although the data suggests that Hliboi and Sungkung form a subgroup within Bidayuh, a more detailed classification of Land Dayak is too focused for this work, and will have to await further research and publication. Specifically, future work on these languages will need to investigate the position of Hliboi and Sungkung in general. Although both seem to be part of Bidayuh-Southern Land Dayak, odd reflexes of *-i will likely cause some to question the above tree.

2.6.5 More on Hliboi Bidayuh

Of the Land Dayak languages that I worked with for this dissertation, Hliboi is the most phonologically innovative. Additionally, the term “Hliboi” appears nowhere in the literature, and it is not clear at this point if this particular variety has been described in any detail. The following is a very brief sketch of the phonology, where I give basic inventories plus a short discussion of some features of Hliboi which are not found in most other Land Dayak languages.

2.6.5.1 Consonants

Hliboi has a fairly standard inventory of consonants, four voiceless obstruents, four voiced obstruents, including a voiced palatal stop *j*, four nasals, two fricatives, the glides *w* and *y*, and *l*. Note that *r* is not found in Hliboi, and loanwords with *r* are altered to *l* in order to fit Hliboi’s phonology.

Table 54

Hliboi consonant inventory

| | labial | alveolar | palatal | velar | glottal |
|--------------------|--------|----------|---------|-------|---------|
| voiceless plosives | p | t | | k | ʔ |
| voiced plosives | b | d | j [j] | g | |
| nasals | m | n | ɲ | ŋ | |
| fricatives | | s | | | h |
| laterals | | l | | | |
| glides | w | | y | | |

2.6.5.1.1 Geminate consonants

Hliboi is unique among Land Dayak languages in having word-initial geminates. In fact, Hliboi and Sa’ban, a Dayic language in northern Sarawak, are the only known languages in Borneo with geminates *only* in initial position. The voiced obstruents *b*, *d*, *j*, and *g*, as well as the nasals *m*, *n*, *ɲ* and *ŋ* can be geminated in the onset of monosyllabic words. No examples of *ll* in word-initial position were recorded. Some of the words have clear etymologies, where it appears that deletion of penultimate non-low vowels caused a consonant cluster, which was simplified to a single geminate:

Figure 46

Historical derivation of Hliboi initial geminates

| | | | | |
|-------------------------|---|-------|---|--------------|
| *bəsUR ‘full, satiated’ | > | *bsuh | > | <i>jjuh</i> |
| *lubəŋ ‘hole’ | > | *lbaŋ | > | <i>bbakŋ</i> |
| *bətis ‘calf’ | > | *bdis | > | <i>ddiəs</i> |
| *lumut ‘moss’ | > | *lmut | > | <i>mmuət</i> |
| *nunuk ‘banyan’ | > | | | <i>nnuk</i> |

Gemination in the onset of monosyllabic words is not automatic, and initial geminate voiced stops contrast with initial singleton voiced stops. The following examples of short voiced stops clearly show this:

Figure 47

Singleton stops in initial position in monosyllabic words in Hliboi Bidayuh

boək ‘head hair’ (from *buhək > *buk > *boək*)

dip ‘alive’ (from *qudip > *udip > *dip*)

bak ‘head’

diəh ‘flat area; plain’

gop ‘enough’

juəy ‘seven’

2.6.5.1.2 Voiceless sonorants

Hliboi also has a series of voiceless sonorants that are historically derived from consonant clusters which formed when a penultimate non-low vowel was deleted, creating a voiceless obstruent-sonorant cluster. These clusters were then simplified, where the obstruent became *h, partially devoicing the following sonorant.

Figure 48

Voiceless sonorants in Hliboi Bidayuh

hlatus ‘one hundred’ (possibly a borrowing from Malay *səratu*)

hləwtɲ ‘fingernail’ (from *silu-n > *slun > *sləwtɲ*)

hnuɲʔ ‘full’ (from *pənuq > *pnuʔ > *hnuɲʔ*)

hɲuɲt ‘black’ (from *suɲut > *sɲut > *hɲuɲt*)

hmiɲʔ ‘food’

These sonorants are only partially devoiced, and while the same is also true for the voiceless series in Merap, in Hliboi the voiceless part of the sonorant is quite short, with most of the sonorant being voiced. Thus, these seem to be true consonant clusters, rather than an independent voiceless sonorant series.

2.6.5.2 Vowels

Hliboi has nine vowels, including diphthongs. Interestingly, schwa was historically deleted, or has merged with *a*, and there are no examples of schwa in native vocabulary. Schwa does appear, however, in loanwords.

Table 55

Hliboi vowel inventory

| | Front | Central | Back |
|------|-----------------------------|---------------|--------------------------|
| High | i [ə̣i, iɲ, ɪ] ey [ịei] | | u [ə̣u, uɲ] uy [ụɲy] |
| Mid | e | (ə) əw | o |
| Low | | a ay, (aw) | |

Stress in Hliboi Bidayuh is word-final and strong. Stress correlates are intensity and length, which over time has altered the phonetics of Hliboi vowels. The vowels are rarely realized as pure vowels, rather, they are almost always diphthongal. High vowels have a lowered nucleus in word-final position (*i > ə̣i and *u > ə̣u). In closed syllables, high and mid vowels have

developed a mid-central offglide, *i > i̯, e̯ and *u > u̯, o̯), but before glottal stop and h *u > əu. Before alveolars, particularly -n and -t, i is often realized as ɪ. Some examples are found in figure 49 below.

Figure 49

Allophonic variation of high vowels in Hliboi

| | |
|----------|---|
| /mlitn/ | [ˈmlɪtn̩] ‘to buy’ |
| /ddis/ | [ˈddi̯əs̩] ‘calf’ |
| /bati/ | [baˈtəi̯] ‘rest’ |
| /lai/ | [laˈəi̯] ‘ginger’ |
| /ndus/ | [ˈnduəs̩] ‘sweat’ |
| /ŋkuʔub/ | [ŋkuˈʔu̯əb̩] ‘to lie prone on the ground’ |
| /njuʔ/ | [ˈnju̯əʔ] ‘to point’ |

2.6.5.3 Summary of Hliboi phonology

The phonology of Hliboi Bidayuh is an important topic in the larger context of language change in Borneo. The development of voiceless sonorants in Hliboi directly parallels the development of voiceless sonorants in aberrant languages farther inland, including Sa’ban and Merap, which show remarkable similarities in reflexes of *pənuq ‘full’, as demonstrated in figure 50 below.

Figure 50

*Similarities in reflexes of *pənuq ‘full’ as a product of drift in Sa’ban, Merap, and Hliboi*

| | |
|--------|--------|
| Sa’ban | hnoʔ |
| Merap | hnaɯ |
| Hliboi | hnu̯əʔ |

The development of geminates only in initial position also appears in Sa’ban (Blust 2001) and the emergence of vowel breaking in Hliboi appears in several stress-final languages to its north, including Berawan-Lower Baram, Segai-Modang, and Sa’ban. What makes Hliboi stand out, however, is that its vowel inventory is phonemically average, or slightly above average,

depending on how one interprets word-final diphthongs. While Sa'ban and Merap have undergone dramatic sound changes, Hliboi still appears to be in an earlier stage of development; from a typical Austronesian language with weak stress to an aberrant language with strong word-final stress. A detailed historical phonology of Hliboi, too large to attempt here, will be invaluable for those interested in charting the development of stress-final languages in this area.

2.7 THE BARITO LANGUAGES

The Barito languages are found largely in the province of Central Kalimantan, with a population in western East Kalimantan. Primary data includes data on languages from each of Barito's main subgroups. Absent, however, is Malagasy data. Dahl (1951) first showed that Malagasy and Maanyan shared an immediate common ancestor, and over time, the fact that Malagasy subgroups not only with Maanyan, but with Southeast Barito languages in general (Maanyan and the Barito "Dusun" languages) has gained wide acceptance (Hudson 1967, Adelaar 1989). Thus, any subgrouping inferences in the following section also apply to Malagasy, despite an absence of Malagasy primary data.

Figure 51

Barito Languages

Ngaju (Ngj) of the Kahayan river, Central Kalimantan
Kapuas (Kap) of the Kapuas River, Central Kalimantan
Bakumpai (Bak) of the Barito River, Central Kalimantan
Kadorih (Kad) of the far interior headwaters of Central Kalimantan
Maanyan (Maan) of South Barito Regency, Central Kalimantan
Dusun Witu (Dus W) of South Barito Regency, Central Kalimantan
Dusun Bayang (Dus B) near Muala Teweh, Central Kalimantan
Bentian (Bent) of far eastern Central Kalimantan
Taboyan (Tab) of far eastern Central Kalimantan
Paser (Pas) of Paser Regency, East Kalimantan
Lawangan (Law) of far eastern Central Kalimantan
Benuaq (Ben) of West Kutai Regency, East Kalimantan
Tunjung (Tun) of West Kutai Regency, East Kalimantan

Hudson (1967) remains one of the most complete comparative works on Barito languages. The basic subgrouping is laid out in his volume, which argues for three major Barito subgroups based on a combination of the comparative method with lexicostatistical data. His basic proposal is found on page 14, and is reprinted below.

Figure 52

The Barito subgroup according to Hudson (1967)

BARITO

Barito-Mahakam (Tunjung)

West Barito

East Barito

The Barito languages presented below fit into Hudson's classification as follows:

Barito-Mahakam – Tunjung

West Barito – Bakumpai, Kapuas, Kadorih

East Barito – Benuaq, Taboyan, Dusun Witu, Dusun Bayang, Maanyan

2.7.1 Barito phonological evidence

In the space below, I will attempt to justify a Barito subgroup with phonological evidence. First, reflexes of PMP consonants and vowels are given in the two tables below. Note that Yakan appears as a representative of Sama-Bajaw, which are considered part of Greater Barito (Blust 2007b).

Table 56

Reflexes of PMP consonants in Barito

| | Kad ¹⁴ | Ngj | Kap | Yak | Maan | DusW | DusB | Tab | Ben | Tun |
|------|-------------------|------|-------|------|------|------|------|------|------|------|
| *-p- | ^h p; p | p | p | p | p | p | p | p | p | p |
| *-t- | ^h t; t | t | t | t | t | t | t | t | t | t |
| *-k- | ^h k; k | k | k | k | k | k | k | k | k | k |
| *q- | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q- | ∅ | ∅ | ∅ | ʔ | ʔ | ʔ | ∅ | ∅ | ∅ | ∅ |
| *-q | ʔ | ʔ | ʔ | ʔ | ʔ | ʔ | ʔ | ∅ | ∅ | ʔ |
| *b- | b | b | b | b | w | w | w | b | b | b; w |
| *-b- | v | w; β | w | b; w | w | w | w | w | w | w |
| *-b | p | p | p | p | p | p | w | w | w | w? |
| *d- | d | d | d | d; l | r | r | r | d | d | r |
| *-d- | r | r | r | r | r | r | r | r | r | r |
| *-d | t | r | r | t | t | t | t | r | r | r |
| *-j- | r | r | r | r; d | r | r | r | r | r | r |
| *-j | t | r | r | t | t | t | t | r | r | r |
| *z- | j, c | j | j | l | r | r | r; d | d; l | d; l | c |
| *-z- | j, c | j | j | l; d | r | r | r | r | r | c |
| *s- | s | s | s | s | h | h | s | s | s | s |
| *-s- | s | s | s, ŋs | s | h; s | h; s | h; s | s | s | s |
| *-s | yh | s | s | s | h; s | h; s | h | s | s; h | ∅; h |
| *l- | r | l | l | l | l; d | l; d | l | l | l | l |
| *-l- | r | l | l | l | l; d | l; d | l | l | l | l |
| *-l | n | l | l | l | n | n | n | r | r | r |
| *R- | h | h | h | h | | | | | | h |
| *-R- | h | h | h | h | ∅; y | ∅; y | h; y | y | y | h |
| *-R | h | h | h | ∅ | y | y | y | y | y | ∅; h |
| *y | c | y | y | y | y | y | y | y | y | j |
| *w | ∅ | w | w | w | w | w | w | w | w | g |

¹⁴ Kadorih typically reflects medial voiceless plosives with preaspiration. Thus, *aku 'I; me' became Kadorih *a^hkuʔ*. A short list of exceptions, however, prevents one from analyzing this as a completely regular sound change (see data list in the appendix).

Table 57

Reflexes of PMP vowels in Barito

| | Kad | Ngj | Kap | Yak | Maan | Dus W | Dus B | Tab | Ben | Tun |
|--------|------------|-----|-----|------|------|-----------|-----------|-----|------|------|
| *-a | oʔ; eʔ; aʔ | eʔ | eʔ | e | e | e | e | əʔ | aʔ | aʔ |
| *-aC | a; o | a | a | a | a | a | a | a | a | a |
| *-aCVC | a; o | a | a | a | a | a | a | a | a | a |
| *-u | uʔ | uʔ | uʔ | u | u | u | u | uʔ | uʔ | uʔ |
| *-uC | u | u | u | u; o | u | u | u | u | u | u; o |
| *-uCVC | u | u | u | u; o | u | u | u | u | u | u; o |
| *-i | iʔ | iʔ | iʔ | i | i | i | i | iʔ | iʔ | iʔ |
| *-iC | i | i | i | i; e | i | i | i | i | i | i |
| *-iCVC | i | i | i | i; e | i | i | i | i | i | i; e |
| *-əC | o | e | e | e | e | e; (o) | e; (o) | ə | ə; a | a |
| *-əCVC | o | e | e | e | e; i | e; i; (o) | e; i; (o) | o | o | ə; a |
| *-ay | oy | ey | ey | ey | ey | ey | ey | e | e | ay |
| *aw | ow | aw | aw | ew | aw | aw | aw | o | o | aw |

Justifying a large Barito subgroup which includes West Barito, East Barito, and Tunjung, is difficult with phonological evidence. The voiceless stops appear to have changed little, with *q reflected as *Ø/-ʔ/-ʔ, and no changes to *p, *t, and *k. The voiced stops *b, *d, and *j might have weakened in intervocalic position in a hypothetical Proto-Barito language, but Yakan evidence complicates this assumption (table 56 above). Because *R is reflected as *h* and *y* in different Barito languages, it was probably retained as *R in Proto-Barito (assuming that *R represents an alveolar trill as opposed to *r, a flap). In the vowels, the only change which might be reconstructed to Proto-Barito is the raising of word-final *-a to *-ə. Evidence for this change is found in the complete merger of reflexes of schwa (in closed final syllables) with historically word-final *a. Schwa then either fronted to *e or backed to *o, except in Taboyan, where *ə in final position from PMP *a is retained as ə. Reflexes of *-a as aʔ in Tunjung, however, complicate this sound change as well.

These sound changes are of relatively low quality. Weakening of voiced stops intervocally is very widespread throughout not only Borneo, but the entire Austronesian family. The raising of word-final *a is found in certain Malay dialects, is reconstructable to Proto-Müller-Schwaner, Proto-Punan, Proto-Land Dayak, and is found sporadically in various languages in Borneo (The Long San dialect of Lebo' Vo' Kenyah for example). There are thus no quality sound changes which define the Barito subgroup, as all sound changes which might be reconstructed to Proto-Barito can also easily be explained as convergent. In the absence of

stronger phonological evidence, special weight will need to be given to exclusively shared lexical replacement innovations for the purpose of defending the legitimacy of a Barito subgroup.

2.7.2 Barito lexical evidence¹⁵

It has proven exceptionally difficult to locate quality lexical replacement innovations that can be reconstructed to a common ancestor in Barito. Some apparent innovations, like *jukun̄ ‘canoe’ (*jukun̄* in all languages with a reflex) are phonologically irregular, and have thus been removed from the list. What remains is a disappointingly sparse collection of Barito-only replacement innovations:

*buhək > *balaw ‘head hair’

Kadorih *barow*

Ngaju *balaw*

Bakumpai *bulaw*

Taboyan *balo*

Benuaq *balo*

Tunjung *alaw*

*hawak > kaRaŋ ‘waist’

Kadorih *kahaŋ*

Ngaju *kahaŋ*

Kapuas *kahaŋ*

Tunjung *kaha^kŋ*

¹⁵ The keen observer will notice the absence of several lexical items assumed to be Barito-only innovations, including *bəlum ‘to live; be alive’ which replaced *qudip. Some of these would-be Barito innovations have been identified in other languages as a result of fieldwork undertaken for this dissertation. Section 3.7 of chapter three contains many of the “missing” Barito innovations in a larger eastern Borneo context.

| | | |
|--------------|---|--------------------------|
| *wati; gəlaŋ | > | *ləkuŋ ‘earthworm’ |
| Kadorih | | <i>rukun</i> |
| Taboyan | | <i>loku^sŋ</i> |
| Benuaq | | <i>loku^kŋ</i> |

| | | |
|---------------|---|---------------------------------|
| *dahun ‘leaf’ | > | *dawən (irregular sound change) |
| Ngaju | | <i>dawen</i> |
| Kapuas | | <i>dawen</i> |
| Maanyan | | <i>rawen</i> |
| Dusun | | <i>rawen</i> |
| Benuaq | | <i>dawa'n</i> |

Some languages reflect *dawən as *daon* or *ro'n*, apparently through coalescence of the schwa with the preceding w: Taboyan, Paser *daon*, Tunjung *ro'n*. Note that Kadorih has *daun*, which indicates that this change had not made it through all of the Barito languages. Although this type of change is common in AN languages, it was used in Blust (2007b) to link Sama-Bajaw to Barito, which is why it is reprinted here.

| | | |
|------------|---|------------------|
| *buŋa | > | *kambaŋ ‘flower’ |
| Kadorih | | <i>kambaŋ</i> |
| Ngaju | | <i>kambaŋ</i> |
| Kapuas | | <i>kambaŋ</i> |
| Dusun Witu | | <i>kamaŋ</i> |

Non-Replacement innovations:

| | | |
|---------|---|--------------------------|
| *jipən | > | *kəsiŋ; *jipən ‘tooth’ |
| Kadorih | | <i>kosiŋ</i> |
| Ngaju | | <i>kasiŋaʔ</i> |
| Kapuas | | <i>kasiŋeʔ</i> |
| Tunjung | | <i>kəsi^hŋ</i> |
| Maanyan | | <i>dipen</i> |
| Dusun | | <i>dipen</i> |

Analyzing the above lexical data yields underwhelming results. It appears that the existence of a Barito subgroup has been more or less taken for granted in much of the literature. Hudson (1967), for example, begins his otherwise groundbreaking study of Barito isolects with the assumption that the languages of the Barito River basin form what he called the “Barito Family”, yet no evidence is given to support subgrouping all of the Barito Basin area languages together in his publication. If the above set of lexical items, plus the sound changes *-d- > *-r- and *-a > *-ə are all that can be put forward to support a Barito subgroup, then one must seriously consider whether there is any validity to this grouping.

2.7.3 What is Barito?

In order to tackle this issue more precisely, it is necessary to define exactly what Hudson was proposing in 1967. This section attempts to do just that, and briefly reviews the evidence for each of Hudson’s major Barito subgroups.

2.7.3.1 West Barito

West Barito includes the many dialects typically referred to as Ngaju (including Kapuas and Bakumpai), as well as Kadorih (or Ot Danum) in the upriver areas, Siang, and Murung. According to the primary data, only one sound change, *R > *h, is attested in all of the languages in this proposed subgroup (but it is also found in Tunjung). *-b > *-p, deletion of intervocalic glottal stop, and closing of final vowels with glottal stop are also found in not only West Barito languages, but also in several other Barito subgroups. Thus, there are no sound changes of even medium quality which define this subgroup, and seems necessary to reject West Barito as a valid subgroup.

2.7.3.2 East Barito

The East Barito languages include Maanyan, all languages of the Barito River area whose speakers refer to themselves as “Dusun”, the Barito languages of East Kalimantan which includes Taboyan, Lawangan, Bentian, Pasir, Benuaq, and Malagasy (on the island of Madagascar), but excludes Tunjung. Two sound changes define this subgroup, $*z > *d$ and $*-R > *-y$. In the Barito languages of East Kalimantan, $*R$ has become y intervocalically as well. In Maanyan and Dusun, however, there is a split in reflexes where $*-R$ became either $*-h$ or $*-y$. None of these sound changes provide particularly strong subgrouping evidence.

2.7.3.3 Barito-Mahakam

This subgroup contains Tunjung, a language spoken along the western shores of the Mahakam River, in central East Kalimantan. Tunjung is fairly distinct among the languages of the greater Barito area, in that it has strengthened glides from $*-y-$ to $-j-$ and from $*-w-$ to $-g-$. Although glide strengthening is fairly common in Borneo, it is uncommon in the area where Tunjung is spoken, and was not likely influenced by other languages in the area. Tunjung has also devoiced $*z$ to c , and has split reflexes of $*-s$, as either \emptyset or h . In the vowels, Tunjung is the only Barito area language which reflects schwa as a in the final syllable.

Figure 53

Phonological evidence for Hudson’s three Barito subgroups

West Barito: No strong phonological evidence, but $*R > *h$ is attested.

East Barito: $*z > *d$ and $*-R > *-y$

Barito-Mahakam: $*-y- > *-j-$, $*-w- > *-g-$, and $*-\text{ə}C > *-aC$

2.7.4 Barito as a linkage

Since the above sound changes provide no solid grounds for subgrouping, we must consider a linkage relationship between the languages of the Barito River area. Such evidence is organized in this section.

2.7.4.1 Reflexes of *-b

Languages of the Barito River area reflect *-b as either *-p* or *-w*. Neither the languages which reflect *-b with *-p* nor those which reflect *-b as *-w* form a subgroup according to Hudson's model. *-b became *-p* in Kadorih, Ngaju, Kapuas, Maanyan, and Dusun Witu, but *-w* in Dusun Bayang, Taboyan, Benuaq, and Tunjung:

*kələb 'turtle'

| | |
|--------------|--------------|
| Kadorih | <i>korop</i> |
| Ngaju | <i>kelep</i> |
| Maanyan | <i>kelep</i> |
| Dusun Bayang | <i>kolow</i> |

*ələb 'knee'

| | |
|--------------|--------------|
| Kadorih | <i>karop</i> |
| Maanyan | <i>alep</i> |
| Dusun Witu | <i>alep</i> |
| Dusun Bayang | <i>alow</i> |
| Taboyan | <i>aləw</i> |

*huab 'yawn'

| | |
|---------|--------------|
| Kadorih | <i>ñ-uap</i> |
| Kapuas | <i>ŋ-uap</i> |
| Taboyan | <i>ñ-oaw</i> |
| Benuaq | <i>m-oaw</i> |
| Tunjung | <i>m-oaw</i> |

2.7.4.2 Reflexes of *-l

Word-final *l is reflected with *-l*, *-r*, and *-n* in modern Barito languages. Ngaju and Kapuas reflect *-l with *l*, a retention with no subgrouping value. In many languages of Borneo, *-l became *-n*. For example, Long Naah and Data Dian Kayan, Ngorek and Merap, Modang and Long Gelat, Kajang, some Melanau languages, Kenyah, and several others. In the Barito area,

Maanyan, Dusun Witu, Dusun Bayang, and Kadorih reflect *-l with -n. However, as this is a common sound change, it is not considered as subgrouping evidence here. Less common, however, are languages where *-l > -r. No other languages in Borneo that I know of show this change, but it is found in two separate but geographically contiguous groups of Barito languages, Taboyan-Benuaq (which also includes Lawangan, Bentian, and Paser) and Tunjung:

***gatəl ‘itchy’**

| | |
|---------|--------------------------|
| Kadorih | <i>ka^htin</i> |
| Ngaju | <i>gatəl</i> |
| Kapuas | <i>bəgatəl</i> |
| Maanyan | <i>məkaten</i> |
| Tunjung | <i>katar</i> |

***kapal ‘thick’**

| | |
|--------------|--------------------------|
| Kadorih | <i>ka^hpan</i> |
| Maanyan | <i>məkapan</i> |
| Dusun Witu | <i>kapan</i> |
| Dusun Bayang | <i>kapan</i> |
| Taboyan | <i>kapar</i> |
| Benuaq | <i>kapar</i> |
| Tunjung | <i>kapar</i> |

2.7.4.3 Reflexes of *d-

All Barito languages weakened *-d-, but in word-initial position, the phonetic motivation for *d > *r is lost. However, some languages extended *d > r to also include initial *d-; Maanyan, Dusun Witu, Dusun Bayang, and Tunjung.

***dua ‘two’**

| | |
|--------------|--------------|
| Kadorih | <i>duo?</i> |
| Ngaju | <i>due?</i> |
| Taboyan | <i>duə?</i> |
| Benuaq | <i>dua?</i> |
| Maanyan | <i>rue</i> |
| Dusun Witu | <i>rue</i> |
| Dusun Bayang | <i>rue?</i> |
| Tunjung | <i>rəga?</i> |

***daRaq ‘blood’**

| | |
|--------------|---|
| Kadorih | <i>daha?</i> |
| Ngaju | <i>daha?</i> |
| Taboyan | <i>daya</i> |
| Benuaq | <i>daya</i> |
| Maanyan | <i>ira?</i> (with a secondary support vowel after *daRaq > ra?) |
| Dusun Witu | <i>ira?</i> (with a secondary support vowel after *daRaq > ra?) |
| Dusun Bayang | <i>raha?</i> |
| Tunjung | <i>raha?</i> |

2.7.4.4 Reflexes of *-d

Word-final *-d either devoiced and became -t or it is reflected with -r. Ngaju, Kapuas, Taboyan, Benuaq, and Tunjung reflect *-d with -r while all other Barito languages have -t.

***quləj ‘maggot; worm’**

| | |
|--------------|-------------|
| Kadorih | <i>urot</i> |
| Maanyan | <i>ulet</i> |
| Dusun Witu | <i>ulet</i> |
| Dusun Bayang | <i>ulet</i> |
| Paser | <i>ulor</i> |

***pusəj ‘navel’**

| | |
|--------------|---------------|
| Kadorih | <i>pusot</i> |
| Maanyan | <i>puhet</i> |
| Dusun Witu | <i>puhet</i> |
| Dusun Bayang | <i>puhet</i> |
| Ngaju | <i>puser</i> |
| Kapuas | <i>puser</i> |
| Taboyan | <i>pusə̃r</i> |

***luluj ‘shin’**

| | |
|---------|--------------|
| Ngaju | <i>lulur</i> |
| Benuaq | <i>lulur</i> |
| Tunjung | <i>lolor</i> |

The Ngaju and Kapuas data are contradictory, as both reflect *-d with *t* and with *r*. Some examples are Ngaju *ulet* ‘worm’ from *quləj, Ngaju *likut* ‘back’ but Kapuas *likur* from *likud, and Ngaju and Kapuas *laut* ‘the ocean’ apparently from *lahud. It has been noted (Dyen 1956) that Ngaju dialects have been under particularly heavy Malay influence, with two sets of reflexes for many phonemes, one native, one Malay. Where *-d is reflected with *-t*, one must assume that the words were borrowed from a Malay source, as all dialects of Malay devoiced word-final stops.

2.7.4.5 Reflexes of *ə

In all Barito area languages, word-final *-a merged with schwa. This section thus includes reflexes of *ə in all positions, as well as *-ə from earlier *-a. There are four possible reflexes in Barito languages. Kadorih and Paser reflect *ə as *o* in all positions. Taboyan and Benuaq reflect schwa as *o* in the penultimate syllable, but did not change it in the final syllable. Tunjung lowered *ə in the final syllable to *a*, but retained it as schwa in the penultimate syllable. A large group of languages however, fronted schwa to *e in all positions. These are Ngaju, Kapuas, Maanyan, Dusun Witu, and Dusun Bayang.

***dua ‘two’**

| | |
|--------------|--------------|
| Kadorih | <i>duo?</i> |
| Taboyan | <i>duə?</i> |
| Benuaq | <i>dua?</i> |
| Tunjung | <i>rəga?</i> |
| Ngaju | <i>due?</i> |
| Kapuas | <i>due?</i> |
| Maanyan | <i>rue</i> |
| Dusun Witu | <i>rue</i> |
| Dusun Bayang | <i>rue?</i> |

***kaRəm ‘capsize’**

| | |
|--------------|--------------|
| Kadorih | <i>kahom</i> |
| Taboyan | <i>kayəm</i> |
| Paser | <i>kayom</i> |
| Ngaju | <i>kahem</i> |
| Kapuas | <i>kahem</i> |
| Maanyan | <i>kayem</i> |
| Dusun Witu | <i>kayem</i> |
| Dusun Bayang | <i>kayem</i> |

***pusəj ‘navel’**

| | |
|--------------|--------------|
| Kadorih | <i>pusot</i> |
| Taboyan | <i>pusər</i> |
| Dusun Witu | <i>puhet</i> |
| Dusun Bayang | <i>puhet</i> |
| Maanyan | <i>puhet</i> |
| Ngaju | <i>puser</i> |
| Kapuas | <i>puser</i> |

2.7.4.6 Putting the evidence together

When one aligns these various sound changes on a table, marking the languages where each sound change is attested, an interesting pattern emerges. No one language contains all reported sound changes, and the sound changes themselves are spread throughout the languages in question. The result is a table that strongly suggests a linkage relationship¹⁶ between Barito languages:

Table 58

Visualization of Barito innovations in a linkage model¹⁷

| | Kadorih | Ngj-Kps | Yakan | Man-DusW | Dusun B | Tab-Ben | Tunjung |
|---------------|---------|---------|-------|----------|---------|---------|---------|
| *R > h | + | + | + | | | | + |
| *ə > e | | + | + | + | + | | |
| *z > *d > (r) | | | + | + | + | + | |
| *-R > y | | | | + | + | + | |
| *-b > w | | | | | + | + | + |
| *-d > r | | + | | | | + | + |
| *-l > r | | | | | | + | + |
| *d- > r | | | | + | + | | + |
| *b- > w | | | | + | + | | |

2.7.5 Summary: referring to Barito as a linkage.

Hudson’s lowest-level subgroups within the Barito Linkage remain more or less valid; Northwest Barito, Southwest Barito, Southeast Barito, Central-East Barito, Northeast Barito, and Tunjung. Additionally, Blust’s arguments for including Sama-Bajaw languages in Barito (Blust 2007b) are accepted in this argument. In the linkage model proposed above, however, one cannot appeal to the comparative method to justify higher order subgroups within Barito. Additionally, the linkage model does not assume that there was ever a single Proto-Barito language. There may have been a non-distinct dialect of a more remote proto-language spoken in the Barito area, but it did not break into clean subgroups, nor did it have time to develop into “Proto-Barito” before

¹⁶ Linkage here is understood as a group of languages which share overlapping sound changes in some but not all members of the group, as defined in Ross (1988:8).

¹⁷ Yakan is included as a witness for Sama-Bajaw, with an analysis of Yakan historical phonology from Blust (2007b) and data from Behrens (2002). More on Yakan is available in Brainard and Behrens (2002) and Behrens (2007).

communities began differentiating their speech. The tree presented below, as a result, is devoid of higher-order subgrouping.

Figure 54

Barito linkage and major internal subgroups

BARITO LINKAGE

Northwest Barito

Kadorih

Siang

Murung

Southwest Barito

Ngaju

Kapuas

Bakumpai

Sama-Bajaw

Yakan

Southeast Barito

Maanyan

Dusun Witu

Central-East Barito

Dusun Malang

Dusun Bayang

Northeast Barito

Taboyan

Lawangan

Bentian

Pasir

Benuaq

Tunjung

Tunjung

2.8 THE MALAYIC SUBGROUP

This is perhaps the most widely reported group of languages in Malaysia and Indonesia, as Malay is the national language of Malaysia, Indonesia, and Brunei. There are several “Malayic” languages in West Kalimantan, and primary data were gathered for seven of them:

Figure 55

Malayic languages

Iban of the upper Kapuas River, West Kalimantan

Seberuang of the upper Kapuas River, West Kalimantan

Keninjal of Melawi Regency, eastern West Kalimantan

Kendayan of Pontianak¹⁸

Mualang of the middle-upper Kapuas River

Ketapang Malay of the interior of Ketapang Regency, West Kalimantan

Standard Malay

Kantu of the upper Kapuas River, West Kalimantan

2.8.1 Malayic phonological evidence

The following sections focus primarily on Malayic languages and dialects spoken in West Kalimantan. As such, it is only able to make subgrouping arguments involving these languages, and not a subgrouping of Malayic as a whole. The many Malayic languages outside of Borneo, are thus left unclassified. However, Blust (1981, 1994, 2010) and Adelaar (1992a, 2004) contain succinct descriptions of a wide range of views on Malayic subgrouping, which may complement the following discussion. Adelaar (1992a) specifically contains a thorough defense of Malayic as a genetic unit, and the reader is referred to that earlier work for more on what defines this group. Also note that the Iban language represented in the tables below is a specific variety from the upper Kapuas, distinct from the more widely reported Iban language of Sarawak.

¹⁸ The Kendayan population in Pontianak does not reside in their traditional areas, which are further north and west. The dialect(s) spoken here have been highly influenced by other Malayic languages and the data has several inconsistencies as a result.

Table 59

Reflexes of PMP consonant phonemes in Malayic

| | Indonesian | Ketapang | Keninjal | Kendayan | Seberuang | Iban | Mualang |
|------|------------|----------|----------|----------|-----------|-------|---------|
| *-p- | p; mp | p; mp | p; mp | p; mp | p; mp | p; mp | p; mp |
| *-t- | t; nt | t; nt | t; nt | t; nt | t; nt | t; nt | t; nt |
| *-k | k | k | k | k | k | ʔ | k; ʔ |
| *q- | ∅; h | h | ∅ | ∅ | ∅ | ∅; h | ∅; h |
| *-q- | h | h | h; ∅ | h; ∅ | ∅ | ∅ | ∅ |
| *-q | h | h | h | h | h | h | h |
| *-b- | b; w | b; w | b; w | b; (w) | b | b | b |
| *-b | p | p | p | p | p | p | p |
| *-d- | d | d; nd | d; n | d; (r) | d; nd | d; n | d; n |
| *-d | t | t; (rt) | t | t | t | t | t |
| *-j- | d | d; nd | d; n | d; (r) | d; nd | d; n | d; n |
| *-j | t | t; (rt) | t | t | t | t | t |
| *-z- | j; nj | j; nj | j; ñ | j; nj | j; ñ | j; ñ | j; ñ |
| *s- | s | s | s | s | s | s; t | s |
| *-s- | s | s; ns | s; ns | s | s | s | s |
| *-s | s | s | s | s | h; yh | h; wh | s |
| *l- | l | l | l | l; (∅) | l | l | l |
| *-l- | l | l | l | l; ∅ | l | l | l |
| *R- | r | r | ɣ | r | ɣ | r | ɣ |
| *-R- | r | r | ɣ | r | ɣ | r | ɣ |
| *-R | r | r | ɣ; ʔ | r; ʔ | ɽ; ʔ | r; ʔ | ɣ; ʔ |

Table 60

Reflexes of PMP vowel phonemes in Malayic

| | Indonesian | Ketapang | Keninjal | Kendayan | Seberuang | Iban | Mualang |
|--------|------------|----------|----------|----------|-----------|--------|---------|
| *-a | a | o | aʔ; a | aʔ; a | aʔ; a | aʔ; a | aʔ; a |
| *-aC | a | a | a | a | a | a; æ | a |
| *-aCVC | a | a; o | a | a | a | a | a |
| *-u | u | u | u; (uʔ) | u; uʔ | ow; (oʔ) | uɔ; oʔ | u; (oʔ) |
| *-uC | u | o | u; o | u | u; o | uɔ | oɔ |
| *-uCVC | u | u | u | u; o | u | u | u |
| *-i | i | i | i; (iʔ) | i; iʔ | ey; iʔ | iɿ; eʔ | i; iʔ |
| *-iC | i | ɛ | i; (e) | i; (e) | i | iɿ | ɛɿ |
| *-iCVC | i | i | i | i; e | i | i | i |
| *-əC | a | a | a | a | a | a | a |
| *-əCVC | ə | o | o | a | ə | ə | ə |
| *-ay | ay; i | ay; i | ay; i | ey; i | ay; ey | ay; iɿ | ay; i |
| *aw | aw | aw | aw | ow | aw | aw; oʔ | aw |

2.8.2 Areal influences in Malayic Language of West Kalimantan

The Ibanic languages, Seberuang, Mualang, and Iban (specifically the Iban of the Kapuas River, not the Iban of Sarawak), and other Malayic Dayak languages have undergone several areal adaptations which have altered their phonologies. Most importantly, stress in many of the languages of West Kalimantan is consistently word-final, a feature of most of the Land Dayak languages of the Kapuas River area. Some other changes which are found in this area include reflexes of *R, *u, and *i and are discussed in a bit more detail below.

2.8.2.1 Reflexes of PMP *R

Three Malayic languages of the Kapuas River area reflect *R with γ , Mualang, Seberuang, and Keninjal. All other Malayic languages of the area, for which data were gathered, reflect *R as an alveolar trill. In Seberuang, an unusual development where word-final *-R retained rhoticity but moved to a velarized position has created the allophone -r^v. Some examples are:

Figure 56

*Reflexes of *R in Malayic*

| | |
|----------------------|---|
| *Rumaq ‘house’ | Keninjal and Mualang /rumah/ [ɣumah] |
| *Rimba ‘forest’ | Keninjal and Mualang /rimaʔ/ [ɣimaʔ], Seberuang /rimbaʔ/ [ɣimbaʔ] |
| *bəRas ‘husked rice’ | Keninjal /boras/ [boɣas], Seberuang /bəras/ [bəɣayh], Mualang /bəras/ [bəɣas] |
| *uRat ‘vein’ | Keninjal, Seberuang, Mualang /urat/ [uɣat] |
| *niuR ‘coconut’ | Keninjal /ñior/ [ñioɣ], Seberuang /ñior/ [ñio ^r], Mualang /ñior/ [ñioɣ] |
| *hulaR ‘snake’ | Keninjal and Mualang /ular/ [ulaɣ], Seberuang /ular/ [ula ^r] |

2.8.2.2 Word-final vowel breaking

As a result of word-final stress and phonetic final vowel lengthening, high vowels in Seberuang and Kapuas River Iban have developed lowered nuclei with high off-glides. In Seberuang, *i > eɣ and *u > oɰ and in Iban *i > i̯ and *u > u̯. The changes are allophonic, and have not resulted in any additional phonemic contrasts.

Figure 57

Final vowel breaking in Malayic

| | |
|-------------------|---|
| *qapəju ‘gall’ | Seberuang /mpədu/ [mpədow], Iban /mpədu/ [mpədou] |
| *kutu ‘louse’ | Seberuang /kutu/ [kutow], Iban /kutu/ [kutou] |
| *qanitu ‘ghost’ | Seberuang /antu/ [antow], Iban /antu/ [antou] |
| *tali ‘rope’ | Seberuang /tali/ [taley], Iban /tali/ [talɪ] |
| *bəli ‘to buy’ | Seberuang /məli/ [məley], Iban /məli/ [məlɪ] |
| *mimpi ‘to dream’ | Seberuang /mimpi/ [mimpey], Iban /mimpi/ [mimpɪ] |

In Iban and Mualang, vowels in closed final syllables exhibit secondary schwa off-glides, where lax high vowels in closed syllables (a typical feature of languages of this area) underwent terminal weakening, thus *-uC > *ʊC > *ʊəC and *-iC > *ɪC > *ɪəC. In Mualang, vowels were further lowered, resulting in *ɛəC* and *oəC* reflexes of *-iC and *-uC.

Figure 58

Additional vowel breaking environments in Malayic

| | |
|----------------------|---|
| *taqun ‘year’ | Mualang /taon/ [taoən], Iban /taun/ [taoən] |
| *ləsuŋ ‘rice mortar’ | Mualang /ləsoŋ/ [ləsoəŋ], Iban /ləsuŋ/ [ləsoəŋ] |
| *mabuk ‘drunk’ | Mualang /mabok/ [maboək], Iban /mabuʔ/ [maboəʔ] |
| *kulit ‘skin’ | Mualang /kulet/ [kulɛət], Iban /kulit/ [kulɪət] |
| *qasin ‘salty’ | Mualang /masen/ [masɛən], Iban /masin/ [masɪən] |
| *kirim ‘to send’ | Mualang /məŋirem/ [məŋiɣɛəm], Iban /ŋirim/ [ŋiriəm] |

High vowels broke in an additional manner in Ketapang, Seberuang, Kapuas Iban, and Mualang. Where *a is followed by *u or *i, the high vowels became *ye and *wo, and eventually, in Seberuang, Iban, and Mualang, *yə* and *wə*. Some examples are listed below.

Table 61

*High vowel breaking after *a in Malayic*

| | Ketapang | Seberuang | Kapuas Iban | Mualang |
|---------------|----------|-----------|-------------|---------|
| *baik ‘good’ | - | bayək | - | bayək |
| *naik ‘climb’ | - | nayək | - | - |
| *jauh ‘far’ | jowoh | jawəh | jawəh | jawəh |
| *daun ‘leaf’ | dowon | dawən | dawən | dawən |
| *laut ‘ocean’ | lowot | lawət | - | lawət |
| *jahit ‘sew’ | johet | jayet | jayet | jayet |
| *kail ‘hook’ | koyel | - | - | kayel |

2.8.2.3 Velar fronting in Keninjal

In Sarawak Malay word-final velar consonants, *-k and *-ŋ were fronted to -t and -n when immediately preceded by *i. Thus, Malay *dagiŋ* ‘meat’ is *dagin* in Sarawak Malay, and Malay *balik* ‘return; turn around’ is *balit* (Collins 1987). Keninjal, a so-called Malayic Dayak language of southeastern West Kalimantan, has the same change. Some examples are:

Figure 59

*Examples of velar fronting after *i in Keninjal*

| | |
|---------------------------------|--|
| *naik ‘to climb; get on top of’ | <i>nait</i> |
| *sisik ‘fish scale’ | <i>sisit</i> |
| *dagiŋ ‘flesh’ | <i>dagin</i> |
| *kuciŋ ‘cat’ | <i>uncin</i> |
| *caciŋ ‘worm’ | <i>cacin</i> (compare with <i>caciŋan</i> ‘intestinal worm’) |
| *təŋgiliŋ ‘pangolin’ | <i>təŋilin</i> |
| *kuniŋ ‘yellow’ | <i>kunin</i> |

Although it does not seem that these are borrowings (Sarawak Malay is not spoken near Keninjal, and both are separated by Iban and Land Dayak groups, neither of which show velar fronting) the word for wall, *diniŋ*, did not undergo this change. Either *diniŋ* is borrowed, or this sound change is incomplete.

2.8.3 Malayic internal subgrouping

Adelaar (1992a:205-206) does not propose any internal subgrouping of Malayic languages, stating that “major differences between the isolects are either retentions, or innovations that are not exclusive to a particular group of isolects”. Blust (1988b) agrees, arguing that arbitrary distinctions between “dialects of Malay” on the one hand and “separate Malayic languages” on the other hand greatly obscure the actual history of these many languages. Some scholars have attempted an internal subgrouping of Malayic by collecting large lists of sound changes, Nothofer (1995) proposes ten, with three additional morphological innovations. The goal of the following section, however, is to focus only on sound changes of high quality, i.e. those which are unlikely to be the product of chance, diffusion, or convergence. As such, fewer sound changes in total are put forward as evidence, but, because the data set used below contains much more data from West Kalimantan than most classifications, it is able to show in several cases that irregular changes (*-R > *-ʔ, *-Ø > ʔ, *1 > Ø) are consistent throughout several of the Malayic languages of this area, which suggests that these languages form a subgroup. This evidence is organized below.

2.8.3.1 *-R > *-ʔ in Iban and Malayic Dayak

First, Nothofer (1988) used sporadic cases where *-R became *-ʔ in Iban to argue that *R had not merged with *r, thus separating it from the rest of Malayic. Adelaar (1992a) goes into great detail demonstrating that *R had merged with *r in Iban, and that Nothofer’s conclusions regarding this phoneme were premature. The evidence he presents (Adelaar 1992a:574-575) leaves little doubt that *R had merged with *r. In a later publication however, Nothofer (1997) refines his arguments, using the same data to instead propose a subgroup that includes Sarawak Malay, Iban, Kendayan, and several other Malay dialects on smaller islands off the Sumatran and Peninsular coasts. Following Nothofer, in this section I intend to show using additional data from West Kalimantan that the irregular change *-R > *-ʔ is a feature of the Ibanic subgroup which includes, Sarawak Iban, Kapuas River Iban, Seberuang, and Mualang. Furthermore, *-R > *-ʔ in Ibanic is consistent with identical cases in non-Ibanic languages Kendayan and Keninjal. The following list compares reflexes of *-R in key lexemes in various Malayic languages of West Kalimantan and southern Sumatra.

| | | |
|--------------|---|--------------|
| *wahiR | > | *aiʔ ‘water’ |
| Sarawak Iban | | <i>aiʔ</i> |
| Kapuas Iban | | <i>aiʔ</i> |
| Seberuang | | <i>aeʔ</i> |
| Mualang | | <i>aiʔ</i> |
| Kantu | | <i>aiʔ</i> |
| Kendayan | | <i>aiʔ</i> |
| Keninjal | | <i>aiʔ</i> |
| Besemah | | <i>aiʔ</i> |

| | | |
|--------------|---|--------------|
| *təluR | > | *təluʔ ‘egg’ |
| Sarawak Iban | | <i>təluʔ</i> |
| Kapuas Iban | | <i>təloʔ</i> |
| Seberuang | | <i>təloʔ</i> |
| Mualang | | <i>təloʔ</i> |
| Kantu | | <i>təluʔ</i> |
| Kendayan | | <i>taoʔ</i> |
| Keninjal | | <i>toluʔ</i> |
| Besemah | | <i>toluʔ</i> |

| | | |
|--------------|---|-------------|
| *ikuR ‘tail’ | > | *ikuʔ |
| Sarawak Iban | | <i>ikuʔ</i> |
| Kapuas Iban | | <i>ikoʔ</i> |
| Seberuang | | <i>ikoʔ</i> |
| Mualang | | <i>ikoʔ</i> |
| Kantu | | <i>ikuʔ</i> |
| Kendayan | | <i>ekoʔ</i> |
| Besemah | | <i>ikuʔ</i> |

| | | |
|--------------|---|---------------------------|
| *hiliR | > | *iliʔ ‘towards the coast’ |
| Sarawak Iban | | <i>iliʔ</i> |
| Seberuang | | <i>ileʔ</i> |
| Mualang | | <i>ileʔ</i> |
| Kantu | | <i>iliʔ</i> |
| Keninjal | | <i>iliʔ</i> |

| | | |
|----------|---|------------------------------|
| *tiduR | > | *tiduʔ ¹⁹ ‘sleep’ |
| Keninjal | | <i>tiduʔ</i> |
| Besemah | | <i>tiduʔ</i> |

| | | |
|----------|---|--|
| *butiR | > | *butiʔ ‘grain; classifier’ |
| Keninjal | | <i>utiʔ</i> ‘general classifier for counting objects’ |
| Mualang | | <i>utiʔ</i> ‘general classifier for counting objects’ |
| Kantu | | <i>utiʔ</i> ‘general classifier’ (<i>sutiʔ</i> ‘one piece’) |
| Besemah | | <i>butiʔ</i> ‘a grain; classifier’ |

Sporadic or irregular sound changes in typical circumstances do not warrant subgrouping, but when a sporadic or irregular change is reflected in the same words consistently throughout a specific set of languages, then inheritance becomes a more likely explanation for the observed similarities. Some cases of *-R > *-ʔ are reported in more distantly related languages (Sasak *aiʔ* ‘water’ for example) but the consistency of *-R > *-ʔ across specific lexemes in Malayic languages should not be ignored²⁰. Nothofer asserts that this change is found in several languages outside Borneo as well, and data from Besemah (Brad McDonnell, personal communication, Oct 16, 2016) largely agrees with my data from West Kalimantan, providing a strong link between these languages and the languages of southern Sumatra.

¹⁹ In Ibanic the word for sleep was replaced by a later innovation, so there’s not much data here.

²⁰ Consistency here means that if lexemes A B C D and E show an irregular change in one language, then that implies the same change in the same set of lexemes in all other languages of the same subgroup. Inconsistency in irregular changes means, one language has a change in A B C but not D or E, and another language has the same change, but in C D and E, but not A and B. Lack of agreement in lexemes A, B, D, and E, even though lexeme C shares the irregular change, means that inheritance cannot be used as a valid explanation.

2.8.3.2 Deletion of *l in Kendayan

In word medial position *l was deleted in the majority of cases in the dialect of Kendayan located in Pontianak. As noted earlier, this dialect appears to have changed greatly due to its removal from traditional Kendayan territory, which is located to the northwest of Pontianak. As such, these observations will not hold true for Kendayan as a whole. These include *kəlapa > *kaapa?* ‘coconut’, *mulut > *moot* ‘mouth’, *kulit > *kuit* ‘skin’, *buluq > *buuh* ‘bamboo’, *bəlikat > *baikat* ‘back’, *qali-sipan > *qalipan > *ñaipan* ‘centipede’ (*ñ* remains unexplained), *hulaR > *uar* ‘snake’, *zəlaq > *jiah* ‘tongue’, *tuqəlaŋ > *tuəŋ* ‘bone’, *quləj > *oat* ‘snake’, *bulan > *buan* ‘moon’, *maləm > *maam* ‘night’, and *təluR > *tao?* ‘egg’. This list is exhaustive, and includes all cases I was able to locate in my data where *l became Ø. There is also one case in initial position where *l was deleted, *lubəŋ > *ubəŋ* ‘hole’. Interestingly, *l is retained in several words that appear to be native, with no condition or available explanation: *təlu > *talū* ‘three’, *bulu > *bulu* ‘body hair’, *salaq > *salah* ‘incorrect’, and *tali > *tali* ‘rope’ are just a handful. This change is strong enough to use as a diagnostic for Kendayan. Adelaar (1992b) reports the same change in Salako. However, cases like Salako *tau* vs Kendayan *talū* are difficult to explain, as *talū* in Kendayan could not have been borrowed from Malay or Iban, as both reflect PMLC *tiga. It must be, then, that *l > Ø is a change which failed to affect the entire vocabulary of all Kendayan-Salako dialects before the communities ceased developing as a unit.

2.8.3.3 Word-final glottal stop

There are two cases where Ibanic, Kendayan, Salako, and Keninjal have innovated word-final glottal stops, 1) sporadically after word-final vowels and 2) sporadically as a reflex of *-q, which is typically reflected as *h*. In the first case, where final vowels were closed with glottal stop, there is a high degree of agreement between Iban, Seberuang, Mualang, and Keninjal, and a lesser degree of agreement between these languages and Kendayan-Salako. The following table offers a visualization of where glottal stop was innovated, in which languages, and where this innovation is regular across languages. Shaded areas highlight words with innovative glottal stops after historically word-final vowels.

Table 62

Cases where final vowels were closed with a glottal stop

| English | Indonesian | Ketapang | Kendayan | Keninjal | Seberuang | Iban | Mualang |
|--------------|------------|------------|-----------|---------------------|-----------|---------|---------|
| left | kiri | kíba? | kɛba? | kiba? | kiba? | kiba? | |
| cooked rice | nasi | nasɛ? | nasi? | nasi? | nasɛ? | asɛ? | |
| ask | bərtaña | bətakon | bataña? | bətaña? | naña? | naña? | bətaña? |
| enter | masuk | tamo | tama? | tama? | tama? | tama? | tama? |
| open | buka | | muka? | buka? | buka? | muka? | buka? |
| stairs | taŋga | taŋgo | taŋga? | taŋa? | taŋa? | taŋa? | taŋa? |
| fathom | dəpa | dopo | dapa? | dopa? | nəpa? | dəpa? | |
| day after tm | besok lusa | luso | lusa? | lusa? | | lusa? | |
| bail water | timba | tipok | nima? | nima? | tima? | pənima? | tima? |
| python | sawa | sawo | uar sawa? | ulay sawa? | sawa? | sawa? | |
| fill | mengisi | məmonohi | ŋisi? | ŋisi? | ise? | ŋise? | ŋise? |
| deaf | tuli | | tuli? | tulɪ? | | tulɛ? | tulɛ? |
| excrement | tahi | tohi | tahi? | tai? | tai? | taɛ? | tai? |
| bring | memberikan | məmborian | marɛ? | | bəyɛ? | mərə? | məyɛ? |
| bathe | mandi | mandɛ? | mani? | mani? | mane? | mane? | mane? |
| fern | pakis | midɪŋ | paku | paku? | pako? | | pako? |
| chin | dagu | dagu | kaŋkam | dagu? | jago? | dago? | dago? |
| mute | bisu | | bisu | bisu? | biso? | bago? | biso? |
| here | sini | ka? dian | di? isen | ditu? | di to? | dito? | di to? |
| finger nail | kuku | | silu | silu? | silo? | | |
| laugh | tawa | tətawo | galak | kətawa? | kətawa? | kətawa? | kətawa? |
| blind | buta | buto | buta | buta? | buta? | buta? | buta? |
| ember | bara | baro | bara | baya? | baya? | bara? | baya? |
| tall | tinggi | tiŋgi | tiŋi | tiŋi? | tiŋɛ? | tiŋɛ? | tiŋɛ? |
| thorn | duri | duri | duri | duy ^{wi} ? | duyɛ? | durɛ? | duyɛ? |
| to lie | | kətumboŋan | paŋalok | pəmula? | bula? | bula? | bula? |
| deer | rusa | ruso | | yusa? | yusa? | rusa? | rusa? |
| old | lama | lambat | naŋ lama | lama? | lama? | lama? | lamá? |
| laugh | ketawa | tətawo | galak | kətawa? | kətawa? | kətawa? | kətawa? |
| five | lima | limo | lima | lima | lima? | lima? | lima? |

The trouble with using the addition of word-final glottal stop to words that are historically vowel-final as evidence is the fact that this sound change is well attested in independent developments throughout Borneo. However, in the case of glottal stop addition in Malayic the fact that addition was sporadic, i.e. it targeted many but not all lexemes, gives the sound change extra weight. In Iban, Seberuang, Mualang, and Keninjal, sporadic addition of glottal stop

affected a near identical set of lexemes. It thus provides fairly strong evidence that these languages form a subgroup. Glottal stop addition in Kendayan, on the other hand, agrees with the Ibanic languages only 50% of the time, or, precisely what would be expected if the observed similarity were due to chance or diffusion. This, in turn, argues for including Keninjal in Ibanic, to the exclusion of Kendayan. Two cases of final glottal stop in Ketapang are almost certainly borrowings from an Ibanic source.

2.8.3.4 Cases where glottal stop unexpectedly reflects *-q

The irregular change *-q > *-ʔ (where *q normally became *h) is very inconsistent. Although one word, PMP *mataq ‘raw; unripe’, is reflected with a final glottal stop across the board, other words which are reported to have this change do not show any consistency across languages. Therefore, it cannot be used as subgrouping evidence. The following table illustrates this inconsistency.

Table 63

*Cases where *-h is reflected with glottal stop*

| English | Indonesian | Ketapang | Kendayan | Keninjal | Seberuang | Iban | Mualang |
|-------------|------------|----------|----------|----------|-----------|--------|---------|
| raw; unripe | məntah | matah | mantaʔ | mataʔ | mataʔ | mataʔ | mantaʔ |
| wet | basah | bansah | basaʔ | basaʔ | basah | basæh | basah |
| greedy | sərahah | kolobok | sarahah | səyahah | ɣaŋkaʔ | raŋkaʔ | - |
| tired | ləlah | - | - | - | - | ləlaʔ | ləlaʔ |
| fall | jatuh | - | jantuʔ | jatuʔ | jatoʔ | - | - |

2.8.3.5 Iban diphthongization

Iban diphthongization is a process where final *-a(C) became -ay or -aw in a number of lexemes. In the Iban of the upper Kapuas River, diphthongization agrees with that reported in Adelaar (1992a) and Nothofer (1988), lexeme-by-lexeme. Diphthongization is also found in Seberuang and Mualang, but to a lesser degree. Although many cases of diphthongization agree between Iban, Seberuang, and Mualang, the large amount of disagreement indicates that this is not an inherited change in Seberuang and Mualang, but rather one which has spread from an Iban core of influence. 25 cases of diphthongization involving -ay were located in my data, and only eight were consistent across all three languages. Diphthongization involving -aw is even less unitary, eight cases were found, and only two were consistent across all three languages.

Table 64

Consistent Iban diphthongization

| English | Indonesian | Ketapang | Kendayan | Keninjal | Seberuang | Iban | Mualang |
|---------|------------|----------|----------|----------|-----------|-------|---------|
| hold | məməgaŋ | karot | ñan̄kam | masuŋ | məgay | məgay | məgay |
| road | jalan | jalan | jalan | jalan | jalay | jalay | jalay |
| come | datan̄ | datan̄ | atan̄ | datan̄ | datay | datay | datay |
| big | bəsar | baŋkal | ayaʔ | bosay | bəsay | bəsay | bəsay |
| long | panjan̄ | lantor | pañan̄ | pañan̄ | pañay | pañay | pañay |
| old | tua | tuho | tuha | tua | tuay | tuay | tuay |
| sun hat | | taŋgol | tarinak | ŋaŋi | taŋoy | taŋii | taŋgoy |
| eat | makan | makan | makan | ñogaʔ | makay | makay | makay |
| above | atas | | atas | atas | ataw | ataw | ataw |
| with | dəŋan̄ | uan | dəŋan̄ | dəŋan̄ | ŋaw | ŋaw | ŋaw |

In all, 23 cases of diphthongization (out of 33 cases) are inconsistent across groups, with the majority, 13, appearing in Iban alone.

Table 65

Inconsistent Iban diphthongization

| English | Indonesian | Ketapang | Kendayan | Keninjal | Seberuang | Iban | Mualang |
|------------|------------|----------|----------|----------|-----------|---------|---------|
| exist | ada | bisi | ada | ada | aday | bise? | aday |
| cockroach | kəcoak | lipeh | kacoak | kəcoa | sampawa? | gərinaŋ | kicay |
| crush | ŋancur | məŋgopor | ŋancur | ŋancoy | | ŋancur | ŋancay |
| discard | buaŋ | muaŋ | - | muaŋ | - | mue? | muay |
| fly | təbaŋ | tərobaŋ | tarabaŋ | təyobaŋ | təybaŋ | tərbay | təybay |
| mat | tikar | ampar | tikar | | tikay | tikay | tikay |
| mushroom | jamur | kulat | jamur | jamoŋ | jəmuŋ | kulat | kulat |
| we incl | kita | kitow | kita? | kita | kitay | kitay | kita? |
| feel | rasa | inseman | | yasa | pəyasay | asay | pəyasa |
| go home | pulaŋ | pulaŋ | | pulaŋ | pulay | pulay | |
| shrimp | undaŋ | hundaŋ | oraŋ | unaŋ | undaŋ | unay | unaŋ |
| plate | piriŋ | pireŋ | piŋan | piŋan | piŋan | piŋay | piŋan |
| flower | buaŋa | kombaŋ | buaŋa | buaŋa | buaŋa? | buaŋay | buaŋa |
| derris | tuba | tubo | tuba | tuba? | tuba | tubay | tuba |
| weak | ləmah | lamah | - | ləmah | ləmah | ləme? | ləmah |
| naked | təlanjaŋ | lanjaŋ | tulañaŋ | təlañaŋ | təlañaŋ | təlañay | təlañaŋ |
| husk | səkam | sokam | sakam | sokam | | səko? | səkam |
| shadow | bayaŋan | kambayaŋ | bayaŋan | kəmayaŋ | bayaŋ | ayaw | bayaŋan |
| rice grain | bəras | boras | baras | boyas | bəyayh | bəraw | bəyas |
| harvest | panem | bəhaŋi | panen | panen | ŋətam | ŋətaw | panen |
| ripe | masak | masak | masak | mansak | matan | mansaw | mudoəh |

As a consequence of the irregularity found between Iban, Seberuang, and Mualang regarding diphthongization, it cannot be used for subgrouping. Despite the fact that diphthongization is regular in eight lexemes, there is no way to show that this cannot be a product of diffusion from Iban itself.

2.8.4 Summary

The above study in Malayic is deficient in one respect, that it focusses almost exclusively on Malayic languages in Borneo, and does not include data for the many Malayic languages outside of Borneo. As such, the tree in figure 62 has an *Other Malayic* designation which, as indicated by italics, may represent several subgroups. The tree is not a two-way split, with West Bornean Malayic and *Other Malayic* forming two separate subgroups, but rather, it indicates that many of the Malayic languages of West Kalimantan and Sarawak do indeed form a subgroup that excludes other Malayic languages. The subgrouping of Malayic outside of West Borneo

must be left indeterminate, and the question of what primary divisions exist in Malayic remains open.

Figure 60

Sound changes which define Malayic subgroups

West Bornean Malayic (*-R > *-ʔ in a specific set of lexemes)

Kendayan-Salako (*-l- > Ø)

Ibanic (*-V > *-Vʔ in a specific set of lexemes)

Figure 61

Sound changes not included for issues in regularity, diffusion, and chance:

Ibanic diphthongization (excluded due to inconsistent application in Ibanic languages)

final glottal stop accretion outside of Ibanic (excluded because Kendayan-Salako cases of glottal stop accretion are likely due to chance or diffusion)

*-h > *-ʔ (excluded due to inconsistent application)

*R > *ɣ (excluded because this is an areal feature found in many non-Malayic languages)

Velar fronting (Nothofer 1995²¹)

Vowel breaking (excluded because this is an areal feature)

final nasal prelosion (Nothofer 1995, excluded because it is an areal feature)

final *l > ʔ in specific cases (Nothofer 1995)

*-h- > Ø between like vowels (Nothofer 1995, excluded because it is a common sound change)

²¹ Nothofer claims that velar fronting is present in Iban, but all three Iban dialects in this study disagree with his statement and do not show velar fronting. For example, *naik ‘to climb; get on top of’ > Seberuang *naɣək*, *sisik ‘fish scale’ > Seberuang *sisik*, Iban *sisiʔ*, Mualang *sisek*, *cacinj ‘worm’ > Mualang *caceŋ*, *təŋjilij ‘pangolin’ > Seberuang *təŋjilij*, Iban *təŋjilij*, Mualang *təŋjileŋ*. The basis of Nothofer’s claim is unclear.

Figure 62

Internal subgrouping of Malayic

MALAYIC

West Bornean Malayic

Kendayan-Salako

Besemah (and other southern Sumatra languages with *-R > *-ʔ in specific words)

Ibanic

Iban

Seberuang

Mualang

Keninjal

Other Malayic

Standard Malay

Jakarta Malay

Ketapang Malay

Banjarese Malay

Kutai Malay

Brunei Malay

2.8.5 More on the Iban of the Upper Kapuas

This section discusses the phonology, historical and synchronic, of a dialect of Iban spoken in the Upper Kapuas River area which is not represented in the wider literature. Some sound changes, and an increase in vowel distinctions, make this a particularly interesting form of Iban, worthy of special attention.

2.8.5.1 The addition of /æ/ to the vowel inventory

In Indonesian Borneo, the groups who self-identify as Iban in the upper Kapuas River area of West Kalimantan²² have undergone certain sound changes which have expanded the

²² The data used here were collected from a speaker who resides in Dusun Sadap, in the Embaloh Hulu district of Kapuas Hulu. This village is quite far upriver, and close to the Malaysian border.

Ibanic six vowel system to seven, with the addition of a distinction between æ and a. Some examples of this distinction are:

Figure 63

Minimal and near minimal pairs of an a/æ distinction in Iban

| | |
|-----------------------|--------------------|
| ŋupaʔ ‘to peel fruit’ | lupaʔ ‘mud’ |
| tapaʔ ‘palm’ | kapæʔ ‘axe’ |
| mataʔ ‘raw’ | katæʔ ‘frog’ |
| butaʔ ‘blind’ | untæʔ ‘brain’ |
| kəkuraʔ ‘turtle’ | ŋkuræʔ ‘overflow’ |
| tawaʔ ‘to laugh’ | tawæʔ ‘large gong’ |

Three changes resulted in the above distinctions. First, *a fronted to *æ when in the final syllable and closed with either *-k, or *-h. Before *-ŋ *a (which was phonetically central, neither front [a] nor back [ɑ], but just between the two) fronted slightly to [a]. Everywhere else, *a was retained unchanged. Second, word-final vowels were sporadically closed with *ʔ. Finally, final *-k merged with *ʔ. The following figure demonstrates how these changes occurred.

Figure 64

Historical derivation of a-æ distinction in Upper Kapuas Iban.

| | | |
|-------------------|--------|--------|
| PMAL | *tawa | *tawak |
| Front *a | - | *tawæk |
| Close final vowel | *tawaʔ | - |
| Merge *-k with *ʔ | - | tawæʔ |
| Result | tawaʔ | tawæʔ |

Although the only historically derived distinction between æ and a is found before word-final glottal stop, some cases of -ah are reported where all examples should show fronting to -æh. One such example is Iban *mudah*, rather than expected [mudæh]. If this turns out to be a Malay loan word, then it still is significant in that it shows that fronting of a to æ is not synchronic. As a result of these developments, the following seven distinctions are now found in the vowels.

Table 66

Kapuas Iban vowels

| | front | mid | back |
|---------|-------|-----|------|
| high | i | | u |
| central | e | ə | o |
| low | æ | | a |

2.8.5.2 Allophonic variation in Iban's seven vowels

High vowels in a final closed syllable have a short schwa offglide, regardless of the quality of the final syllable, thus the vowels in uC and iC are phonetically [ʊə] and [ɪə]. The central offglides however do not appear consistently, and are, as far as can be inferred through a single elicitation session, in free variation with pure vowels. All high vowels in closed final syllables are, however, high-mid and lax, rather than high and tense.

The mid vowels only contrast with high vowels in the final syllable before glottal stop. In this environment, *-uk and *-ik became *ʊəʔ* and *ɪəʔ* while previous *-u and *-i in several words became *oʔ* and *ɛʔ* through sporadic glottal stop insertion. The following list contains several examples of high and mid distinctions in final syllables.

Figure 65

Phonetic realization of vowels in Iban

| | |
|---------------------|----------|
| /pun/ 'base' | [pʊəŋ] |
| /idup/ 'alive' | [idʊəp] |
| /takut/ 'afraid' | [takʊət] |
| /mabuʔ/ 'drunk' | [mabʊəʔ] |
| | |
| /iboʔ/ 'aunt' | [iboʔ] |
| /ucoʔ/ 'grandchild' | [ucoʔ] |
| | |
| /kulit/ 'skin' | [kulɪət] |
| /masin/ 'salty' | [masɪəŋ] |
| /ɲirim/ 'to send' | [ɲiriəm] |

/tasiʔ/ ‘ocean’ [tasiɁʔ]

/aeʔ/ ‘water’ [aeʔ]

/tiŋeʔ/ ‘tall’ [tiŋeʔ]

/maneʔ/ ‘to bathe’ [manɛʔ]

Note that in Punan Bah and Melanau (Blust 1988a) final glottal stop from *k is analyzable as an allophone of /k/ because off-gliding (*u̯ə* and *i̯ə*) occurs *only* before /k/. Here, however, because off-gliding occurs in all closed syllables, there is no analyzable condition or predictability which would allow one to claim that -ʔ is underlying /k/, since *k* is not a conditioner for vowel breaking.

2.8.5.3 Summary of Upper Kapuas Iban

The Iban of the upper Kapuas present a case where individual dialects of an otherwise well-known language may be very different from the more widely spoken standard. Iban in Sarawak is not reported to have fronted *a before final velars, nor is it reported to have developed off-glides in vowels in closed final syllables. Blust (personal communication, May, 2016) noted that several aberrant Malayic languages are reported to exist in the upper Kapuas. Although the dialect of Iban reported above is not as aberrant as many languages in Borneo (Sa’ban, Merap, Kelai for example) it does seem to provide evidence that these reports should be taken seriously, and more in-depth fieldwork in the upper Kapuas is necessary.

2.9 The Basap subgroup

Primary data for Basap was collected at only one location, in the small village of Keraitan in East Kutai. Additional data for Basap dialects are secondary, and were provided by Alexander Adelaar. The primary data set is labeled “Lebo”, which is, as noted in Guerreiro (2015), the preferred name of some of the people typically referred to as Basap. Secondary data is labeled Batu Putih Basap, Tabalar Basap, and Segai Basap. The secondary data is at times phonetically inconsistent with primary data (although generally the data is reliable for lexical purposes), as it was gathered by an untrained government official sometime in the early 1900’s. As such, it is

used with caution in this section, and only as a supplement to primary data, or to establish lexical innovations.

Excluded from this discussion is any reference to “Sajau” Basap (this apparently includes the group labeled “latti” in Guerreiro 2015). Blust (2015: 209) correctly points out that Sajau appears to be a Punan dialect, while other sources (Guerreiro 2015, Hudson 1978) continue to treat the Sajau as Basap. Section 2.4 placed Sajau and Latti in a subgroup with Punan Tubu and Punan Bah, on lexical grounds.

2.9.1 Basap phonological evidence

Although Basap languages are conservative, the two tables below show where changes have taken place and sound correspondences between PMP and four Basap varieties.

Table 67

Reflexes of PMP consonant phonemes in Basap

| | Lebo | Segai Basap | Tabalar Basap | Batu Putih |
|------|---|-------------|---------------|------------|
| *q- | ∅ | ∅ | ∅ | ∅ |
| *-q- | ∅; ? (C ₁ _ C ₁) | | | |
| *-q | ? | ? | ? | ? |
| *-b- | b | b; w | w; b | w; b |
| *-b | m | m | m | m |
| *-d- | d | r; d | y; d | r; d |
| *-d | n | n | d | d |
| *-j- | d | r; d | y; d | r; d |
| *-j | n | n | d | d |
| *R- | r | h | h | h |
| *-R- | r | h | h | h |
| *-R | r | h | h | h |

Table 68

Reflexes of PMP vowel phonemes in Basap

| | Lebo | Segai Basap | Tabalar Basap | Batu Putih |
|--------|------|-------------|---------------|------------|
| *-a | a | a | a | a |
| *-aC | a | a | a | a |
| *-aCVC | a | a | a | a |
| *-u | u | u | u | u |
| *-uC | u; o | u | u, o | u, o |
| *-uCVC | u; o | u | u | u |
| *-i | i | i | i | i |
| *-iC | i; e | i | i | i |
| *-iCVC | i; e | i | i | i |
| *-əC | ə | ə | ə | ə |
| *-əCVC | ə | ə | ə | ə |
| *ay | e | ay | ay | ay |
| *aw | o | aw | aw | aw |

Of all of the language groups described in this work, Basap is one of the most phonologically conservative. There appears to be only a single sound change which unites the various languages; *-b > -m. Only certain members of the Kayan group show a parallel change, so *-b > -m is not terribly common, but it is not unique to Basap. Because of the quality of the phonetic transcriptions in much of the data available for Basap, it remains the most poorly understood subgroup in all of Borneo. Fieldwork conducted specifically for this work collected data for only one Basap community, so although there has certainly been an expansion in the knowledge base, much work remains to be done.

There are some interesting notes however which need to be made regarding the above table. Tabalar Basap is a dialect which appears in the secondary data set, so inferences on the phonetic properties of Tabalar are difficult. Nevertheless, there appear to be a number of words which reflect *-d- and *-j- as y. Some examples are, *ɲayan* ‘name’ but *ɲadan* in Lebo Basap, from PMP *ɲajan, *uyoh* ‘grass’ but *udu* in Lebo Basap, from PMP *udu, and *tuyuh* ‘to sleep’ from PMP *tuduR. It is not the case, however, that all examples of *-d- are reflected as y as seen in Tabalar Basap *hudan* ‘shrimp’ *təduŋ* ‘snake’, and *bədok* ‘pig tailed macaque’. Note, however, that *hudan* and *təduŋ* may be Malayic loanwords (initial h in *hudan* is a clear sign that this is Malayic), and it is not clear if *bədok* is native or Kayanic. Also, Lebo Basap is distinct from other dialects in two ways. First, Lebo maintains glottal stop between like vowels, but deletes it everywhere else, a sound change that parallels a similar case in Busang Kayan (discussed above, in section 2.2).

Second, while all other Basap dialects maintain the diphthongs *-ay and *-aw, Lebo coalesced these to *-e and *-o. Few other distinctions are found in the data, and more work needs to be done to fully understand the historical phonologies of these languages.

2.9.2 Basap lexical evidence

To supplement the phonological data, an extensive list of Basap lexical replacement innovations has been assembled, which provides a better argument for a Basap subgroup.

| | | |
|---------------------|---|-----------------|
| *təliŋa | > | *tulək ‘ear’ |
| Segai Basap | | <i>tulək</i> |
| Tabalar Basap | | <i>tulak</i> |
| Batu Putih Basap | | <i>tolak</i> |
| | | |
| *jaʔa | > | *jaŋur ‘chin’ |
| Lebo | | <i>jaŋur</i> |
| Segai Basap | | <i>jaŋut</i> |
| | | |
| *liqəR | > | *buŋkuŋ ‘neck’ |
| Lebo | | <i>boŋkoŋ</i> |
| Segai Basap | | <i>buŋkuŋ</i> |
| | | |
| *baŋun | > | *buat ‘wake up’ |
| Lebo | | <i>buat</i> |
| Batu Putih Basap | | <i>buat</i> |
| | | |
| *nəŋ, *hiliŋ, *kita | > | *jaga ‘see’ |
| Segai Basap | | <i>jaga</i> |
| Tabalar Basap | | <i>jaga</i> |

| | | |
|------------------|---|----------------------------------|
| *iag | > | *tərais ‘shout’ |
| Segai Basap | | <i>tərais</i> |
| Tabalar Basap | | <i>atarais</i> |
| Batu Putih Basap | | <i>tərais</i> |
| | | |
| *kalih | > | *pədiŋ ‘to dig’ |
| Segai Basap | | <i>pədiŋ</i> |
| Tabalar Basap | | <i>pədiŋ</i> |
| Batu Putih Basap | | <i>pədiŋ</i> |
| | | |
| PWIN *bə-təRiʔ | > | *bunaŋan ‘pregnant’ |
| Lebo | | <i>bunaŋan</i> |
| Segai Basap | | <i>bunaŋan</i> |
| Tabalar Basap | | <i>bunaŋan</i> |
| | | |
| *likud | > | *hukut ‘back’ |
| Segai Basap | | <i>bəhukut</i> |
| Tabalar Basap | | <i>hukut</i> |
| Batu Putih Basap | | <i>hukut</i> |
| | | |
| *la(m)bar | > | *bayad ‘small insectivorous bat’ |
| Segai Basap | | <i>bayad</i> |
| Tabalar Basap | | <i>bayan</i> |
| | | |
| *bukij/*bulud | > | *dulun ‘mountain’ |
| Lebo | | <i>dulun</i> |
| Segai Basap | | <i>dulun</i> |
| Batu Putih Basap | | <i>dulun</i> |

*Rawəd > *waʔid ‘betel nut’
 Segai Basap *waʔid*
 Batu Putih Basap *waʔid*

*adaduq/*abuat > *bawan ‘long’
 Lebo *boan*
 Segai Basap *bawan*
 Batu Putih Basap *bawan*

*kiŋkiŋ/kəliŋkiŋ > *kinis ‘pinky’
 Lebo *kinis*
 Segai Basap *garinis*
 Batu Putih Basap *kenis*

*gatəl > *ñəRit ‘itchy’
 Lebo *ñərit*
 Batu Putih Basap *ñəhit*

*(q)atiŋ/*liŋət > *gəsəŋ ‘sweat’
 Lebo *ŋəsanan*
 Segai Basap *gəsəŋ*
 Tabalar Basap *gəsəŋ*

*kawiRi > *kidal ‘left’
 Segai Basap *kidal*
 Tabalar Basap *kidal*
 Batu Putih Basap *pakidal*

Note that the above form is also found in Javanese *kidal* ‘left-handed’ and may ultimately not be native.

*takaw > *muRu(h) ‘steal’

Lebo *məmuru*

Segai Basap *amuroh*

Tabalar Basap *mohoh*

Batu Putih Basap *ηamuroh*

*qatəluR > *bunaŋ ‘egg’

Lebo *bunaŋ*

Segai Basap *bunaŋ*

Tabalar Basap *bunaŋ*

Batu Putih Basap *bunaŋ*

*lurus > *tunaŋ ‘straight’

Lebo *tunaŋ*

Segai Basap *tunaŋ*

*linis, *dalat > *lucut ‘smooth’

Tabalar Basap *lucut*

Batu Putih Basap *lucut*

*tilanzaŋ > *[l/n]imbuluR ‘naked’

Lebo *bulor-bulor*

Segai Basap *limuloh*

Batu Putih Basap *nimbulu*

*buŋkus > *tum ‘to wrap’

Lebo *məntum*

Segai Basap *tom*

Batu Putih Basap *itum*

*kənduR, *laplap ‘loose’ > *ləbus ‘loose’

Segai Basap *ləbus*

Tabalar Basap *ləbos*

Batu Putih Basap *ləbus*

*-asuk, *-usuk, *səjəp > *ñilam ‘enter’

Lebo *ñelam*

Segai Basap *ñilam*

Tabalar Basap *ñilam*

*? *ləhiŋ ‘honey’

Segai Basap *ləhiŋ*

Tabalar Basap *ləhiŋ*

Batu Putih Basap *ləhiŋ*

2.9.3 Summary

The data presented above serves only to show that there is indeed a Basap subgroup, and that it is sufficiently distinct to justify grouping the Basap languages together, and to begin studying them as a historical unit. An internal subgrouping of Basap must await a more thorough study of the various dialects. Guerreiro (2015) is what might be the only study of multiple Basap groups in wide distribution, but the methods employed are far from satisfactory and one must ultimately treat the linguistic conclusions drawn in that work with a degree of caution (although it provides an excellent account of Basap oral history and naming traditions). With additional fieldwork, the question of how the Basap languages relate to each other, and the nature of that relationship, will become clear.

2.10 The Languages of northern Borneo

Blust (2010) and Lobel (2013a, 2013b; 2016) provide excellent resources for the languages of Northern Borneo, and, since fieldwork for the present work was never done in Sabah, much of the analysis of these languages must ultimately be deferred to these earlier works. However, it is still necessary to provide an overview here, for the sake of completeness

and to discuss specific issues which are in need of attention. The languages of Northern Borneo are typically divided into two groups, Southwest Sabah, and Northeast Sabah (as argued in Blust 2010, Lobel 2013b, 2016). It is not clear that SWS and NES form a Sabahan group which excludes all other languages, and this chapter will not treat SWS and NES as branches of a hypothetical Sabahan subgroup. They are rather treated as separate entities. In this section I pay special attention to NES, particularly on a disagreement in the literature regarding Molbog and Bonggi, and their wider subgrouping.

2.10.1 Southwest Sabah

As argued in Blust (2010) Southwest Sabah is a large subgroup which extends from northern-most Sarawak and Kalimantan to the tip of Sabah, not including Bonggi on Bonggi island and the Idaanic languages of northeastern Sabah. Lobel (2013b) splits Southwest Sabah into two major subgroups, Greater Murutic and Greater Dusunic, based on a variety of factors. Briefly, Greater Dusunic contains the Sabah Dusun languages, Sabah Bisaya, Limbang Bisaya, Lotud, and Paitanic languages. Greater Murutic contains Papar, Tatana, Murutic, and Tidung. An overview of the subgrouping in Lobel (2013b, 2016) is presented below. Note that a more thorough family tree can be found in the original publication:

Figure 66

Southwest Sabah according to Lobel (2013b)

SOUTHWEST SABAH (summarized from Lobel 2013b)

Greater Dusunic

Bisaya-Lotud

Sabah Bisaya, Limbang Bisaya, Brunei Dusun, Lotud

Dusunic

Rungus, Kadazan, Kujau, Minokok, Dusun (all types in Sabah), Dumpas

Paitanic

Beluran, Lingkabau, Lobu, Kuamut, Murut Serudong

Greater Murutic

Tatana

Papar

Murutic

Murut (Nabaay, Timugon, Paluan, Tagol, Kalabakan), Gana, Tingalan, Kolod, Abai, Bulusu, Tidung (Bengawong, Sumbol, Kalabakan, Mensalong, Malinau)

Evidence for the above internal subgrouping of SW Sabah is given in Lobel (2013b), and some of it will be reprinted below for clarity.

2.10.1.1 Southwest Sabah lexical evidence

Sabah presents certain difficulties for identifying lexical innovations that are less of an issue in other parts of Borneo. First, the languages of Northern Borneo, as represented in the wordlists in Lobel (2016), have borrowed from one another, from Greater Central Philippine languages, and from Malay. Second, the conservative phonologies, with few characteristic sound changes in any Sabahan language, make identifying loans problematic. As such, the following list has been compiled with great care, but items will likely need to be altered as more research is done in Sabah. All of the words in the following list support Southwest Sabah as a linguistic subgroup, which excludes Bonggi and Idaanic languages.

*wati/gəlaŋ > *liŋkuaŋ ‘earthworm’

Bisaya *liŋguaŋ*

Lotud *oŋgiluaŋ*

Rungus *liŋgupaŋ*

Kujau *təŋgilupaŋ*

Dumpas *liŋguaŋ*

Lobu (all dialects) *liŋguaŋ*

Tatana *liŋguaŋ*

Papar *liŋguaŋ*

Kolod *liŋguaŋ*

Bulusu *liŋkuaŋ*

Tidung *liŋkuaŋ*

*putiq > *əpurak/ *puti? ‘white’

Bisaya *mapurak*

Lotud *opurak*

Rungus *opurak*

Kujau *əpurak*

Tatana *mopurak*

Papar *purak*

Kolod *afulak*

Bulusu *purak*

Tidung *pulak*

Paitanic languages have reflexes of *putiq, which forces one to reconstruct two words for ‘white’.

| | |
|----------------------------|-------------------------|
| PWIN *pəŋanən, PMP *sawa > | *məndələn ‘python’ |
| Bisaya | <i>bondolon</i> |
| Lotud | <i>monolon</i> |
| Kuamut | <i>mondolon</i> |
| Tatana | <i>bundolon</i> |
| Timugon | <i>mondolon</i> |
| Kolod | <i>monolon</i> |
| Bulusu | <i>mondolon</i> |
| Tidung | <i>məndolon</i> ‘snake’ |

Dusunic languages replaced *məndələn with *ləpuŋ, as evidenced by Rungus *lopuŋ*, Kujau *ləpuŋ*, Dumpas *lopuŋ*, and many others.

| | |
|---------------|---------------------|
| *qabaRa > | *limbawa ‘shoulder’ |
| Brunei Dusun | <i>lambawo</i> |
| Dusun Tamb | <i>liwawa</i> |
| Tatana | <i>limbawo</i> |
| Papar | <i>imbawo</i> |
| Timugon | <i>limbawo</i> |
| Kolod | <i>limawo</i> |
| Tidung Beng | <i>limbawo</i> |
| Tidung Sumbol | <i>imbawo</i> |

This form is only superficially similar to PMP *qabaRa. In most of the languages above (with the exception of some Murutic languages) *R did not regularly become *w in intervocalic position.

| | | |
|---------|---|------------------------------------|
| *qatəp | > | *taʔap (metathesis) / *atap ‘roof’ |
| Bisaya | | <i>taap</i> |
| Lotud | | <i>taʔap</i> |
| Rungus | | <i>taʔap</i> |
| Kujau | | <i>taap/taʔap</i> |
| Dumpas | | <i>taap</i> |
| Lobu L | | <i>taʔap</i> |
| Tatana | | <i>taap</i> |
| Papar | | <i>taʔap</i> |
| Timugon | | <i>taap</i> |
| Kolod | | <i>taap</i> |
| Bulusu | | <i>tap</i> |

Nearly all SWS languages show metathesis in this word, where initial *qat- became *taʔ-. Tidung dialects, however, do not show this change, which is difficult to explain, but since it is well represented in every other Southwest Sabahan language, it should be reconstructed. There may have been optional metathesis, but the circumstances of this are not fully understood.

| | | |
|-----------------|---|----------------------|
| *quzan | > | *dasam/ *uran ‘rain’ |
| Bisaya | | <i>rasam</i> |
| Lotud | | <i>rasam</i> |
| Kadazan Kimanis | | <i>yasam</i> |
| Tatana | | <i>dasam</i> |
| Papar | | <i>dasam</i> |
| Timugon | | <i>rasam</i> |
| Bulusu | | <i>dasam</i> |
| Tidung | | <i>dasam</i> |

This form is interesting, as reflexes of *quzan appear in Paitanic languages, but nowhere else in SW Sabah, where *dasam (or a later innovation *darun) is found throughout.

| | |
|----------------|------------------------|
| *daqan/dadan > | *laid ‘old, of things’ |
| Bisaya | <i>laid</i> |
| Rungus | <i>alaid</i> |
| Kadazan Papar | <i>ahaid</i> |
| Kujau | <i>alaid</i> |
| Dumpas | <i>alaid</i> |
| Lobu L | <i>nəlaid</i> |
| Tatana | <i>nalaid</i> |
| Papar | <i>laid</i> |
| Kolod | <i>laidon</i> |
| Bulusu | <i>laid</i> |
| Tidung | <i>laid</i> |

Bonggi has *məleid*, but without Idaanic evidence, it is difficult to claim that this cannot be a borrowing. Note Idaan *dtan* and Begak *buay*.

| | |
|-----------|----------------|
| *baqbaq > | *kabaŋ ‘mouth’ |
| Bisaya | <i>kabaŋ</i> |
| Lotud | <i>kabaŋ</i> |
| Rungus | <i>kabaŋ</i> |
| Kujau | <i>kabaŋ</i> |
| Dumpas | <i>kabaŋ</i> |
| Lobu L | <i>kəbaŋ</i> |
| Tatana | <i>kabaŋ</i> |
| Papar | <i>kaʔbaŋ</i> |
| Kolod | <i>kabaŋ</i> |
| Bulusu | <i>kabaŋ</i> |
| Tidung | <i>kabaŋ</i> |

This form is very regularly reflected in every single SW Sabah language listed in Lobel (2016).

| | | |
|-------------|---|--------------------|
| *atay | > | *aŋkayaw ‘liver’ |
| Bisaya | | <i>aŋkayaw</i> |
| Lotud | | <i>aŋkowiaw</i> |
| Rungus | | <i>oŋkovizaw</i> |
| Kujau | | <i>təŋkəvijaw</i> |
| Dusun Tobil | | <i>toŋkowiaw</i> |
| Tatana | | <i>aŋkayaw</i> |
| Papar | | <i>aŋkayaw</i> |
| Timugon | | <i>aŋkayaw</i> |
| Kolod | | <i>liŋkayaw</i> |
| Bulusu | | <i>laŋkayaw</i> |
| Tidung | | <i>(l)inŋkayaw</i> |

Dumpas *atoy*, Beluran *atəy*, and Kuamut *atoy* suggest that this was not a complete replacement, although reflexes of *aŋkəwiaw are prevalent in all SW Sabah subgroups.

| | | |
|-----------|---|---------------------|
| *qudip | > | *biaR ‘alive; life’ |
| Bisaya | | <i>iow</i> |
| Lotud | | <i>miaw</i> |
| Rungus | | <i>mizaw</i> |
| Dumpas | | <i>miaw</i> |
| Lingkabau | | <i>miaw</i> |
| Lobu L | | <i>iaw</i> |
| Tatana | | <i>biag</i> |
| Papar | | <i>biag</i> |
| Kolod | | <i>aayag</i> |
| Bulusu | | <i>uyag</i> |
| Tidung | | <i>muyag</i> |

Note Bonggi *biag* and Molbog *biyag* are loans from a SW Sabahan source.

| | | |
|----------------------|---|--------------|
| *sanam | > | *kilaw ‘ant’ |
| Bisaya | | <i>kilaw</i> |
| Rungus | | <i>kilaw</i> |
| Kujau | | <i>kilaw</i> |
| Dumpas | | <i>kilaw</i> |
| Lobu (both dialects) | | <i>kilaw</i> |
| Tatana | | <i>kilaw</i> |
| Timugon | | <i>kilaw</i> |
| Kolod | | <i>kilaw</i> |
| Bulusu | | <i>kilaw</i> |
| Tidung | | <i>kilaw</i> |

| | | |
|--------|---|----------------|
| *buta | > | *bələw ‘blind’ |
| Bisaya | | <i>bolow</i> |
| Lotud | | <i>bolow</i> |
| Rungus | | <i>bolow</i> |
| Kujau | | <i>nəbələw</i> |
| Lobu T | | <i>bolow</i> |
| Lobu L | | <i>bələw</i> |
| Tatana | | <i>bolow</i> |
| Papar | | <i>bobolow</i> |
| Tagol | | <i>oβolow</i> |
| Bulusu | | <i>bolow</i> |
| Tidung | | <i>borow</i> |

| | | |
|--------|---|--------------|
| *lawas | > | *inan ‘body’ |
| Bisaya | | <i>inan</i> |
| Lotud | | <i>inan</i> |
| Rungus | | <i>inan</i> |
| Kujau | | <i>tinan</i> |
| Tatana | | <i>inan</i> |
| Papar | | <i>inan</i> |
| Tagol | | <i>inan</i> |
| Abai | | <i>inan</i> |

The later Paitanic innovation *kayuan is found in Dumpas, Minokok, and Dusun Talantang, but since Bisaya-Lotud reflects *inan, and all other Dusunic languages in Lobel (2016) reflect *inan, it was most likely inherited from PSWS, and examples of *kayuan outside of Paitanic are borrowings.

| | | |
|-------------|---|-------------------------------|
| *piŋi | > | *piŋas ‘cheek’ |
| Lotud | | <i>piŋas</i> |
| Kujau | | <i>piŋas</i> |
| Dusun Tobil | | <i>piŋas</i> |
| Lobu T | | <i>piŋas</i> |
| Papar | | <i>piŋas</i> |
| Tidung | | <i>pəliŋas</i> (all dialects) |

| | | |
|----------|---|---------------|
| *piŋi | > | *ilan ‘cheek’ |
| L Bisaya | | <i>ilan</i> |
| Lobu L | | <i>ilan</i> |
| Serudong | | <i>ilan</i> |
| Gana | | <i>ilan</i> |
| Kolod | | <i>ilan</i> |
| Abai | | <i>ilan</i> |
| Bulusu | | <i>ilan</i> |

Because of the distribution, *piņas may be PSwS while *ilan may be PMur, which was then borrowed widely. Note that all Tidung and Dusunic languages reflect *piņas, and it is at least partially represented in all subgroups, while *ilan is well represented in Murutic and Paitanic, but is absent in Tidung and Dusunic.

*Rusuk/dahdah > *kubab ‘chest’

| | |
|-----------|--------------------|
| L Bisaya | <i>kuab</i> |
| Lotud | <i>kuab</i> |
| Lingkabau | <i>kuab</i> |
| Serudong | <i>kubab/kubam</i> |
| Papar | <i>kuʔbab</i> |
| Gana | <i>kubab</i> |
| Tagol | <i>kuβab</i> |
| Abai | <i>kubab</i> |
| Bulusu | <i>kubab</i> |
| Tidung | <i>kubab</i> |

*taņis > *taņiʔ (irregular sound change where *-s > *-ʔ) ‘to cry’

| | |
|---------------------|----------------|
| Beluran | <i>tumaņiʔ</i> |
| Lobu (all dialects) | <i>tumaņiʔ</i> |
| Serudong | <i>tumaņiʔ</i> |
| Tatana | <i>manaņiʔ</i> |
| Papar | <i>tumaņiʔ</i> |
| Kolod | <i>antaņiʔ</i> |
| Bulusu | <i>naņiʔ</i> |
| Tidung | <i>təmaņiʔ</i> |

In Dusun and Bisaya-Lotud, this was replaced by the later innovation, *mag-ihad

| | | |
|-------------|---|-----------------------|
| *payaw | > | *tambaŋ/*payaw ‘deer’ |
| Bisaya | | <i>tambaŋ</i> |
| Rungus | | <i>tambaŋ</i> |
| Kujau | | <i>tambaŋ</i> |
| Dusun Tobil | | <i>tambaŋ</i> |
| Lobu L | | <i>tambaŋ</i> |
| Tatana | | <i>tambaŋ</i> |
| Papar | | <i>tambaŋ</i> |
| Kolod | | <i>tamaŋ</i> |
| Bulusu | | <i>tambaŋ</i> |

This word must have existed alongside the slightly earlier innovation, *payaw, as reflexes of the earlier form are found in Kinabatangan *payow*, Dumpas *payow*, Beluran *payəw*, Serudong *payow*, Nabaay *payow*, Paluan *payow*, Tidung (all dialects) *payow*. Note that NE Sabah also retains *payaw, except for Bonggi which has *tembakŋ*, presumably a loan word.

| | | |
|-------------|---|-----------------------|
| *silu/sulu | > | *sindulu ‘fingernail’ |
| Bisaya | | <i>sindulu</i> |
| Lotud | | <i>sondulu</i> |
| Rungus | | <i>sondulu</i> |
| Kujau | | <i>səndulu</i> |
| Dusun Tobil | | <i>sondulu?</i> |
| Tatana | | <i>sandilu</i> |
| Papar | | <i>sindulu</i> |
| Nabaay | | <i>salindu</i> (m) |
| Tagol | | <i>salindu</i> (m) |
| Bulusu | | <i>sindilu</i> |

This may have been a morphologically complex word, as both *sindulu (from *sulu) and *sindilu (from *silu) are attested, although *sindulu is by far more common, with *sindilu reflected in only two forms. Paitanic languages reflect *pasu?, a latter replacement innovation.

| | |
|------------|------------------|
| - | *tahak ‘to give’ |
| Bisaya | <i>manaak</i> |
| Lotud | <i>tumahak</i> |
| Rungus | <i>manahak</i> |
| Kujau | <i>tahakan</i> |
| Dumpas | <i>taak</i> |
| Lobu L | <i>taak</i> |
| Beluran | <i>mənaak</i> |
| Tatana | <i>manaak</i> |
| Papar | <i>tahak</i> |
| Kolod | <i>naakin</i> |
| Bulusu | <i>tinak</i> |
| Sumbol | <i>anjitak</i> |
| Kalabakang | <i>initak</i> |

There are several competing reconstructions for ‘to give’ (Blust and Trussel ongoing), but *tahak does not seem to reflect any of them.

| | | |
|------------------|---|----------------|
| *atas | > | *sawat ‘tall’ |
| L Bisaya | | <i>sawat</i> |
| Rungus | | <i>asavat</i> |
| Kadazan Membakut | | <i>asavat</i> |
| Dumpas | | <i>asawat</i> |
| Lobu T | | <i>osawat</i> |
| Papar | | <i>sawat</i> |
| Timugon | | <i>masawat</i> |
| Kolod | | <i>asawat</i> |
| Bulusu | | <i>sawat</i> |
| Tidung | | <i>sawat</i> |

| | | |
|---------|---|---------------|
| *uRuŋ | > | *saŋaw ‘horn’ |
| SBisaya | | <i>saŋaw</i> |
| Rungus | | <i>saŋaw</i> |
| Kujau | | <i>saŋaw</i> |
| Lobu T | | <i>soŋaw</i> |
| Timugon | | <i>saŋaw</i> |
| Kolod | | <i>saŋaw</i> |
| Abai | | <i>saŋaw</i> |

The list of lexical replacement innovations found exclusively in SW Sabahan languages is quite extensive. Nearly all of the data, with the exception of Bulusu, is from Lobel’s 2016 source book with 500 basic lexical items. As such, all of the evidence comes from basic vocabulary.

2.10.1.2 Phonological evidence for separating Southwest Sabah into Greater Dusunic and Greater Murutic

Lobel (2013b) uses a combination of phonological and functor data to argue for two major subgroups in Southwest Sabah, Greater Dusunic and Greater Murutic. That evidence is reviewed here, and later supplemented with lexical innovations that seem to support his findings.

2.10.1.2.1 Reflexes of *R

In word-final position, two reflexes are reconstructable for *R. Greater Dusunic languages reflect PGD *-w from earlier *-R, while Greater Murutic languages have *-g. Some examples are presented below.

*luaR ‘loose’

| | |
|---------|--|
| Dusunic | Bisaya <i>luaw</i> , Lotud <i>oluaw</i> , Rungus <i>oluwaw</i> , Kujau <i>əluwaw</i> , Dumpas <i>oluaw</i> , Lobu L <i>əluaw</i> |
| Murutic | Tatana <i>maluag</i> , Bulusu <i>luag</i> , Tidung <i>luag</i> |

*ibəR ‘saliva; phlegm’

Dusunic Bisaya *liaw*, Lotud *iwow*, Dumpas *iwow*, Løbu L *iwəw*

Murutic Tatana *iwog*, Papar *iwog*, Bulusu *iwog*, Tidung *iwog*

Note however, that NE Sabahan languages also reflect *-R with *-g, and while *-R > *-w may be compelling enough to propose a Greater Dusunic subgroup, *-R > *-g is much weaker evidence for a Greater Murutic subgroup.

Additional evidence comes from reflexes of *R in intervocalic position, but here, the evidence suggests that within Greater Dusunic, Dusunic and Bisaya Lotud form a subgroup to the exclusion of Paitanic. To summarize, in intervocalic position *-R- typically became *-h- in all Southwest Sabah languages. In Greater Murutic, this is regular throughout the subgroup, but in Greater Dusunic, *-R- shows a split reflex in Dusunic and Bisaya-Lotud (but not in Paitanic). There, *-R- became *-h- except where it occurred before *i where it strengthened to *-g-. Drawing on data from Lobel (2013b, 2016) the split is clear:

Table 69

*R > g / _i in Dusunic

| | Lotud (B-L) | Kujau (Dus) | Kuamut (Pait) | Bulusu (GMur) |
|----------------------|-------------|-------------|---------------|---------------|
| *duRi ‘thorn’ | rugi | rugi | dui | dui |
| *hadiri ‘house post’ | origi | tərigi | - | rii |
| *daRaq ‘blood’ | rahaʔ | rahaʔ | raaʔ | dadaʔ |
| *uRat ‘vein’ | uhat | tuhāt | waʔat | uwat |

The data here seems to suggest a Dusunic-Bisaya-Lotud subgroup within Greater Dusunic, since although a *g reflex of *R is not uncommon, the specific condition where *R > *g only before *i is more compelling.

2.10.1.2.2 Lenition of *b- and *d-

Lobel lists an unconditioned split in reflexes of initial *b and *d as evidence for a Greater Dusunic group. Although the correspondences for *d- > *d/r across Greater Dusunic are impressive, *b- > *b/w is less compelling. In a table on page 54, Lobel (2013b) lists 13 examples where *b > *w. 10 of those examples are reconstructable to all three major subgroups within Greater Dusunic. Of those 10, however, only 4 agree in showing *b > w across all three groups. 6

examples have *b > w in one or two groups, but a retention of *-b unchanged in the others. Thus, only 40% of the evidence presented is consistent, leaving one underwhelmed regarding its importance. If a split in reflexes of *-b- is going to be presented as subgrouping evidence, it should be consistent across all subgroups, otherwise chance or diffusion, remain valid explanations. This point is true even though this is an unconditioned split. If splits are to be presented as evidence for subgrouping, then a sporadic change of *b > *w in a single lexeme, should show *b > *w in that lexeme throughout the subgroup.

Reflexes of *d- > *d/r are much more compelling. On page 55, Lobel presents 11 examples where *d- > r, nine of which are reconstructable to all three major Greater Dusunic subgroups. Of those nine, eight are regular across the subgroups. Here, it is much more likely that the *d- > *d/r split is inherited, as it is consistently reflected across Greater Dusunic.

2.10.1.3 Greater Dusunic and Greater Murutic lexical evidence

There is not much phonological evidence in support of Greater Dusunic and Greater Murutic. The change of *-R to *-w, combined with an internally regular split in reflexes of *d- is certainly compelling, but there still seems to be a lack of strong evidence for Greater Murutic. Appealing to lexical data, detailed below, may help to sort out Greater Dusunic and Greater Murutic.

2.10.1.3.1 Greater Murutic lexical evidence

*wahiR/*danum > *timug ‘water’

Tatana *timug*

Papar *timug*

Timugon *timuy*

Bulusu *timug*

Tidung *timug*

| | | |
|----------------|---|-----------------|
| *tuduR | > | *boloŋ ‘sleep’ |
| Timugon | | <i>momboloŋ</i> |
| Kolod | | <i>ooloŋ</i> |
| Abai | | <i>aloŋ</i> |
| Tidung Malinau | | <i>moloŋ</i> |

Bulusu reflects *tuduR as *turug*, which casts some doubt on this word. It may have had a separate meaning from *tuduR or it may be a borrowing, but it cannot be inferred from the available data.

| | | |
|---------|---|---------------------|
| *pajay | > | *biləd ‘field rice’ |
| Tatana | | <i>bilod</i> |
| Papar | | <i>biod</i> |
| Timugon | | <i>bilor</i> |
| Kolod | | <i>bilod</i> |
| Abais | | <i>bilod</i> |
| Bulusu | | <i>bilod</i> |
| Tidung | | <i>bilod</i> |

Lobu dialects have *bilod* or *biləd* which is assumed to be a Murutic loan. All other Greater Dusunic languages reflect *pajay.

| | | |
|---------|---|-----------------|
| *likud | > | *bakuluŋ ‘back’ |
| Timugon | | <i>bakuluŋ</i> |
| Kolod | | <i>bakuluŋ</i> |
| Bulusu | | <i>bakuluŋ</i> |
| Tidung | | <i>bəŋkuluŋ</i> |

Note that Tatana *likud* and Gana *likud* may be loans from a Dusunic source.

*lipan > *nipal (m) ‘centipede’

Papar *nipal*

Gana *nipal*

Tagol *ripal*

Kolod *nifal*

Bulusu *dipal*

Tidung *nipal*

*tuquR > *pua? ‘dry’

Nabaay *mapua?*

Timugon *mapua?*

Tagol *apua?*

Abai *fua?*

Bulusu *pua?*

Tidung *pua?*

*ka-wiRi > *kait ‘left’

Nabaay *kait*

Timugon *kait*

Kolod *kait*

Bulusu *kait*

Tidung (all dialects) *kait*

Tatana and Papar *ibanj* are either borrowings, or *kait was innovated in a slightly lower node which excludes these two languages.

*kahiw > *ta-tahun ‘tree; wood’

Tatana *tataun*

Papar *tahun*

Timugon *tataun*

Kolod *taun*

Bulusu *taun*

Tidung *taun*

2.10.1.3.2 Greater Dusunic lexical evidence

- *əṇawaw ‘bright’

Rungus *anavaw*

Kujau *anavaw*

Dumpas *anawaw*

Lobu T *onawaw*

Serudong *anawaw*

*sulud > *suday ‘comb’

Bisaya *suday*

Lotud *suday*

Kadazan Kimanis *suday*

Kujau *suday*

Dumpas *suday*

Beluran *suday*

Lingkabau *suday*

Lobu (all dialects) *suday*

Serudong *suday*

This word is particularly difficult to pin down. No Paitanic languages reflect *sulud however. On the one hand, *suday may have been a Paitanic innovation which has been borrowed to a

considerable degree into other Dusunic languages. On the other hand, Greater Dusunic languages might have borrowed what appear to be reflexes of *sulud from a Murutic source. While some Murutic languages have reflexes of *suday (Tatana *suday*, Papar *su?day*, Timugon *suray*) reflexes of *sulud are found throughout Murutic, and Tidung dialects unanimously reflect *sulud.

| | | |
|-------------|---|---------------|
| *bahaq | > | *liud ‘flood’ |
| Bisaya | | <i>liud</i> |
| Lotud | | <i>liud</i> |
| Rungus | | <i>lizud</i> |
| Kujau | | <i>lizud</i> |
| Dusun Tobil | | <i>liud</i> |
| Lobu T | | <i>liud</i> |

*liud is reflected in Tatana, Papar, Gana, and Nabaay, apparently as the result of borrowing.

2.10.1.3.3 Dusun-Bisaya-Lotud

Perhaps more interesting than apparent Greater Dusunic lexical innovations are innovations found only between Dusunic and Bisaya-Lotud in basic vocabulary. These innovations support observations in the phonological data, where *-Ri- > *-gi- only in Dusun and Bisaya-Lotud.

| | | |
|-------------|---|-------------------------|
| *lipan | > | *kali-ma?ay ‘centipede’ |
| Bisaya | | <i>lalamai</i> |
| Lotud | | <i>in?kalama?ay</i> |
| Rungus | | <i>a?kalama?ay</i> |
| Kujau | | <i>ta?kalamay</i> |
| Dusun Tobil | | <i>ta?kilamay</i> |

Tatana *a?kalamay* may be a Dusunic borrowing.

| | |
|----------------|------------------|
| *hulaR/nipay > | *bulanut ‘snake’ |
| Brunei Dusun | <i>lanut</i> |
| Lotud | <i>ulanut</i> |
| Rungus | <i>vulanut</i> |
| Kujau | <i>vulanut</i> |
| Dusun Tobil | <i>wulanut</i> |

| | |
|----------|----------------|
| *taŋis > | *ihad ‘to cry’ |
| Bisaya | <i>magiad</i> |
| Lotud | <i>moŋihad</i> |
| Rungus | <i>mogihad</i> |
| Kujau | <i>məgihad</i> |
| Dumpas | <i>magiad</i> |

| | |
|----------|-----------------|
| *tuduR > | *m-ədəp ‘sleep’ |
| Bisaya | <i>modop</i> |
| Lotud | <i>modop</i> |
| Rungus | <i>modop</i> |
| Kujau | <i>mədəp</i> |
| Dumpas | <i>modop</i> |

Paitanic languages reflect *tudur as *turuu* (turuw). Also, Palawan Batak (GCP) *idip* may be a borrowing, considering its proximity to Sabah.

2.10.1.4 Summary of the internal subgrouping of Southwest Sabah

The section above established with some degree of certainty a Southwest Sabah group on lexical grounds. The division of this group into Greater Dusunic and Greater Murutic (Lobel 2013b, 2016) is accepted, with one condition. Bisaya-Lotud and Dusunic share enough in common, including the conditioned reflex of *R as *g *only* before *i and several lexical replacement innovations, to group them together to the exclusion of Paitanic. Figure 66 below shows the internal subgrouping of Southwest Sabah supported by the evidence presented above.

Figure 67

Internal subgrouping of Southwest Sabah

SOUTHWEST SABAH (modified from Lobel 2013b)

Greater Dusunic

a. Bisaya-Lotud-Dusunic

Bisaya-Lotud

Sabah Bisaya, Limbang Bisaya, Brunei Dusun, Lotud

Dusunic

Rungus, Kadazan, Kujau, Minokok, Dumpas

b. Paitanic

Beluran, Lingkabau, Lobu, Kuamut, Murut Serudong

Greater Murutic

Tatana

Papar

Murutic

Murut (Nabaay, Timugon, Paluan, Tagol, Kalabakan), Gana, Tingalan, Kolod, Abai, Bulusu, Tidung (Bengawong, Sumbol, Kalabakan, Mensalong, Malinau)

2.10.2 Northeast Sabah

Northeast Sabah contains two geographically separated communities as argued in Blust (2010); Bonggi to the far north, and Idaanic dialects to the far east. Molbog, a language which is not included in Blust's subgrouping, but with which Lobel (2016) groups Bonggi is also included in this discussion. The following tables present reflexes of PMP phonemes in Northeast Sabah plus Molbog.

Table 70

Reflexes of PMP consonant phonemes in Northeast Sabah, plus Molbog

| | Idaan | Sungai Seguliud | Begak | Bonggi | Molbog |
|------|----------|-----------------|--------|-------------|--------|
| *p- | p | p | p | f | p |
| *-p- | p; pp | p; pp | p; pp | f | p |
| *-t- | t; tt | t; tt | t; tt | t | t |
| *q- | Ø | Ø | Ø | Ø | Ø |
| *-q- | Ø | Ø | Ø | Ø | ? |
| *-q | ? | ? | ? | ? | ? |
| *b- | b; bp | b; bp | b; bp | b | b |
| *-b- | b; bp; Ø | b; bp; Ø | b?; bp | b | b |
| *d- | d; dd | d; dd | d; dd | d | d |
| *-d- | r; dt | r; dt | r; dt | d | d |
| *-j- | r; dt | r; dt | r; dt | d | d; dd |
| *z- | d | d | d | d | d |
| *-z- | r; dt | r; dt | r; dt | d | d |
| *-s- | s; ss | s; ss | s; ss | s | s |
| *-l- | l; ll | l; ll | l; ll | l | l |
| *R- | g; gk | g; gk | g;gk | g | g |
| *-R- | g; gk | g; gk | g;gk | Ø; r,g / ə_ | g |
| *-R | g | g | g | g | g |

Table 71

Reflexes of PMP vowel phonemes in Northeast Sabah, plus Molbog

| | Idaan | Sungai Seguliud | Begak | Bonggi | Molbog |
|--------|-------|-----------------|-------|-----------|--------|
| *-a | o | o | o | a | a |
| *-aC | a | a | a | a; ai | a |
| *-aCVC | a | a | a | a; o; e | a |
| *-u | u | u | u | u | u |
| *-uC | u | u | u | u | u |
| *-uCVC | u | u | u | u | u |
| *-i | i | i | i | i | i |
| *-iC | i | i | i | i | i |
| *-iCVC | i | i | i | i | i |
| *-əC | o | o | o | a; u | o |
| *-əCVC | ə; i | o; i | ə; i | o; i; (ə) | o |
| *-ay | ay | ay | ay | i | oy |
| *-aw | aw | aw | ow | u | ow |

As the above tables suggest, these languages are not very phonologically innovative, save for gemination and terminal devoicing of voiced obstruents after schwa, which appear as the homorganic voiced-voiceless clusters *bp*, *dt*, and *kg*. This is considered a retention from PNB,

where terminal devoicing of geminate voiced obstruents was innovated. Similar types of stops are found in languages of the North Sarawak group (discussed more below). Also, although the table does not make this clear, Bonggi has preploded final nasals (*-pm*, *-tn*, and *-kŋ*), a feature it shares with Land Dayak and Malayic languages, spoken on the other side of Borneo, and an interesting conditioned reflex of *a, where *a became *ay (written ai) before final *-n.

2.10.2.1 The position of Bonggi and Molbog

The reflex charts above do little to address the position of Bonggi and Molbog. It is necessary to take a deeper look into the issue. Recently, two hypotheses have been published regarding the linguistic position of Bonggi and Molbog. Blust (2010) argues that Molbog and Bonggi do not form a subgroup with one another, but rather that Bonggi subgroups exclusively with Idaan in his Northeast Sabah subgroup. Lobel (2013b, 2016) groups Molbog and Bonggi together, in his Molbog-Bonggi subgroup, but leaves open the larger position of Molbog-Bonggi with respect to Greater Central Philippines and NE Sabah. Blust's argument is more concerned about Bonggi, and less about Molbog. It is based exclusively on lexical replacement innovations shared between Bonggi and Idaan, without considering phonological evidence and without discussing in any great detail the position of Molbog. Lobel's arguments are based largely on what he calls "functor" data; similarities in the pronominal forms, case markers, demonstratives, adverbial particles, basic verbal morphology, negators, and adverbs of time (Lobel 2013b:40) which he attributes to inheritance, arguing that functors are particularly stable and provide subgrouping evidence on par with phonological evidence. Lobel's arguments are more about Bonggi and Molbog, and less about either's larger position in Austronesian. My arguments below are meant to fill in some gaps in this conversation by presenting phonological evidence dealing with both Bonggi and Molbog's wider subgrouping, i.e. is Molbog a Philippine language or a North Bornean language? And similarly, is Bonggi a Philippine language or a North Bornean language? Below I present evidence which, considering the larger histories of Greater Central Philippines (from Blust 1991) and Greater North Borneo, suggests that while Bonggi shares phonological and lexical innovations exclusively with the languages of Borneo, Molbog does not.

2.10.2.1.1 Simplification of heterorganic consonant clusters in reduplicated monosyllables

Sabahan languages, plus the North Sarawak subgroup, fully assimilated the first consonant in clusters formed by reduplicated monosyllables. This created geminate voiced obstruents from historical clusters. Greater Central Philippine languages did not assimilate obstruents in this environment, and retain the original consonant clusters. For example, the *-qb- cluster in *baqbaq ‘mouth’ became GNB *babbaʔ with a medial geminate. In Idaan, this is reflected with *babpaʔ* where the voiced geminate underwent regular terminal devoicing (note that non-geminate *b is reflected as *b* intervocally in Idaan). In Cebuano, a Philippine language, however, *q did not assimilate with *b, and the same word is reflected as *báʔbaʔ*. In Bonggi *baqbaq is reflected by *boboʔ* (apparently reflecting *baqbaq > *babbaq > *boboʔ* where the geminate consonants merged with their plain counterparts), while Molbog reflects it as *baʔbaʔ*. This suggests separate histories with regard to heterorganic consonant clusters, with Bonggi patterning with Idaan and the other North Borneo languages, and Molbog patterning with GCP.

Other cases where Molbog shows synchronic heterorganic consonant clusters are *polpol* ‘ant’, *ogdiʔdiʔ* ‘boil water’, *dobdob* ‘chest’, *bulbul* ‘body hair’, and *suksuk* ‘thorn’. One will notice, however, that *bulbul* reflects a PPH replacement innovation (Blust 2005) and this word is shared between Molbog and Bonggi, where Bonggi has *bubul*. One must consider this a borrowing, however, considering the phonological evidence.

2.10.2.1.2 Deletion of *-h- followed by vowel coalescence and support vowel innovation.

A defining characteristic of Greater North Borneo is that words with medial *h became monosyllables, which then received an innovative support vowel in initial position to maintain the canonical two-syllable word. In Bario Kelabit, *buhək ‘head hair’ is reflected with *əb^huk*, which went through the following stages: *buhək > *buək > *buk > *əbuk > *əbbuk > *əb^huk*. Note that the support vowel, schwa, also triggered gemination of the following consonant. This particularly complex history is reflected in Idaan *bpuk*, Bulusu *abuk*, Lotud *obuk*, Highland Kenyah *pok* (*b typically did not change in Kenyah), and Long Bawan Lun Dayeh *fuk*. Bonggi reflects *buhək with *obuk*, which shows that there was an intermediate monosyllabic stage, and

additional penultimate support vowel innovation. Molbog however, did not go through an intermediate monosyllabic stage, and reflects both of the original vowels in *buwok*.

2.10.2.1.3 Assimilation of the nasal to the following consonant in heterorganic nasal-obstruent clusters

Virtually all languages in Borneo have assimilated the nasal member of heterorganic nasal-obstruent clusters to the place of the following obstruent. To use PMP *diŋdiŋ ‘wall’ as an example, Sabah Bisaya reflects it as *dindiŋ*, Lotud *rindiŋ*, Bulusu *dindiŋ*, Basap *diniŋ*, Kadorih *dindiŋ*, Ribun *dinikŋ*, Malay *dindiŋ*, Kenyah *ndeiŋ*. Bonggi also reflects place assimilation with *dindikŋ*. Molbog, however, does not: *diŋdiŋ*.

2.10.2.1.4 Metathesis in two items, *tikus and *bəRuk

*tikus is apparently a GNB innovation, which existed alongside PMP *balabaw. Languages of Sabah mostly reflect *tikus, as does Malay *tikus*. Idaan reflects *tikus with sporadic metathesis of *t and *s, as *sikut*. Bonggi agrees with Idaan in reflecting metathesis, *sihut*, while Molbog does not show the innovative lexeme *tikus at all.

The pig-tailed macaque was discovered and named by Austronesian peoples who first arrived on Borneo. Two words are reconstructable, *bəduk and *bəRuk. In Sabah, the majority of languages reflect *bəRuk, with secondary metathesis of *b and *R, giving Lotud *gobuk* and Timugon *gabuk*. Bonggi also reflects metathesis in *gobuk*, While Molbog, again, does not have the innovated lexeme at all.

2.10.2.1.5 Lenition of *R in specific environments

In all languages of Sabah, *R split in intervocalic position. After Schwa, *-R- became *g, which became *gk* in Idaan. In all other intervocalic environments, *R > *h, except in Dusunic where *-R- > *h except before *i, where *-Ri- > *-gi- (all of these sound changes are discussed at length in Lobel 2013b). Contrastively, in Greater Central Philippine languages *R > *g in all environments and has no *h reflex. Bonggi has multiple reflexes of *R in intervocalic environments which indicate that *R did not become *g across the board as it had in GCP. In many cases, *R > Ø in environments that are consistent with other Sabahan languages: *uRat ‘vein’ > *waart*, *daRaŋ > *raaŋ*, PNES *paRaŋ ‘honey’ > *paaŋ*, *paRi ‘ray’ > *fei*. In other cases,

*R is reflected with *r* in strengthening environments (after schwa), *məRay ‘give’ > *mori*, *baqəRu ‘new’ > *baru*. Still, some examples can be found of *R > *g in the same strengthening environment: *bəRas > *əgas*, *ma-bəRəqat > *məgat*. It’s not immediately clear from the data whether the apparent split in reflexes of *R in strengthening environments is due to inheritance, borrowing, or some other source. However, of critical importance is the fact that intervocalically *g is not the regular reflex of *R. Molbog, however, consistently reflects *-R- with *g* regardless of its environment: *qabaRa ‘shoulder’ > *baga*, *uRat ‘vein’ > *ugat*, *paRi > *pagi* ‘ray’, *məRay ‘give’ > *mogoy*, *baqəRu ‘new’ > *baʔgu*. This is consistent with languages of the Greater Central Philippine group.

When one focuses solely on phonological evidence it is clear that Bonggi shares fundamental sound changes with Idaan and the languages of Borneo in general, but Molbog does not. The table below should make this clear:

Table 72

Critical sound changes in the classification of Bonggi and Molbog

| | SWS | Idaan | Bonggi | Molbog |
|--|-----|-------|--------|--------|
| heterorganic cluster assimilation | Yes | Yes | Yes | No |
| deletion of *-h- and monosyllabification | Yes | Yes | Yes | No |
| nasal assimilation | Yes | Yes | Yes | No |
| split of *R intervocalically | Yes | Yes | Yes | No |
| *R > *g in all environments | No | No | No | Yes |

It appears that the only way to interpret this phonological evidence is to hypothesize that Molbog subgroups with GCP, but Bonggi, showing all of the major phonological innovations of the North Borneo group, must subgroup with NB. It follows from this argument that Molbog and Bonggi cannot form a subgroup with one another, since they belong to separate higher-order subgroups.

2.10.2.2 Bonggi and Idaan

Terminal devoicing of voiced geminates is a defining characteristic of Idaanic languages. In the correspondent chart above, they are written as homorganic voiced-voiceless clusters *-bp-*, *-dt-*, and *-gk-*. Devoicing is absent in Bonggi, however, so cannot be used to link the two languages. There appear to be no phonological changes shared exclusively between Idaanic and

Bonggi. This is where lexical evidence can play a crucial role. Since it has been demonstrated above that Bonggi subgroups with North Borneo but Molbog does not, lexical replacement innovations can “bridge the gap” between subgrouping and phonological evidence. Blust (2010:63) provides a list of modest size but relatively high quality lexical replacement innovations which support a NE Sabah subgroup which includes Bonggi and Idaan, and that model is adopted here. Bonggi and Idaanic are separated by SW Sabah languages, and have no known history of contact. It is thus difficult to say that innovations in the lexicons of Bonggi and Idaanic are due to anything other than inheritance. It is especially true when one considers that intense contact between SWS languages and Idaanic has resulted in few if any borrowings from Idaanic into SWS, so assuming that Bonggi, a language spoken nearly 200 miles away, borrowed from Idaanic when SW Sabah did not seems unlikely.

2.10.2.2.1 The role of functors

Lobel’s main argument for subgrouping Molbog with Bonggi is functor evidence, as alluded to above (Blust 2010:66 contains a full list of apparent functor innovations in Bonggi and Molbog, provided by Lobel). Although it is generally accepted that functors are relatively stable, there is certainly no lack of innovations in the pronouns of Bornean languages, some of which make reconstruction difficult. For example, in the Kenyah subgroup *aki? can be reconstructed to PKEN based on evidence from both primary branches, Lebo' Vo' (Lowland) *ake?*, Uma' Pawe (Lowland) *aki?* and Lepo' Tau (Highland) *ake?*. Penan (Lowland), however, bucks the trend with a conservative reflex of *aku in *akəw?*. The evidence is contradictory, because while Penan and Lebo' Vo' form a subgroup which excludes Highland Kenyah, Lebo' Vo' shares all prototypical Kenyah pronominal innovations with Highland, while Penan is much more conservative. The explanation is that while Lebo' Vo' was part of a larger Kenyah cultural area, the Penan, as hunter-gatherers, were outside of this sphere of influence. What we have is a clear case of diffusion that targeted functors.

Kayanic, the major linguistic subgroup of East Kalimantan, shows a similar case of apparent diffusion in functors. Three subgroups have been recognized in this work, Kayan, Segai-Modang, and Murik-Merap. There is no phonological evidence to suggest a special relationship between Kayan and Segai-Merap, in fact, phonological evidence suggests that Kayan and Murik-Merap may be more closely related to each other than to Segai-Modang.

Nevertheless, reflexes of *akuy (apparently from *aku-i) are found in Kayan *akuy* and Modang *koɛ*, but Murik-Merap reflect *aku, Murik *ako?* and Merap *kaw?*. Here too, diffusion rather than inheritance seems like the most plausible explanation for the similarities in functors.

Additionally, as Blust (2010:67) points out, roughly half of the similarities found in Molbog and Bonggi functors are also found outside of the proposed Molbog-Bonggi subgroup. Taken together, the functor evidence seems to be another case of diffusion of functor forms, albeit a particularly robust one. The phonological and lexical evidence simply cannot be ignored in this case. As such, the following Northeast Sabah internal subgrouping is proposed, roughly equal to that proposed in Blust 2010.

Figure 68

Internal subgrouping of Northeast Sabah

NORTHEAST SABAH

Bonggi

Idaanic

Idaan

Sungai Seguliud

Begak

2.11 North Sarawak

North Sarawak is a diverse subgroup of some 15 or so languages traditionally spoken along the Baram River and its tributaries, and along the coastal areas around the mouth of the Baram River. North Sarawak is an innovation-defined subgroup based on a split in the reflexes of PMP *b, *d, *j, *z, and *g. As argued in Blust (1969, 2010:48-53) evidence from modern North Sarawak languages points to the development of a set of “true voiced aspirates” from previous plain voiced stops. The change occurred in two main environments; where voiced stops in the onset of the final syllable were immediately preceded by schwa, and where voiced stops were part of heterorganic clusters. In these two environments, PMP *b > *b^h, *d and *j > *d^h, *z > *j^h, and *g > *g^h. In most daughter languages, these complex stops were later simplified, but because of the complexity of the reconstructed forms, reflexes of voiced aspirated stops are often

either phonetically complex, or are reflected with diverse and unexpected sound correspondences between modern languages.

The table below illustrates this point with two words, *tuba ‘derris root’ and *təbu ‘sugar cane’. In all of the North Sarawak languages, not only are reflexes of *b after schwa different than reflexes of *b everywhere else, they are often phonetically complex, or have undergone specific sound changes found nowhere else in the language (for example many cases show intervocalic devoicing of *b, where *b after schwa became *f*, *p*, or *pp* but only Berawan shows devoicing regularly intervocalically.)

Table 73

*Reflexes of *b and *b^h in North Sarawak*

| | | |
|----------------------|--------|---------------------|
| PMP | *tuba | *təbu |
| PNS | *tuba | *təb ^h u |
| Bario Kelabit | tubəh | təb ^h uh |
| Long Bawan Lun Dayeh | tobəh | təfuh |
| Kenyah (highland) | tuba | təpu |
| Penan | tuvah | təbəw? |
| Narum | tubeəh | təfaw |
| Berawan (Jegan) | tukkih | təppuh |
| Bintulu | tuva | təbəw |

The remainder of this section is dedicated to discussing the four North Sarawak subgroups, Dayic, Berawan-Lower Baram, Bintulu, and Kenyah.

2.11.1 The Dayic subgroup

Dayic consist of two primary subgroups, Kelabit (including Tring and Sa’ban) and Lun Dayeh. Blust (1974b, 1984, 2001) has shown convincingly that Sa’ban, despite massive phonological change, subgroups most closely with Kelabit, and shares over 80% of its basic vocabulary with the Bario dialect. In many ways, Sa’ban’s relationship to Kelabit is similar to that of Merap with Ngorek (section 2.2). Sa’ban and Merap are both phonologically divergent, but lexically similar to their closest relatives. Six languages are considered in the following discussion, two where primary data were gathered (Bario Kelabit and Lun Dayeh), and four from Blust (n.d., 2001).

2.11.1.1 Dayic phonological evidence

Table 74

Reflexes of PMP consonants in Dayic

| | Long Bawan | Long Semadoh | Pa' Dalih | Long Lellang | Bario Kelabit | Sa'ban |
|------|------------|--------------|-----------|-------------------|-------------------|---------|
| *p- | p | p | p | p | p | p; h |
| *-p- | p | p | p | p | p | p |
| *-p | p | p | p | p | p | p |
| *t- | t | t | t; s / _i | t; s / _i | t; s / _i | t; h; Ø |
| *-t- | t | t | t | t | t | t |
| *-t | t | t | t | t | t | t |
| *k- | k | k | k | k | k | Ø |
| *-k- | Ø | Ø | Ø; ? | Ø; ? | Ø; ? | Ø; ? |
| *-k | k | k | k | k | k | k |
| *q- | Ø | Ø | Ø | Ø | Ø | Ø |
| *-q- | Ø | Ø | Ø; ? | Ø; ? | Ø; ? | Ø; ? |
| *-q | ? | ? | ? | ? | ? | ? |
| *b- | b; f | b; pb | b; p | b; b ^h | b; b ^h | b; Ø; p |
| *-b- | b; f | b; pb | b; p | b; b ^h | b; b ^h | b; p |
| *-b | b | b | b | b | b | p |
| *d- | d | d | d | d | d | Ø; b; l |
| *-d- | d; s | d; dc | d; s | d; d ^h | d; d ^h | d; s |
| *-d | d | d | d | d | d | t |
| *-j- | d; s | d; dc | d; s | d; d ^h | d; d ^h | d; s |
| *-j | d | d | d | d | d | t |
| *z- | d | d | d | d | d; d ^h | Ø; d |
| *-z- | d; s | d; dc | d; s | d; d ^h | d; d ^h | d; s |
| *s- | Ø; s | Ø | Ø | Ø | Ø | Ø; (s) |
| *-s- | Ø; s | Ø | Ø | Ø | Ø | Ø; s |
| *-s | Ø | Ø | Ø | Ø | Ø | Ø |
| *l- | l | l | l | l | l | l; Ø |
| *-l- | l; r | l; r | l; r | l; r | l; r | l; r |
| *-l | l | l | l | l | l | l |
| *R- | r | r | r | r | r | l; Ø |
| *-R- | r | r | r | r | r | r; l |
| *-R | r | r | r | r | r | l |

Table 75

Reflexes of PMP vowels in Dayic

| | Long Bawan | Long Semadoh | Pa' Dali | Long Lellang | Bario Kelabit | Sa'ban |
|--------|------------|--------------|----------|--------------|---------------|--------------|
| *-a | əh | əh | əh | əh | əh | ah; əh |
| *-aC | a | a | a | a | a | a; oꞤ; i; eꞤ |
| *-aCVC | a | a | a | a | a | a |
| *-u | uh | uh | uh | uh | uh | əw |
| *-uC | u | u; o | u | u | u | aw; u; o |
| *-uCVC | u; o | u | u | u | u | Ø |
| *-i | ih | ih | ih | ih | ih | əy; e |
| *-iC | i | i; e | i | i | i | ay; i; e; ε |
| *-iCVC | i; e | i | i | i | i | Ø; e; i |
| *-əC | ə | ə | ə | ə | ə | ə |
| *-əCVC | ə; (a) | ə | ə | ə | ə | Ø; ə |
| *-ay | e | e | e | e | e | aəy |
| *-aw | o | o | o | o | o | aəw; iəw |

Most Lun Dayeh and Kelabit dialects are very conservative in their phonology. Sa'ban, on the other hand, is radically different in its synchronic and diachronic phonologies. Because Blust (2001) goes into such detail describing the synchronic and diachronic phonology of Sa'ban, the reader is directed to that earlier work for a more in-depth look at that particularly challenging language.

2.11.1.1.1 Merger of *d, *j, and *z

PMP *d and *j had merged long before Dayic, but the further merger of *z and *d, although well attested in Sabah, is absent in all North Sarawak languages except for members of the Dayic subgroup. Compare PMP *ŋajan 'name' in Kelabit *ŋadan*, Long Bawan Lun Dayeh *adan*, Sa'ban *adin*, and Long Semadoh *ŋadan* with PMP *quzan 'rain' in Kelabit *udan*, Long Bawan Lun Dayeh *modan* 'to rain', Sa'ban *din*, and Long Semadoh *udan*.

2.11.1.1.2 Reflexes of *l

In all Dayic languages, *l is reflected with *r* where it appears before final *r*, from *-R. For example, *l in *təluR 'egg' became *r in Proto-Dayic and is reflected as *təruR* in all languages except Sa'ban, where it is reflected as *hrol* where final *-r was later changed to *l*.

2.11.1.1.3 Reflexes of *-k-

Dayic languages also reflect the change *-k- > *-ʔ-, although in Lun Dayeh glottal stop has further reduced to zero, and in Kelabit, *-ʔ- is retained in specific environments (discussed further below). PMP *ikuR ‘tail’, for example, is reflected as *iur* in all Dayic languages except Sa’ban, which has further changed it to *uol*. PMP *takut, however, shows retention of *ʔ from *k in Sa’ban *taʔəwt* and Bario Kelabit *taʔut* but deletion in Long Semadoh Lun Dayeh *tout* and Long Bawan Lun Dayeh *taut*. Similarly, PMP *Rakit ‘raft’ is reflected as Sa’ban *laʔət* and Long Lellang *raʔit* but Long Semadoh *ret* and Long Bawan *rait*.

2.11.1.2 Phonological evidence for a Lun Dayeh and Kelabit split

Lun Dayeh and Kelabit differ in many important respects. Kelabit has a two-voice system, while Lun Dayeh retains aspects of a Philippine type multiple undergoer voice system. Lun Dayeh also retains an active *ma- stative prefix, as noted in Blust (1984) and Clayre (1991). Phonologically, there are fewer differences, but two can be singled out as significant; 1) the deletion of intervocalic glottal stop in all environments in Lun Dayeh, but deletion only in specifically conditioned environments in Kelabit, and *ti- > *si- in Kelabit while no such change exists in Lun Dayeh.

2.11.1.2.1 Deletion of medial glottal stops

Lun Dayeh deleted medial glottal stop in all environments, while Kelabit retains glottal stop (as well as glottal stop from *-k-) except between unlike vowels if the first is high. Some examples are given in the table below.

Table 76

Details of glottal stop deletion in Lun Dayeh and Kelabit

| PMP | Long Bawan | Long Semadoh | Long Lellang | Bario Kelabit | Sa’ban |
|---------------|------------|--------------|--------------|---------------|--------|
| *ikuR ‘tail’ | iur | yur | iur | iur | yol |
| *paku ‘fern’ | pauh | pauh | paʔuh | paʔuh | paʔaw |
| *puqun ‘base’ | puun | puun | puʔun | puʔun | puʔuʔn |

2.11.1.2.2 Reflexes of *ti-

Kelabit languages, including Sa'ban, reflect an earlier change where *t became *s in initial position before *i. For example, *tid^hu? 'hand' became Bario Kelabit *sid^hu?* but Long Bawan *tisu?* and Long Semadoh *tidcu?*. Similarly, *tina?i 'intestines' became Sa'ban *sən?ay* but Long Bawan *tənai?* and Long Semadoh *tinei?*.

2.11.1.2.3 Lun Dayeh lowering of high vowels

In the Long Bawan dialect of Lun Dayeh recorded for this study, high vowels lowered to mid vowels when followed by a non-high vowel in the following syllable, as long as there is a consonant between the two vowels. For reflexes of *u, *qulu 'head' > *uluh*, *nupi 'dream' > *nupih*, and *buaq > *bua?*, but *kulat 'mushroom' > *kolat*, and *quləj 'worm; maggot' > *oləd*. For reflexes of *i, *siku 'elbow' > *sikuh*, *bibiR 'lips' > *dibir*, but *qitəm 'black' > *etəm*. Other Lun Dayeh dialects, like that recorded in Long Semadoh, do not lower high vowels, e.g. Long Semadoh *uləd* 'worm' and *mitəm* 'black'.

2.11.1.3 Summary

Dayic languages show remarkable conservatism in their phonology, with the obvious exception of Sa'ban. Some sound changes do seem to separate Lun Dayeh from Kelabit, and there seems to be no reason to change Blust's subgrouping proposals (Blust 1974a, 2001, 2006, 2010) involving Dayic.

Figure 69

Dayic internal subgrouping.

DAYIC

Kelabit

Bario, Tring, Sa'ban, Pa' Dalih, Long Seridan, Long Napir

Murut

Long Bawan, Long Semadoh

2.11.2 The Berawan-Lower Baram subgroup

The Berawan-Lower Baram subgroup contains some of the historically most interesting languages in North Sarawak. Data for all of these languages come from Robert Blust's field notes (Blust n.d.) and for Kiput, from Blust (2003)²³. No primary data was collected for Berawan-Lower Baram. Miri, a language included in this study, seems to be extinct, while Narum is on the decline.

²³ In Blust's field notes and subsequent publications, single-nucleus diphthongs in closed syllables are written with full vowels as an orthographic convention. Thus, *-aiʔ* is phonetically *-ayʔ*, *-auʔ* is *awʔ*, and so on. After conferring with Blust on this issue, I have re-written diphthongs in closed syllables to more accurately reflect their phonetic and phonological realities, with the approval of the original author.

Table 77

Reflexes of PMP consonant phonemes in Berawan-Lower Baram

| | Long Jegan | Long Terawan | Kiput | Miri | Narum |
|------|----------------------|--------------|---------|---------|--------|
| *p- | p | p | p | f | p |
| *-p- | p | p; pp | p | p; f | p |
| *-p | p | ʔ | p | p | p |
| *-t- | t | t; tt | t | t | t |
| *-t | t; c; ʔ ^w | ʔ | t | t | t |
| *k- | k | k | k | ∅ | h |
| *-k- | k | k; kk | k; c; ∅ | h; (k) | h |
| *-k | k; c; ʔ ^w | ʔ | ʔ; k | k | k |
| *q- | ∅ | ∅ | ∅ | ∅ | ∅ |
| *-q- | ∅; ʔ | ∅; ʔ | ∅ | ʔ | ʔ |
| *-q | ∅ | ∅ | ʔ | ʔ | ʔ |
| *b- | b; p | b; p | b; s | b; f | b; f |
| *-b- | k; p | w; k; p | b; s; p | b; f; p | b; f |
| *-b | m | m | ʔ | p | p |
| *-d- | r; c | r; c | r; s | d; s | d; t |
| *-d | n; ŋ; ñ | n | t | d; t | t |
| *-j- | r; c | r; c | r; s | d; s | d; t |
| *-j | n; ŋ; ñ | n | t | t | t |
| *z- | j | j | d; s | j | j |
| *-z- | c; c | s; c | c; s | j; s | j; c |
| *s- | c | s | s | ∅; s | ∅; s |
| *-s- | c | s~c | ∅; s | ∅; s | ∅; s |
| *-s | ʔ | ∅; h | ∅ | ∅ | ∅ |
| *-l | n | n | n | l | l |
| *R- | g | g | r? | ∅ | ∅ |
| *-R- | k | k | r | r | ɣ |
| *-R | ∅ | ∅ | ∅; ʔ; n | r; (?) | ɣ; (?) |
| *y | j | j | c | j | y |
| *w | v | b | f | b | b; w |

Table 78

Reflexes of PMP vowel phonemes in Berawan-Lower Baram

| | Long Jegan | Long Terawan | Kiput | Narum | Miri |
|--------|------------|--------------|----------|---------|---------|
| *-a | a; ɨəy | əh; i | əh; ih | ah; eh | əh; eəh |
| *-aC | a; i | a; i | a; i | a; e | a; eə |
| *-aCVC | a; i; ɛ | a; i | a | a | a |
| *-u | aw; əw | oh; uh | aw | uh | ew; aw |
| *-uC | aw; o | o | u; o; aw | aw; u | aw; uə |
| *-uCVC | u; o | u | u | u | u |
| *-i | ay; əy | eh; ih | ay | ayh | ay; eəy |
| *-iC | ay; ɛ; (i) | i; e | i; e; ay | ay | ay; eəy |
| *-iCVC | i; ɛ | i | i | i | i |
| *-əC | ə | ə | ə~a | a | a |
| *-əCVC | ə | ə | ə | ə | ə |
| *-ay | ay | ay | a:y | ayh; ih | ay; eəy |
| *-aw | aw; iw | aw; iw | a:w | awh; uh | aw; eəw |

These languages have particularly difficult reflexes of PMP phonemes, and specific, historically important sound changes will be discussed in more detail individually below. As much historical work has already been done on these languages, more thorough discussions can be found in Blust (2000, 2002b, 2003) and Burkhardt (2014, 2016).

2.11.2.1 Low vowel fronting and the breakup of Berawan-Lower Baram

Low vowel fronting is a historical sound change with uncertain phonetic motivations whereby a low vowel (*a) was fronted and raised under various conditions, all of which state that the fronted vowel must have appeared after a voiced obstruent (*b, *d, *z, *g, *b^h, *d^h, *z^h, *g^h) with no intervening blocking consonants between the two (typically the voiceless obstruents act as blockers). The specific conditions for all Berawan-Lower Baram low vowel fronting are meticulously explained in Blust (2000a). In general, low vowel fronting operates in fundamentally different ways in Lower Baram and Berawan, suggesting that it was not present in Proto-Berawan-Lower Baram. Also, although the conditions for low vowel fronting are similar among Lower Baram languages, and among Berawan languages, it is not clear that low vowel fronting was firmly established even in these lower-level groups (Proto-Lower Baram and Proto-Berawan). Some of these differences are spelled out below:

Difference 1) In the Lower Baram group, low vowel fronting affected *a only in the final syllable, while in Berawan, low vowel fronting affected the first low vowel (left-most) after a voiced obstruent (reflexes of *dahun ‘leaf’ in table 79 below shows this).

Difference 2) In Berawan, *ə and *a have not fully merged in the final syllable, while *ə and *a did merge in the final syllable in Narum and Miri (though apparently not in Kiput). Thus, in Narum and Miri low vowel fronting also affected historical schwa. This implies that low vowel fronting took place after Narum and Miri lowered *-əC to *-aC, which must have happened after the breakup of PBLB.

Difference 3) Proto Berawan *-d- became *-r- before low vowel fronting took place, thus *ɲadan ‘name’ became *ɲaran, and because *-r- is not a conditioner for low vowel fronting, the final *a did not front in any Berawan language: Long Jegan *ɲaran* and Long Terawan *ɲaran*.

There are additional differences between the realization of low vowel fronting in Berawan and Lower Baram, but only the three most compelling were given here. Blust (2000a:287-300) directly compares low vowel fronting in the two groups, and contains a much more exhaustive list of differences. Table 79, below, summarizes some of these changes, and compares directly reflexes of words showing low vowel fronting in B-LB.

Table 79

Differences in low vowel fronting implementation

| | Miri | Narum | Kiput | L Jegan | L Terawan |
|---------------------|-------|--------|-------|---------|-----------|
| *lubaj ‘hole’ | - | lubiəŋ | lubiə | lukiŋ | luyəŋ |
| *ɲajan ‘name’ | aden | ɲadiəŋ | adin | ɲaran | ɲaran |
| *buqaya ‘crocodile’ | bajeh | bayeəh | accih | bijəy | bijih |
| *dahun ‘leaf’ | daʔun | daʔon | dun | diawŋ | dion |

Since low vowel fronting in Berawan languages is sufficiently distinct from the same phenomenon in Lower Baram, it serves as evidence for a Berawan group, as opposed to all other languages in Berawan-Lower Baram. Additional phonological evidence, from table 79 above, further supports a Berawan group which excludes the Lower Baram languages. This evidence is:

- (i) Berawan nasalized word-final voiced obstruents, while Lower Baram languages devoiced the same obstruents.
- (ii) Berawan reflects *R as *g* in initial position and as *k* (from **g* < *R) word medially. Lower Baram languages reflect *R as *r*.
- (iii) Berawan deleted word-final glottal stops, from earlier *-q, while they are retained unchanged in Lower Baram.
- (iv) Proto-Berawan had likely merged **d*^h and **z*^h as **z*^h [*j*^h], while Lower Baram languages have mixed evidence, with Kiput and Miri showing a merger, but Narum reflecting **d*^h as *t* and **z*^h as *c*.

2.11.2.2 The position of Kiput and the Lower Baram languages

The evidence for separating Berawan from all other Berawan-Lower Baram languages is fairly strong, with *R- > *g*, *-R- > *k*, *-b, *-d, *-j > *-m*, *-n*, and low vowel fronting affecting the left most low vowel, rather than only the final vowel, providing a robust list of uncommon sound changes. Kiput, Miri, and Narum, which reflect *R as *r* (or *ɣ* < **r*), and word-final voiced obstruents as their voiceless counterparts, cannot have descended from Proto-Berawan. The evidence linking Kiput and the other Lower-Baram languages into a single subgroup, however, is a bit less robust.

2.11.2.2.1 Reflexes of *R

While Berawan reflects *R with *g/k/∅*, the Lower Baram languages reflect *R as *r*. Although the exact phonetic quality of *R is a matter of some debate (Blust 2013:588) data from the entire Austronesian family seems to suggest that *R was an alveolar trill. In Kiput and Miri, *r* is not a change, but a retention of *R, while in Narum *R became *ɣ*, but this must have been a later development. Thus, while *R provides good evidence for Berawan, as a retention it has no value as subgrouping evidence for Lower Baram.

2.11.2.2.2 Final Voiced obstruents

Although the Berawan change of *-b > *m* and *-d > *n* is attested outside of the subgroup (Kayanic languages and some Barito languages show similar changes), it is far less common than final voiced obstruent devoicing, which is found in Kiput, Miri, and Narum. So while reflexes of

final voiced obstruents may have some strength as subgrouping evidence in Berawan, the same is not true for their reflexes in Lower Baram.

2.11.2.2.3 Reflexes of *-l

Miri and Narum both retain word-final *l unchanged as *l*. Kiput, on the other hand, reflects *-l with *n*, a sound change it shares with Berawan languages. This is a rather weak piece of evidence, however, as it has already been established that Kiput does not subgroup immediately with Berawan, and at any rate *-l > n is very common throughout Borneo.

2.11.2.2.4 Reflexes of *k

Miri and Narum seem to have developed as a unit, to the exclusion of Kiput. This is apparent in reflexes of *k. Miri and Narum reflect an earlier stage where *k > *h-/*-h-/*-k, while Kiput reflects *k as *k* in all positions, except in some cases where *k became *c* after *i.

2.11.2.2.5 Reflexes of aspirated voiced stops

Within Lower Baram, there is general disagreement with regard to reflexes of aspirated voiced stops. On the one hand, Miri and Narum share reflexes of *b^h as *f*, but Kiput reflects *b^h as *s*. On the other hand, Kiput and Miri both reflect *d^h as *s* where Narum has *t*. With regard to reflexes of *b^h, although *s* is certainly an odd reflex, had *b^h > *f in Pre-Kiput, it may have merged with *s* under structural pressures which moved to limit the number of fricatives, or as part of a chain, where *f > *s* and *v (from earlier *w) > *f* as a result of Kiput's general intervocalic devoicing rule. Under this scenario Kiput, Miri, and Narum may have still been developing as a unit when the aspirated voiced stops began to simplify. Note however, that low vowel fronting occurred after *b^h, which forces one to assume that the immediate ancestor of Kiput, Miri, and Narum first implemented LVF, and later began simplifying aspirated voiced stops. As Blust (2000a:291-292) notes however, it is difficult to reconstruct LVF to Proto-Lower Baram. Taken together, it is unlikely that aspirated voiced stops were simplified in a single speech community, which further limits the evidence for a discrete Lower Baram group.

In all, phonological evidence is less supportive of a Lower Baram group than one might hope, although it is clear that none of the Lower Baram languages are more closely related to

Berawan. To help with this, it is necessary to appeal to lexical evidence to try and determine what defines Lower-Baram as a subgroup.

2.11.2.3 Lower Baram lexical evidence

*siwa > *supi? ‘nine’

Miri *supay?*

Narum *pay?*

Kiput *pay?*

*qulu > *uku? ‘head’

Miri *uhaw?*

Narum *uhaw?*

Kiput *ukaw?*

*paqa > *pupuR ‘thigh’

Miri *pupor*

Narum *pupawɣ*

Kiput *pupun*

*ikuR > *iku? (an irregular reflex of *-R) ‘tail’

Miri *ihaw?*

Narum *ihaw?*

Kiput *cəw?*

*qudaŋ > *pəsik ‘shrimp’

Miri *sek*

Narum *sayk*

Kiput *pəseɔ?*

*payaw > *taki ‘deer’

Miri *takay*

Narum *təkay*

Kiput *takay*

*udu > *uma ‘grass’ (possible semantic shift from *qumah ‘swidden rice field’ to ‘grass’)

Miri *umah*

Narum *umah*

Kiput *uməh*

*bituqən > *patak ‘star’

Miri *fatak*

Narum *patak*

Kiput *pata:k*

*iRaq > *maʔaŋ ‘red’

Miri *maʔaŋ*

Narum *maʔaŋ*

Kiput *maaŋ*

*niwaŋ > *karaŋən ‘skinny’

Miri *faŋaŋan*

Narum *haŋaŋan*

Kiput *kəlaŋən*

- > *raad ‘floor’

Miri *rad*

Narum *ra:t*

Kiput *ra:t*

| | |
|-----------------|--------------|
| *tahiɣ/*zaqit > | *paRuy ‘sew’ |
| Miri | <i>maruy</i> |
| Narum | <i>mayuy</i> |
| Kiput | <i>paroy</i> |

| | |
|------------|---------------|
| *ba-bahi > | *turi ‘woman’ |
| Miri | <i>turay</i> |
| Narum | <i>tuyay</i> |
| Kiput | <i>turay</i> |

2.11.2.4 Summary

The above list of lexical innovations is particularly strong in that all of the items are in basic vocabulary. Considering the phonological complexities of the languages in question, it should be fairly easy to spot borrowing, yet the reflexes in these words are regular, suggesting direct inheritance. Borrowing in these languages is confined mostly to borrowings from Sarawak Malay, and to a lesser extent, Iban. So, although phonological evidence for Lower Baram does not seem to support a subgrouping argument, the lexical replacement innovations shown above do. The evidence supports the following family tree, which is identical to that proposed in Blust (1974b, 2000a).

Figure 70

Berawan-Lower Baram internal subgrouping

BERAWAN-LOWER BARAM

Berawan

Long Jegan

Long Terawan

Lower Baram

Miri group

Miri

Narum

Kiput group

Kiput

2.11.3 Bintulu

Bintulu is an isolate within the North Sarawak group. It is spoken along the coast, centered around the town of Bintulu, but found to the north towards the mouth of the Baram River, and south toward Balingian Melanau. Some discussion of Bintulu’s historical phonology can be found in Blust (1973). Data below is from his fieldnotes (Blust n.d.) as well as from published materials (Blust 1973, 2013).

Table 80

PMP-Bintulu sound correspondences.

| | | | | | | | | | | | | | | | |
|-----|----|----|----|----|-------|-----|-----|----------|--------|-----|-------|-----|-------|-----|----|
| PMP | *p | *t | *k | *b | *-b- | *-b | *d- | *-d-/-j- | *-d/-j | *z- | *-z- | *g- | *-g- | *-g | *s |
| Bin | p | t | k | b | v ; ʙ | b | ɣ | ɣ ; dʰ | d | j | j ; ʃ | g | g ; ɟ | g | s |

| | | | | | | | | | | | | | | | |
|-----|-----|------|-----|----|----|----|----|----|----|-----|------|--------|-----|-------|--------|
| PMP | *l- | *-l- | *-l | *R | *m | *n | *ñ | *ŋ | *a | *-i | *-iC | *-iCVC | *-u | *-uC | *-uCVC |
| Bin | l | l | n | ∅ | m | n | ñ | ŋ | a | əy | i | i | əw | u ; o | u |

| | | | | | |
|-----|----|------|------|------|------|
| PMP | *ə | *-ay | *-aw | *-w- | *-y- |
| Bin | ə | ay | aw | b | z |

2.11.3.1 Glide strengthening

Glide strengthening in Bintulu shares some similarities with Berawan-Lower Baram, particularly where *-w- is reflected with *b*. For comparison, *duha ‘two’ is reflected with Bintulu *ba*, Miri *dəbeh*, Narum *dəbeh*, and Long Terawan *ləbih*, while Kiput has *dufih*, and Long Jegan has *duve*. However, strengthening of *-y- in Bintulu differs from Berawan-Lower Baram. In Bintulu, *-y- > *z*, but *-y- merged with *z in BLB languages as *j*. For example, *kahiw ‘tree’ > *kayu which is reflected with Bintulu *kazəw*, but Miri *ajuh*, Kiput *kacəw*, Long Jegan *kajəw*, and Long Terawan *kajuh*. Note that Narum has *hayew*, with no glide fortition. As a result, although glide strengthening produced a similar sound change in *-w- > *b*, the changes seem to be convergent, rather than inherited, as the details of each sound change differ between BLB and Bintulu.

2.11.3.2 Implosive stops

Bintulu reflects the PNS voiced aspirates as implosives. Although Lowland Kenyah languages also reflect this series as implosives, PKEN retained them unchanged, as Highland Kenyah reflects voiced aspirates as plain voiceless stops. The following list compares regular reflexes of voiced stops, with reflexes of homorganic aspirated voiced stops, where the voiced stop typically has a lenis reflex, and the aspirated stop has an implosive reflex. Reconstructions in figure 71 are PNS.

Figure 71

*Implosive reflexes of *b^h in Bintulu*

| | | |
|----------------------------------|---|----------------------|
| *tuba ‘derris root’ | > | <i>tuva</i> |
| *təb ^h u ‘sugar cane’ | > | <i>təbəw</i> |
| *uduŋ ‘nose’ | > | <i>uɣuŋ</i> |
| *pəd ^h u ‘gall’ | > | <i>ləpədəw</i> |
| *ujan ‘rain’ | > | <i>ujan</i> |
| *Rəj ^h an ‘ladder’ | > | <i>kəfan</i> |
| *agəm ‘hand’ | > | <i>agəm</i> |
| *pəg ^h ən ‘lie down’ | > | <i>məgən</i> ‘sleep’ |

2.11.3.3 Other sound changes in Bintulu not found in other North Sarawak languages

Bintulu does not fit into any established North Sarawak subgroup, although it is certainly a North Sarawak language, given its phonetically complex reflexes of PNS aspirated voiced stops. Some additional sound changes set Bintulu apart, and those are listed below

***d became *r in initial position, eventually becoming *ɣ*.**

Several North Sarawak languages, including Berawan and Lowland Kenyah, have changed *d to r intervocalically, but only Bintulu weakened *d in initial position as well. Some examples include *daRaʔ > *ɣaʔ* ‘blood’, *dahun > *ɣaʔun* ‘leaf’, and *dəd^huR > *ɣədu* ‘woman’.

***R was deleted in all positions.**

Berawan-Lower Baram and Dayic both retain *R in some form. Many Kenyah languages have deleted *R in all environments (leaving a trace on the vowels), but Penan retains *R as *h* in intervocalic position (Eastern Penan *dahaʔ* from *daRaʔ ‘blood’). Bintulu, however, has deleted *R in all positions, including *Rusuk > *usuk* ‘chest’, *daRaʔ > *ɣaʔ* ‘blood’, and *dəd^huR* > *ɣədu* ‘woman’. Because final high vowels do not break before deleted *-R, there must have been an intermediate stage where *-R was retained, possibly as *-h, only to be deleted after vowel breaking in final position had ceased.

2.11.3.4 The position of Bintulu

Bintulu shares no quality sound changes with other North Sarawak groups. High vowel breaking and the change of *-w- to -b- in Bintulu is also found in Berawan-Lower Baram. However, high vowel breaking is too common to support a subgrouping argument, and *-w- > *b* is convergent between Bintulu and some, but not all, BLB languages. Lexical data does not aid in placing Bintulu with other NS groups, and as such, Blust’s original placement of Bintulu into its own branch is accepted here.

2.11.4 Kenyah

Kenyah is the name of a large subgroup of languages spoken both along the Baram and Rejang Rivers in Sarawak, and throughout the highland areas of the Apo Kayan in North and

West Kalimantan. Several dialects are found throughout Borneo, and primary data was collected for the following:

Figure 72

Kenyah languages

- Lebo' Vo' of Long San along the upper Baram River, Sarawak
- Lebo' Kulit of the Sungai Asap resettlement area, Sarawak
- Uma' Pawe of Long Apu along the upper Baram River, Sarawak
- Lepo' Gah of the upper Baram River, Sarawak
- Lepo' Laang of the upper Baram River, Sarawak
- Lepo' Sawa of the upper Baram River, Sarawak
- Lepo' Tau of the upper Baram River, Sarawak, and of North Kalimantan
- Badeng of the upper Baram River, Sarawak
- Lepo' Jalan of Berau Regency, East Kalimantan
- Uma' Bem of the Mahakam River, East Kalimantan
- Uma' Baha of the Sungai Asap resettlement area
- Sebop of Long Loyang, Tinjar river, Sarawak
- Long Beku Penan of the Akah river, Sarawak
- Long Mubui Penan of the Selaan river, Sarawak
- Long Jekitan Penan of the Silat river, Sarawak

Smith (2015a, 2015b, to appear) has proposed the most recent subgrouping of Kenyah languages, and those arguments need not be repeated word-for-word here. A brief summary of the evidence presented in those two papers followed by the Kenyah family tree in Smith (2015b:180) should be enough to establish the validity of the Kenyah subgroup and its internal classification.

2.11.4.1 Highland and Lowland Kenyah

Kenyah is typically split into two groups, Highland and Lowland (Blust 1974a, 2006, 2010, Smith 2015a, 2015b). Highland languages reflect the voiced aspirated series with voiceless stops: for example, *pəḏ^hu > pətu 'gall' or *təb^hu > təpu 'sugar cane'. The Lowland group reflects the same stops with implosives: *pəḏ^hu > pəḏu or *təb^hu > təbu. This split in reflexes of

aspirated voiced stops is the major piece of evidence supporting two primary branches of Kenyah, Highland and Lowland. Thus, the following two-way split is supported in Kenyah:

Figure 73

Kenyah internal subgrouping after Smith (2015a, 2015b, to appear)

KENYAH

Highland

Lepo' Gah, Lepo' Laang, Lepo' Sawa, Lepo' Tau, Badeng, Lepo' Jalan, Uma'
Baha, Uma' Bem

Lowland

Uma' Pawe, Lebo' Kulit, Lebo' Vo, Penan, Sebop

2.11.4.2 Reflexes of *mb, *nd, *nz, and *ŋg in Highland Kenyah

Furthermore, PKEN had a series of homorganic nasal-stop clusters that are retained in all Highland dialects. Highland dialects are split into two groups (Highland A and Highland B) based on reflexes of these clusters, where Highland B dialects devoiced the obstruent. The table below is reprinted from Smith (2015a:343).

Table 81

Nasal-obstruent reflexes in Highland Kenyah

| PKEN | Lepo' Sawa' | Lepo' Tau | English |
|-------------|-------------|-------------------|--------------------------------------|
| *(l/n)əmbam | ləmbam | nəmpam | tomorrow |
| *məmbe | məmbe | məmpe | blow nose |
| *mbaʔ | mbaʔ | mpaʔ | primary forest |
| *sambeʔ(?) | sambeʔ | sampeʔ | sape (a three to four stringed lute) |
| *ambay | kəlimbay | kəlimpay | type of female ear piercing |
| *kələmbit | kələmbit | kələmpit | shield |
| *mbeʔ | mbeʔ | mpeʔ | uncle / aunt |
| *kundan | kundan | kuntan | egret |
| *ndoŋ | ndoŋ | ntoŋ | nose |
| *lunduʔ | lundoʔ | luntoʔ | sleep |
| *məndu | məndu | məntu | sit by fire |
| *məndəm | məndəm | məntəm (new moon) | dark |
| *ndaʔ | ndaʔ | ntaʔ | under |
| *ndiŋ | ndiŋ | nteiŋ | wall |
| *kayu ndok | kayu ndok | kayu ntok | firewood |
| *nduʔ | ndoʔ | ntoʔ | bathe |

2.11.4.3 Internal subgrouping of Lowland Kenyah

Lowland Kenyah is subdivided based on a combination of lexical and phonological evidence. The phonological evidence relies on reflexes of nasal-stop sequences. In Western Lowland, all nasal-stop sequences have been simplified. In the case of *mb, this created a new phoneme, v. In other cases, innovation led to merger with existing phonemes. Eastern Lowland has retained the nasal-stop sequences mostly unchanged. Examples include Lebo' Vo' *vaʔ* but Uma' Pawa *mbəʔ* 'primary forest'; Lebo' Vo' *ləjɨ* but Uma' Pawa *lənje* 'sunset'; and Lebo' Vo' *sigət* but Uma' Pawa *siŋgət* 'every'. Also, in Eastern Lowland, *a in the final syllable was raised to e when in word-final position, while in Western Lowland, word-final *a was retained.

Additionally, there are a large number of lexical replacement innovations, irregular sound changes, and semantic shifts that are found between Penan-Sebop and Western Lowland Kenyah, but *not* Eastern Lowland Kenyah. These are summarized below (PWLKEN is Proto-Western Lowland Kenyah). Data for the following innovations are available in Smith 2015b.

PKEN *təliŋən ‘ear’

PWLKEN *kəliŋən ‘ear’ (irregular *t > k)

PKEN *itu ‘that, near’

PWLKEN *itu ‘this’ (semantic change from ‘that’ to ‘this’)

PKEN *nay ‘come’ > Ø

PWLKEN *tuay ‘come’

PKEN *saləŋ ‘black’ > Ø

PWLKEN *pədəŋ ‘black’

PKEN *maduŋ? ‘sit’

PWLKEN *mə-ñun ‘sit’

PKEN *i?ut ‘small’ > Ø

PWLKEN *ji?ik ‘small’

PKEN *tuju? ‘seven’ > tuju? (E. Penan)

PWLKEN *tujək ‘seven’

PKEN *pulu? ‘ten’ > polo? (E. Penan)

PWLKEN *jap ‘ten’

PKEN *ujan ‘rain’ > Ø

PWLKEN *imə? ‘rain’

PKEN *dadu? ‘long’ > Ø

PWLKEN *buat ‘long’

PKEN *butəʔ ‘blind’ > Ø

PWLKEN *bəŋ ‘blind’

PKEN *taʔi ‘excrement’ > Ø

PWLKEN *aniʔ ‘excrement’

PKEN *səŋit ‘urine’ > Ø

PWLKEN *sibəʔ ‘urine’

PKEN *su ‘grandchild’ > Ø

PWLKEN *ayam ‘grandchild’

PKEN *sigut ‘dirty’ > Ø

PWLKEN *səgit ‘dirty’

PKEN *atuk ‘fish’ > Ø

PWLKEN *təlu ‘fish’

PKEN *kitan ‘binturong’ > Ø

PWLKEN *pasuy ‘binturong’

2.11.4.4 Summary

As argued in Smith (2015a, 2015b) the phonological and lexical evidence supports a Kenyah tree with two primary branches, Highland and Lowland, with Highland and Lowland each further subdivided into two branches, Highland A and B, and Eastern and Western Lowland.

Figure 74

Detailed internal subgrouping of Kenyah (adapted from Smith 2015b:180)

KENYAH

Highland

Highland A

Lepo' Gah, Lepo' Laang, Lepo' Sawa

Highland B

Lepo' Tau, Badeng, Lepo' Jalan, Uma' Baha, Uma' Bem

Lowland

Eastern Lowland

Uma' Pawe, Lebo' Kulit

Western Lowland

Lebo' Vo

Sebop-Penan

Sebop, Penan

2.12 Chapter summary

In this chapter, several goals were accomplished. First, I set out to provide a general overview of the languages of Borneo, leaving no stone unturned as it were, in an effort to make this section as complete as possible. Although some gaps in the data remain, particularly with respect to Basap, the above chapter has provided a level of scope not found in previous works. Second, I set out to delineate the major subgroups of Borneo. These subgroups have been for many decades assumed, but other than works on languages of Sarawak (Blust 1974a, 2010, Rensch 2012, Chou 2002), Sabah (Blust 1998, 2010, Lobel 2013a, 2013b, 2016), and Barito (Hudson 1967), many of the languages of Borneo have been placed in one subgroup or another with little or no linguistic data available. Thus, in the above chapter, as part of my attempt to delineate subgroup boundaries I have provided clear linguistic arguments for my subgrouping proposals. Additionally, with clear linguistic arguments I was able to re-assign several poorly understood languages to specific subgroups, where earlier publications seem to have placed them in geographically adjacent subgroups with little evidence. This includes Ukit, Punan Bah, and the previously unclassified Sru. Third, I have attempted to argue for updated internal subgrouping

models in each of the major subgroups of Borneo. This has resulted in a major restructuring of Barito, which I have rejected as a subgroup. Languages traditionally assigned to a Barito subgroup, I argue, form a Barito Linkage. The phonological evidence for a linkage rather than a subgroup model for Barito is robust, and this has the added effect of removing from the table any argument that there was ever a Proto-Barito language. In Land Dayak, my attempts at internal subgrouping have resulted in a proposal quite different from Rensch et al. (2012). The proposal above, which is based on a split in reflexes of schwa in the penultimate syllable, as well as raising of word-final *a and the innovation of *-h in vowel final syllables in Bidayuh and Southern Land Dayak, assumes that Bekati and Benyadu form an exclusive subgroup within Land Dayak, while Bidayuh and Southern Land Dayak form a second subgroup. Fourth, I have tried to give data and short descriptions for languages that were either poorly documented or undocumented, or languages of particular phonological interest. To this end, I wrote short 2-4 page descriptions of Merap, Punan Kelai, Hliboi Bidayuh, and an Iban dialect of the upper Kapuas. Although these short descriptions hardly do these languages justice, they complement the historical and comparative arguments, and give the reader a feel of what these languages are actually like, something that is often lost in such dense discussions of historical sound changes and lexical replacement innovations.

CHAPTER 3

HIGHER-ORDER SUBGROUPING IN BORNEO

3.1 Introduction

The aim of this chapter is to build on the various subgrouping proposals of the previous chapter and propose higher-order subgroupings in Borneo. Higher-order subgrouping is the assignment of large subgroups to even larger subgroups, typically as primary branches of a single proto-language. For example, higher-order Austronesian subgrouping is generally considered subgrouping which deals with the breakup and diversification of PAN itself. Proto-Malayo-Polynesian higher-order subgrouping deals with the breakup and diversification of PMP itself. In Borneo, higher-order subgrouping is understood as arguments dealing specifically with the breakup and diversification of a hypothetical proto-language which is ancestral to all (but not only) languages of Borneo. To deal with this topic, it is necessary to lay a basic foundation on which higher-order arguments will be built. Much of this chapter is dedicated to that task.

Perhaps the most important proposals in this chapter are a Central Sarawak subgroup, lexically defined, which includes Melanau, Kajang, Punan and Müller-Schwaner, and a Basap-Barito linkage which includes Basap, Sama-Bajaw, and Barito as a sister group to Greater North Borneo. More than that, however, this chapter makes several observations on the quality of lexical data in Borneo, and identifies areas of lexical complexity that make subgrouping difficult. First, this chapter identifies and provides data which exemplifies lexical influence between established subgroups in Borneo. Chiefly among these is Kayanic influence, which can be identified in the lexicon of several languages of various subgroups in Borneo. Second, this chapter identifies for the first time a set of “pan-Bornean near-cognates”. These near-cognates are words of identical meaning and similar shape which are found throughout the island, but that have no apparent source and cannot be reconstructed to any higher-order subgroup due to irregularities in sound correspondences. Finally, this chapter provides a critical analysis of several proposed subgroups which appear in Blust (2010), including North Borneo, Greater North Borneo, and Western Indonesian. In particular, a substantial amount of high quality lexical evidence has been uncovered which supports Blust’s Western-Indonesian subgroup.

3.2 Issues in higher-order subgrouping

A particularly tough subgrouping problem in Borneo is that despite the large number of languages and lower-level diversity, and despite several areas of highly innovative individual languages, the majority of reconstructable proto-languages in Borneo are remarkably conservative, with few if any phonological innovations that might aid in developing a hypothesis of higher-order subgrouping. This means that higher order subgrouping must rely heavily on identifying quality lexical replacement innovations, and that great care must be taken to eliminate borrowing as an explanation for similarities between proposed innovations. This section aims to identify two types of non-inherited lexical similarities; similarities due to borrowing, and similarities due to the presence of pan-Bornean near-cognates. The first type of similarity, borrowing, needs no explanation, but pan-Bornean near-cognates are a uniquely Bornean type of lexical similarity. They are discussed in more detail in section 3.2.2, but briefly, pan-Bornean near-cognates are words of similar shape and identical meaning found in genetically separated subgroups throughout Borneo. The near-cognates themselves cannot be reconstructed to higher-order proto-languages due to phonological irregularities, but no potential source language has been identified which might be used to explain near-cognates as borrowings.

3.2.1 Borrowing relationships across subgrouping boundaries

The languages of Borneo have been evolving for roughly 4,000 years (Bellwood 2007). The interior of Borneo has long been an area of contact, mobility, and warfare between tribes. As such, any researcher who spends a significant amount of time with multiple languages of Borneo will notice signs of borrowing relationships in the lexicons of various languages. This section identifies many of those relationships, pointing out where words have been borrowed, and between which groups. The goals of this exercise are two-fold, 1) to discover evidence for histories of contact and 2) to inform higher-order subgrouping proposals so that weak evidence and similarities due to factors other than inheritance do not play a role in determining the composition of subgroups. The first area of influence discussed in this section deals with Kayan, a group of languages and dialects which were traditionally spoken in the most remote parts of interior Borneo, straddling the modern-day border between Indonesia and northern Sarawak. Kayan influence can be identified in a range of languages, and each case is discussed individually below. Other zones of influence have been identified between Müller-Schwaner and

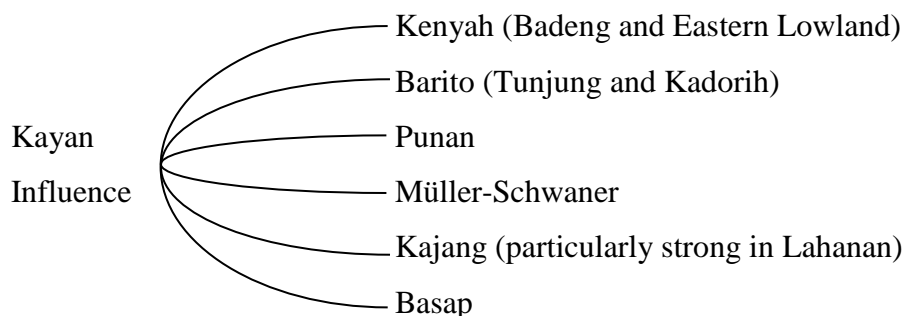
Kadorih, Western Lowland Kenyah and Kajang, Malayic and Land Dayak, and Kenyah and Basap. A much larger zone of influence between Barito languages and Basap, which appears to have existed in the distant past, is discussed separately in section 3.7. Also, this section does not address the issue of Iban loanwords in languages of Sarawak where Iban has spread. It is much more difficult to separate Iban and Malay borrowings in these languages, as Iban and Malay both have similar historical phonologies. It should be noted that the languages of Sarawak and parts of West Kalimantan are under heavy Iban influence, and future publications on these languages will need to address the issue.

3.2.1.1 Areas of Kayan influence

Kayan languages have had a particularly broad impact on the vocabularies of various groups in Borneo. In some cases, borrowing occurred between Kayan and a specific language in another subgroup (but not between Kayan and all languages of that subgroup) which suggests recent, targeted contact. Yet in other cases, including the case of Kayan and Müller-Schwaner, Kayan influence is found throughout every member of the subgroup, which suggests a more ancient and prolonged period of contact. After an intensive search through wordlists of nearly 100 speech communities, the following borrowing relationships have emerged:

Figure 75

Visualization of Kayan zones of influence



3.2.1.1.1 Kayan influence in the lexicon of Eastern Lowland and Badeng Kenyah varieties

Kenyah and Kayan have occupied overlapping territories for hundreds of years. Apparently, the Kayan once occupied the large Apo Kayan highlands, which form the

watersheds of major river systems both in Kalimantan and Sarawak. They were pushed out by the Kenyah, who now represent the majority ethnic group of this area. It appears then that Kenyah and Kayan have had intense contact for some period. However, borrowings between the two groups are not common, and most examples of borrowing from a Kayan source appear in Uma Pawe and other dialects of Eastern Lowland Kenyah. The many borrowings in Eastern Lowland have led some to classify them as Kayan (Soriente 2006b) although this view is challenged in Smith (2015a:337-340) who argues, among other things, that “the close contact situation that has existed between Kenyah languages in Kalimantan with Kayan... is the best explanation for a number of shared lexemes between the two groups”. Evidence supporting the latter view is presented below.

The following sections, including all sections which compare native vocabulary with borrowed vocabulary, organize and present data in a specific manner which needs to be explained. Each borrowed word is presented in bold in the first line, and includes which language the borrowed word appears in, the word itself, and a gloss. Directly beneath the bolded loanword are two columns, headed with two reconstructions. The first reconstruction is the reconstructed word in the source group. The second reconstruction is the reconstructed word in the group which includes the recipient language. The following chart on Uma Pawe ‘to drink’ should be read as follows: Uma Pawe contains the borrowed word *mədu?* ‘to drink’. The source for this word is Kayan, as evidenced by the Proto-Kayan (PKYN) reconstruction *du?i? ‘to drink’, Long Naah *du?i?*, Busang *dui?*, and Bahau *du?*. This word is identified as a borrowing because other Kenyah languages (in the second column) reflect Proto Kenyah (PKEN) *isəp, as evidenced by Sebop *cəp*, Lebo’ Vo’ *səp*, and Lepo Tau *isəp*.

Uma Pawe *mədu?* ‘to drink’

| | |
|------------------------|-----------------------|
| PKYN *du?i? ‘to drink’ | PKEN *isəp ‘to drink’ |
| Long Naah <i>du?i?</i> | Sebop <i>cəp</i> |
| Busang <i>dui?</i> | Lebo’ Vo’ <i>səp</i> |
| Bahau <i>du?</i> | Lepo Tau <i>isəp</i> |

This formula can be used to read all the following data sets which compare native and borrowed vocabulary.

Uma Pawe *lənatu?* ‘rainbow’

PKYN *ilaŋ atu? ‘rainbow’

Long Naah *lən atu*

Data Dian *ileəŋ atu?*

Balui Liko *lənatu*

PKEN *laliwa ‘rainbow’

Sebop *liwa*

Lebo’ Vo’ *ləliwa*

Lepo Sawa *ləliwa*

Uma Pawe *ləvi? daw* ‘evening’

PKYN *ləbi? daw ‘evening’

Ngorek *ləbi?*

Long Naah *daw ləvi*

Data Dian *ləfi? daw*

Kelai *dələwe?*

PKEN *taup ‘evening’

Sebop *taop*

Lebo’ Vo’ *ŋətaop*

Lepo Laang *taup*

Lepo Tau *taup*

Uma Pawe *təlukuk* ‘mosquito’

PKYN *lamuk/*təlukuk ‘mosquito’

Balui Liko *təlukok*

Long Naah *təlukok*

Data Dian *hamuk*

Bahau *lamuk*

PKEN *iəŋ ‘mosquito’

E Penan *iəŋ*

Lebo’ Vo’ *yəŋ*

Lepo Gah *yəŋ*

Lepo Tau *yəŋ*

Uma Pawe *təkuk* ‘nape’

PKYN *təkuk ‘nape’

Data Dian *təkuk*

Ngorek *təkuk*

Busang *təkuk*

PKEN *abit ‘nape’

E Penan *abit*

Lebo’ Vo’ *abet*

Lepo Tau *abit*

Uma Pawe *seŋ* ‘cat’PKYN **siŋ* ‘cat’Data Dian *siŋ*Busang *seŋ*Bahau *siŋ*PKEN **meo* ‘cat’Sebop *meo*Lebo’ Vo’ *mew*Lepo Tau *mew***Uma Pawe *manok* ‘bird’²⁴**PKYN **manuk* ‘bird’Long Naah *manok*Data Dian *manuk*Bahau *manuk*Kelai *mnok*PKEN **sui* ‘bird’Lebo’ Vo’ *sui*Lepo Gah *sui*Lepo Laang *sui*Lepo Tau *sui***Uma Pawe *təlusuŋ* ‘beetle (general term)’**PKYN **təlusuŋ* ‘beetle’Long Naah *təlusuŋ*Data Dian *təlusuŋ*Busang *təlusuŋ*PKEN **suŋa* ‘beetle’W Penan *suŋah*Lebo’ Vo’ *suŋi*Lepo Sawa *suŋa***Badeng *ñagun* ‘to punch’**PKYN **jagud* ‘to punch’Data Dian *ñagun*Busang *jagur*Bahau *jagul*PKEN **bukut* ‘to punch’Lepo Tau *bukut*Lebo’ Vo’ *bukot*Penan *bukut*

²⁴ PMP **manuk* meant ‘chicken’, but its reduplicated form, **manuk-manuk*, meant ‘bird’. In these languages, however, reflexes of **manuk* mean ‘bird’.

Badeng *cərebən* ‘yellow ringed cat snake’

| | |
|---------------------------|-------------------------|
| PKYN *jəliban | PKEN *ñatəŋ |
| Ngorek <i>səlaban</i> | Penan <i>ñatəŋ</i> |
| Long Naah <i>jəlivan</i> | Lebo’ Vo’ <i>ñatəŋ</i> |
| Balui Liko <i>jəlivan</i> | Lepo Laang <i>ñatəŋ</i> |
| Kelai <i>nalwin</i> | Lepo Tau <i>ñatəŋ</i> |

3.2.1.1.1 Kayan influence on the phonology of Eastern Lowland Kenyah

Additional evidence of Kayan influence is found in the historical phonology of Eastern Lowland, where *z became *s. Other, less compelling changes also appear between the two groups (*-b- > *-v-, *-d- > *-r-) but are not considered significant enough for discussion (see Smith 2015a:337-338 for more). In Proto Kayanic, *z had most likely become *c and several languages, Gaai, Kelai, and Merap, retain *c unchanged. In all other Kayanic languages, including the entire Kayan subgroup, Modang, Long Gelat, and Ngorek, *z > *c > s. It should be no surprise then that the only Kenyah dialects which show a parallel development where *z > s are the same dialects with strong lexical evidence for contact with Kayan. Other languages where this change is attested in Borneo are also under heavy Kayan influence, including where *z devoiced to *c (chapter two contains sound correspondences for all languages and examples of *z > *c can be found there).

Although it is widely claimed that Kayan and Kenyah have had a prolonged period of contact, most of the linguistic evidence for such contact is restricted to a single subgroup of Kenyah, Eastern Lowland. Other Kenyah languages show only minimal signs of contact.

3.2.1.1.2 Kayan influence in the lexicon of Tunjung and Kadorih

Most Barito languages are spoken a distance from areas typically associated with Kayan groups. Kadorih, which is spoken far in the interior is in closer contact with Müller-Schwaner, and thus exhibits more signs of contact with those languages than with Kayan. There are some cases, however, where Kayanic words have made their way into Tunjung, and to a lesser degree, Kadorih. Evidence for contact between these groups is presented below.

Tunjung *ñagur* ‘to punch’

| | |
|--------------------------------|--|
| PKYN * <i>jagud</i> ‘to punch’ | * <i>nampar</i> (level unknown, as there was no PBAR language) |
| Data Dian <i>ñagun</i> | Ngaju <i>nampar</i> |
| Busang <i>jagur</i> | Maanyan <i>nampar</i> |
| Bahau <i>jagul</i> | Taboyan <i>nampar</i> |
| Badeng <i>ñagun</i> | Benuaq <i>nampar</i> |

Tunjung *halay* ‘earthworm’

| | |
|---------------------------------|--|
| PKYN * <i>saləŋ</i> ‘earthworm’ | PMP * <i>wati</i> ‘earthworm’, * <i>caciŋ</i> ‘worm’ |
| Long Naah <i>aləŋ</i> | Ngaju <i>handale petak</i> |
| Data Dian <i>haləŋ</i> | Maanyan <i>sasiŋ</i> |
| Busang <i>haləŋ</i> | Taboyan <i>lokuy</i> |
| Ngorek <i>aləŋ</i> | Kadorih <i>rukuy</i> |

Tunjung *kuhukŋ*, Kadorih *kuhuŋ* ‘head’

| | |
|-------------------------------|--|
| PKYN * <i>tə-kuhuŋ</i> ‘head’ | PMP * <i>qulu</i> ‘head’ |
| Long Naah <i>kahon</i> | Ngaju <i>kuluk</i> (unknown origin) |
| Balui Liko <i>kuhon</i> | Maanyan <i>ulu?</i> |
| Bahau <i>kuuŋ</i> | Dusun Witu <i>ulu?</i> |
| Kelai <i>takhəwŋ</i> | Taboyan <i>utək</i> (From PMP * <i>utək</i> ‘brain’) |

Tunjung *ulay*, Kadorih *kəmuroy* ‘left side’

| | |
|--------------------------------|---|
| PKYN * <i>ulay</i> ‘left side’ | PMP * <i>kawiRi</i> /* <i>kabi</i> ‘left side’ (a near-cognate, see §3.2.2) |
| Ngorek <i>ole</i> | Ngaju <i>sambil</i> |
| Long Naah <i>dahulay</i> | Maanyan <i>kawi?</i> |
| Data Dian <i>ulay</i> | Taboyan <i>sei?</i> |
| Busang <i>ule</i> | Benuaq <i>sei?</i> |

3.2.1.1.3 Kayan influence in the lexicon of Müller-Schwaner

Unlike Kenyah and Barito examples, Kayan influence is found throughout the Müller-Schwaner group. This implies that Kayanic influence occurred in Proto-Müller-Schwaner, before

the subgroup began to diversify. This complements similar conclusions drawn from local histories reported in Sellato (1980, 1981, 1982, 1986, 1994, 2004) and Sellato and Soriente (2015) that the Kayan exercised influence over Müller-Schwaner as a whole for a prolonged period of time.

The data for Müller-Schwaner is presented in the same manner as other data, but because Kayan influence is found throughout Müller-Schwaner, I have included reconstructions from the subgroup's closest relatives, Punan, Kajang, and Melanau, to show how Kayan loanwords have replaced inherited vocabulary.

Seputan *tokohoj*, Kereho *tokohoj* ‘head’

| | |
|-------------------------|----------------------------------|
| PKYN *tə-kuhuŋ ‘head’ | PPUN *utək (from *qutək ‘brain’) |
| Long Naah <i>kahoj</i> | PKAJ *uɬəw |
| Balui Liko <i>kuhoj</i> | PMEL *uləw |
| Bahau <i>kuuŋ</i> | Hovongan <i>uun</i> (< *qulu-n) |
| Kelai <i>takhəwŋ</i> | Kereho <i>uun</i> |

Kereho *koran*, Seputan *kohoran*, Aoheng *koran* ‘neck’

| | |
|----------------------------|-----------------------|
| PKYN *kəraʔ/*kəra-n ‘neck’ | PPUN *duhuʔ |
| Long Naah <i>kəran</i> | PKAJ *ŋoʔa |
| Balui Liko <i>kəraʔ</i> | PMEL *təŋuʔ |
| Busang <i>kəran</i> | Hovongan <i>cohoj</i> |

Aoheng *tiliŋ*, Seputan *təhiliŋ* ‘cicada’

| | |
|-------------------------|-------------------------------|
| PKYN *tiliŋ ‘cicada’ | PPUN *netnet/*ñetñet |
| Data Dian <i>tiliŋ</i> | PKAJ *ŋet |
| Balui Liko <i>tiliŋ</i> | PMEL *iŋit |
| Busang <i>tiliŋ</i> | Hovongan, Kereho <i>tisiŋ</i> |

Hovongan *tori*, Seputan *tori*, Aoheng *tori* ‘squirrel’

| | |
|------------------------|----------------------------|
| PKYN *təlis ‘squirrel’ | PPUN *ukiʔ əbap |
| Data Dian <i>təlih</i> | PKAJ *puʔan |
| Balui Liko <i>təli</i> | PMEL *ʔ |
| Merap <i>klayh</i> | Kereho <i>ovap</i> |
| Bahau <i>təleh</i> | Punan Tubu <i>ukiʔ fap</i> |

Hovongan *ñuʔe*, Kereho *ñuʔe* ‘to answer’

| | |
|------------------------|---------------------|
| PKYN *ñuʔay | PPUN *putay |
| Data Dian <i>ñuʔay</i> | PKAJ *putay |
| Long Naah <i>ñuʔay</i> | Seputan <i>haʔu</i> |
| Busang <i>ñue</i> | |

Aoheng *moru*, Seputan *moru* ‘bathe’

| | |
|-----------------------|----------------------|
| PKYN *ədus ‘to bathe’ | PPUN *təmu |
| Data Dian <i>duh</i> | PKAJ *təməw |
| Bahau <i>doh</i> | PMEL *təmuʔ |
| Busang <i>du</i> | Hovongan <i>nomu</i> |
| Ngorek <i>ntoh</i> | Kereho <i>nomu</i> |

Hovongan *upot*, Kereho *upot*, Seputan *opot*, Aoheng *opot* ‘bait’

| | |
|-----------------------|------------|
| PKYN *upət ‘bait’ | PMP *upan |
| Data Dian <i>upat</i> | PKAJ *upan |
| Bahau <i>upət</i> | PMEL *upan |
| Busang <i>upat</i> | PPUN *upan |
| Merap <i>puʔt</i> | |

3.2.1.1.4 Kayan influence in the lexicon of Punan

Kayan has played a particularly large role in the history of individual dialects of Punan, as evidenced by the many Kayan loanwords in various Punan dialects. Although Kayan influence can be found throughout the Punan subgroup, there appears to be a concentration of influence in

Punan Tubu, with moderate levels of influence in other Punan dialects. Punan Tubu is spoken a distance from most other Punan dialects, in the Malinau area of North Kalimantan. It may be in a special position, with a particularly strong history of Kayan contact because of its location.

Punan Tubu *bəlatuŋ* ‘thigh’

| | |
|-------------------------------|-------------------------|
| PKYN * <i>bəlatuŋ</i> ‘thigh’ | PPUN * <i>paʔə</i> |
| Bahau <i>hatuŋ</i> | Punan Bah <i>paʔo</i> |
| Ngorek <i>bəlaton</i> | Beketan <i>paa</i> |
| Merap <i>bəlatawə</i> | Punan Lisum <i>paʔo</i> |
| Modang <i>bəntəwŋ</i> | Punan Aput <i>pən</i> |

Punan Bah *utiʔŋ* ‘domesticated pig’

| | |
|---------------------------------------|--------------------|
| PKYN * <i>utiŋ</i> ‘domesticated pig’ | PPUN * <i>ukot</i> |
| Data Dian <i>utiʔŋ</i> | Ukit <i>ukot</i> |
| Balui Liko <i>utiʔŋ</i> | Bukit <i>ukot</i> |
| Busang <i>utiŋ</i> | |

Punan Tubu *tuyuʔ* ‘crab’

| | |
|----------------------------|----------------------------|
| PKYN * <i>tuyuʔ</i> ‘crab’ | PPUN * <i>kevaŋ</i> ‘crab’ |
| Data Dian <i>tuyoʔ</i> | Beketan <i>kevaŋ</i> |
| Busang <i>tuyoʔ</i> | Punan Aput <i>kevaŋ</i> |
| Ngorek <i>toyoʔ</i> | Ukit <i>kevaŋ</i> |

Punan Tubu *pao*, Punan Aput *pau* ‘grasshopper’

| | |
|----------------------------------|----------------------------------|
| PKYN * <i>pahu</i> ‘grasshopper’ | PPUN * <i>kaap</i> ‘grasshopper’ |
| Data Dian <i>pahoʔ</i> | Ukit <i>kap</i> |
| Balui Liko <i>pahoʔ</i> | Seputan <i>kaap</i> |
| Ngorek <i>pauʔ</i> | Buket <i>kap</i> |

Punan Tubu *labaw* ‘rat’

| | |
|---------------------------|---------------------------|
| PKYN * <i>labaw</i> ‘rat’ | PPUN * <i>musiŋ</i> ‘rat’ |
| Ngorek <i>labo</i> | Punan Lisum <i>musiŋ</i> |
| Data Dian <i>lafaw</i> | Punan Aput <i>musiŋ</i> |
| Busang <i>lavo</i> | Ukit <i>musiŋ</i> |

Of all languages in Borneo that reflect **balabaw* only Kayanic languages deleted the initial syllable. Additionally, **b* failed to lenite intervocalically in Punan Tubu. Taken together, *labaw* in Punan Tubu must have been borrowed from a Kayanic source.

Beketan *paran*, Punan Aput *paran*, Punan Tubu *pəran* ‘small insectivorous bat’

| | |
|----------------------------------|---------------------------------|
| PKYN * <i>pəndan</i> ‘small bat’ | PPUN * <i>kəlit</i> ‘small bat’ |
| Ngorek <i>pəntan</i> | Punan Bah <i>kəkəlit</i> |
| Long Naah <i>pədan</i> | Ukit <i>kolet</i> |
| Kelai <i>pəæn</i> | Seputan <i>koret</i> |

Beketan *baha*, Lisum *baha*, Aput *baha*, Ukit *baha*, ‘husked rice’

| | |
|-----------------------------------|----------------------|
| PKYN * <i>bahah</i> ‘husked rice’ | PPUN * <i>baa</i> |
| Data Dian <i>bahah</i> | Punan Bah <i>baa</i> |
| Balui Liko <i>baha</i> | |
| Busang <i>baha</i> | |
| Long Naah <i>bahah</i> | |

*-R- became zero in all Punan languages, so cases where *-R- is retained as *h* are unexpected. Punan Bah *baa* and Punan Tubu *bah* are the only regular reflexes of **bəRas*. This is quite telling, as Punan Bah is also the only group of Punan who, as far as we know, were never nomadic.

Punan Tubu *aruk*, Punan Lisum *haruk* ‘canoe’

| | |
|------------------------|------------------------|
| PKYN *haruk ‘canoe’ | PPUN *saluy |
| Data Dian <i>haruk</i> | Punan Bah <i>saluy</i> |
| Busang <i>haruk</i> | Beketan <i>a uy</i> |
| Bahau <i>haruk</i> | Ukit <i>haluy</i> |

Punan Bah *besay* ‘paddle’

| | |
|------------------------|------------------------|
| PKYN *bəsay ‘paddle’ | PPUN *pələ |
| Data Dian <i>bəsay</i> | Beketan <i>polo</i> |
| Busang <i>bəse</i> | Punan Aput <i>polo</i> |
| Ngorek <i>bahe</i> | Ukit <i>polo</i> |

Punan Bah raised *a in word-final diphthongs to *iey*, but here there is no raising, which points to borrowing.

Punan Bah *ait* ‘sand’

| | |
|------------------------|-------------------------|
| PKYN *hait ‘sand’ | PPUN *bara (PMP *badas) |
| Data Dian <i>hit</i> | Beketan <i>bara</i> |
| Balui Liko <i>hait</i> | Punan Lisum <i>bara</i> |
| Busang <i>hit</i> | Punan Aput <i>bara</i> |
| Ngorek <i>ait</i> | Ukit <i>bara</i> |

Punan Tubu *tukuŋ* ‘village’

| | |
|-----------------------|--------------------------|
| PKYN *tukuŋ ‘village’ | PPUN *ləbu? (PMP *ləbuq) |
| Merap <i>tukuŋ</i> | Beketan <i>lau?</i> |
| Data Dian <i>ukuŋ</i> | Punan Aput <i>lavu?</i> |
| Bahau <i>ukuŋ</i> | Ukit <i>lavu?</i> |

Beketan *jagun*, Punan Aput *jagun* ‘to punch’

| | |
|--------------------------------|--------------------------|
| PKYN * <i>jagud</i> ‘to punch’ | PPUN * <i>bukut</i> |
| Data Dian <i>ñagun</i> | Punan Bah <i>məbukut</i> |
| Busang <i>jagur</i> | Ukit <i>mukut</i> |
| Bahau <i>jagul</i> | |

These are straightforward Kayanic borrowings, as evidenced by reflexes of *-d in Beketan and Punan Aput. Normally, final voiced stops devoiced in Punan, but here *-d is reflected with *n*, a sound change found regularly throughout Kayanic.

Punan Tubu *alu?* ‘large pestle for pounding rice’

| | |
|--|-------------------------|
| PKYN * <i>alu?</i> ‘large rice pestle’ | PPUN * <i>su?an</i> |
| Merap <i>law?</i> | Beketan <i>su?an</i> |
| Data Dian <i>alo?</i> | Punan Aput <i>su?an</i> |
| Bahau <i>alo?</i> | Ukit <i>su?an</i> |

Note that Punan Tubu closed final vowels with *-h. The glottal stop in *alu?* is a clear indication that this word came from a Kayanic source, where final vowels were closed with glottal stops.

Punan Tubu *laŋa?* ‘blowpipe dart’

| | |
|-------------------------------------|------------------------|
| PKYN * <i>laŋa?</i> ‘blowpipe dart’ | PPUN * <i>tagay</i> |
| Ngorek <i>laŋa?</i> | Punan Aput <i>tage</i> |
| Data Dian <i>laŋa?</i> | Ukit <i>tage</i> |
| Busang <i>laŋa?</i> | Buket <i>tage</i> |
| Merap <i>laŋa:?</i> | Seputan <i>taki</i> |

Punan Tubu *luman*, Punan Lisum *luman* ‘year’

| | |
|----------------------------|-------------------------|
| PKYN * <i>duman</i> ‘year’ | PPUN * <i>taʔun</i> |
| Data Dian <i>duman</i> | Punan Bah <i>toʔun</i> |
| Busang <i>duman</i> | Beketan <i>taun</i> |
| Bahau <i>duman</i> | Punan Lisum <i>taun</i> |
| Ngorek <i>loman</i> | Ukit <i>taun</i> |

Punan Tubu *bərat* ‘mat’

| | |
|---------------------------|--------------------------------|
| PKYN * <i>bərat</i> ‘mat’ | PPUN * <i>uhuʔ/jaliʔ</i> ‘mat’ |
| Data Dian <i>bərat</i> | Punan Bah <i>uuʔ</i> |
| Balui Liko <i>bərat</i> | Punan Aput <i>uhuʔ</i> |
| Busang <i>bərat</i> | Beketan <i>jaliʔ</i> |
| Merap <i>mpra:ʔ</i> | Ukit <i>jaliʔ</i> |

Punan Tubu *labuŋ* ‘hat’

| | |
|---------------------------|--------------------------|
| PKYN * <i>labuŋ</i> ‘hat’ | PPUN unknown |
| Merap <i>labawə</i> | Beketan <i>taŋop</i> |
| Data Dian <i>lafuŋ</i> | Punan Lisum <i>taŋop</i> |
| Bahau <i>lafuŋ</i> | Punan Aput <i>taŋop</i> |

Punan Tubu *putiʔ*, Punan Lisum *puteʔ*, Punan Aput *puteʔ* ‘banana’

| | |
|------------------------------|----------------------|
| PKYN * <i>putiʔ</i> ‘banana’ | PPUN * <i>balat</i> |
| Data Dian <i>puteʔ</i> | Beketan <i>balat</i> |
| Busang <i>puteʔ</i> | Ukit <i>balat</i> |
| Ngorek <i>poteʔ</i> | |

The apparent reflexes of **punti* in Punan are clearly Kayan borrowings, indicated by the presence of glottal stops closing word-final vowels.

Punan Aput *ipot*, Punan Tubu *upet*

| | |
|-----------------------|-------------------------|
| PKYN *upət ‘bait’ | PPUN *upan/ipan |
| Merap <i>puət</i> | Punan Bah <i>upan</i> |
| Data Dian <i>upət</i> | Beketan <i>ipan</i> |
| Busang <i>upət</i> | Punan Lisum <i>ipan</i> |
| Bahau <i>upət</i> | Ukit <i>ipan</i> |

3.2.1.1.5 Kayan influence in the lexicon of Kajang

The Kajang once occupied the entire upper Rejang River. This inference is based on four observations: 1) there are many Kayan loanwords in the Kajang lexicon, 2) the Kayan in the Upper Rejang are recent migrants (chapter four contains much of the evidence for this claim), 3) as reported in chapter 2, Kayan languages in this area have high vowel off-gliding before *k and *ŋ that mimics that found in Kajang groups, suggesting contact, 4) as shown below (section 3.2.1.4) there is also strong evidence for a borrowing relationship between Kajang and Western Lowland Kenyah, a subgroup whose homeland is in the Usun Apau area (Smith 2015b), part of the upper Rejang watershed. Thus, the following contact took place as a result of Kayan migration into historically Kajang areas, and their subsequent dominance over Kajang in the past two centuries. Also, the following data shows that most of the Kajang-Kayan contact occurred between Kayan and Lahanan, with minimal contact between Kayan and other Kajang languages.

Lahanan *koŋ* ‘head’

| | |
|------------------------|---------------------|
| PKYN *tə-kuhŋ ‘head’ | PKAJ *uʔəw |
| Long Naah <i>kahŋ</i> | Sekapan <i>uʔəw</i> |
| Balui Liko <i>kuhŋ</i> | Kejaman <i>oʔəw</i> |
| Bahau <i>kuuŋ</i> | |
| Kelai <i>takhəwŋ</i> | |

Lahanan *tələwa?* ‘spider’PKYN **tələwa?* ‘spider’Data Dian *tələwa?*Balui Liko *tələwa?*Busang *tələwa?*PKAJ **bagak*Sekapan *təbageə?*Kejaman *kəbageək***Lahanan *pao?* ‘grasshopper’**PKYN **pahu?* ‘grasshopper’Data Dian *paho?*Balui Liko *paho?*Ngorek *pau?*PKAJ **karəy*Sekapan *təkarəy*Kejaman *kəlarəy***Kejaman *aruək* ‘canoe’**PKYN **haruk* ‘canoe’Data Dian *haruk*Busang *haruk*Bahay *haruk*PKAJ **saɣuy*Sekapan *saɣuy*Lahanan *saɣuy***Lahanan *satəwɨ* ‘to swim’**PKYN **satuwɨ* ‘swim’Data Dian *ñatuwɨ*Busang *ñatuwɨ*Bahau *ñatuwɨ*PKAJ **laɲuy*Sekapan *bəlaɲuy*Kejaman *bəlaɲuy***Lahanan *ɲale?* ‘to dig’**PKYN **ɲali?* ‘to dig’Busang *ɲale?*Long Naah *ɲale?*Merap *ɲalay?*PKAJ **məɲəkut*Sekapan *məɲəkut*Kejaman *ɲəkut*

A straightforward borrowing, as Lahanan shows glottal stop insertion and high vowel lowering, which indicates a Kayanic source.

Lahanan *tədək* ‘tattoo’

| | |
|-------------------------|---------------------|
| PKYN *təndək ‘tattoo’ | PKAJ *uʎay |
| Data Dian <i>tədək</i> | Sekapan <i>uʎay</i> |
| Balui Liko <i>tədək</i> | Kejaman <i>uʎay</i> |
| Kelai <i>dak</i> | |

This word is also found in Narum *tadak*, a Lower Baram language which otherwise has little discernable Kayanic influences. The penultimate vowel in Narum is irregular, but the word otherwise matches the Kayanic words. It would be easy to claim that this is a Kayanic innovation which has been borrowed, but it’s not clear how much contact Narum has had with Kayan. If Kayan were the first people with elaborate body tattoos that the Narum encountered, then it would be an easy borrowing, but this is not likely the case, as tattoo terminology can be reconstructed all the way to PAN *bəCik ‘tattoo’. Nevertheless, Lahanan *tədək* is still best considered a Kayan loan word.

Lahanan *makaŋ* ‘brave’

| | |
|-------------------------|-----------------------------|
| PKYN *makaŋ ‘brave’ | PKAJ *məgi [məggi] |
| Data Dian <i>makeŋ</i> | Sekapan <i>məgi</i> [məggi] |
| Balui Liko <i>makaŋ</i> | Kejaman <i>məʔgi</i> |
| Ngorek <i>makaŋ</i> | |

Lahanan *tuto* ‘straight’

| | |
|------------------------|----------------------|
| PKYN *tutaw ‘straight’ | PKAJ *təʔju/pəʔju |
| Data Dian <i>tutaw</i> | Sekapan <i>pəʔju</i> |
| Busang <i>tuto</i> | Kejaman <i>təʔju</i> |
| Bahau <i>tutaw</i> | |

Good evidence that this is a borrowing comes from the reflex of *-aw, which should have not changed in Lahanan. Several of the Kayan languages along the Rejang, however, have changed *-aw to *o*.

3.2.1.2 Kadorih

Kadorih (also known as Ot Danum and Dohoi) has many phonological and lexical similarities with Müller-Schwaner languages in addition to more modern lexical borrowings from Ngaju. Geographically, Kadorih is spoken in the headwaters of the Barito River, Kapuas River (of Central Kalimantan), and Kahayan river. This area includes natural borders with the headwaters of the Kapuas (of West Kalimantan) and Mahakam Rivers, where Müller-Schwaner languages are currently spoken. Thus, the two groups are geographically contiguous and appear to have been in contact with one another for some time.

3.2.1.2.1 Phonological convergence as the result of geographic closeness between Kadorih and Müller-Schwaner.

The following data applies not only to phonological convergence between Kadorih and Müller-Schwaner, but between the entire Northwest Barito group and Müller-Schwaner. Data in Hudson (1967:84-96) largely agrees with this observation. The primary data presented below comes only from Kadorih, but is supplemented with data from Hudson (1967) where necessary.

3.2.1.2.1.1 Reflexes of *z

Although this is not a sound change of outstanding quality, it deserves mention because within Barito only Kadorih and Tunjung show this change, but there is no apparent history of direct contact between the two. It is likely that *z > *c in Kadorih occurred as a result of Müller-Schwaner influences. There are complications with this interpretation, however. The table below, which also contains data on Siang from Hudson (1967), reveals an apparent split in reflexes of *z in Kadorih. While Siang regularly reflects *z with *c*, Kadorih has several cases where *z did not devoice.

Table 82

*Inconsistencies in reflexes of *z*

| | Kadorih | Siang | Seputan | Hovongan |
|----------------------|---------------------|-------|--------------|----------|
| *zəlaq ‘tongue’ | joraʔ | coraʔ | celaʔ | caaʔ |
| *zaʔa ‘chin’ | jaa | caa | caʔan | caʔan |
| *zalan ‘road’ | jaran | caran | caan | caan |
| *haRəzan ‘ladder’ | hojan | kucan | hocan | hacan |
| *tuzuq ‘point’ | ujuʔ ‘seven’ | - | ticu ‘seven’ | tucu |
| *quzan ‘rain’ | ucan | ucan | - | - |
| *təkəjut ‘surprised’ | takocit | - | takacot | - |
| *azuq ‘far’ | ma ^h cuʔ | ocu | mocuʔ | mooco |
| *zaqat ‘bad’ | caat | ceet | caʔat | caʔat |

The Kadorih data is difficult to evaluate because both words that reflect *z as *c and those which reflect *z as *j* are otherwise regular with regard to sound correspondences. Kadorih *takocit* appears to be the only exception, but *ucan* ‘rain’, *ma^hcuʔ* ‘far’, and *caat* ‘bad’ are regular. The task here is to determine the directionality of influence in Kadorih, i.e. did *z become *c, with cases where *z appears to have become *j explainable as borrowings from Ngaju, or did *z become *j, with cases where *z appears to have become *c explainable as borrowings from Müller-Schwane? Three observations support the first hypothesis, that *z became *c, and cases where *z is reflected as *j* are secondary.

1) Siang regularly reflects *z as *c*, and it appears that Siang belongs to the same group of Barito languages that Kadorih does. A possible objection to this statement could be that the sound change had begun to spread through a specific zone of influence, where it affected all of Siang vocabulary but halted before fully penetrating Kadorih. This is, of course, an argument against regularity, and one which I do not intend to entertain. Although sound changes certainly spread from zones of influence (as is apparent in this work’s classification of Barito as a linkage), they still tend to act regularly on individual languages.

2) Kadorih strengthened the glide *-y- and in every case, *-y- is reflected as *c*. This observation is particularly powerful. If all cases of *j are borrowing from the Ngaju dialects, then it follows that there would be zero cases of *y > *j, as glides did not strengthen in Ngaju. Searching the data reveals that this is indeed the case. Instances of glide strengthening in Kadorih are presented in Table 84 with Ngaju data for comparison.

Table 83

**-y- > *-c- in Kadorih*

| Pre-Ngaju/Pre-Kadorih | Kadorih | Ngaju | Kapuas |
|-----------------------|---------|---------------|---------------|
| *uyat ‘neck’ | ucat | uyat | uyat |
| *bahuya? ‘toad’ | bahuca? | bahuya? | - |
| *kayu? ‘tree; wood’ | kacu? | kayu? | kayu? |
| *Raya ‘big’ | haco? | hai? < *haye? | hai? < *haye? |
| *buyu? ‘widower’ | bucu? | buyu? | - |

3) Kadorih has borrowed heavily from Ngaju in its lexicon. So much so that there are differences between primary data gathered in 2016 and that which appears in Hudson (1967) that can only be explained as direct borrowing from Ngaju. Some of that evidence is presented in table 84. Dohoi is one of three names commonly used to refer to Kadorih. The majority of examples are confined to numerals but show a clear trend towards borrowing from Ngaju in the modern language. It follows from this that lexemes reflecting **z > *j* are also borrowed, since the language as a whole has borrowed from Ngaju.

Table 84

Ngaju influence on modern Kadorih

| | Dohoi (1967) | Kadorih (2016) | Ngaju |
|---------------|---------------------|----------------|---------|
| *ənəm ‘six’ | onom | jahaven | jahawen |
| *pitu ‘seven’ | pi ^h tu? | uju? | uju? |
| *walu ‘eight’ | jaru? | haña? | haña? |
| *siwa ‘nine’ | sioi | jaratien | tien |
| *ñipa ‘tooth’ | ñipu? | kosin | kasiŋa? |
| *jalan ‘road’ | karatak | jalan | jalan |

The history of Kadorih is a complex one. It appears to have been involved in a zone of influence with Müller-Schwaner, but this has been recently overlaid as Ngaju has begun to exert more influence in Central Kalimantan. A number of lexical borrowings and an apparent split in reflexes of **z* attest the more recent Ngaju influences.

3.2.1.2.1.2 Reflexes of *l

As mentioned in Chapter 2 of this work, both Kadorih and Müller-Schwaner languages reflect *l as *l*. The key difference between the two is that while Kadorih reflect *l- and *-l- as *l* (distinct from *l*, a trill) in all cases, Müller-Schwaner languages reflect *l as *l* only in medial position, and even so, only as part of a larger split where *-l- became either \emptyset , *l*, or *l*. The following table compares regular reflexes of *-l- in Kadorih with the same words in Seputan.

Table 85

Direct comparison of Kadorih l and Seputan l

| | Kadorih | Seputan |
|-------------------|---------------|---------|
| *lima ‘five’ | rimoʔ | dimo |
| *lubaŋ ‘hole’ | ruvaŋ | luvaŋ |
| *ləpaw ‘granary’ | ropow ‘house’ | lopu |
| *təlu ‘three’ | toruʔ | toʊ |
| *bulu ‘body hair’ | buruʔ | buun |
| *puluq ‘ten’ | puruʔ | puru |
| *kalih ‘to dig’ | ŋariʔ | ŋari |

Due to the irregularity of correspondences of *l in Kadorih and Seputan, they could not have directly inherited these forms from a common ancestor. It is worth noting, however, that the only place in Borneo where *l became *l* is in fact the area where both groups are found. This suggests a history of contact. The regularity in Kadorih, where *l became *l* in all attested forms suggests inheritance. Seputan, on the other hand, reflects a complexly conditioned three-way split, which suggests that the directionality of influence was from Kadorih to PMÜL, which may be responsible for the split in modern languages.

3.2.1.2.2 Lexical borrowing between Kadorih and Müller-Schwaner

The above sound changes provide likely evidence of phonological influences which occurred between Müller-Schwaner and Kadorih. Additional evidence of influence between these two groups is found in the lexicon, and is presented below.

Kadorih *usi?*, Tunjung *usi?* ‘flesh’

| | |
|----------------------|---------------------|
| PMÜL *usin | PMP *həsi/*isi? |
| Hovongan <i>usin</i> | Ngaju <i>isi?</i> |
| Kereho <i>usin</i> | Taboyan <i>isi</i> |
| Seputan <i>usin</i> | Benuaq <i>isitn</i> |
| Aoheng <i>usin</i> | |

Kadorih *ocin* ‘fish’

| | |
|----------------------|---|
| PMÜL *ocen | PMP *hikan (also <i>lauk</i> from a Malayic source) |
| Hovongan <i>cien</i> | Ngaju <i>laok</i> |
| Kereho <i>ocen</i> | Tunjung <i>mətu?</i> |
| Seputan <i>ocen</i> | Kapuas <i>lauk</i> |
| Aoheng <i>ocen</i> | Maanyan <i>kenah</i> |

Kadorih *mapuran* ‘red-leaf monkey’

| | |
|------------------------|--------------------------------|
| PMÜL *məpulan | PWIN *kəłasi ‘red-leaf monkey’ |
| Hovongan <i>mopuan</i> | Ngaju <i>kəłasi</i> |
| Kereho <i>mopuan</i> | Maanyan <i>kəłahi</i> |
| Aoheng <i>məpuan</i> | |

Kadorih *arut* ‘canoe’

| | |
|---------------------|--|
| PMÜL *arut | PMP *qabaŋ/*waŋka/*jukuŋ (Barito only) |
| Hovongan <i>aut</i> | Ngaju <i>jukuŋ</i> |
| Kereho <i>out</i> | Kapuas <i>jukuŋ</i> |
| Seputan <i>arut</i> | Maanyan <i>jukuŋ</i> |
| Aoheng <i>arut</i> | Dusun Witu <i>jukuŋ</i> |

Kadorih *taʔaŋ* ‘handspan’

PMÜL *taʔaŋ

Hovongan *taʔaŋ*

Seputan *taʔaŋ*

Kereho *taʔaŋ*

Aoheng *toʔaŋ*

Kapuas *jəŋkal*

Maanyan *jeke*

Taboyan *jokeʔ*

Benuaq *jokar*

***pələtəŋ ‘drown’**

The directionality of borrowing here is the reverse of much of the other lexical evidence.

Because of its widespread distribution in Barito, it appears that *pələtəŋ was borrowed into Müller-Schwaner from some Barito source. However, it does not appear that Kadorih was the source, since Kadorih *r would have been borrowed as *r in PMül.

Kadorih *parə^htoŋ*

Ngaju *paleteŋ*

Taboyan *pələntəŋ*

Benuaq *pələtəkŋ*

Hovongan *polotoŋ*

Seputan *polotoŋ*

3.2.1.3 Land Dayak and Malayic

Land Dayak is surrounded by Malayic languages, and as such there is a large amount of direct borrowing between Malayic languages including Iban, Seberuang, Mualang, Kendayan, Malay dialects and Standard Indonesian and various individual Land Dayak languages. It's impossible to detail each example of borrowing, considering the exceptionally large number of Malay loan words found in Land Dayak. I have instead listed several phonological diagnostics which can be used to test words for inheritance or borrowing. These include: 1) reflexes of schwa in final syllables, 2) reflexes of *l, 3) reflexes of *R, 4) word-final nasal preposition, and 5) reflexes of *-aw and *-ay. Each diagnostic is explained briefly below, followed by a short list of examples from various Land Dayak languages where the diagnostics were used to identify borrowing. I have also indicated where inherited words are found in some languages that have

been replaced by borrowings in others. Note that the list of examples is not exhaustive, as such a list would be far too long to include here. Malayic borrowings are especially prevalent in Southern Land Dayak, where they make up in some cases more than 50% of the vocabulary. (Rensch et al. 2012 discusses this issue at length)

Reflexes of schwa in final syllables

Wherever a word in a Land Dayak language reflects schwa in a closed final syllable with *a, that word can be labeled a loan. Most Land Dayak languages reflect schwa in this position as either *i*, *u*, or less commonly, *i*. No Land Dayak language reflects schwa as *a* in the final syllable, but all Malayic languages of Borneo do.

Reflexes of *l

All Land Dayak languages, apart from Hliboi and Sungkung, reflect *l as *r* (often phonetically backed, as [ɣ] or [ʀ]). Any case where *l is reflected as *l* can thus be labeled a loan.

Reflexes of *R

Proto-Land Dayak reflected *R as *h, and in the daughter languages *h has mostly deleted. Malay reflects *R as *r*, and wherever a Malayic word was borrowed by a Land Dayak language, *R appears as *r* (or *y*, or *ʀ*).

Final Nasal Prepllosion

Not all Land Dayak languages have preploded final nasals. The Bidayuh languages of Sarawak do not show this change. However, languages to the south, including Benyadu-Bekati and Southern-Land Dayak do have preploded final nasals. In some cases, prepllosion has led to full denasalization where *-m > -p, *-n > -t, and *-ŋ > -k. Loan words from Standard Malay, Sarawak Malay, Standard Indonesian, and Ibanic languages will not show final nasal prepllosion, but borrowings from Kendayan and Salako will.

Final *-aw and *-ay

Bidayuh-Southern Land Dayak languages reflect *-aw with *-u* and *-ay with *-i*. Benyadu-Bekati languages reflect them as *-o* and *-e*. Cases where the diphthong did not become a monophthong are considered Malay borrowings.

Malayic borrowings in Land Dayak with phonemic diagnostics

| | |
|----------------------------------|---|
| Malay <i>səratu</i> ‘hundred’ | Benyadu <i>sərtu</i> , Rara <i>səratu</i> , Bekati <i>sayatu</i> , Hliboi <i>hlatus</i> , Sungkus <i>səratu</i> , Jangkang <i>soyatu</i> , Ribun <i>səhatu</i> , Golik <i>səratu</i> , Sanggau <i>yatu</i> . Loan word diagnostic: Malayic reflexes of *R. |
| Malay <i>səribu</i> ‘thousand’ | Benyadu <i>səribu</i> , Rara <i>səribu</i> , Bekati <i>sayibu</i> , Hliboi <i>səlibu</i> , Sungkus <i>səribu</i> , Jangkang <i>soyibu</i> , Ribun <i>səhibu</i> , Golik <i>səribu</i> , Sanggau <i>səyebu</i> . Loan word diagnostic: Malayic reflexes of *R. |
| Malay <i>jantun</i> ‘heart’ | Benyadu <i>jantun</i> , Hliboi <i>jantun</i> , Sungking <i>jantun</i> , Jangkang <i>jantokn</i> , Ribun <i>jantukn</i> , Golik <i>jantok</i> , Sanggau <i>jantun</i> . Loan word diagnostic: inconsistent nasal prelosion. |
| Malay <i>ulat</i> ‘worm; maggot’ | Benyadu <i>ulat</i> , Jangkang <i>ulat</i> , Ribun <i>ulat</i> , Golik <i>ulat</i> , Sanggau <i>ulat</i> . Loan word diagnostic: *l > l and *-əC > -aC (PMP *quləj). |
| Malay <i>pulaw</i> ‘island’ | Benyadu <i>pulo</i> , Bekati <i>pulo</i> , Hliboi <i>pulaw</i> , Jangkang <i>pulaw</i> , Ribun <i>pulaw</i> , Golik <i>pulow</i> , Sanggau <i>pulaw</i> . Loan word diagnostic: Malayic reflexes of *-aw. |
| Malay <i>bintan</i> ‘star’ | Benyadu <i>bintakn</i> , Bekati <i>bentan</i> , Hliboi <i>bintan</i> , Sungkung <i>bitakn</i> , Jangkang <i>bintakn</i> , Ribun <i>bintakn</i> , Golik <i>bintakn</i> , Sanggau <i>bintakn</i> . Loan word diagnostic: inconsistent nasal prelosion. |
| Malay <i>luar/luas</i> ‘outside’ | Benyadu <i>luas</i> , Hliboi <i>lual</i> , Jangkang <i>luay</i> , Sanggau <i>luayə</i> . Loanword diagnostic: Malayic reflexes of *R and *l. |
| Malay <i>pusat</i> ‘navel’ | Benyadu <i>pusat</i> , Rara <i>pusat</i> , Jangkang <i>pusat</i> , Sanggau <i>pusayə</i> . Loan word diagnostic: Malayic reflexes of *-əC. PMP *pusəj reflected regularly in Bekati <i>pusut</i> , Hliboi <i>pisot</i> , Sungkung <i>pasid</i> , and Golik <i>posit</i> . |

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| Malay <i>dagin</i> ‘flesh’ | Bekati <i>dagin</i> , Hliboi <i>dagin</i> , Jangkang <i>dagikŋ</i> , Ribun <i>dagikŋ</i> , Golik <i>dagikŋ</i> , Sanggau <i>dagitn</i> . Loan word diagnostic: Malay innovation, PMP *isi reflected in Benyadu <i>insitn</i> , Sungkung <i>sitn</i> . |
| Malay <i>binataŋ</i> ‘animal’ | Bekati <i>binataŋ</i> , Hliboi <i>natakŋ</i> , Sungkung <i>binatakŋ</i> , Jangkang <i>bonatakŋ</i> , Ribun <i>takŋ</i> , Golik <i>binatakŋ</i> . Loan word diagnostic: inconsistent nasal prelosion. |
| Malay <i>lalat</i> ‘fly’ | Benyadu <i>lalat</i> , Hliboi <i>lalat</i> , Golik <i>lalat</i> , Sanggau <i>lalat</i> . Loan word diagnostic: Malayic reflexes of *l. |
| Malay <i>insan</i> ‘gills’ | Hliboi <i>insan</i> , Jangkang <i>insakŋ</i> , Ribun <i>insakŋ</i> , Golik <i>insan</i> , Sanggau <i>insan</i> . Loan word diagnostic: inconsistent nasal prelosion. |
| Malay <i>tupay</i> ‘squirrel’ | Jangkang <i>tupay</i> , Ribun <i>tupay</i> , Golik <i>tupe</i> , Sanggau <i>tupay</i> . Loan word diagnostic: Malayic reflexes of *-ay. |
| Malay <i>gəlak</i> ‘afraid’ | Jangkang <i>golai?</i> , Ribun <i>golo?</i> , Sanggau <i>gola?</i> . Loan word diagnostic: Malayic reflexes of *l. PMP *talaw reflected in Hliboi <i>tilu</i> , Sungkung <i>talū</i> , and Golik <i>toru</i> . |
| Malay <i>cəlap</i> ‘cold’ | Benyadu <i>calap</i> , Jangkang <i>colap</i> , Ribun <i>colap</i> , Sanggau <i>cəlap</i> . Loan word diagnostic: Malayic reflexes of *l. |
| Malay <i>landak</i> ‘porcupine’ | Jangkang <i>lana?</i> , Golik <i>landak</i> , Sanggau <i>landa?</i> . Loan word diagnostic: Malayic reflexes of *l. |
| Malay <i>təŋgilin</i> ‘pangolin’ | Benyadu <i>taŋilikŋ</i> , Bekati <i>taŋilik</i> , Jangkang <i>toŋilikŋ</i> , Ribun <i>tiŋilikŋ</i> , Golik <i>tiŋilik</i> , Sanggau <i>tiŋilin</i> . Loan word diagnostic: Malayic reflexes of *l, inconsistent nasal prelosion. PMP *qaRəm reflected in Hliboi <i>uopm</i> and Sungkung <i>ipm</i> . |
| Malay <i>pəlaŋi</i> ‘rainbow’ | Hliboi <i>pəlaŋey</i> , Ribun <i>pəlaŋi</i> , Sanggau <i>polan̄i</i> . Loan word diagnostic: Malayic reflexes of *l. |
| Malay <i>bəras</i> ‘husked rice’ | Hliboi <i>bilas</i> , Sungkung <i>balis</i> , Jangkang <i>boyas</i> , Golik <i>bəras</i> , Sanggau <i>boyas</i> . Loan word diagnostic: Malayic reflexes of *R (PMP *bəRas). |
| Malay <i>muara</i> ‘river mouth’ | Benyadu <i>muara</i> , Golik <i>muara</i> , Sanggau <i>muaya</i> . Loan word diagnostic: Malayic reflexes of *R. PMP *naŋa reflected in Bekati |

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|----------------------------------|--|
| | <i>naŋon</i> , Hliboi <i>niŋun</i> , Sungkung <i>naŋun</i> . *əluŋ reflected in Ribun <i>ohutn</i> . |
| Malay <i>banjir</i> ‘flood’ | Benyadu <i>banjir</i> , Hliboi <i>bañil</i> , Ribun <i>banjir</i> , Sanggau <i>banjeɣə</i> . Loan word diagnostic: Malayic reflexes of *R. PMP *bahaq reflected in Bekati <i>abaʔ</i> and Sungkung <i>baʔ</i> . |
| Malay <i>goreŋ</i> ‘to fry’ | Benyadu <i>bagoreŋ</i> , Bekati <i>ŋayeŋ</i> , Hliboi <i>goleŋ</i> , Sungkung <i>goreŋ</i> , Ribun <i>ŋohekeŋ</i> , Sanggau <i>ŋgoɣeŋ</i> . Loan word diagnostic: Malayic reflexes of *R, inconsistent nasal preposition. |
| Malay <i>kapur</i> ‘lime’ | Hliboi <i>kapul</i> , Sungkung <i>kapur</i> , Sanggau <i>kapoyə</i> . Loan word diagnostic: Malayic reflexes of *R (PMP *kapuR). |
| Malay <i>cəmburu</i> ‘jealous’ | Benyadu <i>camburu</i> , Jangkang <i>ŋomuɣu</i> , Ribun <i>cəmuhu</i> , Golik <i>cəmburu</i> , Sanggau <i>cəmbuyu</i> . Loan word diagnostic: Malayic reflexes of *R (PMP *buRəhuʔ). |
| Malay <i>piker</i> ‘to think’ | Benyadu <i>bapikir</i> , Hliboi <i>pekel</i> , Jangkang <i>bopikeyə</i> , Golik <i>miker</i> , Sanggau <i>bopikeyə</i> . Loan word diagnostic: Malayic reflexes of *R. Ultimately an Arabic borrowing, but it likely entered Land Dayak via Malay. |
| Malay <i>tərima</i> ‘to receive’ | Benyadu <i>narima</i> , Jangkang <i>toyimaʔ</i> , Golik <i>nərimaʔ</i> , Sanggau <i>nəyimaʔ</i> . Loan word diagnostic: Malayic reflexes of *R |
| Malay <i>antara</i> ‘between’ | Jangkang <i>antaya</i> , Ribun <i>antaya</i> , Golik <i>antara</i> , Sanggau <i>antaya</i> . Loan word diagnostic: Malayic reflexes of *R. Ultimately a Sanskrit borrowing, but it likely entered Land Dayak via Malay. |
| Malay <i>lantay</i> ‘floor’ | Hliboi <i>lantay</i> , Jangkang <i>lantay</i> , Ribun <i>lantay</i> , Golik <i>lantəy</i> , Sanggau <i>lantay</i> . Loan word diagnostic: Malayic reflexes of *-ay. |
| Malay <i>kamar</i> ‘room’ | Hliboi <i>kamal</i> , Sungkung <i>kamil</i> , Jangkang <i>kamay</i> , Ribun <i>kamay</i> , Golik <i>kamar</i> , Sanggau <i>kamayə</i> . Loan word diagnostic: Malayic reflexes of *R. |
| Malay <i>atap</i> ‘roof’ | Benyadu <i>atap</i> , Golik <i>atap</i> , Sanggau <i>atap</i> . Loan word diagnostic: Malayic reflexes of *-əC (PMP qatəp). |

| | |
|-------------------------------------|---|
| Malay <i>tanja</i> ‘stairs; ladder’ | Bekati <i>taŋaʔ</i> , Hliboi <i>taŋaʔ</i> , Sungkung <i>taŋgaʔ</i> , Jangkang <i>taŋaʔ</i> , Golik <i>taŋaʔ</i> , Sanggau <i>taŋaʔ</i> . Loan word diagnostic: Malay innovation. PMP *qaRəzan reflected in Ribun <i>onjatn</i> . |
| Malay <i>rakit</i> ‘raft’ | Benyadu <i>rakit</i> , Ribun <i>hakit</i> , Golik <i>rakit</i> , Sanggau <i>yakit</i> . Loan word diagnostic: Malayic reflexes of *R. |
| Malay <i>lumut</i> ‘moss’ | Benyadu <i>lumut</i> , Rara <i>lumut</i> , Bekati <i>lumut</i> , Golik <i>lumut</i> , Sanggau <i>lumut</i> . Loan word diagnostic: Malayic reflexes of *l. Jangkang <i>yimont</i> and Ribun <i>himoʔ</i> regularly reflect PMP *lumut, and are inherited. |
| Malay <i>asap</i> ‘smoke’ | Jangkang <i>asap</i> , Ribun <i>asaʔ</i> , Sanggau <i>asap</i> . Loan word diagnostic: Malayic reflexes of *R *-əC (PMP *asəp). Benyadu and Bekati <i>asup</i> are inherited and regularly reflect *asəp. |

3.2.1.4 Penan, Sebop, and Kajang

The headwaters of the Rejang River flow from highlands which separate the Tinjar, Baram, and Rejang watersheds. This area includes the Usun Apau highland area, which is the ancestral homeland of Lowland Kenyah (Smith 2015b). It is not surprising, then, that Penan and Sebop, two Lowland Kenyah languages, show signs of contact with Kajang. Although there are no Kajang speakers in the Usun Apau area today, this lexical residue suggests that there was a time where Lowland Kenyah and Kajang speakers occupied geographically contiguous areas, before Kayan expansion pushed the Kajang into their current areas in the middle course of the Rejang.

Sebop *agəm iŋiw*, E Penan *ojoʔ eŋiw*, W Penan *ojuʔ eŋiw* ‘pinkish’

| | |
|---------------------|------------------------------------|
| PKAJ *ŋiw ‘pinkish’ | PKEN *ikiŋ (PMP *kəliŋkiŋ/*kiŋkiŋ) |
| Sekapan <i>ŋiw</i> | Lebo' Vo' <i>ufo ikiŋ</i> |
| Kejaman <i>ŋiw</i> | Uma Pawe <i>usuʔ ikiŋ</i> |
| Lahanan <i>ŋew</i> | Lepo Tau <i>buaʔ ujoʔ ikeŋ</i> |

W Penan *səli?* ‘itchy’

| | |
|-----------------------------|---|
| PKAJ * <i>səli?</i> ‘itchy’ | PKEN * <i>gatən</i> (PMP * <i>gatəl</i>) |
| Sekapan <i>səli</i> | Sebop <i>gatən</i> |
| Kejaman <i>səli</i> | E Penan <i>gatən</i> |
| | Lebo’ Vo’ <i>gatən</i> |
| | Lepo Gah <i>katən</i> |

Kejaman, *peək*, Sebop *bua pak*, W Penan *pakən* ‘durian’

| | |
|-----------------------|-----------------------|
| PKAJ * <i>dəʔzan</i> | PKEN * <i>duian</i> |
| Sekapan <i>dəʔzan</i> | E Penan <i>duyan</i> |
| Lahanan <i>ləzan</i> | Lebo’ Vo’ <i>lian</i> |
| | Lepo Tau <i>dian</i> |

In the above comparison, both Kajang and Kenyah reflect **duRian*. The comparison is between three words that cannot be reconstructed; Kejaman *peək*, Sebop *pak*, and W Penan *pakən*. It’s difficult to pinpoint a source for this word, but nevertheless, it is restricted to Kajang and Sebop-Penan, despite retentions of **duRian* in both groups.

Sebop *diək*, W Penan *dek*, Lebo’ Vo’ *dək* ‘shouted to call chickens home to feed’

| | |
|------------------------------|----------------------|
| PKAJ * <i>diək</i> ‘chicken’ | PKEN * <i>iap</i> |
| Sekapan <i>diək?</i> | Lebo’ Vo’ <i>yap</i> |
| Kejaman <i>diək</i> | E Penan <i>yap</i> |
| | Lepo Gah <i>yap</i> |
| | Lepo Tau <i>yap</i> |

This word is particularly difficult to pin down, as it does not form a complete set in any subgroup where it is found. Lahanan has *manok*, which appears to be a retention but may ultimately be a borrowing from Kayan as all other Central Sarawak languages have innovative forms for chicken. This word is also found in three Punan dialects, Beketan *dek*, Punan Aput *dek*, and Punan Lisum *dek*. Punan languages generally reflect PCS **siaw* ‘chicken’ but the three dialects where **dik* is found also might form a subgroup within Punan. Lebo’ Vo’ retains PKEN **iap*, but

also has a reflex of *dik and there it is used to call chickens (for example, when a chicken owner goes to feed his chickens, he shouts *dek!* several times to call his chickens home). If *dik can be reconstructed further, with the primary meaning ‘to call chickens’ then it might be a more ancient retention. This is a difficult question to test, however, as this type of word is rarely recorded. The Lebo’ Vo’ example was gathered in Long San, an area where I spent a significant amount of time and that acted as a base of operations during my field work along the Baram River. This was a special circumstance and no attempt was made to elicit the word for ‘to call chickens’ at any other location.

E. Penan *təkədəw?* ‘run’

| | |
|------------------------|------------------------|
| PKAJ *təkədu ‘to run’ | PKEN *ŋasah |
| Sekapan <i>təkərəw</i> | W Penan <i>ŋasə</i> |
| Kejaman <i>təkərəw</i> | Lebo’ Vo’ <i>ŋasah</i> |
| Lahanan <i>təkərəw</i> | Lepo Gah <i>ŋasa</i> |
| | Lepo Tau <i>ŋasa</i> |

Sebop *uduk*, W Penan *m-odok* ‘jump’

| | |
|----------------------|--------------------------|
| PKAJ *uduk ‘to jump’ | PKEN *təpəjuk ‘to jump’ |
| Sekapan <i>uduə?</i> | Lebo’ Vo’ <i>nəkəfok</i> |
| Kejaman <i>uduək</i> | Uma Pawe <i>təpəjuk</i> |
| Lahanan <i>uduk</i> | Lepo Gah <i>nəpəjok</i> |
| | Lepo Tau <i>nəpəjok</i> |

3.2.2 Pan-Bornean near-cognates

There are a number of words with a wide distribution in Borneo with identical meanings, but which cannot be reconstructed to a common ancestor due to phonological irregularities in their sound correspondences. I call these words pan-Bornean near-cognates in the spirit of Blust and Trussel (ongoing) who include a useful section in the *Austronesian Comparative Dictionary* titled “near comparisons”²⁵ which deals with a similar issue between far-flung Austronesian

²⁵ Blust and Trussel (ongoing) define near comparisons as follows “These are comparisons in which the observed similarity appears too great to attribute to chance, but because of imprecise agreement the reconstruction of a well-

languages. The criteria for pan-Bornean near-cognates are: 1) the near-cognates must have identical glosses or be semantically united. If words have similar shapes but different or only remotely similar meanings, they are not included. 2) near-cognates must be in languages across major subgrouping boundaries. Words that are located only in a single subgroup, or that appear in genetically very close subgroups, are not included. Part of the significance of pan-Bornean near-cognates is their distribution across the entire island. 3) near-cognates must be formally very close. That is, near-cognates should be phonologically so similar that they warrant serious discussion as borrowings or irregularly reflected retentions 4) near-cognates cannot be reconstructed to higher order proto-languages due to their irregularities. 5) there cannot be a clearly identifiable source of potential borrowing for near-cognates. 6) Near-cognates cannot contain any of the monosyllabic “roots” identified in Blust (1988c)²⁶. Their value lies in the fact that no apparent source exists, yet they have wide distributions throughout Borneo. With these criteria in mind, the following sections contains an exhaustive list of pan-Bornean near-cognates with distributions, reconstructions to lower-level subgroups where possible, and discussions of their significance.

‘longhouse’

A pan-Bornean word for longhouse is interesting as a possible source of evidence for pre-Austronesian populations on Borneo, but it is only useful in this regard if a non-Austronesian source can be identified. Blust (2015) notes that longhouses are found in three main areas in Southeast Asia; Borneo (particularly the part of Borneo facing the South China Sea), amongst some Mon-Khmer speakers on the Southeast Asian Mainland, and in Sumatra. The presence of such a distinctive building in close geographic proximity suggests contact-induced cultural diffusion, but no linguistic evidence can be found linking the longhouses of Borneo directly to

defined form is not yet possible. In some cases these may be reflexes of doublets that have not yet been posited, or of morphemes that share a common monosyllabic root. Further comparative work may therefore lead to the transformation of some near comparisons into reconstructions with irregular material added in a note.” This statement applies equally to pan-Bornean near-cognates.

²⁶ A root is a word-final monosyllabic -CVC element with identical shape and recurring semantic themes which can be identified in content words throughout the Austronesian family. The most robust example is *-pit which appears in words like Malay *capit* ‘pincers’, *məncəpit* ‘to nip’, *dəmpit* ‘pressed together’, *gapit* ‘nipper; clamp’ (Blust 1988c:18). There is no straightforward explanation for roots, other than recurring sound symbolism which is inherited from PAN. Near-cognates, however, do not contain roots.

those of the mainland. Although the near-cognate is intriguing, no evidence of this word outside of Borneo has been located to date.

***bətaŋ**²⁷

| | |
|-----------------|---|
| Land Dayak | Ribun <i>betakŋ</i> |
| Tamanic | Taman <i>betaŋ</i> |
| Barito | Kadorih <i>be^htaŋ</i> , Maanyan <i>betaŋ</i> |
| Müller-Schwaner | Kereho <i>bətaŋ</i> |

‘left’

The PMP word for ‘left’, *ka-wiRi, is retained in Malay *kiri* ‘left’, but is otherwise absent in Borneo except in cases where it was borrowed from Malay. However, there is no clear reconstructable replacement for *ka-wiRi. There are only a series of near-cognates which follow the general shapes *kibaʔ, *kabiʔ, *kabiŋ, and *gibaŋ. All words begin with a velar (possibly fused from PMP *ka) and either *abi or *iba. An exhaustive list is given below, organized by lower-level reconstructions.

***kibaʔ**

| | |
|----------------------|--|
| West Bornean Malayic | Kendayan <i>kebaʔ</i> , Keninjal <i>kibaʔ</i> , Seberuang <i>kibaʔ</i> , Kapuas Iban <i>kibaʔ</i> , Mualang <i>kibaʔ</i> |
|----------------------|--|

***kabiʔ**

| | |
|--------|--|
| Barito | Maanyan <i>kawiʔ</i> , Dusun Witu <i>kawiʔ</i> |
|--------|--|

***kabiŋ**

| | |
|-------------|--|
| Kenyah | Sebop <i>kabiŋ</i> , Long Wat <i>kabiŋ</i> , E Penan <i>kabiŋ</i> , W Penan <i>kabiŋ</i> , Lebo’ Vo’ <i>kabiŋ</i> , Uma Pawe <i>kaviŋ</i> , Lepo Gah <i>kabiŋ</i> , Badeng <i>kabiŋ</i> |
| Dayic | Long Semadoh <i>kabiŋ</i> , Long Bawan <i>kabiŋ</i> , Bario Kelabit <i>kabiŋ</i> |
| Lower Baram | Miri <i>abiŋ</i> , Narum <i>abiŋ</i> , Kiput <i>abiŋ</i> |

²⁷ Many of the near cognates can be reconstructed to lower-level subgroups and are thus represented as reconstructed forms with an asterisk. This does not, however, imply reconstructability to any higher-order subgroup.

***g-ibaŋ**

| | |
|----------|--|
| Dusunic | S Bisaya <i>ibaŋ</i> , Brunei Dusun <i>kibaŋ</i> , Lotud <i>gibaŋ</i> , Rungus <i>gibaŋ</i> , Dumpas <i>gibaŋ</i> , Kujau <i>gibaŋ</i> |
| Paitanic | Sungai Beluran <i>gibaŋ</i> , Lingkabau <i>gibaŋ</i> , Lobu T <i>gibaŋ</i> , Kuamut <i>gibaŋ</i> |
| NE Sabah | Idaan <i>gibaŋ</i> , Seguliud <i>gibaŋ</i> , Begak <i>gibaŋ</i> , Bonggi <i>gibakŋ</i> |

‘back’

PMP *likud is widely attested in Borneo, and the near-cognate for ‘back’, *Rukud/*tukud is restricted to only a few subgroups, with few witnesses.

***Rukud/*tukud**

| | |
|----------|---|
| Basap | Tabalar Basap <i>hukut</i> , Segai Basap <i>bohukut</i> , Batu Putih <i>bohukut</i> |
| NE Sabah | Idaan <i>tukud</i> , Seguliud <i>tukud</i> , Begak <i>tukud</i> |
| Bulungan | <i>bərukut</i> |

‘fish’

PMP *hikan ‘fish’ was replaced in nearly every subgroup in Borneo. It is retained only in Malayic and Land Dayak. There does not appear to be any single word which can be reconstructed to a higher order subgroup as a replacement for *hikan, although *ajən has a wider distribution (it appears in Kayanic and Central Sarawak languages). Segai-Modang, Kenyah, and Tunjung do appear to share near-cognates for fish of basic shape *atuʔ/*atuk. Segai-Modang languages have no evidence of prolonged contact with Kenyah, as the majority of Kayanic loanwords in Kenyah are from the Kayan subgroup. Tunjung is sufficiently removed from both Segai-Modang and Kenyah to eliminate borrowing as an explanation.

| | |
|---------|---|
| Barito | Tunjung <i>mətuʔ</i> |
| Kayanic | Long Gelat <i>təwk</i> , Modang <i>təwk</i> , Gaii <i>təwk</i> , Kelai <i>tok</i> |
| Kenyah | Uma Pawe <i>atok</i> , Lepo Gah <i>atok</i> , Lepo Laang <i>atok</i> , Lepo Sawa <i>atok</i> , Lepo Tau <i>atok</i> |

‘cold’

Similar words for ‘cold’ are found in Kayanic, Kajang, Müller-Schwaner, and Kenyah, but no wide-ranging reconstruction is possible because of irregularities in vowel shapes. The near-cognate is built on the basic shape *sVŋVm, where the vowels can be schwa or *i*, giving three attested forms *səŋəm, *siŋəm, and *səŋim.

*səŋəm

Kayanic *səŋəm Ngorek *ŋəm*, Merap *hŋam*, Data Dian *həŋam*, Busang *həŋəm*,
Bahau *həŋam*, Long Gelat *həŋam*, Modang *həŋam*, Kelai *sŋam*

*siŋəm

Müller-Schwaner Hovongan *siŋom*, Kereho *siŋom*, Seputan *siŋom*, Aoheng
siŋom

*səŋim

Kenyah Uma Pawe *səŋim*, Lepo Gah *səŋim*, Lepo Sawa *səŋim*, Lepo Tau
səŋim, Badeng *səŋim*
Kajang Lahanan *səŋim*

‘waist’

Near-cognates for ‘waist’ point to *aʔiŋ/*iʔiŋ and *akiŋ/*kaʔiŋ. They are found in Kayanic, Kenyah, Punan, Müller-Schwaner, and Berawan-Lower Baram.

*aʔiŋ

Kayanic Ngorek *yoŋ aʔeŋ*, Modang *on eŋ*, Gaai *puʔn ayn*, Kelai *yoʔn eŋ*
Kajang Kejaman *ayəŋ*, Lahanan *ayəŋ*

*iʔiŋ

Kenyah Sebop *iʔiŋ*, E Penan *eʔeŋ*, Lebo’ Vo’ *iʔiŋ*
Berawan-Lower Baram Miri *iʔiŋ*, Long Terawan *eŋ*

*kaʔiŋ

| | |
|-----------------|---|
| Punan | Beketan <i>akeŋ</i> , Punan Lisum <i>akeŋ</i> , Punan Aput <i>keŋ</i> , Buket <i>akeŋ</i> , |
| Müller-Schwaner | Hovongan <i>kaʔeŋ</i> , Kereho <i>kaʔeŋ</i> , Aoheng <i>kaʔeŋ</i> |

***akiŋ**

| | |
|--------|--|
| Kenyah | Uma Pawe <i>akiŋ</i> , Lepo Tau <i>akeŋ</i> , Badeng <i>akiŋ</i> |
|--------|--|

‘shoulder’

Near-cognates for ‘shoulder’ are restricted to Kenyah and Kayanic groups. Although it is true that Kenyah and Kayan have been in contact, Kayanic *laʔip is found in Ngorek and Segai-Modang, which have had far less contact with Kenyah than Kayan has. Two words, Long Jegan *liayc* and Kelabit *liʔip* suggests that *liʔip may be reconstructed to PNS. Kayanic *laʔip*, however, remains sufficiently distinct in shape to classify it as a near-cognate.

***laʔip**

| | |
|---------|---|
| Kayanic | Ngorek <i>laʔip</i> , Merap <i>laʔayc</i> , Data Dian <i>laʔip</i> , Modang <i>ləʔip</i> , Gaai <i>alʔep</i> , Kelai <i>ləʔep</i> |
|---------|---|

***liʔip**

| | |
|------------------------|--|
| Kenyah ‘shoulder; arm’ | Uma Pawe <i>liʔip</i> , Lepo Gah <i>liʔip</i> , Lepo Laang <i>liʔip</i> , Lepo Tau <i>liʔip</i> , Badeng <i>liʔip</i> |
| Berawan-Lower Baram | Long Jegan <i>liayc</i> ‘arm’ |
| Dayic | Kelabit <i>liʔip</i> ‘scapula’ |

‘rhinoceros hornbill’

The rhinoceros hornbill is a symbol of Borneo. Many cultures revere the bird and traditionally have used its tail feathers as ornamentation and as symbols of class. It’s surprising that a word for hornbill cannot be reconstructed, as it is a visually striking bird which would have garnered much attention from the first Austronesian speaking peoples to populate the island. Near-cognates, however, appear throughout Borneo. There are several shapes, but nearly all of them seem to be comprised of a root *-əŋaŋ, with others reflecting *-əŋgaŋ, *-iŋaŋ, and *-alaŋ. The full list is given below, which shows just how widespread these words are.

***əŋgaŋ**

Malayic Indonesian *buruŋ əŋgaŋ*

***tiŋaŋ**

Kayanic Long Naah *tiŋaŋ*, Data Dian *tiŋeʒŋ*, Balui Liko *tiŋaŋ*

Kajang Kejaman *tiŋaŋ*, Lahanan *tiŋaŋ*

Müller-Schwaner Hovongan *tiŋaŋ*, Kereho *tiŋaŋ*, Seputan *tiŋaŋ*, Aoheng *tiŋaŋ*

Barito Kadorih *tiŋaŋ*, Ngaju *tiŋaŋ*,

***takuan**

Kayanic Merap *takuãã*, Modang *təgun*, Kelai *tekgun*

Punan Punan Tubu *takuan*, Ukit *takwan*

***bələŋaŋ/*bələŋan**

Kenyah Sebop *bələŋaŋ*, E Penan *bələŋaŋ*, Lebo' Vo' *bələŋaŋ*, W Penan *bələŋan*

Lower Baram Kiput *bələŋaŋ*, Long Terawan *bələŋaŋ*

***təbəŋaŋ**

Kenyah Uma Pawe *təbəŋaŋ*, Lepo Gah *təbəŋaŋ*, Lepo Laang *təbəŋaŋ*, Lepo

Tau *təməŋaŋ*, Badeng *təməŋaŋ*

***məŋəŋaŋ/*məŋəŋaŋ**

Dayic Lun Dayeh *məŋəŋan*

Basap Lebo *məŋəŋaŋ*

Barito Maanyan *manəŋaŋ*, Dusun Witu *manəŋaŋ*

***təjalaŋ**

Melanau Dalat *kəñalaŋ*, Kanowit *təjalaŋ*

Kajang Sekapan *təjaleʒ*

‘blind’

There are several words found throughout Borneo that mean ‘blind’ but cannot be used to reconstruct a single proto-word. Note that PMP *buta is also reflected throughout the island. These words begin with either *pəc- or *pəs-, with numerous possible final syllables. There are seven attested words: *pəsa, *pəsaʔ, *pəsit, *pəcaʔ, *pəcək, *pəsək, and *pəsu. One of these words, *pəsit, is apparently found in the Philippines: Ilongot *pisit* ‘blind’. Two of the forms contain a root, *-cək ‘blind’. Because of this, *pəsit, *pəcək, and possibly *pəsək can be thrown out. However, this still leaves four reconstructions, *pəsa, *pəsaʔ, *pəcaʔ, and *pəsu unaccounted for.

***pəsa**

Barito Dusun Witu *peheʔ*, Maanyan *peheʔ*,

***pəsaʔ/*pəcaʔ**

Barito Benuaq *posa*, Tunjung *pəsaʔ*, Paser *posa*, Taboyan *posa*

Bulungan *pəsoʔ*

Kajang Kejaman *pəcaʔ*, Sekapan *pəcaʔ*

***pəsu**

Kenyah E Penan *pəsəwʔ*, W Penan *pəsəwʔ*

B-LB Long Terawan *pəcoh*

***pəsit (thrown out because of a Philippine witness)**

Bintulu *pəsit*

Kayanic Kelai *pset*

***pəcək/*pəsək (thrown out because of the root *-cək)**

Punan Punan Tubu *pəcok*

Kajang Lahanan *pəcək*

Punan Punan Bah *pəsək*, Punan Aput *pasək*, Bukit *pasək*

‘to fry’

Near-cognates for ‘to fry’ follow the template $\tilde{n}a(\eta/g)a$, with some forms reflecting final *ʔ or *R. They are found throughout Borneo, but are absent in Sabah. A single form, Kayanic * $\tilde{n}a\eta gu$, reflects a homorganic nasal-obstruent cluster and a high vowel in the final syllable.

*** $\tilde{n}a\eta aʔ$**

Barito Kadorih $\tilde{n}a\eta aʔ$, Ngaju $\tilde{n}a\eta aʔ$, Kapuas $m\tilde{a}\tilde{n}a\eta aʔ$, Paser $sa\eta aʔ$
 Bulusu $\tilde{n}a\eta aʔ$

*** $\tilde{n}a\eta\theta aʔ$**

Punan Punan Bah $m\tilde{a}\tilde{n}age$, Beketan $\tilde{n}agoʔ$, Punan Lisum $\tilde{n}agoʔ$, Punan Aput
 $\tilde{n}agoʔ$, Ukit $\tilde{n}agoʔ$

*** $\tilde{n}a\eta a$**

Basap Lebo $\tilde{n}a\eta a$

*** $\tilde{n}aga$**

Melanau Kanowit $\tilde{n}aga$
 Kajang Sekapan $m\tilde{a}\tilde{n}agaʔ$, Kejaman $\tilde{n}aga$, Lahanan $\tilde{n}aga$

*** $\tilde{n}akaR$ /* $\tilde{n}ikaR$ /* $\tilde{n}agaR$**

Kayanic (* $\tilde{n}akaR$) Long Gelat $\tilde{n}\grave{a}keh$, Modang $\tilde{n}\grave{a}ka\grave{e}h$, Gaai $nka\grave{e}h$, Kelai $nk\grave{a}h$
 Kayanic (* $\tilde{n}agaR$) Long Naah $\tilde{n}agah$, Data Dian $\tilde{n}agah$, Busang $\tilde{n}agah$
 Müller-Schwaner Kereho $\tilde{n}ika$, Seputan $\tilde{n}ika$
 Kenyah Lebo’ Vo’ $\tilde{n}agah$, Uma Pawe $\tilde{n}age$, Lepo Gah $\tilde{n}aga$, Lepo Laang $\tilde{n}aga$,
 Lepo Sawa $\tilde{n}aga$, Lepo Tau $\tilde{n}aga$, Badeng $\tilde{n}aga$

*** $\tilde{n}a\eta gu$**

Kayanic Merap $\tilde{n}a\eta koʔ$, Merap $\tilde{n}a\eta kawʔ$, Bahau $\tilde{n}agoʔ$

‘ear’

Retentions of PMP *taliŋa are present throughout Borneo, but an apparent near-cognate set can be constructed of the basic shape *-abiŋ, with variation in the shape of the initial consonant.

*kapiŋ

Land Dayak Jangkang *kopikŋ*, Ribun *kopikŋ*, Golik *kopikŋ*

*apəŋ

Kayanic Balui Liko *apəŋ*, Busang *apəŋ*

səbiŋ (only one example)

Kajang Kejaman *səviəŋ*

*biŋ/*kabiŋ

Punan Punan Aput *beŋ*,

Müller-Schwaner Hovongan *kaveŋ*, Kereho *kaveŋ*, Seputan *kaviŋ*, Aoheng *kaveŋ*

‘drink’

Languages of Sabah and Malayic reflect PMP *inum ‘to drink’, and many other groups, including Berawan-Lower Baram, Kenyah, Basap, Land Dayak, and Barito languages reflect the root *-səp ‘to sip’ as ‘to drink’. However, a near cognate exists alongside these inherited words, with the general shape *duʔ/*uruʔ in Kayanic, Punan, Kajang, Barito, and Müller-Schwaner:

*duʔiʔ

Kayanic Long Naah *duʔiʔ*, Data Dian *duʔiʔ*, Busang *duiʔ*

*duʔ

Kayanic Bahau *duʔ*, Kelai *ypʔ*

Punan Punan Bah *duʔ*

Kajang Sekapan *doʔoʔn*, Kejaman *duʔəʔn*, Lahanan *ruʔ*

***uru?**

| | |
|-----------------|--|
| Barito | Tunjung <i>murur?</i> |
| Punan | Ukit <i>nuru?</i> , Beketan <i>nuru?</i> |
| Müller-Schwaner | Seputan <i>nuru?</i> , Aoheng <i>nuru?</i> |

***bəlum/*mulun/*əlun ‘alive’**

*bəlum was used in Blust (2007b) to link Sama Bajaw languages to the Barito linkage, but the wider lexical picture in Borneo suggests that *bəlum is part of the near-cognate set *bəlum/*mulun/*əlun. Reflexes of *bəlum are found outside of the Barito linkage in Basap and Segai-Modang, although *a* in the final syllable of Modang *bəlam* and Long Gelat *bəlam* regularly reflects *ə, not *u. This may suggest a fourth part of the near-cognate set, *bələm, but since the Kelai and Gaai data agree with *bəlum, Modang *bələm may simply be irregular.

***bəlum**

| | |
|--------------|--|
| Barito | Kadorih <i>borum</i> , Ngaju <i>belum</i> , Kapuas <i>belum</i> , Maanyan <i>welum</i> , Dusun Witu <i>welum</i> , Taboyan <i>bolum</i> , Paser <i>bolum</i> , Benuaq <i>bolupm</i> , Tunjung <i>bəlupm</i> , Malagasy <i>vélona</i> |
| Basap | Lebo <i>bəlum</i> , Tabalar Basap <i>lom</i> , Segai Basap <i>bəlum</i> |
| Segai-Modang | Long Gelat <i>bəlam</i> , Modang <i>bəlam</i> , Gaai <i>bləm</i> , Kelai <i>bləm</i> |

***mulun**

| | |
|-------|---|
| Dayic | Long Semadoh <i>mulun</i> , Pa' Dalih <i>mulun</i> , Long Lellang <i>mulun</i> , Long Bawan <i>mulun</i> , Bario Kelabit <i>mulun</i> |
| B-L B | Miri <i>mulon</i> , Narum <i>munawn</i> , Long Jegan <i>molawŋ</i> , Long Terawan <i>mulon</i> |

***əlun**

| | |
|----------|---|
| NE Sabah | Idaan <i>allun</i> , Seguliud <i>allun</i> , Begak <i>allun</i> |
|----------|---|

‘sharp’

Several similar forms are attested for ‘sharp’. All begin with *ñ and follow the basic shape *ñ_aC₁iC₂ where C₁ is *R or *ʔ and C₂ is *ʔ or *t. Near-cognates are located in Barito, Berawan-Lower Baram, Müller-Schwaner, Kenyah, Kayanic, Melanau, Kajang, Bintulu, and Punan.

*ñiRiʔ

Barito Ngaju *bañihiʔ*, Kapuas *bañihiʔ*
B-LB Long Jegan *ñikəyc*, Long Terawan *ñəiʔ*

*ñaRit

Müller-Schwaner Hovongan *ñahit*, Kereho *ñehit*, Seputan *ñahit*, Aoheng *ñahit*
Kenyah E Penan *ñahit*, W Penan *məñait*, Lepo Gah *ñait*, Lepo Tau *ñait*

*ñaʔat

Kayanic Ngorek *ñaʔat*, Data Dian *ñiʔat*, Busang *ñiət*, Long Naah *niʔat*

*ñit

Melanau Balingian *mañit*, Matu *mañit*, Sarikei *mañit*, Mukah *añit*, Dalat *mañit*,
Kanowit *mañit*

*ñat

Kajang Sekapan *məñat*, Kejaman *məʔñat*, Lahanan *ñait*
Bintulu *məñat*

*ñaʔit

Punan Punan Tubu *ñaʔit*, Punan Bah *məñeʔit*, Beketan *ñait*, Ukit *ñait*

*lajaʔ/*laŋaʔ/*laŋan ‘blowpipe dart’

Blust (2010:74) reconstructs *damək ‘blowpipe dart’ to PGNB. Several languages, however, reflect a near-cognate *laŋa(ʔ/n). In the chart below, Kapuas Iban *lajaʔ* might be best

considered a chance resemblance, but reflexes of *laŋaʔ and *laŋan appear in Kenyah, Kayanic, Dayic, and Barito.

***laŋaʔ**

| | |
|---------|--|
| Kayanic | Ngorek <i>laŋaʔ</i> , Merap <i>laŋa:ʔ</i> , Long Naah <i>laŋaʔ</i> , Busang <i>laŋaʔ</i> , Long Gelat <i>laŋaʔ</i> |
| Barito | Kapuas <i>təbəlaŋaʔ</i> |

***laŋan**

| | |
|--------|---|
| Dayic | Pa' Dalih <i>laŋan</i> , Long Bawan <i>laŋan</i> |
| Kenyah | Uma Pawe <i>laŋan</i> , Lepo Gah <i>laŋan</i> , Lepo Tau <i>laŋan</i> |

***lajaʔ**

| | |
|---------|--------------------------|
| Malayic | Kapuas Iban <i>lajaʔ</i> |
|---------|--------------------------|

***maŋən/*maŋan 'shy'**

| | |
|------------|---|
| Land Dayak | Benyadu <i>maŋun</i> , Bekati <i>maŋun</i> , Hliboi <i>miŋun</i> , Ribun <i>moŋun</i> , Sanggau <i>moŋun</i> |
| Barito | Maanyan <i>umaŋan</i> , Dusun Witu <i>maŋan</i> , Taboyan <i>pəŋəhaŋən</i> , Benuaq <i>maŋən</i> , Tunjung <i>paŋan</i> |
| Basap | Lebo <i>amaŋan</i> |

'lips; mouth; beak'

PMP *baqbaq is reflected in a number of languages, PLD *babaʔ, Basap *babaq, PMEL *babaʔ, PPUN *bavaʔ, PNES *bab^haʔ, but a near-cognate of the general shape *muCuŋ/*muCun is also found with an equally wide distribution. Note that this near-cognate appears in many languages which belong to subgroups that also have retentions of PMP *baqbaq. Note that there are some issues with this particular near-cognate. Cognate words of both *munuŋ and *muncuŋ are found in the Philippines, but they have important differences. While *muncuŋ is found in northern Philippines and may be removed as a legitimate near-cognate, *munuŋ is found only in Borneo and two languages of Palawan (distributions are available on the *Austronesian*

Comparative Dictionary entry for *munuŋ ‘upper lip?’). Because *munuŋ is restricted in the Philippines to languages within northern Borneo’s sphere of influence, it should not be deleted before more evidence is discovered. Ultimately, apparent near-cognates in this set may be widespread reflexes of various PMP doublets of the meaning ‘mouth’, ‘lip’, and ‘beak’.

***munuŋ (found only in Borneo and two examples from Palawan)**

| | |
|-----------------|--|
| Dusunic | Sarawak Bisaya <i>munuŋ</i> ‘beak’ |
| B-LB | Miri <i>munon</i> , Narum <i>munawŋ</i> , Kiput <i>munon</i> ² , Long Jegan <i>monawŋ</i> , Long Terawan <i>munon</i> |
| Dusunic ‘lips’ | Rungus <i>munuŋ</i> , Kujau <i>munuŋ</i> , Dumpas <i>munuŋ</i> , Kinabatang <i>munuŋ</i> , Lotud <i>munuŋ</i> |
| Paitanic ‘lips’ | Sungai Beluran <i>munuŋ</i> , Lingkabau <i>munuŋ</i> , Lobu <i>munuŋ</i> , Kuamut <i>munuŋ</i> , Serudong <i>munuŋ</i> |

***muncuŋ/*mucuŋ (found throughout the Philippines. Likely a retention)**

| | |
|----------|-----------------------------|
| Bulungan | <i>muncuŋ</i> |
| Melanau | Kanowit <i>musuŋ</i> ‘lips’ |

***muju-n**

| | |
|---------|---|
| Melanau | Balingian <i>mujun</i> , Mukah <i>mujun</i> ‘mouth; lips’, Dalat <i>mujun</i> ‘mouth; lips’ |
| Kajang | Lahanan <i>mujun</i> ‘beak’ |
| Kenyah | Lebo’ Vo’ <i>mufu</i> |
| Punan | Punan Bah <i>musuŋ</i> ² , Punan Aput <i>mujun</i> |

***mucin**

| | |
|-----------------|----------------------------|
| Müller-Schwaner | Aoheng <i>mucin</i> ‘beak’ |
|-----------------|----------------------------|

Other near-cognates in the set ‘lips; mouth; beak’

| | |
|---------|---|
| Kenyah | Sebop <i>ujun</i> , E Penan <i>ujun</i> , W Penan <i>ujun</i> , |
| Punan | Beketan <i>mumuy</i> , Punan Lisum <i>mumuy</i> |
| Dusunic | Sarawak Bisaya <i>mumud</i> ‘lips’ |

‘red’

Throughout Borneo color terms are particularly vulnerable to replacement through innovation. Near-cognates for ‘red’ are widespread and diverse. They are of three general shapes, *ma(?/R)an, *ma-(R/d)ian, and *b(a/ə)la but again, none of these words can be reconstructed across subgrouping boundaries.

*maʔan/*maRan

| | |
|-------|--|
| B-LB | Miri <i>maʔan</i> , Narum <i>maʔan</i> , Kiput <i>maan</i> |
| Basap | Lebo <i>maran</i> |

*mian/*madian

| | |
|----------|--|
| Paitanic | Sungai Beluran <i>amian</i> , Lingkabau <i>əmian</i> , Lobu T <i>omian</i> , Kuamut <i>amian</i> |
| Barito | Maanyan <i>marian</i> , Dusun Witu <i>marian</i> , |
| Kayanic | Long Gelat <i>mənhiʔən</i> , Modang <i>mənhayən</i> |
| Bintulu | <i>mila</i> |

*bala/bəlaʔ

| | |
|---------|---|
| Kayanic | Ngorek <i>bəla</i> , Merap <i>mbla</i> , Data Dian <i>bəlaʔ</i> , Bahau <i>bəlaʔ</i> |
| Kenyah | Sebop <i>bala</i> , Penan <i>bala</i> , Lebo’ Vo’ <i>bala</i> , Uma Pawe <i>bala</i> , Lepo Gah <i>bala</i> , Lepo Tau <i>bala</i> |

‘banana’

PMP *punti ‘banana’ is widely attested in Borneo, with reflexes in Barito, Basap, Kayanic, Kajang, Müller-Schwaner, Kenyah, Berawan-Lower Baram, Northeast Sabah, and Southwest Sabah. The near-cognate, *balak/*balat, is restricted to Central Sarawak languages plus Land Dayak and Kenyah, and although it is tempting to reconstruct a single word, irregularities in the final consonant frustrate any effort to claim that instances of this word are reflexes of a single proto form.

***balak**

| | |
|------------|---|
| Land Dayak | Benyadu <i>barak</i> , Rara <i>barak</i> , Bekati <i>bayak</i> , Sungkung <i>balak</i> , Jangkang <i>boya?</i> , Ribun <i>boho?</i> , Golik <i>borak</i> , Sanggau <i>boya?</i> |
| Melanau | Mukah <i>balak</i> , Dalat <i>balak</i> , Kanowit <i>balak</i> |
| Kenyah | Sebop <i>balak</i> , W Penan <i>balak</i> , E Penan <i>balak</i> |

***balat ‘banana’**

| | |
|--------|---|
| Kajang | Kejaman <i>baɽat</i> , Lahanan <i>baɽat</i> |
| Punan | Beketan <i>baɽat</i> , Ukit <i>balat</i> |

Note that Müller-Schwaner retains a reflex of *punti, but it is unclear if it was borrowed. Hovongan *puti?* with an inexplicable glottal stop points to borrowing from Kayanic. At any rate, this word unites Kajang and Punan. The larger comparison with *balak unites all Central Sarawak and Land Dayak. Sebop-Penan shares many apparent borrowings with Central Sarawak, however, if the Sebop-Penan word truly were a borrowing, the expected source is Kajang. Note that while Sebop and Penan both reflect *balak, Kajang reflects *balat, which argues against borrowing as an explanation.

3.2.2.1 Numeral near-cognates

Numerals in Borneo, especially above seven, have been replaced in many modern languages. In some cases, these replacements can be used to identify large lower-level subgroups, but none of the lexical innovations except *tuzuq ‘seven’ can be broadly reconstructed to higher-order subgroups.

‘one’

PMP *əsa/*isa is reflected throughout Borneo, including Proto Malayic *əsa, Proto Land Dayak *asa, Proto Northeast Sabah *əsaʔ/isaʔ, Proto Dusunic *isəʔ, Proto Murutic *saʔ, and Maanyan *isa?*. It’s unclear where the secondary glottal stop came from in Sabahan languages and Maanyan but these words are still best considered irregular reflexes of *əsa/*isa with sporadic final glottal stop insertion rather than separate innovations. Additionally, several major

subgroups reflect innovative forms for ‘one’ and the majority of these are variations of *ja or *əja.

| | |
|------------------------|--|
| PKAY *inji? | Ngorek <i>nci</i> , Merap <i>ncey</i> , Data Dian <i>ji?</i> , Balui Liko <i>ji</i> , Busang <i>ji?</i> , Bahau <i>ji?</i> |
| PS-M *ijah | Long Gelat <i>suh</i> , Modang <i>siəh</i> , Gaai <i>cih</i> , Kelai <i>cih</i> |
| PCS *ja | Balingian <i>ja</i> , Matu <i>jəh</i> , Sarikei <i>jəh</i> , Mukah <i>ja</i> , Dalat <i>ja</i> , Kanowit <i>jah</i> , Sekapan <i>ja</i> , Kejaman <i>jah</i> , Lahanan <i>jah</i> , Ukit <i>jə</i> , Buket <i>jə</i> |
| PMÜL *ci? | Hovongan <i>ci?</i> , Kereho <i>ci?</i> , Aoheng <i>ci?</i> , Seputan <i>cihatu</i> ‘one hundred’ |
| PNS *əj ^h a | Sebop <i>jah</i> , Lebo’ Vo’ <i>fo/fi</i> , Lepo Tau <i>ca</i> , Badeng <i>ca</i> , Long Semadoh <i>ədcəh</i> , Pa’ Dalih <i>səh</i> , Long Lellang <i>ədt^həh</i> , Long Bawan <i>səh</i> , Bario Kelabit <i>ədt^həh</i> , Miri <i>seh</i> , Narum <i>ceh</i> , Kiput <i>sih</i> , Long Jegan <i>cəy</i> , Long Terawan <i>acih</i> |
| PPAIT *idə | Sungai Beluran <i>idə</i> , Lingkabau <i>idə</i> , Lobu Tampios <i>ido</i> , Lobu Lanas <i>idə</i> , Kuamut <i>ido</i> |

Languages of the Barito River basin have independently innovated words for ‘one’ which resemble those shown above, even though some Barito languages retain PMP *isa (Maanyan *isa?* for example);

Kadorih *ico?*
 Ngaju *ije?*
 Kapuas *ije?*

Cross-linguistically the word for ‘one’ is often replaced after the semantics of inherited forms are generalized to mark indefiniteness. It is thus difficult to say where the similar words for ‘one’ came from, but their wide geographic and genetic distribution suggests more than just chance.

‘two’

There is no near-cognate set for two, but it is worth mentioning here because *duha ‘two’ has several difficult-to-analyze reflexes in Borneo, including Bintulu *ba*, Modang *angaw?*²⁸, Tunjung *rəga?*, and Long Terawan *ləbih* (Blust 2007a has a complete list). These are not near-cognates or innovations however, as the sound correspondences are regular. Superficially, some words for ‘two’ in Southern Land Dayak languages seem to reflect *dua with intervocalic glide strengthening: Jangkang *dukah*, Ribun *dukoh*, and Sanggau *dukah*. Hudson (1978) even lists these words as evidence for a historic link between Bintulu, Lower Baram, and Land Dayak as they appeared to show similar reflexes of *dua. However, glide strengthening is not a regular sound change in any of the Land Dayak languages. For example reflexes of *biRuanj ‘bear’ do not exhibit strengthening in Jangkang and Ribun *buakŋ*, and reflexes of *sawa ‘spouse; wife’ do not exhibit strengthening in Sanggau, Jangkang, or Ribun *osaw*. As the evidence suggests, Proto-Southern-Land Dayak *dukah is a replacement innovation, not a reflex of *duha.

‘six’

PMP *ənəm is stable throughout Borneo. Innovations only appear in the Barito linkage where *ənəm > *jahawan* in at least Ngaju, Kapuas, Bakumpai, Benuaq, and Tunjung. This innovative form has not spread throughout the linkage however, and *ənəm is reflected in Maanyan *enem*, Dusun Witu *enem*, Dusun Bayang *enem*, Taboyan *onum*, Paser *onom*, and Bentian *onum*. This word is restricted to Barito languages, and thus does not constitute a near-cognate set.

‘seven’

Throughout Borneo, PMP *pitu was replaced with *tuzuq. This is one of the major pieces of evidence for a Greater North Borneo subgroup which only excludes the Barito linkage. Maanyan and all Barito Dusun languages reflect PMP *pitu as *pitu*, and Dohoi as reported in Hudson (1967) reflects it as *pi^htu?*. Many Barito languages, however, reflect a word for ‘seven’ that resembles reflexes of *tuzuq in other languages. These include Ngaju, Kapuas and Bakumpai *uju?* ‘seven’, Taboyan, Benuaq, and Bentian *туру*, Paser *туру?*, and Tunjung *tucu?*.

²⁸ The Modang form *angaw?* reflects the following changes: *dua > *lua > *lugwa > *gua with an irregular velar consonant giving the modern form *angaw?*. Note that Gaii *ago?* shows similar sound changes without the intrusive velar nasal.

Loss of initial *t- in Ngaju, Kapuas, and Bakumpai is irregular, and may indicate borrowing, but Taboyan, Benuaq, Paser, Bentian, and Tunjung reflexes of *tuzuq are regular.

In some languages, *tuzuq ‘seven’ was itself replaced. In Punan, several dialects reflect *kilit ‘seven’ including Beketan *kidit*, Punan Lisum *kidit*, Ukit *lit*, and Buket *kilit*. In many Lowland Kenyah languages, *tujuʔ was replaced by *tujək: Sebop *tujək*, W Penan *tujək*, Lebo’ Vo’ *tufək*. However, no near-cognate sets were found for ‘seven’.

‘eight’

Above seven, the numerals in Borneo become quite unstable. In one case, Malayic *delapan, the innovated word for ‘eight’ is unique to a single subgroup in Borneo (although it is found in Malayo-Chamic languages outside of Borneo). Other cases are not so simple, however, and the numbers ‘eight’, ‘nine’, and ‘ten’ have high numbers of near-cognates in widely separated groups. The first of these is found between Land Dayak, Bintulu, and Berawan-Lower Baram, two groups which otherwise have little in common with one another. The basic shape is *ma(h/d)i ‘eight’ and evidence is given below:

*mahī

Land Dayak Benyadu *mahiʔ*, Bekati *mahi*, Hliboi *miih*, Sungkung *mai*, Jangkang *mai*,
Ribun *mai*, Golik *moi*, Sanggau *may*

*madi(?)

B-LB Miri *badiʔ*, Narum *madiʔ*, Kiput *maray*, Long Jegan *maray*, Long
Terawan *mareh*

Bintulu *madiʔ*

The other near-cognate for ‘eight’ is more widespread, and is found in nearly every major subgroup in Borneo south of Sabah. Its basic shape is *(j/s)aya(n) and several examples from Barito, Kayanic, Kenyah, Melanau, Kajang, Punan, and Müller-Schwaner appear below:

*hañaʔ

Barito Kadorih *hañaʔ*, Ngaju *hañaʔ*, Kapuas *hañaʔ*, Bakumpai *hañaʔ*

***jaya**

Kayanic Ngorek *saya?*, Merap *saya?*, Long Naah *saya?*, Data Dian *saya?*, Balui Liko *saya?*, Busang *saya?*, Bahau *saya?*, Long Gelat *təjaɔ?*, Modang *təjaɔ?*, Gaai *jo?*, Kelai *je?*

***hayan**

Melanau Balingian *ayan*, Matu *ayan*, Sarikei *ayan*, Dalat *ayan*, Kanowit *ayan*
 Kajang Sekapan *azan*, Kejaman *azan*, Lahanan *azan*
 Punan Punan Tubu *yan*, Punan Bah *eyan*, Punan Aput *ean*, Ukit *ai*, Beketan *aen*
 Müller-Schwaner Hovongan *hean*, Kereho *hean*, Seputan *hean*, Aoheng *hean*

***aya**

Kenyah Sebop *ayah*, E Penan *ayah*, W Penan *ayah*, Lebo' Vo' *ayi*, Uma Pawe *ai*, Lepo Gah *aya*, Lepo Sawa *aya*, Lepo Tau *aya*, Badeng *aya*

'nine'

There are several similar but fundamentally conflicting words for 'nine' found throughout Borneo. Two bases have been identified, *tiən/*tiʔan and *piʔən/*piʔin/*pitan. Land Dayak *piray and Berawan-Lower Baram *paiʔ may ultimately be excluded from this list of near-cognates, as their forms are distinct from the others. They are included for now, however, pending further research.

***tiən/*tiʔan**

Barito *jələ-tiən Ngaju *tien*, Kapuas *təjələtien*, Bakumpai *jələtien*, Tunjung *sə-tiətn*
 Müller-Schwaner *tiʔan Hovongan *tiʔan*, Kereho *tiʔan*, Seputan *tiʔan*, Aoheng *tiʔan*

***pitan/*piʔən/*piʔin**

Kayanic *japitan Ngorek *pitan*, Merap *jəʔtiʔ*, Long Naah *pitan*, Data Dian *pitan*, Balui Liko *pitan*, Busang *pitan*, Bahau *pitan*, Long Gelat *səptiən*, Modang *səptin*, Gaai *japtin*, Kelai *jəptin*
 Basap *piʔin Lebo *peʔen*, Segai Basap *piʔin*

Kenyah *piʔən Sebop *piʔah*, E Penan *piʔən*, W Penan *piən*, Lebo' Vo' *piʔən*, Uma Pawe *piʔən*, Lepo Gah *piʔən*, Lepo Sawa *piʔən*, Lepo Tau *piʔən*

Others

B-LB *paiʔ Miri *supaiʔ*, Narum *paiʔ*, Kiput *paiʔ*

Land Dayak *piray Benyadu *pere*, Bekati *pere*, Jangkang *piyis*, Ribun *pihi* Sanggau *peyih*
Golik *puri*, Singai *piri*, Biatah *pirii*

‘ten’

Generally, ‘ten’ is stable and most languages reflect PMP *puluq or at most have borrowed *səpuluh* from Malay or Indonesian. Melanau, Kajang, and Bintulu reflect *puluq, but with a suffix *pəluq-ən. The only widespread innovation for ‘ten’ in Borneo is weakly attested, but similar forms in Land Dayak, Tunjung, and Segai-Modang point to *sabəŋ/*siməŋ. This evidence is presented below:

Land Dayak *siməŋ Hliboi *siməwŋ*, Sungkung *simi-ŋ*, Jangkang *siməŋ*, Ribun *simuŋ*,
Golik *səmiŋ*, Sanggau *simuŋ*

Barito *sabaŋ Tunjung *sawakŋ*

Segai-Modang *sabəŋ Long Gelat *sueəŋ*, Modang *səwəŋ*, Gaai *suaŋ*, Kelai *suaŋ*

3.2.2.2 Distribution of near-cognates

In all, there are 26 individual near-cognate sets, where one set is composed of all of the near-cognates in a single semantic field. Thus, ‘left’ is a near-cognate set, with four different attested forms, *kibaʔ, *kabiʔ, *kibaŋ, and *gabiŋ. ‘eight’ contains two sets, one of the shape *(j/s)aya(n) and one of the shape *ma(d/h)i. ‘red’ also contains two sets, *bala/*bəla and *ma(?/R)aŋ/*ma-(R/d)iaŋ. In total, there are just over 100 attested forms within the 26 sets described above. Table 86 below details which subgroups contain near-cognate forms, and is organized in descending order.

Table 86

Number of pan-Bornean near-cognates per major subgroup

| Subgroup | Number of Near-Cognates | Number of Near-Cognate sets |
|---------------------|-------------------------|-----------------------------|
| Kayanic | 22 | 17 |
| Kenyah | 19 | 16 |
| Barito | 18 | 16 |
| Punan | 13 | 11 |
| Kajang | 13 | 12 |
| Berawan-Lower Baram | 12 | 12 |
| Müller-Schwaner | 12 | 12 |
| Land Dayak | 8 | 8 |
| Melanau | 8 | 7 |
| Basap | 7 | 7 |
| Dayic | 6 | 6 |
| Paitanic | 5 | 5 |
| Bintulu | 4 | 4 |
| Dusunic | 4 | 3 |
| Northeast Sabah | 3 | 3 |
| Bulungan | 3 | 3 |
| Malayic | 3 | 3 |
| Murutic | 2 | 2 |

Although the above table suggests that most near-cognates are found in languages of central Borneo, it is important to keep in mind the fact that research for this work focused on these languages. Data from Sabah is mostly restricted to words which are found in Lobel (2016) and thus represent a smaller portion of the overall data set, which probably skews the above distribution of near-cognates.

3.2.2.3 Words with regular correspondences, but unexpected distributions

A final set of words deserves mention before moving on to higher-order subgrouping; words with regular sound correspondences, but with spotty, unexpected, or incomplete distributions. These words appear across subgrouping boundaries, have regular correspondences, but belong to subgroups which also retain PMP or GNB words.

***bəkiki ‘slow loris’**

There is no reconstruction available for ‘slow loris’, so this word may be a poorly attested retention from a higher-order subgroup. However, its distribution is so sparse and the word itself

is so poorly reported in the literature on Sabah that it remains difficult to evaluate. Several languages in Borneo, across subgrouping boundaries, reflect *bəduk talun, literally ‘secondary forest macaque’ for ‘slow loris’, but this word too is difficult to reconstruct.

| | |
|-----------------|--|
| Barito | Taboyan <i>bəkiki?</i> , Bentian <i>bəkiki?</i> |
| Punan | Punan Tubu <i>bəkikih</i> , Beketan <i>bəkiki</i> , Punan Aput <i>bəkiki</i> |
| Müller-Schwaner | Hovongan <i>bokiki</i> |
| Kenyah | E Penan <i>bəkikəy?</i> |

***sədu? ‘chest’**

PMP *Rusuk is reflected in nearly every subgroup in Borneo, and *dahdah is also well-attested. This word may be the product of convergence, but the sound correspondences are completely regular.

| | |
|------------|--|
| Land Dayak | Bekati <i>sadu</i> , Hliboi <i>sidu?</i> , Sungkung <i>sodo?</i> |
| NE Sabah | Idaan <i>sədu?</i> , Seguliud <i>sodtu?</i> , Begak <i>sədu?</i> |

***kasik/*kalasik ‘sand’**

| | |
|------------|--|
| Tamanic | Ambalo <i>kasik</i> |
| Malayic | Seberuang <i>kyəsit</i> |
| Land Dayak | Benyadu <i>karasik</i> , Jangkang <i>koyose?</i> , Ribun <i>kohose?</i> , Golik <i>kərosik</i> , Sanggau <i>kəyosi?</i> |
| Barito | Maanyan <i>karasik</i> , Dusun Witu <i>karasik</i> |
| Basap | Lebo <i>kərsik</i> |

The geographical distribution of this word suggests that it was a later innovation, which is found in the south but not in central or northern Borneo. Malayic and Barito languages both have retentions of PMP forms, and PMP *pasiR and *badas are well attested in general throughout Borneo. Tamanic has been under heavy Malay and Land Dayak influence for hundreds of years. It may be a Land Dayak innovation, but it is difficult to figure out how this word found its way into Basap, which is spoken on the other side of the island.

***away > *jaway ‘face’**

| | |
|------------|---|
| Melanau | Dalat <i>jaway</i> , Kanowit <i>jaway</i> , Balingian <i>jaway</i> , Mukah <i>jaway</i> |
| Punan | Punan Tubu <i>jawey</i> |
| Bintulu | <i>jabay</i> |
| B-LB | Miri <i>jabih</i> , Narum <i>jaweꞑy</i> , Kiput <i>dafiꞑy</i> , Long Terawan <i>diay</i> |
| Land Dayak | Jangkang <i>joi</i> , Sungkung <i>jawitn</i> , Golik <i>jꞑwi</i> , Sanggau <i>jowi</i> , Hliboi <i>jawitn</i> , Ribun <i>jowi</i> |

Sporadic dissimilation of *nVn- to *IVn-

In what appears to be widespread convergence, several subgroups have independently dissimilated the initial *n of words with *n in the onset of both the first and second syllables. Two cases have been identified, PMP *nunuk > *lunuk ‘banyan tree’ and PMP *nanaq > *lanaq ‘pus’. Blust and Trussel (ongoing) do not list this as a doublet, but it might have simply gone unnoticed. This sound change is generally confined to North Sarawak, Central Sarawak, and Kayanic, but is also attested outside of these subgroups. Also, several subgroups which do show this change also have cases where *nVn- was retained, blurring the historical picture of whether this is an inherited change or widespread parallel dissimilation.

***nunuk > *lunuk ‘banyan tree’**

| | |
|-----------------|---|
| Barito | Kadorih <i>runuk</i> , Ngaju <i>lunuk</i> , Kapuas <i>lunuk</i> |
| Kayanic | Ngorek <i>lunok</i> , Merap <i>lunuꞑ?</i> , Long Naah <i>lunok</i> , Data Dian <i>lunuk</i> , Balui Liko <i>lunok</i> , Busang <i>lunuk</i> , Bahau <i>lunuk</i> , Long Gelat <i>lanək</i> , Gaii <i>alnəwk</i> , Kelai <i>lnuk</i> |
| Kajang | Sekapan <i>lunuꞑ?</i> , Kejaman <i>lunuꞑk</i> , Lahanan <i>lunuꞑk</i> |
| Punan | Beketan <i>lunuk</i> , Punan Lisum <i>lunuk</i> , Punan Aput <i>lunuk</i> , Ukit <i>lunuk</i> |
| Müller-Schwaner | Hovongan <i>lunu?</i> , Seputan <i>duno</i> , Aoheng <i>runo</i> |
| Kenyah | Lebo’ Vo’ <i>lunok</i> , Uma Pawe <i>lunok</i> , Lepo Gah <i>lunok</i> , Lepo Sawa <i>lunok</i> |

Exceptions:

| | |
|--------|--|
| Barito | Maanyan <i>nunuk</i> , Dusun Witu <i>nunuk</i> , Tunjung <i>nunuk</i> , Bentian <i>nunuk</i> |
|--------|--|

| | |
|--------|-------------------------------------|
| Punan | Punan Bah <i>nunuʔ</i> [?] |
| Kenyah | W Penan <i>nonok</i> |

Also, although Kajang and Müller-Schwane languages do not show any exception, Kanowit, which is assigned to the larger Central Sarawak group, retains *nununuk as *nunuʔk*. It's thus difficult to evaluate this irregular *n > *l change with regard to subgrouping. It is true that Kayanic is the only subgroup where this change is found across the board, i.e. there are no retentions of *nununuk in Kayanic. This may indicate that the change *n > *l started in Kayanic and spread to other languages, but given its distribution it's difficult to imagine a scenario under which *lununuk would be borrowed so widely. Also, although some Barito languages (Kadorih and Tunjung) and Kenyah languages (those of the Eastern Lowland group) show strong Kayanic influences in their lexicons, *lununuk is found in Barito and Kenyah languages which typically don't show Kayanic influence, including Ngaju, Kapuas, Lebo' Vo', Lepo Sawa, and Lepo Gah. Until these idiosyncrasies can be explained, researchers would do well to avoid using *lununuk as subgrouping evidence.

***nanaq > *lanaq 'pus'**

| | |
|----------------|---|
| Kayanic | Merap <i>ɲlana</i> , Long Naah <i>lana</i> , Data Dian <i>lanaʔ</i> , Balui Liko <i>lana</i> , Busang <i>lanaʔ</i> , Bahau <i>lanan</i> , Long Gelat <i>lənəʔ</i> , Gaai <i>alnaʔ</i> , Kelai <i>lnæʔ</i> |
| Kajang | Kejaman <i>danaʔ</i> , Lahanan <i>lanaʔ</i> |
| Punan | Punan Tubu <i>lana</i> (L) ²⁹ , Beketan <i>lanaʔ</i> , Ukit <i>ranaʔ</i> , Buket <i>ranaʔ</i> |
| Müller-Schwane | Hovongan <i>ɲoranaʔ</i> , Kereho <i>ranaʔ</i> , Seputan <i>ɲorana</i> , Aoheng <i>ɲərana</i> |
| Kenyah | Lebo' Vo' <i>lanaʔ</i> , Lepo Gah <i>lanaʔ</i> |
| Dayic | Long Bawan <i>lanaʔ</i> |
| B-LB | Kiput <i>lana:ʔ</i> , Long Jegan <i>lana</i> , Long Terawan <i>lana</i> |
| Segai Basap | <i>lanoh</i> (L) |

Exceptions

| | |
|---------------|-------------|
| Tabalar Basap | <i>nana</i> |
|---------------|-------------|

²⁹ Punan Tubu raised penultimate *a to *ə if it was followed by another *a in the final syllable, thus *mata > mətah. This word, however, does not show this change. It is probably a Kayanic loan.

| | |
|--------|--|
| Kajang | Sekapan <i>nanaʔ</i> |
| Punan | Punan Bah <i>nenəʔ</i> |
| Penan | W Penan <i>nanaʔ</i> |
| Dayic | Long Semadoh <i>nanaʔ</i> , Pa' Dalih <i>nanaʔ</i> |
| B-LB | Miri <i>nanaʔ</i> , Narum <i>nanaʔ</i> |

Reflexes of *nanaq have a similar distribution as *nunuk, although there are a few more exceptions and *nanaq > *lanaq is overall less widespread (there are no Barito examples, for example).

‘upriver’ and ‘downriver’

Speakers of PAN had a directional system which was oriented towards the coast, rather than towards the cardinal points. Thus, terminology for ‘towards the sea’ and ‘towards the interior’ can be reconstructed all the way back to PAN. These terms are: *daya ‘towards the interior; upriver’ and *lahud ‘towards the sea; downriver’. Both are reflected in Bornean languages. Additionally, PAN *quluh ‘head; top part’ received the additional reading of ‘interior; headwaters; upstream’ and PMP *qiliR ‘to flow downstream’ is often reflected with the meaning ‘down river; to the coast’ as Malay *hilir* ‘downstream’ and *kə hilir* ‘(to travel) towards the coast’. Again, both of these terms are reflected across Borneo. An additional term, PMP *udahik ‘upstream part of a river’ apparently had a similar meaning as *quluh. However, because the primary meaning of *quluh was ‘head’, it’s likely that *udahik was the primary word for upriver, and *quluh only meant upriver through metaphor. Thus, there are five inherited terms for the traditional island-oriented directional system, *daya, *udahik, and *quluh ‘upriver’ and *lahud and *qiliR ‘downriver’. Four additional terms were apparently innovated in Borneo, with wide distribution; *ajuʔ ‘towards the interior; towards upriver areas’, *uud ‘the interior; upriver areas’, *abaʔ ‘downriver’, *baʔay ‘downriver’.

***aju? ‘upriver; a directional term meaning towards the interior, to travel upriver’**

| | |
|------------|---|
| Land Dayak | Jangkang <i>soju</i> , Ribun <i>soju</i> , Sanggau <i>soju</i> |
| Barito | Ngaju <i>ηaju?</i> , Kapuas <i>ηaju?</i> , Bakumpai <i>ηaju?</i> |
| Melanau | Mukah <i>ajo?</i> , Dalat <i>kajo?</i> ‘to go upriver’, Kanowit <i>ajo?</i> ‘directional term, towards upriver areas’ |
| Kajang | Sekapan <i>ηajəw?</i> ‘to go upriver’, Kejaman <i>ηaju?</i> ‘go upriver’, Lahanan <i>ηaju?</i> ‘go upriver’ |
| Punan | Beketan <i>aju?</i> ‘upriver’ |

***uud ‘upriver areas; headwaters; the interior’**

| | |
|-----------------|---|
| Land Dayak | Hliboi <i>ud pi?itn</i> |
| Barito | Kadorih <i>uut</i> |
| Kayanic | Kelai <i>pl</i> ‘upriver area’ |
| Melanau | Dalat <i>ud</i> ‘upriver areas’, Kanowit <i>ut</i> ‘upriver areas’ |
| Punan | Ukit <i>ut suŋe; ut ranum</i> ‘upriver areas’ |
| Müller-Schwaner | Hovongan <i>uut</i> ‘upriver areas’, Kereho <i>uut</i> ‘upriver areas’, Seputan <i>ut</i> ‘upriver’, Aoheng <i>ut</i> ‘upriver’ |
| B-LB | Miri <i>u?ut</i> , Narum <i>awt</i> , Kiput <i>soot</i> |
| Dusunic | Brunei Dusun <i>duud</i> , Dumpas <i>uud</i> |
| Paitanic | Lobu T <i>uud</i> |
| Murutic | Tagol <i>uur</i> |
| Tidung | Bengawong <i>daud</i> , Kalabakan <i>daud</i> , Mensalong <i>daud</i> , Malinau <i>daud</i> |

***saba? ‘downriver’**

| | |
|------------|--|
| Land Dayak | Benyadu <i>saba?</i> , Bekati <i>saba?</i> , Ribun <i>sobo</i> , Golik <i>soba?</i> , Sanggau <i>soba</i> |
| Barito | Ngaju <i>ηawa?</i> , Kapuas <i>ηawa?</i> , Bakumpai <i>ηawa?</i> , Maanyan <i>hawa?</i> , Taboyan <i>sawa?</i> |
| Melanau | Mukah <i>aba?</i> , Dalat <i>aba?</i> , Kanowit <i>aba?</i> |
| Kajang | Sekapan <i>ηava?</i> , Kejaman <i>nava?</i> , Lahanan <i>nava?</i> |
| Punan | Beketan <i>ava?</i> , Punan Aput <i>seva?</i> |
| Kenyah | Lebo’ Vo’ <i>kaba?</i> , Lepo Tau <i>kaba?</i> , Badeng <i>kaba?</i> |

| | |
|----------|---|
| Dusunic | Brunei Dusun <i>saba?</i> , Rungus <i>sava?</i> , Dumpas <i>sawa?</i> |
| Paitanic | Sungai Beluran <i>disawa?</i> , Lobu <i>di sawa?</i> , Kuamut <i>di sawa?</i> |

***baʔay ‘downriver’**

| | |
|------------|--|
| Land Dayak | Hliboi <i>mamay</i> ‘to go downriver’, Jangkang <i>sobay</i> |
| Barito | Kadorih <i>booy</i> , Dusun Witu <i>maʔay</i> |
| Kayanic | Ngorek <i>təbay</i> |
| Punan | Punan Lisum <i>hivay</i> |
| Kenyah | W Penan <i>baay</i> |

Again, it’s difficult to imagine how there came to be such a large number of words with similar or identical meanings referring to a riverine-based directional system. The concept ‘downstream’ is found in four items *baʔay, *sabaʔ, *lahud, and *qiliR, while ‘upriver’ is found in five *daya, *qulu, *udahik, *uud, and *ajuʔ. It’s clear that there were different words for directional terms ‘towards the interior’ and ‘towards the sea’ and locations ‘upriver area; the interior’ and ‘downriver area’. *ajuʔ only meant ‘towards the interior’ and *uud only meant ‘the upriver areas’. A clear distinction cannot be made between *baʔay and *sabaʔ, as the glosses do not permit confident semantic reconstruction.

3.2.2.4 What does it all mean?

Presenting near-cognates in an organized and explicit manner, as I have done above, carries with it the danger of invoking speculative statements on where these forms came from. Two basic principles need to be stated to try to avoid such speculation. 1) borrowing is only a legitimate explanation for near-cognate similarities in cases where a source can be positively identified. 2) The near-cognates have no subgrouping value, and no matter what subgroups they appear in, they provide no evidence of inheritance or contact (because in contact induced change, a source must be identified). As they stand, the list of pan-Bornean near-cognates are most useful as a type of safeguard. That is, when analyzing lexical data and forming hypotheses on higher-order subgroups in Borneo, the words in this list can be confidently excluded as evidence. As more comparative work is done in Southeast Asia, sources for some of these near-cognates may

be located. If this were to happen, it has the potential to drastically reshape our current understanding of Bornean prehistory.

There are four scenarios that may explain the presence of pan-Bornean near-cognates: 1) They are nothing more than chance resemblances, 2) they have an Austronesian source and borrowed between subgroups in Borneo in the distant past, 3) They are irregular, but ultimately reflect proto-forms in a single proto-language which is ancestral to all languages of Borneo, 4) They are borrowings from non-Austronesian languages.

1) Chance

It is tempting to simply assert that these words are similar by chance, and that there is no special relationship between them. The number of words, and the recurring irregularity among them however is unlikely to be the product of simple chance resemblance.

2) Austronesian borrowings

Part of the value of identifying pan-Bornean near-cognates is the lack of a source language. Section 3.2.1 in this chapter has already presented a near exhaustive list of borrowing relationships in Borneo, including source languages and zones of influence. It is thus highly unlikely that borrowing between Austronesian languages explains near-cognates.

3) Irregularity

Some of the near-cognates are so similar, that irregularity would be an acceptable explanation under normal circumstances. For example, Müller-Schwaner *siŋəm might be considered a metathesized form of Kajang *səŋim. Such an explanation on its own is not problematic, but the presence of Kayanic *səŋəm, and Kenyah *səŋim (note that Kenyah did not have any observable influence on Kajang lexicon) complicates the picture. Is it acceptable to propose irregularity in four separate reconstructions? Additionally, the sheer number of “irregular” cognate sets goes beyond acceptable levels of irregularity.

4) Non-Austronesian source

There is one scenario involving a non-Austronesian source which has the potential to explain the phonological differences found in near-cognates. If there were non-Austronesian languages in

Borneo at one time, they would have had cognates with regular sound correspondences among themselves. It could be that different Austronesian speaking communities borrowed cognate words from different subgroups of a non-Austronesian family in Borneo. This in turn would give rise to identical forms of similar shape in widely separated Austronesian languages. After the last non-Austronesian languages in Borneo were lost, what was left was several sets of words in Austronesian languages with similar shapes but irreconcilable differences in sound correspondences from an Austronesian point of view. This scenario, however, is speculative, and it cannot be stressed enough that this chapter does not endorse such a view without the presence of positive evidence from a non-Austronesian source language. Such evidence does not appear to exist. More on the topic of pre-Austronesian populations in Borneo can be found in Chapter four, which is dedicated to linguistic evidence for historical population movement.

Pan-Bornean near-cognates remain a mystery, but one which remained unaddressed in published literature until fieldwork for this dissertation was completed. Their presence is comparable to Austronesian roots (Blust 1988c) and doublets (Blust 2011, Blust and Trussel ongoing) which stretch the definition of chance resemblance, irregularities, convergence, borrowing, and substrata to their limits. The question of how they came to exist in the first place remains unanswered.

3.3 Central Sarawak

In this section I propose and defend a Central Sarawak subgroup of languages, which consists of four major subgroups, Melanau, Kajang, Punan, and Müller-Schwaner, each of which was defended in chapter 2. Further evidence, also found in this section, suggest a three-way split between Melanau, Kajang, and a larger Punan-Müller-Schwaner group as outlined in figure 76.

Figure 76

Central Sarawak subgroup

CENTRAL SARAWAK

Melanau

Kajang

Punan-Müller-Schwaner

Punan

Müller-Schwaner

3.3.1 Central Sarawak sound correspondences

Evidence for a Central Sarawak group is entirely lexical, as few sound changes of any consequence can be reconstructed to Proto-Central Sarawak. Table 87 below directly compares the conservative phonologies of Melanau, Kajang, Punan, and Müller-Schwaner and proposes a reconstructed phonology of PCS. The homeland of Central Sarawak was apparently along the entire Rejang River, in areas that are now occupied mainly by Iban, Kenyah, and Kayan although the Müller-Schwaner are today found in Kalimantan, along the headwaters of the Kapuas and Mahakam Rivers, and the Punan are currently thinly spread through large areas of North and East Kalimantan and Sarawak.

Table 87

Comparison of PMEL, PKAJ, PPUN, and PMÜ phonologies

| PMP | PMEL | PKAJ | PPUN | PMÜL |
|------|-----------|-----------------|----------|----------------|
| *p | *p/*p/*p | *p/*p/*p | *p/*p/*p | *p/*p/*p |
| *t | *t/*t/*t | *t/*t/*t | *t/*t/*t | *t/*t/*t |
| *k | *k/*k/*k | *k/*k/*k | *k/*k/*k | *k/*k/*ʔ |
| *b | *b/*b/*b | *b/*v; *b/*p | *b/*b/*p | *b/*v/*p |
| *d | *d/*d/*d | *d/*r/*t | *d/*r/*t | *d/*r/*t |
| *j | ∅/*d/*d | ∅/*r/*t | ∅/*r/*t | ∅/*r/*t |
| *z | *j/*j/∅ | *j/*j/∅ | *j/*j/∅ | *c/*c/∅ |
| *g | *g/*g/*g | *g/*g/*k | *g/*g/*k | *k/*k/*k |
| *R | *∅/*R/*R | *∅/*∅/*h; *y | *∅/*h/*∅ | *h/*h/*∅ (met) |
| *l | *l/*l/*l | *l/*l/*n | *l/*l/*n | *l; *d/*l/*∅ |
| *s | *s/*s/*s | *s/*s/h | *s/*s/*∅ | *∅/*∅/*∅ |
| *-w- | *w | *g ^w | *w | *∅ |
| *-y- | *y | *z | *y | *∅ |
| *a | *a/*a/*a | *a/*a/*a | *a/*a/*ə | *a/*a; *l/*o |
| *i | *i/*i/*əy | *i/*i/*əy | *i/*i/*i | *i/*i/*i |
| *u | *u/*u/*əw | *u/*u/*əw | *u/*u/*u | *u/*u/*u |
| *ə | *ə | *ə/*ə; *a | *ə | *o; *l |

Table 88

Proto-Central Sarawak phonology (geminate occurred only after penultimate schwa)

| PMP | *p | *c | *t | *k | *b | *d/*j | *z | *g | *s | *l | *R- | *-R(-) |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|----|----|-----|--------|
| PCS | p; pp | c; cc | t; tt | k; kk | b; bb | d; dd | j; jj | g; gg | s | l | h | *R |

| PMP | *m | *n | *ñ | *ŋ | *a | *i | *u | *ə | *-ay | *-aw | *w | *y |
|-----|-------|-------|-------|-------|----|----|----|----|------|------|----|----|
| PCS | m; mm | n; nn | ñ; ññ | ŋ; ŋŋ | a | i | u | ə | ay | aw | w | y |

The voiceless stops were unchanged in all positions, except for *-k in Müller-Schwaner which shifted to *-ʔ. The voiced stops were unchanged in Melanau, but Kajang, Punan, and Müller-Schwaner all devoiced final stops and weakened stops intervocalically. Kajang is unique in this group in that they retained fortis reflexes of *b after schwa, due to the effects of automatic gemination, but weakened elsewhere (gemination after schwa is considered a retention from GNB and its presence in Kajang thus warrants its reconstruction to Proto-Central Sarawak). In all, no quality sound changes unite all Central Sarawak languages³⁰.

³⁰ Devoicing in final position in PKAJ, PPUN, and PMÜL is not seen as strong enough evidence for grouping those three subgroups together to the exclusion of Melanau. Note that Sarikei, a Melanau dialect, optionally devoiced

3.3.2 Central Sarawak lexical evidence

The following list contains lexical evidence for a Central Sarawak subgroup. The list is not as robust as one might hope, but there is reason to suspect that the history of Central Sarawak is quite different from the histories of larger, more unified subgroups like North Sarawak and Southwest Sabah (discussed more below).

*manakaw > manikaw ‘to steal’

Melanau Mukah *tikaw/mənikaw*, Dalat *mənikaw*, Kanowit *nikaw*, Sarikei *mənikaw*

Kajang Sekapan *mənikaw*, Kejaman *nikaw*, Lahanan *nikaw*

Punan Punan Bah *mañikuow*, Punan Lisum *niko*, Punan Tubu *nikow*, Punan Aput *nikow*, Beketan *nikow*, Ukit *niko*, Buket *niko*

Müller-Schwaner Kereho *niku*, Hovongan *niko*, Seputan *niku*, Aoheng *niku*

This word is important as evidence in that it contains an irregular sound change that is reflected throughout the subgroup. It is one of the strongest pieces of evidence for Central Sarawak because of this. In summary, PMP *takaw/*manakaw ‘to steal’ is regularly reflected with typical reflexes of *a in the penultimate syllable in all languages in Borneo where it is found., except for Central Sarawak, where *a inexplicably became *i. In Kajang, Punan, and Müller-Schwaner, this also resulted in secondary palatalization of *n for the verb forms, thus *manakaw > *mənikaw > *mənikaw. This did not happen in Melanau, however, where *manakaw > *mənikaw without palatalizing the nasal.

*walu > *hayan ‘eight’

Melanau Dalat *ayan*, Balingian *ayan*, Matu *ayan*, Sarikei *ayan*, Kanowit *ayan*

Kajang Sekapan *azan*, Kejaman *azan*, Lahanan *azan*

Punan Punan Bah *eyan*, Punan Tubu *yan*, Punan Aput *eyan*, Buket *aen*

Müller-Schwaner Kereho *hean*, Seputan *hean*, Hovongan *hean*, Aoheng *hean*

stops in this position and Kanowit fully devoiced final voiced stops. Thus, this change could easily be convergent, as it appears in certain Melanau languages as well.

*siwa > *julan ‘nine’

| | |
|---------|--|
| Melanau | Matu <i>ulan</i> , Dalat <i>ulan</i> , Kanowit <i>ulan</i> , Sarikei <i>ulan</i> , Balingian <i>ulan</i> |
| Kajang | Sekapan <i>juʒan</i> , Lahanan <i>juʒan</i> , Kejaman <i>juʒan</i> |
| Punan | Punan Bah <i>julan</i> , Punan Tubu <i>julan</i> , Punan Aput <i>julan</i> , Buket (<i>ken</i>) <i>ulan</i> , Ukit <i>ulan</i> |

Both of the above Central Sarawak innovations are included in the list of Pan-Bornean near-cognates. They are thus immediately suspect as products of chance or borrowing. With *hayan ‘eight’ the reflexes are regular, and it is possible to reconstruct a single PCS word for ‘eight’. *hayan however, cannot be used to connect Central Sarawak to other groups with near-cognate terms for ‘eight’, like PKEN *aya or PKAY *jaya. ‘nine’ on the other hand is much more troublesome. Melanau reflexes point to *ulan, while Punan and Müller-Schwaner evidence supports *julan. One could argue that *j- was irregularly deleted in the cases where it is absent, but this explanation is not satisfactory when applied to an established near-cognate. Because of this, it’s necessary to look to other pieces of evidence for Central Sarawak, and remove ‘nine’ from the final list of evidence.

*ibəR > *(ə)liŋ ‘saliva’

| | |
|-----------------|---|
| Melanau | Mukah <i>liʒŋ</i> , Dalat <i>li:</i> , Kanowit <i>liʒŋ</i> |
| Kajang | Sekapan <i>ʒiʒ</i> , Lahanan <i>ʒiʒŋ</i> , Kejaman <i>ʒiʒŋ</i> |
| Punan | Punan Bah <i>liʒŋ</i> , Punan Tubu <i>iliŋ</i> , Beketan <i>u liŋ</i> |
| Müller-Schwaner | Aoheng <i>toaŋ reliŋ</i> |

A reflex of *ibəR is found in Balingian *ivah* ‘to spit out’ with altered semantics. Punan Tubu also optionally uses *uney ibah*, but this appears to be a borrowing from Kayanic, as *-b- failed to become *v* (this in turn suggests specifically a Murik-Merap source).

*manuk > *siaw ‘chicken’

| | |
|-----------------|---|
| Melanau | Sarikei <i>siaw</i> , Dalat <i>siaw</i> , Kanowit <i>siaw</i> , Mukah <i>siaw</i> |
| Punan | Punan Tubu <i>yow</i> , Punan Bah <i>iow</i> , Ukit <i>sio</i> |
| Müller-Schwaner | Hovongan <i>sio</i> , Kereho <i>siu</i> , Seputan <i>siu</i> , Aoheng <i>siu</i> |

Reflexes of *siaw are absent in Kajang, as they were replaced by *dik, but this word is otherwise well attested across three subgroups. PMP *siwsiw ‘to cheep; a baby chick’ and *siap ‘baby chick’ appear unrelated.

*piʔuŋ ‘to be fat’

| | |
|---------|---|
| Melanau | Kanowit <i>piʔuŋ</i> |
| Kajang | Sekapan <i>piʔuə</i> , Lahanan <i>piʔoŋ</i> , Kejaman <i>piʔuəŋ</i> |
| Punan | Punan Tubu <i>peʔuŋ</i> , Beketan <i>peuŋ</i> |

This proposed innovation is absent in Müller-Schwaner, which has a phonetically similar but distinct innovation *ñəʔuŋ, as evidenced by Hovongan *ñəʔuŋ*, Kereho *ñəʔuŋ*, and Seputan *ñəʔuŋ*. Melanau evidence is hard to come by, as much of the data is secondary. The sole Kanowit witness, however, was collected as primary data. Some Punan languages employ the root *ñak ‘fat (noun)’ plus the stative prefix *ma- to form a morphologically complex word *mañak* ‘to be fat; having fat’, but *piʔuŋ remains the only single base form attested across Central Sarawak.

*alud > *saluy ‘canoe’

| | |
|---------|---|
| Melanau | Mukah <i>saluy/aluy</i> , Dalat <i>saluy</i> , Kanowit <i>saluy</i> , Balingian <i>aluy</i> , Matu <i>saloy</i> |
| Kajang | Sekapan <i>saʔuy</i> , Lahanan <i>saʔuy</i> |
| Punan | Punan Bah <i>saluy</i> , Beketan <i>aʔuy</i> , Ukit <i>haluy</i> , Buket <i>haluy</i> |

Kejaman and Punan Tubu both have Kayanic loanwords for ‘canoe’; Kejaman *aruək* and Punan Tubu *aruk*. Punan Aput borrowed *orut* from an unknown North Borneo source, while all Müller-Schwaner languages reflect *alud; Hovongan *aut*, Kereho *out*, Seputan and Aoheng *arut*. The Müller-Schwaner words could be explained as borrowing, as Müller-Schwaner languages in general have many loanwords. The source for such borrowing is unclear, however, as Kayanic languages, the major source of loanwords in Müller-Schwaner, reflect *haruk. If Müller-Schwaner *arut is native, then it suggests that *saluy and *alud were both present in Proto Central Sarawak.

*ulun > *linaw ‘person’

| | |
|-----------------|--|
| Kajang | Sekapan <i>linaw</i> , Kejaman <i>linaw</i> , Lahanan <i>linaw</i> |
| Punan | Punan Bah <i>linuow</i> , Punan Lisum <i>linow</i> , Ukit <i>lino</i> , Beketan <i>linow</i> , Punan Aput <i>linow</i> |
| Müller-Schwaner | Kereho <i>dino/arino</i> , Hovongan <i>arino</i> , Seputan <i>arinu</i> , Aoheng <i>arinu</i> |

Melanau languages all reflect a secondary innovation for ‘person’, *tənanawan/*tu nawan, as evidenced by Kanowit *tənanawan*, Mukah *tənanawan*, Sarikei *tənanawan*, Matu *təw nawan*. It is assumed that this word replaced PCS *linaw.

*qali-matək > *tilaŋ ‘leech’

| | |
|--------|---|
| Kajang | Sekapan <i>tebeɣ</i> |
| Punan | Punan Bah <i>tileŋŋ</i> , Punan Aput <i>tilaŋ</i> , Ukit <i>tilaŋ</i> , Buket <i>tilaŋ</i> , Punan Lisum <i>tilaŋ</i> , Punan Tubu <i>tilaŋ</i> |

This word probably referred specifically to the tiger leech as it still does in Punan Aput *tilaŋ* ‘tiger leech’, and several Central Sarawak languages reflect *qali-matək. The tiger leech is the more general term for a type of jungle leech with a yellow stripe down its back, typically found dangling on leaves and branches. This leech is distinct from a paddy leech or river leech, which reside in water. The issue with this word, then, is that the word for tiger leech is rarely recorded. I recorded it in my notes, but much of the Melanau data used here is secondary. Additionally, not every consultant that I worked with was aware of a difference between leeches of the rivers and leeches of the land. As a result, reflexes of *tilaŋ are restricted to Kajang and Punan, but these two groups are found in separate primary branches of Central Sarawak, which does point to inheritance. Also, there is no evidence for any type of borrowing relationship between Punan and Kajang, except in cases where Punan Bah specifically has adopted Kajang phonotactics and a small number of lexical items. This word however, is found throughout Punan, including the many Punan dialects with no history of contact with Kajang.

*bəRsay > *pəla ‘paddle’

| | |
|-----------------|---|
| Melanau | Sarikei <i>pələh</i> , Dalat <i>pəla</i> , Kanowit <i>pəla/bəpəla</i> ‘to row’ |
| Kajang | Sekapan <i>pəḷa</i> , Kejaman <i>pəḷah</i> , Lahanan <i>pəḷah/məḷah</i> ‘to paddle’ |
| Punan | Beketan <i>polo</i> , Punan Lisum <i>poʎo/moʎo</i> ‘to paddle’, Punan Aput <i>polo</i> , Ukit <i>polo</i> |
| Müller-Schwaner | Hovongan <i>polo</i> , Kereho <i>polo</i> , |

Punan Bah *besay* is a borrowing, as *ay is reflected with *iey* in Punan Bah. Seputan *bosi* is also considered a borrowing from a Kayanic source. Note that a similar form is found in Kiput *pələh* and Narum *pələh*, but cannot be reconstructed to Proto-Berawan-Lower Baram, and penultimate *ə should not have become Kiput *a.

*bətik > *ulay ‘tattoo’

| | |
|---------|--|
| Melanau | Kanowit <i>ulay</i> |
| Kajang | Sekapan <i>uḷay</i> , Kejaman <i>uḷay</i> |
| Punan | Punan Bah <i>uliey</i> , Punan Lisum <i>uley</i> , Ukit <i>ule</i> |

Some words for ‘tattoo’ in Central Sarawak are obvious borrowings, including Lahanan *tədək* from a Kayanic source, and Beketan *tatoʔ* from Indonesian. Müller-Schwaner languages have *totəŋ*, but *ulay, being present in three out of four major Central Sarawak groups, is the only candidate for reconstruction.

*? > *kala-səriŋ ‘millipede’

| | |
|-----------------|--|
| Kajang | Sekapan <i>səriḷ</i> |
| Punan | Punan Tubu <i>səleriŋ</i> , Punan Bah <i>sasəriḷŋ</i> , Punan Aput <i>ləsəriŋ</i> , Ukit <i>kələsəriŋ</i> , Buket <i>kələsəriŋ</i> |
| Müller-Schwaner | Kereho <i>kolosoriŋ</i> , Hovongan <i>kolosoriŋ</i> , Seputan <i>lokosoriŋ</i> (met) |

*? > *təjaku ‘helmeted hornbill’

| | |
|---------|--|
| Melanau | Kanowit <i>təjakəw</i> |
| Kajang | Sekapan <i>təjakəw</i> , Kejaman <i>təjakəw</i> , Lahanan <i>təjakəw</i> |
| Punan | Punan Bah <i>təjaku</i> , Ukit <i>təjaku</i> , Buket <i>təjaku</i> |

The helmeted hornbill is a culturally important and well-known bird. It is the largest hornbill and most speakers know the animal, if not by name, then by its distinctively long tail feathers which are harvested for various cultural functions. The Melanau data is restricted to Kanowit, the only Melanau language in this study with a shorter history of massive deforestation and urbanization, two forces which have conspired to destroy the environment where these birds thrive. As a result, coastal Melanaus are less likely to recognize this animal.

*takut > *buʔut ‘afraid’

| | |
|---------|--|
| Melanau | Kanowit <i>buʔut</i> |
| Kajang | Sekapan <i>buʔut</i> , Kejaman <i>boʔot</i> , Lahanan <i>buʔut</i> |
| Punan | Punan Tubu <i>uʔut</i> , Punan Bah <i>buʔut</i> , Punan Lisum <i>but</i> , Buket <i>but</i> , Punan Aput <i>avut</i> |

Müller-Schwaner reflects PMP *talaw ‘fear’ as ‘afraid’. Also, *takut* was recorded in Ukit, which is assumed here to be a borrowing, since all other Punan dialects reflect *buʔut. Many Melanau languages have a different innovation, *mədud, as evidenced by Matu *mədut*, Sarikei *dut*, and Dalat *mədud*. Nevertheless, this word is widely attested in Kajang and Punan, with a single Melanau witness, and should be considered a Central Sarawak innovation.

*? > *makan ‘give’

| | |
|-----------------|---|
| Kajang | Sekapan <i>makan</i> , Kejaman <i>makan</i> |
| Punan | Punan Bah <i>mekan</i> , Beketan <i>akan</i> , Punan Lisum <i>akan</i> , Punan Aput <i>kan</i> , Ukit <i>kan</i> , Buket <i>kan</i> |
| Müller-Schwaner | Seputan <i>kan</i> , Hovongan <i>kan</i> , Kereho <i>kan</i> , Aoheng <i>kan</i> |

*? > *kətip ‘traditional skirt’

| | |
|-----------------|--|
| Melanau | Dalat <i>kətip</i> , Kanowit <i>kətip</i> |
| Kajang | Kejaman <i>ketip</i> , Lahanan <i>kətip</i> |
| Punan | Punan Aput <i>katip</i> , Ukit <i>katip</i> , Beketan <i>katip</i> , Punan Lisum <i>katip</i> , Buket <i>katip</i> |
| Müller-Schwaner | Seputan <i>kotip</i> , Aoheng <i>kotip</i> |

This is a type of traditional woman’s garment worn as a long skirt. It has been largely replaced with the Malay *sarong*. Long Bawan, *təkip*, and Bario Kelabit *təkip* appear to be superficially similar to Central Sarawak *kətip. If the two are cognate, metathesis must have taken place in either Dayic or Central Sarawak. However, as this form is attested nowhere else in Borneo, chance is also a likely explanation.

*laki > *dəlay ‘man’

| | |
|---------|--|
| Melanau | Dalat <i>a lay</i> , Matu <i>təw lay</i> , Sarikei <i>tu?əw lay</i> , Mukah <i>lay</i> |
| Kajang | Sekapan <i>dəʒay</i> , Lahanan <i>ləʒay</i> , Kejaman <i>dəʒay</i> |
| Punan | Punan Bah <i>eliey</i> , Punan Aput <i>ley</i> , Punan Tubu <i>ley</i> , Beketan <i>aley</i> , Ukit <i>lole</i> , Punan Aput <i>ley</i> , Buket <i>lole</i> |

Blust and Trussel (ongoing) list *di-laki ‘male; man’, with evidence from Kelabit *dəlaʒih*. Lun Dayeh also reflects this form with *dəlai*, where *-k- was regularly deleted. The word found throughout Central Sarawak, however, appears to be only superficially similar to *dilaki. First, *-k- > Ø is attested nowhere in Central Sarawak, so this would involve an irregular deletion. Second, while Lun Dayeh deleted *-k-, it maintained two syllables, thus *dilaki > *dəlai*, and not ***dəlay*. Punan Bah *eliey* points to *-ay, as *-ay regularly became *iey* [ɛɛ̃]. Note that Lahanan regularly reflects word-initial *d- with *l-*, thus *ləʒay* does not create a problem for this reconstruction. Müller-Schwaner languages reflect PMP *laki unchanged, meaning *dəlay was either synonymous with *laki, or Müller-Schwaner borrowed *laki (an untestable hypothesis since there are no diagnostic phonemes in *laki).

*? > *laʔi-n ‘voice’

| | |
|-----------------|--|
| Kajang | Sekapan <i>leʔəy</i> , Kejaman <i>laʔəy</i> , Lahanan <i>laʔəy</i> |
| Punan | Punan Bah <i>loʔi</i> , Ukit <i>lai-n</i> , Buket <i>lai</i> |
| Müller-Schwaner | Seputan <i>laʔin</i> , Aoheng <i>laʔin</i> |

*? > *təʔaŋ ‘handspan’

| | |
|-----------------|---|
| Melanau | Mukah <i>taʔeʔŋ</i> , Dalat <i>taʔi:</i> , Kanowit <i>təʔaŋ</i> |
| Kajang | Seputan <i>teʔeʔ</i> , Kejaman <i>teʔeʔŋ</i> |
| Punan | Punan Bah <i>teʔeʔŋ</i> , Punan Lisum <i>taŋ</i> , Ukit <i>taŋ</i> , Beketan <i>taŋ</i> , Punan Aput <i>taŋ</i> |
| Müller-Schwaner | Seputan <i>taʔaŋ</i> , Hovongan <i>taʔaŋ</i> , Kereho <i>taʔaŋ</i> , Aoheng <i>taʔaŋ</i> |

*kuju > *cuk ‘heron’

| | |
|---------|--|
| Melanau | Dalat <i>cok</i> , Kanowit <i>suək</i> |
| Kajang | Sekapan <i>cuək?</i> , Kejaman <i>cuək</i> |
| Punan | Punan Bah <i>suək?</i> , Beketan <i>suk</i> , Punan Lisum <i>suk</i> , Punan Aput <i>suk</i> |

Müller-Schwaner languages borrowed *kuju from an unknown source outside Central Sarawak. Hovongan *kuju* should have undergone devoicing where *j (PMP *z) became *c. Kereho *tuju* is irregular both in lack of *z devoicing and in the shape of the initial consonant, while Aoheng *tucu* is irregular only in the shape of the initial consonant. No other languages in Borneo have an initial *t in ‘heron’ so the ultimate origins of this word remain a mystery. All other Central Sarawak languages for which data are available however reflect *cuk, which must be reconstructed as a replacement innovation.

The Central Sarawak evidence is reprinted below. Note that *mənīkaw ‘to steal’ is an irregular sound change (*a > *i), not a lexical replacement innovation.

Figure 77

List of Central Sarawak lexical innovations

| | | |
|------------------------|-----------------------------|---------------------|
| *cuk ‘heron’ | *təjaku ‘helmeted hornbill’ | *piʔuŋ ‘to be fat’ |
| *təʔaŋ ‘handspan’ | *kala-səriŋ ‘millipede’ | *siaw ‘chicken’ |
| *laʔi-n ‘voice’ | *ulay ‘tattoo’ | *(ə)liŋ ‘saliva’ |
| *dəlay ‘man’ | *pəla ‘paddle’ | *hayan ‘eight’ |
| *kətip ‘woman’s skirt’ | *tilaŋ ‘tiger leech’ | *manikaw ‘to steal’ |
| *makan ‘give’ | *linaw ‘person’ | |
| *buʔut ‘afraid’ | *saluy ‘canoe’ | |

3.3.2.1 Analyzing the Central Sarawak evidence

The biggest shortcoming of a Central Sarawak group is of course the lack of exclusive phonological innovations. No matter how strong the lexical evidence is, Central Sarawak will likely remain controversial because of the absence of phonological evidence for the subgroup. However, many of the lexical innovations presented above appear in basic vocabulary, and even after controlling for borrowing and pan-Bornean near-cognates, 19 innovations were identified. Note that many of the larger subgroups of northern Borneo, including Kayanic, SW Sabah, Malayic appear to have recently expanded, which can account for much of the lexical cohesion of these groups, given their shallow time-depths. Central Sarawak, on the other hand, is a subgroup that has been displaced by these later expansions, and as such has both a greater time-depth and less of a history of common development than other subgroups. The same is true for Northeast Sabah, which like Central Sarawak, is defined by a list of only 19 exclusively shared lexical innovations between Bonggi and Idaanic languages (Blust 2010:63).

3.2.3 Punan and Müller-Schwaner

An internal subgrouping of Central Sarawak may aid in analyzing its validity. Chapter two rejected the long-held view that Melanau and Kajang form an exclusive subgroup; Melanau-Kajang. However, lexical data for a Punan-Müller-Schwaner group appears much more robust. This connection is detailed in the following section. Note that limited evidence from Sru Dayak suggest that, although all modern Punan languages have intervocalic *-v- from PMP *-b-, Proto-Punan probably retained *-b- unchanged.

| | |
|------------------|--|
| *buhək > *əbuk > | *ibuk ‘hair’ |
| Punan | Punan Tubu <i>ifuk</i> , Punan Bah <i>ivuəʔ</i> , Punan Lisum <i>ivuk</i> , Punan Aput <i>ivuk</i> , Ukit <i>ivuk</i> , Buket <i>ivuk</i> |
| Müller-Schwaner | Kereho <i>ivoʔ</i> , Seputan <i>ivo</i> , Aoheng <i>ivo</i> |

This form is significant for subgrouping because of the irregular shape of the initial support vowel. It is assumed that PMP *buhək went through the following stages: *buhək > *buək > *buk > *əbuk. Schwa was added after the word had reduced to a monosyllable in order to maintain a canonical two syllable word shape in content words. This is widely attested in languages in Sabah and North Sarawak. The Punan and Müller-Schwaner languages are the only ones that consistently reflect a high front vowel as a support vowel, rather than schwa.

| | |
|-----------------|---|
| *away ‘face’ > | *irap |
| Punan | Punan Lisum <i>irap</i> , Punan Aput <i>irap</i> , Ukit <i>irap</i> , Buket <i>irap</i> |
| Müller-Schwaner | Hovongan <i>irap</i> , Kereho <i>irap</i> , Seputan <i>irap</i> , Aoheng <i>irap</i> |

| | |
|-----------------|--|
| *tumid ‘heel’ > | *kokoŋ |
| Punan | Ukit <i>koŋ</i> , Buket <i>koŋ</i> |
| Müller-Schwaner | Hovongan <i>koŋ</i> , Seputan <i>kohokoŋ</i> , Aoheng <i>kokoŋ</i> |

| | |
|-----------------|---|
| *kebaŋ ‘crab’ | |
| Punan | Beketan <i>kevaŋ</i> , Punan Lisum <i>kevaŋ</i> , Punan Aput <i>kevaŋ</i> , Ukit <i>kevaŋ</i> , Buket <i>kevaŋ</i> |
| Müller-Schwaner | Hovongan <i>kevaŋ</i> |

| | |
|----------------------------|--|
| *wati/*gəlaŋ ‘earthworm’ > | *jalaw |
| Punan | Punan Bah <i>jeluow</i> , Beketan <i>jalow</i> , Punan Aput <i>jalow</i> , Punan Lisum <i>jalo</i> , Ukit <i>jalo</i> , Buket <i>jalo</i> |
| Hovongan | <i>co</i> |

*qatəp > *siŋaw ‘roof’
 Punan Beketan *ijow*, Punan Lisum *siŋow*, Punan Aput *ijow*, Ukit *siŋo*
 Müller-Schwaner Hovongan *siŋo*, Kereho *siŋu*

*balabaw ‘rat’ > *musiŋ
 Punan Punan Lisum *musiŋ*, Punan Aput *musiŋ*, Ukit *musiŋ*, Buket *musiŋ*
 Müller-Schwaner Hovongan *musiŋ*, Kereho *musiŋ*, Seputan *musiŋ*, Aoheng *musiŋ*

Apparent reflexes of PMP *balabaw are found in Punan Tubu and Punan Bah. In Punan Tubu *labaw* ‘rat’ is a borrowing (ultimately from Proto-Kayanic *labaw). Punan Bah *balavaw* is also a borrowing, as *-aw failed to become *-uow*, although the source is not immediately clear.

*kəlasɨ > *məpulan ‘red-leaf monkey’
 Punan Ukit *məpulan*, Buket *məpulan*
 Müller-Schwaner Hovongan *mopuan*, Kereho *mopuan*, Aoheng *mopuan*

*kəlasɨ ‘red-leaf monkey’ can be reconstructed to a common ancestor of all the languages of Borneo (section 3.8).

*ʔ > *(ə)biʔ ‘dragon’³¹
 Punan Beketan *uviʔ*, Punan Aput *iviʔ*, Punan Lisum *iviʔ*, Ukit *uviʔ*, Buket *uviʔ*
 Müller Schwaner Hovongan *bi*, Kereho *bi*, Seputan *ovi*, Aoheng *ovi*

*Rabun ‘cloud; mist’ > *havun ‘sky’
 Punan Ukit *avun*, Buket *avun*
 Müller-Schwaner Hovongan *havun*, Seputan *havun*, Kereho *hawun*

³¹ Although the concept of ‘dragon’ is not well attested in AN societies, Kenyah *bali sunjay* ‘dragon; literally river spirit’ suggest that some type of supernatural being was associated with rivers and sources of water. This is broadly translated as dragon. I used Indonesian *naga* ‘dragon’ to elicit these words.

Beketan and Punan Lisum *bavun* appear to be a part of this set, but initial *b-* cannot be explained. Note that this is a semantic change from PMP ‘cloud’ to ‘sky’

*laRiw ‘run’ > *təkajuŋ
 Punan Punan Bah *təkajuŋ*, Punan Lisum *nəkajuŋ*, Ukit *nəkajoŋ*, Punan Aput *nəkajuŋ*
 Müller-Schwaner Hovongan *nokacuŋ*, Seputan *nokacuŋ*, Kereho *tokacuŋ*, Aoheng *nəkacuŋ*

*baŋun ‘wake up’ > *tigas
 Punan Punan Bah, *matiga*, Punan Lisum *tiga*, Ukit *tiga*, Buket *tiga*
 Müller-Schwaner Hovongan *tika*, Seputan *tika*, Kereho *tika*, Aoheng *tika*

- *pusit/*musit ‘leave; exit’
 Punan Punan Tubu *muit*, Beketan *muhit*, Punan Lisum *pusit*, Ukit *pusit*, Punan Aput *musit*, Buket *pusit*
 Müller-Schwaner Hovongan *pusit*, Seputan *usit*, Kereho *pusit*, Aoheng *pusit*

This is a morphologically complex reconstruction. Punan and Müller-Schwaner ‘door; entry’ was *usit. *pusit seems to have only meant ‘exit’ (use the door) and not enter (where one could interpret ‘use the door’ as a means of entry).

*qahəlu ‘pestle’ > *suʔan
 Punan Beketan *suʔan*, Punan Aput *suʔan*, Punan Lisum *suʔan*, Buket *suʔan*, Ukit *suʔan*
 Müller-Schwaner Hovongan *suʔan*, Seputan *suʔan*, Kereho *suʔan*, Aoheng *suʔan*

Punan Tubu *aluʔ* is a borrowing from a Kayanic source, as evidenced by the addition of a glottal stop after the final vowel. Punan Bah *luow* may be a borrowing from either a Kajang or Melanau source, as *-uow* is the typical reflex of **-aw*, and Punan Bah speakers might have heard Melanau *-əw* (from **-u* in PMEL **aləw*) as *aw* which would have later been changed to *luow*.

- *sariŋ ‘quick; fast’
 Punan Punan Bah *sariŋəŋ*, Beketan *sariŋ*, Punan Aput *sariŋ*, Punan Lisum *məsariŋ*
 Müller-Schwaner Kereho *sariŋ*

- *ibuʔ ‘short’
 Punan Punan Tubu *ifuʔ*, Punan Bah *kivuʔ*, Punan Aput *ivuʔ*, Buket *ivuʔ*, Punan Bah *kivuʔ*
 Müller-Schwaner Hovongan *divuʔ*, Seputan *livuʔ*, Kereho *diwuʔ*, Aoheng *livuʔ*

It is unclear if there was an initial consonant on this word, or what its shape was. Punan Bah points to an initial *k, but Hovongan has *d-* and Seputan has *l-*.

*tuqa ‘old’ > *təkan
 Punan Punan Tubu *tokan*, Punan Bah *tokan*, Ukit *tokan*, Bukit *tokan*
 Müller-Schwaner Kereho *tohokan*, Seputan *tokan*, Hovongan *tahakan*, Aoheng *tokan*

*boson ‘co-referential affine; parent in-law; child in-law’
 Punan Beketan *boson*, Punan Lisum *boson*, Punan Aput *boson*, Ukit *boson*
 ‘parent in-law’
 Müller-Schwaner Hovongan *boson*, Kereho *boson* ‘Parent in-law’

- *kabaʔ ‘shy’
 Punan Beketan *səkavaʔ*, Punan Lisum *ŋavaʔ*, Ukit *məkavaʔ*, Punan Aput *səkavaʔ*, Buket *ŋavaʔ*
 Müller-Schwaner Hovongan *ŋava*, Seputan *ŋavaʔ*, Kereho *ŋawaʔ*, Aoheng *ŋava*

- *təbirəŋ ‘to hang’
 Punan Punan Bah *tabiroŋəŋ*, Beketan *nəbiron*, Ukit *nələviron*, Punan Lisum *nəbiron*, Buket *nəvirəŋ*
 Müller-Schwaner Hovongan *tobiron*, Seputan *toverəŋ*, Kereho *noviron*

| | |
|-----------------|---|
| - | *pəluhaŋ ‘half’ |
| Punan | Punan Lisum <i>pəluhaŋ</i> , Punan Aput <i>pəluhaŋ</i> , Ukit <i>pəluhaŋ</i> , Buket <i>pəluhaŋ</i> |
| Müller-Schwaner | Kereho <i>poluhaŋ</i> |

This large list of exclusively shared lexical innovations is more than enough to warrant a Punan-Müller-Schwaner connection. Combined with evidence linking both Melanau and Kajang to Punan-Müller-Schwaner, Central Sarawak appears to be a legitimate lexically defined subgroup. The Central Sarawak tree presented at the beginning of this section remains supported by the lexical evidence.

3.4 The position of Land Dayak

Land Dayak languages do not appear to form a subgroup with their closest neighbors, Malayic. Similarities between the two were shown earlier to be mostly the result of borrowing. There is, however, a small list of lexical data that suggests some type of relationship between Land Dayak and Central Sarawak. Although the nature of that relationship is not clear, the evidence is presented below. Some of this evidence contains apparent Central Sarawak innovations, which could potentially point to either 1) a more distant ancestor of Central Sarawak and Land Dayak, or 2) an ancient zone of contact between these two groups which has since been overlaid by the Iban expansion. Particular aspects of the Land Dayak-Central Sarawak lexicon will be discussed after presenting the evidence.

3.4.1 Evidence linking Land Dayak to Central Sarawak

*maRu ‘woman’

| | |
|------------|--|
| Melanau | Balingian <i>marəw</i> , Matu <i>mayəw</i> , Sarikei <i>məyəw</i> , Mukah <i>mahəw</i> , Dalat <i>mayəw</i> , Kanowit <i>marəw</i> |
| Land Dayak | Benyadu <i>damahu</i> , Rara <i>mahu</i> , Bekati <i>maho</i> |

This word appears to be a Melanau innovation, as all other Central Sarawak languages reflect PMP *də-daRa ‘maiden, unmarried girl’ which apparently became *dəda where *-R- was deleted; Lahanan *lərah*, Ukit *doro*, Seputan *dora*. It appears only in the Benyadu-Bekati group of

Land Dayak, and might have been borrowed from a Melanau source, even though the two groups are no longer adjacent.

***tawan ‘scar’**

Melanau Kanowit *bah tawan*

Punan Punan Lisum *toan*, Punan Aput *ovan*

Müller-Schwaner Hovongan *toan*, Kereho *toan*

Land Dayak Sungkung *olok tawatn*, Ribun *nih toatn*, Golik *nih towət*, Sanggau *towan*

This word has a limited number of witnesses, but correspondences are regular and it does not appear outside of Central Sarawak and Land Dayak, which eliminates the possibility that this is part of a larger pan-Bornean near-cognate set.

***bədaŋ ‘rice husk’**

Punan Punan Bah *bereŋŋ*, Punan Lisum *baraŋ*, Buket *baraŋ*

Müller-Schwaner Kereho *boranŋ*

Land Dayak Bekati *badak*, Hliboi *ddakŋ*, Jangkang *budakŋ*, Golik *udəkŋ*

The correspondences between these words are all regular, and it does not appear outside of Central Sarawak and Land Dayak, which means that it cannot be explained away as a pan-Bornean near-cognate.

***? > *makan ‘give’**

Kajang Sekapan *makan*, Kejaman *makan*

Punan Punan Bah *mekan*, Beketan *akan*, Punan Lisum *akan*, Punan Aput *kan*,
Ukit *kan*, Buket *kan*

Müller-Schwaner Seputan *kan*, Hovongan *kan*, Kereho *kan*, Aoheng *kan*

Land Dayak Benyadu *maŋkan*, Bekati *maŋkat*

Once again, this word is also evidence for Central Sarawak. It is unclear if the excrescent nasal in Benyadu-Bekati is secondary, or if the word is similar by chance alone.

***takut > *buʔut ‘afraid’**

| | |
|---------|--|
| Melanau | Kanowit <i>buʔut</i> |
| Kajang | Sekapan <i>buʔut</i> , Kejaman <i>boʔot</i> , Lahanan <i>buʔut</i> |
| Punan | Punan Tubu <i>uʔut</i> , Punan Bah <i>buʔut</i> , Punan Lisum <i>but</i> , Buket <i>but</i> , Punan Aput <i>avut</i> |

| | |
|------------|--|
| Land Dayak | Benyadu <i>buut</i> , Bekati <i>buut</i> |
|------------|--|

***laki > *dəlay ‘man’**

| | |
|---------|---|
| Melanau | Dalat <i>a lay</i> , Matu <i>təw lay</i> , Sarikei <i>tuʔəw lay</i> , Mukah <i>lay</i> |
| Kajang | Sekapan <i>dəʔay</i> , Lahanan <i>ləʔay</i> , Kejaman <i>dəʔay</i> |
| Punan | Punan Bah <i>eliey</i> , Punan Aput <i>ley</i> , Punan Tubu <i>ley</i> , Beketan <i>aley</i> , Ukit <i>lole</i> , Punan Aput <i>ley</i> , Buket <i>lole</i> |

| | |
|------------|--|
| Land Dayak | Benyadu <i>daʔare</i> , Rara <i>are</i> , Bakati <i>ayé</i> , Hliboi <i>dali</i> , Sungkung <i>dali</i> , Jangkang <i>dayi</i> , Ribun <i>dahi</i> , Golik <i>dari</i> , Sanggau <i>dayi</i> |
|------------|--|

This word was presented earlier as evidence for Central Sarawak. Its wide distribution in Land Dayak raises the possibility that it is a retention in Central Sarawak from a more ancient source which is ancestral to both Central Sarawak and Land Dayak, it's not clear whether such a proto-language is justified. It remains distinct from Dayic reflexes of *di-laki ‘male; man’ for the same reasons as discussed earlier.

***matay > *kabas/*kəbəs ‘die’**

| | |
|-----------------|--|
| Melanau | Kanowit <i>kəbeh</i> , Sarikei <i>kəbəs</i> , |
| Punan | Punan Bah <i>makovo</i> , Punan Tubu <i>kəfoh</i> , Beketan <i>kavo</i> , Punan Lisum <i>kavə</i> , Buket <i>kavə</i> , Punan Aput <i>kavo</i> , Ukit <i>kavə</i> |
| Müller-Schwaner | Kereho <i>kovo</i> , Seputan <i>kovo</i> , Hovongan <i>kovo</i> , Aoheng <i>kovo</i> |
| Land Dayak | Benyadu <i>kabis</i> , Bekati <i>kabih</i> , Hliboi <i>kibos</i> , Jangkang <i>kobe?</i> , Ribun <i>kobis</i> , Golik <i>krbis</i> , Sungkung <i>kabis</i> , Sanggau <i>kəbis</i> |

This may be one of the most important apparent innovations in all of Borneo, as it has been linked to similar words for ‘to die’ in Mon-Khmer languages located in Peninsular Malaysia (Skeat and Blagden 1906:773 and 435-438, Adelaar 1995:90). Although Adelaar tends towards the interpretation that there were at one time Mon-Khmer speakers in Borneo who shifted to Land Dayak, it could also be the case that the words are similar only by chance, or that the Mon-Khmer forms in the Malay Peninsula could have been borrowed from a Land Dayak or Central Sarawak source (assuming sea trading). The entire argument about where **kəbəs* came from, however, verges on speculation. Without further lexical data and additional positive evidence it is difficult to evaluate the weight of this comparison.

***sakit > *mandam/*məndam ‘sick/pain’**

| | |
|-----------------|---|
| Punan | Punan Bah <i>məram</i> , Buket <i>miram</i> , Punan Tubu <i>miram</i> |
| Müller-Schwaner | Aoheng <i>miram</i> |
| Land Dayak | Benyadu <i>anapm</i> , Bekati <i>anap</i> , Jangkang <i>monapm</i> , Sungkung <i>manapm</i> , Golik <i>monop</i> |

This word is also found in Kadorih *mondam*, which explains the presence of word-final nasal preposition in Land Dayak. This is likely a native Land Dayak word which found its way into a few Central Sarawak languages of the interior. Its scattered distribution and irregular shape in Punan and Müller-Schwaner supports this interpretation. Its restriction to languages of the

interior, including Kadorih, raises questions about the historical distribution of Land Dayak, which is not in contact with any of these languages today.

***qapuR > *bəñu ‘lime’**

| | |
|------------|--|
| Melanau | Kanowit <i>bəñəw</i> , Dalat <i>biñəw</i> , Balingian <i>binəw</i> , Sarikei <i>bəñəw</i> |
| Kajang | Kejaman <i>bəñəw</i> , Sekapan <i>bəñəw</i> |
| Punan | Punan Bah <i>bəñuow</i> (loan) |
| Land Dayak | Golik <i>biñuh</i> , Jangkang <i>buñuh</i> , Bekati <i>biñu?</i> , Benyadu <i>buñu?</i> , Ribun <i>biñuh</i> |

The Punan Bah word is most likely a borrowing from Kajang or Melanau, as *-u is irregularly reflected with *-uow*. This suggests that *-u > *-əw in the Kajang or Melanau source language, and *-əw was borrowed as *-aw in Punan Bah. No other Punan language reflects *bəñu.

3.4.2 Benyadu-Bekati and Central Sarawak

Some of the words above, as already mentioned, were earlier proposed as Central Sarawak innovations. Their presence in Land Dayak may raise questions about the validity as Central Sarawak evidence, but there is a clear pattern of distribution; these words often appear in Central Sarawak + Benyadu-Bekati, but not in Bidayuh-Southern Land Dayak. This implies a specific zone of contact between Central Sarawak languages and Proto-Benyadu-Bekati, which excluded the other Land Dayak languages. Any shared lexeme in the data above which is restricted to Central Sarawak and Benyadu-Bekati is thus considered a borrowing. This includes Benyadu and Bekati *buut* ‘afraid’, Benyadu *maŋkan* and Bekati *maŋkat* ‘to give’, and Benyadu *damahu*, Rara *mahu*, and Bekati *maho* ‘woman’.

The above evidence does however force one to consider the larger histories of Central Sarawak and Land Dayak. It is probable that they were at one time adjacent, and only recently became separated by the expansion of Iban speakers out of West Kalimantan into Sarawak. It does not, however, form a strong subgrouping argument, as the nature of the similarities is either restricted to specific languages, to the exclusion of others (as is the case with Central Sarawak-Benyadu-Bekati lexemes) or does not itself form strong subgrouping arguments because of a lack of robustness. A handful of shared lexemes can be located between Land Dayak and Central

Sarawak, but this is generally true for any given two subgroups in Borneo. The evidence forces one to accept that Land Dayak does not form a subgrouping relationship with any other subgroup in Greater North Borneo.

3.5 North Borneo

Blust (1974b:197, 2010:56-68) proposed a North Borneo subgroup containing Southwest Sabah, Northeast Sabah, and North Sarawak. The only piece of phonological evidence for a North Bornean subgroup is differential reflexes of intervocalic voiced obstruents after schwa and intervocalic voiced obstruents after any other vowel. It follows from this evidence that PNB automatically geminated stops after schwa, forming a series of voiced geminates *-bb-, *-dd-, *-jj-, *-gg-, which then underwent terminal devoicing as shown by their reconstructability to Proto-North Sarawak and Proto-Northeast Sabah. He also claims that there are “a number of lexical items” which “appear to be exclusively shared by North Sarawak languages and the languages of Sabah” (Blust 2010:68). He does not, however, list these apparent lexical innovations, arguing that enumerating those lexemes would be more of a distraction than a necessary part of his argument. It is apparent that much weight is placed on gemination after schwa with terminal devoicing in forming the North Borneo hypothesis.

3.5.1 Central Sarawak and North Borneo

Naturally, once a Central Sarawak subgroup is established, the question of its wider subgrouping relationships quickly arises. One possibility is a connection with North Borneo, a hypothesis which is initially supported by differential reflexes of *-b- in some Central Sarawak languages. To summarize, Melanau, Punan, and Müller-Schwaner languages have only one reflex of *-b-. In Melanau *-b- was retained as *-b-. In Punan and Müller-Schwaner *-b- > *-v- regardless of the presence of schwa. Kajang, however, retained *-b- as *-b- after schwa, but changed *-b- to *-v- after any other vowel. The table below outlines this split in reflexes of *-b-. I have included data from Western Penan, a North Bornean (North Sarawak; Kenyah) language that has identical reflexes of *-b- for comparison. Note that Sekapan, Kejaman, and Lahanan do not subgroup immediately with Penan, but are instead compared to Penan to show how differential reflexes of voiced stops might appear to support a Central Sarawak-North Borneo connection:

Table 89

*Fortis reflexes of *b after schwa in Kajang*

| | Sekapan | Kejaman | Lahanan | W Penan |
|----------------------|---------|---------|---------|---------|
| *lubəŋ ‘hole’ | luveə | luveəŋ | luvaŋ | luvaŋ |
| *babuy ‘boar’ | bavuy | bavuy | bavuy | - |
| *bibiR ‘lips’ | biviə | biviəŋ | bivi | bevi |
| *təbuh ‘sugarcane’ | təbəw | təbəw | təbəw | təbəw? |
| *təbəŋ ‘fell a tree’ | təbəŋ | təbəŋ | bəŋ | təbəŋ |

3.5.1.1 A closer look at gemination after schwa

Differential reflexes of *b are a product of automatic gemination after schwa, as evidenced by the following data in Sekapan; *bəbaw* [bəbbaw] ‘tall’, *pətəbeə* [pətəbbeə] ‘to meet’, *dəm* [ddəm] ‘dark’ (from *dəmdəm > *dəddəm. There do not appear to be any monosyllabic words without gemination, since monosyllabification was a historical process), *məjat* [məjjat] ‘to pull’, *məgəm* [məggəm] ‘strong’, *məpa* [məppa] ‘collapse’, *bətaw* [bəttaw] ‘to hit with a stick’, *dəkin* [dəkkin] ‘near’, *kəman* [kəmman] ‘to eat’. Penan does not have geminate consonants, but rather inherited differential reflexes of *-b- from Proto-Kenyah.

While gemination appears to have blocked *-b- > *-v- in cases where *b came after a schwa, it did not have the same blocking effect where *-d- followed schwa. No matter the environment, *d became *r in intervocalic position. Some examples are shown in the table below, with no split in reflexes of *d. Note that Penan does have split reflexes of *-d-, which are inherited from PKEN.

Table 90

*Identical reflexes of *-d- after schwa in Kajang*

| | Sekapan | Kejaman | Lahanan | W Penan |
|---------------------|---------|---------|---------|---------|
| *ujuŋ ‘nose’ | uruə | uruəŋ | uroŋ | - |
| *si-ida ‘they’ | sira | sirah | sirah | irah |
| *pajay ‘field rice’ | paray | paray | paray | paray |
| *qapəju ‘gall’ | pərəw | pərəw | pərəw | pədun |
| *bəduk ‘macaque’ | bəruə? | bəruək | bərok | mədok |

It is possible that Kajang languages covered up a previous stage where *-d- geminated after schwa, by changing all cases of intervocalic *-d- to *r regardless of length, but such a hypothesis

is impossible to test, and would require positing intermediate forms for which there is no evidence.

Although reflexes of *-b- after schwa resemble those of Penan, a North Bornean language, there are specific differences between the two. Most importantly, Penan is a Kenyah language (Blust 1974b, Smith 2015a, 2015b) and Proto-Kenyah inherited the PNS voiced aspirates unchanged, which are reflected as voiceless stops in Highland Kenyah, and as either plain voiced or implosive voiced stops in Lowland Kenyah. This is true for all stops, *b, *d, *z, and *g. Kajang languages, however, are the sole members of Central Sarawak with differential reflexes of *-b-. Furthermore, Kajang does not have a similar split in reflexes of *d, *z, or *g. Although the two may appear superficially similar, the wider picture shows that they are quite different. Differential reflexes of voiced stops in intervocalic position in Central Sarawak and North Sarawak are most likely the product of drift. The following languages outside of Borneo geminate stops after schwa. In some cases, this has led to independent development of differential reflexes, particularly with reflexes of *-b-. Some cases are highlighted below, with data from Blust and Trussel (ongoing):

Figure 78

Gemination of stops after schwa outside of NB and CS

PHILIPPINES

| | | |
|---------------|---|---|
| Ilokano | PPH *həbás ‘evaporate’ > *sabay ‘do something with others’ > | <i>ebbés</i> ‘subside; decrease (of rivers)’ <i>sabáy</i> ‘to do together’ |
| Isneg (Isneg) | *təbiq ‘split; section of betel nut’ > *tuba ‘derris root’ > | <i>tabbí</i> ‘section of a betel nut’ <i>tuba</i> ‘derris root’ |
| Maranao | *təbuh ‘sugarcane’ > *tuba ‘derris root’ > | <i>təbo</i> ‘sugarcane’ <i>toa</i> ‘derris root’ |

SULAWESI

| | | |
|-------------|--|--|
| Bugis | *təbuh ‘sugarcane’ > *tuba ‘derris root’ > | <i>təbbu</i> ‘sugarcane’ <i>tua</i> ‘derris root’ |
| Makassarese | *təbuh ‘sugarcane’ > *tuba ‘derris root’ > | <i>taʔbu</i> ‘sugarcane’ <i>tua</i> ‘derris root’ |
| Tae’ | *təbuh ‘sugar cane’ > *tuba ‘derris root’ > | <i>taʔbu</i> ‘sugarcane’ <i>tua</i> ‘derris root’ |

SAMA-BAJAW (GREATER BARITO)

| | | |
|-------|---|--|
| Mapun | *təbuh ‘sugarcane’ > *tabəq ‘fat; greasy; tasty’ > | <i>tabbu</i> ‘sugarcane’ <i>tabaʔ</i> ‘fat’ |
| Yakan | *təbuh ‘sugarcane’ > *babuy ‘boar; pig’ > *bibiR ‘lips’ > | <i>təbbu</i> ‘sugarcane’ <i>bawi</i> ‘boar; pig’ <i>behe</i> ‘mouth’ |

CENTRAL-EASTERN MALAYO-POLYNESIAN

| | | |
|---------|---|--|
| Kambera | *təbuh ‘sugarcane’ > *tuba ‘derris root’ > | <i>tibu</i> ‘sugarcane’ <i>tuwa</i> ‘derris root’ |
|---------|---|--|

As the data above makes clear, gemination after schwa is a broad feature of Austronesian stress. This means that differential reflexes of *-b- in Central Sarawak do not provide evidence that it subgroups with North Bornean languages. Additional support must be put forward if one is to claim that Central Sarawak is more closely related to languages to the north. An extensive search of the available data has so far failed to reveal any lexical evidence. The data thus does not

support expanding North Borneo to include Central Sarawak, and its immediate relation to other Greater North Borneo languages must remain indeterminate.

3.5.2 Lexical evidence for North Borneo

Although it is not likely that Central Sarawak descended from Proto-North Borneo, there is still the question of the validity of North Borneo itself. Blust (2010:56-68) defends the view that terminal devoicing in voiced geminates is attributable to PNB, with evidence from North Sarawak and Northeast Sabah. This single piece of phonological evidence alone is enough to justify proposing a North Borneo subgroup, and it is essentially accepted as is in this work. Blust did not, however, provide lexical data to support the phonological data (nor did he necessarily need to, since phonological data is the most powerful type of subgrouping evidence). I have attempted to assemble a list of Proto-North Borneo lexical innovations, but these efforts have proved particularly frustrating. What appears below is the core lexical evidence that I was able to assemble for North Borneo, which is only meaningful when the phonological evidence is understood and accepted. There are only three unambiguous NB innovations.

**tulud* ‘to fly’

| | |
|----------|--|
| Dayic | Long Semadoh <i>təmulud</i> , Long Bawan <i>tulud</i> , Bario Kelabit <i>təmulud</i> , Pa’ Dalih <i>təmulud</i> , Long Lellang <i>təmulud</i> |
| B-LB | Miri <i>talud</i> , Narum <i>tulawt</i> , Kiput <i>tolot</i> , Long Jegan <i>təpolawŋ</i> (?), Long Terawan <i>tamalon</i> |
| Dusunic | Sarawak Bisaya <i>tumulud</i> , Lotud <i>tumulud</i> , Rungus <i>tumulud</i> , Kadazan Dusun <i>tumuhud</i> , Kujau <i>tumulud</i> , Dumpas <i>tumulud</i> |
| Paitanic | Sungai Beluran <i>tumulud</i> , Lingkabu <i>tumulud</i> , Lobu <i>tumulud</i> , Kuamut <i>tinumalud</i> |
| Idaan | <i>tumulud</i> |
| Bulungan | <i>tumulut</i> |

***ləbas ‘naked’**

| | |
|----------|--|
| Dayic | Long Bawan <i>tələfa</i> , Bario Kelabit <i>lub^ha</i> |
| Dusunic | Dumpas <i>mulabas</i> , Dusun Talantang <i>pinlabas</i> , Kujau <i>lumabas</i> , Rungus <i>lumabas</i> |
| Paitanic | Sungai Beluran <i>muləbas</i> , Lobu L <i>luməbas</i> , Serudong <i>antilabas</i> |
| Murutic | Tatana <i>mantilabas</i> , Nabaay <i>lumabas</i> , Tagol <i>lumaβas</i> , Bulusu <i>talabas</i> |
| NE Sabah | Seguliud <i>galobpas</i> , Bonggi <i>ləbas</i> |

***bakas ‘wild boar’, *bəRək ‘domesticated pig’, *babuy ‘general term for pigs’**

Proto Austronesian had two words for ‘pig’, both of which were inherited in PMP, *babuy ‘pigs in general, either the wild or domesticated pig’ and *bəRək ‘domesticated pig’ (Blust and Trussel ongoing). The comparative evidence in Borneo supports this reconstruction, as *bəRək never refers solely to the wild boar in Borneo, while *babuy refers in some languages to all pigs, in others to only domestic pigs (in these languages *bəRək was lost), and still in others only to the wild boar. PMP thus had a semantic gap in terms for pigs; there was a word for domesticated pigs, there was a word for pigs in general, but there was no word for wild boar. Proto-North Borneo filled this gap with the innovation *bakas ‘wild boar’, a widely-attested word that only refers to the wild boar, or in a few cases to pigs in general, but never to the domestic pig alone.

***bakas ‘wild boar’ (all words mean specifically ‘wild boar’ unless otherwise noted)**

| | |
|-----------------|--|
| Bintulu | <i>bakas</i> |
| Dayic | Pa’ Dali <i>baka</i> , Long Lellang <i>baka</i> , Lun Dayeh <i>baka</i> , Bario Kelabit <i>baka</i> |
| B-LB | Kiput <i>baka</i> |
| Dusunic | Lotud <i>bakas</i> , Rungus <i>bakas</i> , Kadazan Dusun <i>bakas</i> , Dumpas <i>bakas</i> |
| Paitanic | Serudong <i>bakas</i> |
| Murutic | Tatana <i>bakas</i> , Papar <i>bakas</i> , Tagol <i>bakas</i> , Kolod <i>bakas</i> , Tingalan <i>bakas</i> , Bulusu <i>bakas</i> |
| Tidung | <i>bakas</i> (all dialects) |
| Northeast Sabah | Idaan <i>bakas</i> ‘general pig, wild and domestic’, Seguliud <i>bakas</i> ‘general pig, wild and domestic’, Begak <i>bakas</i> ‘general pig, wild and domestic’ |

Lexical evidence for North Borneo leaves much to be desired. However, with such a strong phonological innovation (terminal devoicing of geminate stops), the subgroup appears valid.

3.6 Greater North Borneo

Blust (2010) first proposed a Greater North Borneo subgroup which includes all of the languages of Borneo except Barito, and includes Malayo-Chamic, Moken, Rejang, and Sundanese. The evidence he presents is exclusively lexical (24 lexical or semantic innovations) and is reprinted below.

Figure 79

Greater North Borneo evidence (Blust 2010)

| | | |
|--------------------------------|---|-------------------------------------|
| *pitu ‘seven’ | > | *tuju? ‘seven’ |
| *balabaw ‘rat’ | > | *balabaw; *tikus ‘rat’ |
| *ipəs ‘cockroach’ | > | *lipəs ‘cockroach’ |
| *qantipa ‘soft shelled turtle’ | > | *labi ‘soft shelled turtle’ |
| *ləmāk ‘soft’ | > | *lunək ‘soft; mushy’ |
| *sapaw ‘field hut’ | > | *laŋkaw ‘temporary shelter’ |
| *sapaw ‘field hut’ | > | *sulap ‘hut’ |
| *paniki ‘flying fox’ | > | *kubuŋ ‘flying lemur; flying fox’ |
| *qaRta ‘outsiders’ | > | *sakay ‘stranger’ |
| *qipil ‘ironwood tree’ | > | *bələnjan ‘ironwood tree’ |
| *palu ‘hammer’ | > | *tukul ‘hammer’ |
| *bakbak ‘large frog’ | > | *saʔay ‘large frog with loud croak’ |
| *qabaŋ ‘canoe’ | > | *alud ‘canoe’ |
| - | > | *guaŋ ‘heart (emotional)’ |
| - | > | *ambay ‘sweetheart’ |
| - | > | *kəbən ‘blowpipe dart quiver’ |
| - | > | *kuini ‘mango species’ |
| - | > | *təgap ‘firm; sturdy’ |
| - | > | *kəra? ‘long-tailed macaque’ |
| - | > | *tiuŋ ‘myna bird’ |
| - | > | *dəmək ‘blowpipe dart’ |
| - | > | *kuju ‘heron’ |
| - | > | *lamin ‘room of a house’ |
| - | > | *butbut ‘coucal’ |

3.6.1 Analyzing Blust’s lexical evidence

Our understanding of the lexical histories of the languages of Borneo has changed dramatically since Blust first proposed Greater North Borneo. As such, the evidence put forward in Blust 2010 is in need of attention, as the status of some of his originally proposed lexical

innovations has changed. This section discusses specific items from the above list, with proposed changes of three types, words that are accepted as GNB evidence, with small amendments or clarifications, words that are accepted as evidence not for GNB, but for a more remote proto-language which is ancestral to all of the languages of Borneo, and words that, given new data, are not likely descended from GNB and are thus removed as evidence. Words that are accepted with no amendments are not included in the following list, as they need no specific discussion.

3.6.1.1 Accepted with amendments

***tuju? ‘seven’**

Although *tuju? ‘seven’ is one of the strongest pieces of evidence for Greater North Borneo, there are some issues with irregularity in a small number of languages that needs to be addressed. In most languages, reflexes of *tuzuq as ‘seven’ are regular, while reflexes of *tuzuq as ‘to point’ are irregular. In a smaller set of languages, ‘to point’ is regular, but ‘seven’ is irregular. Both are presented below:

‘to point’ regular, ‘seven’ irregular

| | | | |
|-----------------|-------------------|-----|----------------|
| Land Dayak | *tuju? ‘to point’ | but | *iju? ‘seven’ |
| Müller-Schwaner | *tucu? ‘to point’ | but | *ticu? ‘seven’ |

‘to point’ irregular, ‘seven’ regular

| | | | |
|---------------------|----------------------|-----|----------------|
| Malayic | *tunjuk ‘to point’ | but | *tujuh ‘seven’ |
| Kayanic | *tunju(?) ‘to point’ | but | *tuju? ‘seven’ |
| Melanau | *tiju? ‘to point’ | but | *tuju? ‘seven’ |
| Berawan-Lower Baram | *tiju? ‘to point’ | but | *tuju? ‘seven’ |
| Northeast Sabah | *tiduk ‘to point’ | but | *turu? ‘seven’ |

‘to point’ and ‘seven’ regular

| | |
|----------|-----------|
| Punan | IDENTICAL |
| Kenyah | IDENTICAL |
| SW Sabah | IDENTICAL |

The irregular reflexes of *tuzuq are of three types. Type one: penultimate *u > *i. This is found in Melanau and BLB *tiju? ‘to point’, NE Sabah *tiduk ‘to point’, Land Dayak *iju? ‘seven’ and Müller-Schwaner *ticu? ‘seven’. Type two: *z > *nj. This is found in Malayic *tunjuk ‘to point’ and Kayanic *tunju(?) ‘to point’. Type three: *-ʔ > *-k. This is found in Malayic *tunjuk ‘to point’, and NE Sabah *tiduk ‘to point’. Examples of type three probably reflect a doublet for ‘to point’, *tuzuk, which is listed in Blust and Trussel (ongoing) with sparse representation.

Examples of type two show a widespread pattern of invasive nasals in Austronesian languages and pose no serious issues. Type one, however, has no explanation. Land Dayak in particular has a double irregularity in its word for seven, where we must assume both irregular deletion of *t- and irregular fronting of *-u- in order to consider it an inherited word. Ultimately, it is still more likely that *tuzuq became ‘seven; to point’ and the two homophones were eventually distinguished from one another through sound changes that, although irregular in individual languages, are widely attested in Austronesian languages as reconstructable doublets. The Land Dayak word may ultimately not be from *tuzuq, but nevertheless, Land Dayak is best considered a GNB language for other reasons, including reflexes of support vowels on monosyllabic content words (discussed in section 3.8 below).

***kuju ‘heron’**

Witnesses from Barito languages initially cast doubt on the status of *kuju as a GNB innovation. Two Barito languages apparently reflect *kuju, Benuaq and Tunjung *kojo?*. However, the regular reflex of *-j- (which is written *-z- from PMP) is -r- in Benuaq and -c- in Tunjung which indicates that these are borrowings. Blust notes that reflexes of *kuju are found only in Malayic, Kayan, and Kenyah, but an additional witness can be found in Bulusu *kuju?*. Central Sarawak apparently innovated *suk ‘heron’ and Punan Tubu *kuju?*, Hovongan *kuju*, and other apparent reflexes in Central Sarawak languages are analyzed here as borrowings.

***damək ‘blowpipe dart’**

Blust lists evidence from only Malayic and SW Sabah for *damək. An additional piece of evidence has been uncovered in Kanowit *damək* ‘blowpipe dart’. Schwa in the final syllable

suggests that this is not a Malay loanword, as all Malayic languages which influence Kanowit raised schwa to *a* in the final syllable.

***guan̩ ‘heart; emotional center’**

Blust lists several pieces of evidence for reconstructing *guan̩. Research for this dissertation uncovered at least one additional piece of evidence, Bulusu *guan̩* ‘to want; to desire; love’. This adds to the semantic reconstruction, as Blust’s examples (2010:79) do not indicate a clear emotional element for the reconstruction (his reconstructed gloss implies a center of emotion, but not emotion itself). Thus, one could add to the reconstructed gloss ‘heart; emotional center; desire’.

***kəraʔ ‘long-tailed macaque’**

Blust’s original observation, that reflexes of *kəraʔ are found in SW Sabah and Malayic languages, remains valid. According to his internal subgrouping of Greater North Borneo, this is enough to propose a reconstruction. However, the languages where *kəraʔ is not found all reflect a different word, *kuyad. Reflexes are located in Kayanic, Central Sarawak, North Sarawak, and Tidung languages, which complicates the proposed reconstructions. Examples from my data and from Lobel (2016) are:

***kuyad**

| | |
|---------------------|---|
| Kayanic | Merap <i>kuyãḁ</i> |
| Melanau | Balingian <i>kuyad</i> , Sarikei <i>kuyat</i> , Mukah <i>kuyad</i> , Dalat <i>kuyad</i> , Kanowit <i>kuyat</i> |
| Kajang | Kejaman <i>kuzat</i> , Lahanan <i>kuzat</i> |
| Punan | Punan Bah <i>kuyat</i> , Punan Aput <i>kuyat</i> , Ukit <i>kiat</i> , Buket <i>kiat</i> |
| Müller-Schwaner | Hovongan <i>kiat</i> , Seputan <i>kiat</i> , Aoheng <i>kiat</i> |
| Kenyah | Lebo’ Vo’ <i>kuyat</i> |
| Dayic | Pa’ Dalih <i>kuyad</i> , Long Lellang <i>kuyad</i> , Long Bawan <i>kayəd</i> |
| Berawan-Lower Baram | Narum <i>uyit</i> |
| Tidung | Bengawong <i>kuyad</i> , Sumbol <i>kuyad</i> , Kalabakan <i>kuyad</i> , Mensalong <i>kuyad</i> , Malinau <i>kuyad</i> |

Another word, which unambiguously referred to the silver-leaf monkey and not the long-tailed macaque is *buRis. Evidence for this word is also found in Barito languages, which suggests inheritance from a more distant ancestor than GNB, but a reflex of *buRis must have been present in PGNB as it is retained in several daughter languages, including Kayan (Balui Liko *bui*), Kajang (Sekapan *bəg^{wi}*), and Punan (Punan Bah *bui*). More on this word is found in section 3.8. It is thus necessary to reconstruct two words for ‘long-tailed macaque’, *kəraʔ and *kuyad. Any semantic difference between these two words is not clear.

***sapaw, *laŋkaw, *sulap ‘hut; field hut; temporary shelter’**

Blust reconstructs *sulap as ‘hut’ and quotes Richards (1981) for Iban *sulap* ‘leaf shelter or temporary hut’. *laŋkaw apparently had a similar meaning, with the additional implication that it was intended for families or otherwise large groups (Sutlive and Sutlive 2001, vol 2). In the great majority of Bornean languages *sapaw came to mean ‘roof’ (traditionally thatched but in modern languages roof in general). This meaning can be reconstructed for Proto-Basap *sapaw, Proto-Kayanic *sapaw, Proto-Melanau *sapaw, Proto-Kajang *sapaw, Proto-Kenyah *sapaw, Proto-Dayic *sapaw, Bintulu *sapaw*, Proto-Berawan-Lower Baram *sapaw, and Proto-Northeast Sabah *sapaw. Reflexes of *sapaw as roof are also found throughout the Barito linkage, Taboyan *sapo*, Maanyan *hapaw*, Ngaju *sapaw*, and Tunjung *sapaw* (all meaning ‘roof’). It does not appear that *sapaw replaced *qatəp as ‘roof’ however, as reflexes of the latter are found in Malayic *hatap, Proto-Dusunic *taʔap, Proto-Paitanic *taʔap, Proto-Murutic *taʔap (these three forms show secondary metathesis of the first and second consonant), and Proto-Tidung *atap. Additionally, Blust (2010) points out that *sapaw ‘hut’ is retained in Malay, where it means ‘temporary hut put up by travelers in the jungle’. Also, while the three words in Blust (2010) apparently meant some type of shelter, a fourth word, PMP *ləpaw ‘hut; rice storage house’ is retained in several large subgroups as either ‘field hut’, ‘granary’, or any small, general building including small field huts, temporary dwellings, huts in general, and single family detached homes (as opposed to longhouses). Thus, four reconstructions with slightly different semantics can be reconstructed:

*ləpaw ‘a small building, field hut, or rice storage building’

*sapaw ‘a temporary shelter built in the jungle; a thatched roof’

*lan̄kaw ‘a temporary shelter for an entire family, built near or next to an existing longhouse’

*sulap ‘any temporary, leaf-built shelter’

There was certainly a culture of forest expedition, travel, and hunting in pre-modern Borneo, and various types of small shelters served specific purposes. The additional data on these four types of huts has not altered Blust’s original observations. They have only made the glosses more precise.

3.6.1.2 Accepted as evidence for a more remote common ancestor

*tiuŋ ‘myna bird’

The immediate question one must ask with regard to the validity of this word is whether convergent innovation through onomatopoeia is a better explanation than inheritance for the observed similarities. Myers (2009:205) states that the call of the Myna is a “loud, ringing, down slurred *tee-ong*... first note high-pitched, second descending”. This description bears an obvious similarity to the reconstructed form. There are also competing reconstructions for ‘myna’, most notably *kiuŋ, which is supported by evidence from a wide range of languages.

*kiuŋ

| | |
|------------|--|
| Land Dayak | Bekati <i>kiok</i> , Hliboi <i>kiokŋ</i> |
| Kayanic | Merap <i>kiawə</i> , Data Dian <i>kiuŋ</i> , Gaai <i>kiəwŋ</i> , Kelai <i>kjəŋ</i> |
| Kajang | Lahanan <i>kioŋ</i> |
| Punan | Beketan <i>kiuŋ</i> , Punan Lisum <i>kiuŋ</i> , Punan Aput <i>kiuŋ</i> , |
| Kenyah | Lebo’ Vo’ <i>kioŋ</i> |

Because reflexes of both *tiuŋ and *kiuŋ are regular, it does appear that these words were innovated once, but in addition to these, a number of similar, less well-attested forms are found throughout the island. First, forms with final *-aw instead of *-uŋ are weakly attested:

*kiaw

Punan Tubu *kiow*, Bulusu *kiow*

*tiaw

Rungus Dusun *tizo*, Kadazan Dusun *tizow*

Second, there is weak evidence of a form with no initial consonant:

*iuŋ

Ukit *ioŋ*, Buket *ioŋ*, Punan Bah *iuəŋ*, Kanowit *yoŋ*

Thirdly, *tiuŋ is also found in Barito languages, which suggests that this is not a Greater North Borneo innovation at all, but rather a retention from an earlier proto-language. *tiuŋ is reflected in Kadorih *tiuŋ*, Ngaju *tiuŋ*, and Taboyan *tioŋ*. While one may speculate that these are borrowings, Ngaju typically did not borrow from interior languages, but as discussed in chapter 2, has strong phonological evidence of heavy borrowing from Malay. It is not clear that *tiuŋ* in Ngaju is a Malay loan however, since this is a native bird with little incentive for borrowing. Additionally, Maanyan and Barito Dusun languages have a phonetically similar word for ‘myna’; Maanyan and Dusun *siuŋ*. Note the similarities between this word and Jangkang (Land Dayak) *ciaw*.

Seven words are attested in Borneo for ‘myna’, four which end in *-uŋ and a corresponding doublet for three of these which ends in *-aw, although admittedly, only *tiuŋ and *kiuŋ are well attested in languages with a wide genetic distribution.

| -iuŋ form | | corresponding -iaw doublet |
|-----------|---|----------------------------|
| *tiuŋ | - | *tiaw |
| *kiuŋ | - | *kiaw |
| *siuŋ | - | *siaw |
| *iuŋ | - | |

While several competing forms exist for ‘myna’, only *tiuŋ and *kiuŋ have a wide enough distribution to warrant reconstruction. Barito evidence, however, suggests that the myna was named by the first settlers of Borneo, which implies that the word was part of the lexicon of a single language ancestral to every modern Bornean language, not Greater North Borneo.

***kubuŋ ‘flying lemur’**

Blust’s observation that *kubuŋ constitutes a replacement innovation remains valid, but additional evidence from Barito languages suggests that it was innovated at a higher level than GNB. The majority of Barito languages reflect *kubuŋ: Kadorih *kuvuŋ*, Ngaju *kuvuŋ*, Maanyan *kuvuŋ*, Dusun *kuvuŋ*, Benuaq *kuukŋ*, Tunjung *kuukŋ*, Bentian *kuuŋ*. Thus, this word should be removed from the list of GNB innovations. It is discussed further in section 3.8 below.

***butbut ‘coucal’**

The coucal is a large bird with brown wings and a dark navy blue-black breast. During the day one can sit on the veranda of a longhouse and hear a distant, low pitched *booooooot boot boot boot!* This is the call of the coucal. Thus, its name is a mimic of its song. Reflexes of *butbut are common in Barito languages, Maanyan *wuvut*, Dusun Witu *wuvut*, Ngaju *bubut*, Kadorih *bubut*. Because of this, ‘coucal’ was most likely innovated by the very first Austronesian speakers who arrived in northern Borneo and it thus provides evidence not for Greater North Borneo, which excludes Barito, but for a more distant ancestor.

3.6.1.3 Removed as evidence

***bələŋjan ‘ironwood tree’**

Throughout Borneo, the more common word for ‘ironwood tree’ is a reflex of PMP *təRas ‘heart wood, hard wood of a tree’ and not the proposed innovation. Thus, at the very least, one would need to reconstruct two lexemes, one lexical innovation and one semantic shift (where *təRas shifted from heartwood, a description of the hardest part of any tree, to ironwood tree, a specific species). Cognates or near-cognates of *bələŋjan are also found in Barito languages, which argues against interpreting *bələŋjan as GNB evidence. Additionally, there is the question of the overall reconstructability of *bələŋjan. Throughout Borneo languages show

words of identical meaning and similar shape that are nevertheless phonologically incompatible with each other. This is also found in apparent reflexes of *bələŋian. First, several languages in Borneo reflect an initial *t for this word:

| | |
|-----------------------------|-----------------------------|
| Ambalo <i>tauleʔan</i> | Taboyan <i>taluyən</i> |
| Keninjal <i>təbəlían</i> | Tunjung <i>təliətɲ</i> |
| Kapuas Iban <i>təbəlían</i> | Lebo Basap <i>təbukeʔan</i> |
| Ngaju <i>tabalíen</i> | Tabalar Basap <i>tulían</i> |
| Kapuas <i>təbəlían</i> | Bahau <i>təbəliʔan</i> |
| Maanyan <i>tawudiʔen</i> | Kereho <i>toworiʔon</i> |
| Dusun Witu <i>tadiʔen</i> | |

Second, languages disagree on the shape of the penultimate and pre-penultimate syllables. Some languages support *bəŋian, others support *bələŋian, and still others support *bəlian.

| | | |
|-------------------------|---------------------------|---------------------|
| *bəŋian | *bələŋian | *bəlian |
| Ngorek <i>bəŋian</i> | Lepo Sawa <i>bələŋian</i> | Iban <i>bəlían</i> |
| Lebo' Vo' <i>bəŋian</i> | | Malay <i>bəlían</i> |
| Uma Pawe <i>bəŋian</i> | | |
| Lepo Gah <i>bəŋian</i> | | |

Still more languages disagree on the shape of the penultimate and pre-penultimate vowels:

| | | | |
|------------------------------|------------------------|---------------------------|------------------------|
| *-uli- | *-əlu- | *-əli- | *-iŋi- |
| Kendayan <i>bulían</i> | Taboyan <i>təluyan</i> | Keninjal <i>təbəlían</i> | Badeng <i>bəlíníen</i> |
| Ketapang <i>bulén</i> | Paser <i>təluyan</i> | Bekati <i>baliat</i> | |
| Indonesian <i>pohon ulin</i> | | Dusun Witu <i>tadiʔen</i> | |
| Tabalar Basap <i>tulían</i> | | Busang <i>bəlían</i> | |
| Ambalo <i>tauleʔan</i> | | Lepo Tau <i>bəliʔən</i> | |
| Maanyan <i>tawudiʔen</i> | | | |

Again, languages disagree on whether glottal stop should be reconstructed as the onset of the final syllable. This disagreement is found in closely related languages and dialects, and does not correspond regularly with languages that deleted all glottal stops in medial position.

| *-ʔan | *-an |
|-----------------------------|-----------------------------|
| Ambalo <i>tauleʔan</i> | Kendayan <i>bulian</i> |
| Maanyan <i>tawudiʔen</i> | Kapuas Iban <i>təbəlīan</i> |
| Dusun Witu <i>tadiʔen</i> | Ngaju <i>tabalien</i> |
| Lebo Basap <i>təbukeʔan</i> | Tabalar Basap <i>tulian</i> |
| Bahau <i>təbəliʔan</i> | Busang <i>bəlīan</i> |
| Kelai <i>wəlʔæn</i> | Ngorek <i>bəŋian</i> |
| Kereho <i>toworiʔon</i> | Lebo' Vo' <i>bəŋian</i> |
| Lepo Tau <i>bəliʔən</i> | Lepo Gah <i>bəŋian</i> |

Note that while Blust reconstructs *bələŋian under the assumption that schwa in the environment *VC_CV deleted, giving an intermediate form *bəlŋian that was further simplified through cluster reduction, this explanation only solves issues with modern forms of the shape, *bələŋian*, *bəŋian*, or *bəlīan*. As the section above has made clear, however, *bələŋian still has issues that cannot be resolved without appealing to irregular sound changes, including the presence of an initial *t*, glottal stop in the onset of the final syllable, and the shape of the penultimate and prepenultimate syllables. This suggests that ‘ironwood’ belongs to a near-cognate set, rather than a single innovation.

***kəbən ‘dart quiver’**

The evidence for *kəbən is not strong. Blust (2010:78) attempts to link similar forms in Murut (various dialects) *kobon* ‘dart quiver’ with Iban *kəban* ‘decorated box; amulet box’ and Malay *kəban* ‘four cornered matwork box’. The main issue with this comparison is the actual shape of dart quivers, which Blust admits to “having never seen”. Typically, dart quivers are made from bamboo. They are long and cylindrical and have a circular bamboo lid, and are constructed with a large hook to strap the quiver to one’s belt. They are never square, four

cornered, or made from a woven material, as the Iban and Malay glosses suggest. It is thus unlikely that apparent reflexes of *kəbəŋ are anything more than chance resemblances.

There does appear to be another candidate for GNB ‘blowpipe dart quiver’ with evidence from a range of modern languages, *təluʔ. Evidence for this reconstruction comes from Basap, Punan, Kayan, and Kenyah:

| | |
|-----------------|---------------|
| Tabalar Basap | <i>təlo</i> |
| Long Naah Kayan | <i>təluʔ</i> |
| Kelai | <i>tələwʔ</i> |
| Punan Tubu | <i>təloʔ</i> |
| Punan Bah | <i>teloʔ</i> |
| Punan Aput | <i>taloʔ</i> |
| W Penan | <i>təluʔ</i> |
| Lebo’ Vo’ | <i>təloʔ</i> |
| Lepo Laang | <i>təloʔ</i> |

This proposed GNB word for ‘blowpipe quiver’ is not without its own issues. Chief among them is its distribution. Reflexes of *təluʔ are found principally in languages of the interior that have a history of contact with one another. The word is otherwise absent from more coastal groups. It may be that borrowing explains its distribution. However, with regular reflexes there is no way to test these hypotheses. It is still a more plausible innovation than *kəbəŋ, however, since the Malay and Iban glosses differ so greatly from the actual appearance of blowpipe dart quivers in Borneo.

3.6.2 Additional Greater North Borneo evidence

Blust’s other proposed innovations for GNB stand as is, and I have either not uncovered additional evidence, counter evidence, or do not feel anything more needs to be stated. There are, however, several additional lexical innovations not found in Blust (2010), listed below, which provide additional support for a Greater North Borneo subgroup.

***cəRaʔuŋ ‘sunhat’**

| | |
|-----------------|--|
| Land Dayak | Sungkung <i>saʔukŋ</i> , Jangkang <i>soyuokŋ</i> , Sanggau <i>suyon</i> |
| Barito | Kapuas <i>sərauŋ</i> |
| Basap | Lebo <i>sərauŋ</i> |
| Melanau | Dalat <i>səyaʔu</i> |
| Kajang | Sekapan <i>siʔuʔ</i> , Kejaman <i>siʔuʔŋ</i> |
| Punan | Bah <i>saʔuʔŋ</i> , Ukit <i>cahuŋ</i> |
| Müller-Schwaner | Hovongan <i>cahuŋ</i> , Seputan <i>cahuŋ</i> |
| Kayanic | Ngorek <i>ahon</i> , Merap <i>hawʔ</i> , Long Naah <i>hon</i> , Data Dian <i>huŋ</i> , Balui Liko <i>haon</i> , Bahau <i>hon</i> |
| Kayan | W Penan <i>saon</i> , Lebo’ Vo’ <i>saʔon</i> , Uma Pawe <i>saʔon</i> , Lepo Gah <i>saʔon</i> , Lepo Tau <i>saʔon</i> |
| Dayic | Long Bawan <i>rauŋ</i> |
| B-LB | Narum <i>yaʔawŋ</i> , Long Jegan <i>sakiawŋ</i> |

A ‘sunhat’ is a large brimmed hat typically made of large leaves and rattan which was traditionally worn in Borneo to protect the wearer from the sun and rain, particularly while working in the fields. There is a single witness for this word in Barito; Kapuas *sərauŋ*, but this is ultimately a borrowing from a Malayic source where *R > *r, as Kapuas regularly reflects *R as *h*. After eliminating the Kapuas word, reflexes of *cəRaʔuŋ remain only in Greater North Borneo. A small number of other examples can be eliminated as borrowings; Jangkang *soyuokŋ* and Sanggau *suyon* are likely borrowings from Malayic, as *R > Proto-Land Dayak *h. But even after controlling for borrowing, Sungkung *saʔukŋ* appears to be a native Land Dayak word, and all other examples have regular sound correspondences.

| | | |
|---------------|---|--|
| *kəniw | > | *ñaRu ‘eagle’ |
| Melanau | | Mukah <i>ñau</i> , Kanowit <i>ñahəw</i> ‘large eagle’ |
| Kajang | | Lahanan <i>ñau</i> , Kejaman <i>ñau laŋit</i> |
| Punan | | Punan Tubu <i>ñaw</i> , Punan Bah <i>eñaw</i> , Punan Aput <i>ñoho</i> , Punan Lisum <i>ñoho</i> |
| Kayanic | | Ngorek <i>ñau</i> , Merap <i>ñau</i> , Long Naah <i>nihoʔ</i> , Balui Liko <i>ñahoʔ</i> , Long Gelat <i>ñəha</i> , Kelai <i>nhaʔ</i> |

Bulungan *ñaru*

Another word for ‘eagle’, *kəniw is retained in Kanowit, Müller-Schwaner, and Ukit. It is likely that *kəniw and *ñaru co-existed in PGNB, with slightly different meaning. Reflexes of both *kəniw and *ñaru are found in Kanowit, where *ñaru referred specifically to large eagles and *kəniw referred to smaller birds of prey, such as kites or hawks. The cover term ‘eagle’ is often employed to refer to both, as is the Indonesian *burung elang*. *ñaru was innovated as a reference to large birds of prey perhaps because of their status as omen birds.

***wati** > ***lati ‘earthworm’**

This is a similar change to that found in *ipəs > lipəs, where part of the *qali- prefix appears fused on the root.

***ikan** > ***ajən ‘fish’**

| | |
|-----------------|--|
| Basap | Segai Basap <i>ujən</i> , Tabalar Basap <i>ajən</i> |
| Barito | Kadorih <i>ocin</i> |
| Melanau | Kanowit <i>jən</i> |
| Kajang | Sekapan <i>jən</i> , Lahanan <i>jən</i> , Kejaman <i>jən</i> |
| Punan | Punan Lisum <i>ajən</i> , Ukit <i>ajən</i> , Buket <i>ajən</i> , Punan Aput <i>jen</i> |
| Müller-Schwaner | Hovongan <i>cien</i> , Kereho <i>ocen</i> , Seputan <i>ocen</i> , Aoheng <i>ocen</i> |
| Kayanic | Ngorek <i>sən</i> , Merap <i>can</i> |

This word is particularly difficult to pin down. It was shown above in section 3.2.1.2.2 that Kadorih *ocin* is a borrowing from a Müller-Schwaner source, so it can be thrown out for the purposes of subgrouping. The remaining valid witnesses are found in Central Sarawak plus Kayanic (Murik subgroup only) and Basap. Note, however, that Lebo Basap has *ikan, but this may be a borrowing, since other Basap languages do not.

PMP *? > ***gaduj ‘green’**

Malayic Kapuas Iban *gaduj*

| | |
|-----------------|--|
| Melanau | Matu <i>gadoŋ</i> , Sarikei <i>gadoŋ</i> , Dalat <i>gadoŋ</i> , Kanowit <i>gadoŋ</i> , Mukah <i>gaduəŋ</i> (metathesis) |
| Kajang | Sekapan <i>gaduə</i> ‘blue’ |
| Punan | Punan Bah <i>gaduəŋ</i> , Ukit <i>gadoŋ</i> ‘green or blue’ |
| Bintulu | <i>gadoŋ</i> |
| B-LB | Kiput <i>gaduə</i> , Long Terawan <i>gadoŋ</i> |
| Dusunic | Brunei Dusun <i>gadoŋ</i> , Sungai Kinabatangan <i>gadoŋ</i> , Dumpas <i>agadduŋ</i> |
| Paitanic | Sungai Beluran <i>əgadoŋ</i> , Kuamut <i>agadoŋ</i> |
| Tidung | Beng <i>agadoŋ</i> , Sumbol <i>na-gadoŋ</i> |
| Northeast Sabah | Idaan <i>gadduŋ</i> , Seguliud <i>gadduŋ</i> , Begak <i>gadduŋ</i> |

PGNB **gadoŋ* may have had the secondary reading of ‘blue’ as evidenced by the Punan and Kajang forms. There is no reconstructable term for ‘blue’, so the primary meaning of **gadoŋ* may have been “grue”, both blue and green. However, the large majority of reflexes specifically mean ‘green’, so the actual referent of the historical word remains open for debate. This word has a limited presence in the southern Philippines, which needs to be addressed. Reid (1971) lists apparent reflexes of **gadoŋ* in Samal *gadduŋ*, Sangil *gadoŋ*, and Tausug *gadduŋ*. Samal is a Sama-Bajaw language which Blust has placed in the Barito linkage. Sangil is a Philippine language spoken in far south Mindanao, and Tausug is a Philippine language of the Sulu archipelago. With only three witnesses in the southern-most areas of the Philippines, one Bornean and two Philippine, the Sangil and Tausug words are best analyzed as borrowings from Samal, or some other Sama-Bajaw language.

****kəlit* ‘small insectivorous bat’**

| | |
|-----------------|---|
| Melanau | Mukah <i>kəkəlit</i> , Dalat <i>kəlit</i> , Kanowit <i>kəkəlit</i> |
| Punan | Punan Bah <i>kakəlit</i> , Ukit <i>kolet</i> , Buket <i>kolet</i> |
| Müller-Schwaner | Hovongan <i>keret</i> , Kereho <i>koret</i> , Seputan <i>koret</i> , Aoheng <i>koret</i> |
| Kenyah | Sebop <i>kəlit</i> , W Penan <i>kəlit</i> , Lebo’ Vo’ <i>təkəlit</i> , Lepo Gah <i>təkəlit</i> , Lepo |
| Laang | <i>təkəlit</i> , Lepo Sawa <i>təkəlit</i> , Badeng <i>təkəlit</i> |
| Dayic | Long Semadoh <i>kəkəlit</i> , Long Bawan <i>kəlit</i> , Bario Kelabit <i>kəkəlit</i> |
| B-LB | Narum <i>halet</i> , Kiput <i>kəlet</i> , Long Jegan <i>kəlayc</i> |

The Dusunic forms must ultimately be borrowings from North Sarawak, as *kəlit is attested nowhere else in Sabah. However, *kəlit is attested in a range of Greater North Borneo languages, which justifies its reconstruction to PGNB.

***puʔan ‘squirrel’**

| | |
|--------|--|
| Kajang | Seputan <i>poʔan</i> , Kejaman <i>puʔan</i> , Lahanan <i>puʔan</i> |
| Kenyah | Sebop <i>puʔan</i> , E Penan <i>puʔan</i> , W Penan <i>puan</i> , Lebo’ Vo’ <i>puʔan</i> , Uma Pawe <i>puʔan</i> , Lepo Gah <i>puʔan</i> Lepo Laang <i>səpuʔan</i> , Lepo Sawa <i>səpuʔan</i> , |
| B-LB | Kiput <i>puiʔn</i> , Long Jegan <i>povan</i> , Long Terawan <i>pəban</i> |

PMP *buhət is absent in Borneo, although *tupay ‘tree shrew’ is well represented and was likely innovated in an ancestor to all languages of Borneo (see section 3.8). Kayanic languages reflect the PKAY innovation *təlis, Proto-Punan innovated *ukiʔ, and Müller-Schwaner borrowed PKAY *təlis as *tori*. As a result, the number of languages where *puʔan is attested is small. It is found in Kajang, Kenyah, Berawan-Lower Baram, Bintulu, and Dayic, or in North Sarawak plus Kajang. This chapter has identified two borrowing relationships involving Kajang; 1) Kajang-Kayan where Kajang languages, particularly Lahanan, borrowed directly from a Kayan source and 2) Kajang – Western Lowland Kenyah, where directionality is more difficult to determine, although generally it looks like WLKEN borrowed from Kajang. It’s thus reasonable to posit inheritance in the Kajang examples, given our understanding of Kajang’s borrowing relationships. Punan Bah also has *puʔan* ‘squirrel’ but this is much more likely a loan, since Proto-Punan innovated *ukiʔ, and because Punan Bah has clear evidence of contact-induced change from a Kajang source (chapter 2).

***kitan ‘binturong’**

| | |
|---------|---|
| Kayanic | Ngorek <i>ketan</i> , Merap <i>tĩʔ</i> , Long Naah <i>kitan</i> , Balui Liko <i>kitan</i> , Long Gelat <i>kətün</i> , Modang <i>kətin</i> , Gaai <i>tiʔn</i> , Kelai <i>ktin</i> |
| Punan | Punan Tubu <i>ketan</i> , Punan Bah <i>ketan</i> , Beketan <i>ketan</i> , Punan Lisum <i>ketan</i> , Punan Aput <i>ketan</i> , Ukit <i>ketan</i> , Buket <i>ketan</i> |

| | |
|-----------------|--|
| Müller-Schwaner | Hovongan <i>kitan</i> , Kereho <i>kitan</i> , Seputan <i>kitan</i> , Aoheng <i>kitan</i> |
| Kenyah | Uma' Pawe <i>kitan</i> , Lepo Gah <i>kitan</i> , Lepo Laang <i>kitan</i> , Lepo Sawa <i>kitan</i> , Lepo Tau <i>kitan</i> , Badung <i>ketan</i> |

Although it is possible that this word is a borrowing from one of the many subgroups in central Borneo, its reflexes are regular and the fact that it is not attested in Sabah is only due to a lack of data for that area.

***təməduR ‘rhinoceros’**

| | |
|-----------------|--|
| Kayanic | Data Dian <i>tamdoh</i> , Balui Liko <i>təmədoh</i> |
| Kajang | Sekapan <i>təməru</i> , Kejaman <i>təməru</i> , Lahanan <i>təməru</i> |
| Punan | Beketan <i>təmaru</i> , Punan Lisum <i>təmaro</i> , Punan Aput <i>təmaru</i> , Ukit <i>təmaru</i> |
| Müller-Schwaner | Hovongan <i>tomora</i> , Kereho <i>tomora</i> , Seputan <i>tomora</i> |
| Kenyah | E Penan <i>təmədo</i> , W Penan <i>təmədu</i> , Lepo Tau <i>təməto</i> |
| Bintulu | <i>təmədū</i> |
| Dayic | Long Semadoh <i>təməd^hur</i> , Pa' Dalih <i>təməs^ur</i> , Long Lellang <i>təməd^hur</i> , Long Bawan <i>kəməs^ur</i> , Bario Kelabit <i>təməd^hur</i> |
| B-LB | Kiput <i>təməs^u</i> , Long Jegan <i>təməcu</i> , Long Terawan <i>təməcu</i> |

***kadis ‘grasshopper’**

| | |
|------------|---|
| Kenyah | Sebop <i>kare</i> , Lebo' Vo' <i>kare</i> |
| B-LB | Kiput <i>kələdəy?</i> , Long Terawan <i>kare?</i> |
| Kajang | Sekapan <i>təkarəy</i> , Kejaman <i>kəlarəy</i> |
| Land Dayak | Hliboi <i>kadis</i> , Sungkung <i>kadih</i> , Golik <i>səjkadis</i> |

Figure 80

Summary of expanded Greater North Borneo lexical evidence (31 in total)

| | |
|------------------------|--------------------------------|
| *ajən ‘fish’ | CS, KAY |
| *ñaRu ‘eagle’ | CS, KAY, Bulungan |
| *cəRaʔuŋ ‘sunhat’ | CS, KAY, LD, NS |
| *tujuʔ ‘seven’ | CS, KAY, LD, MAL, NES, NS, SWS |
| *kuini ‘mango species’ | CS, KAY, LD, MAL, NS |

| | |
|--------------------------------|--------------------------------|
| *saʔay ‘frog’ | CS, KAY, LD, NES, NS, SWS |
| *lipəs ‘cockroach’ | CS, KAY, MAL, NES, NS, SWS |
| *sakay ‘stranger’ | CS, KAY, MAL, NS |
| *labi ‘soft shelled turtle’ | CS, KAY, MAL, NS, SWS |
| *tukul ‘hammer’ | CS, KAY, MAL, NS, SWS (BARITO) |
| *saʔup ‘parang handle’ | CS, KAY, NS |
| *kuyad ‘long-tailed macaque’ | CS, KAY, NS |
| *təmədur ‘rhinoceros’ | CS, KAY, NS |
| *kitan ‘binturong’ | CS, KAY, NS |
| *gadun ‘grue’ | CS, MAL, NES, NS, SWS |
| *dəmək ‘blowpipe dart’ | CS, MAL, SWS |
| *kadis ‘grasshopper’ | CS, NS, LD |
| *puʔan ‘squirrel’ | CS, NS |
| *kəlit ‘small bat’ | CS, NS |
| *damək ‘blowpipe dart’ | CS, MAL, SWS |
| *təgap ‘firm; sturdy’ | KAY, LD, MAL, NS, SWS |
| *lamin ‘room of a house’ | KAY, LD, MAL, NS, SWS |
| *kuju ‘heron’ | KAY, MAL, NS, SWS |
| *lunək ‘soft; mushy’ | LD, MAL, NS, SWS |
| *sulap ‘temporary shelter’ | LD, MAL, SWS |
| *ambay ‘sweetheart’ | LD, MAL, SWS |
| *alud ‘canoe’ | LD, NES, NS, SWS |
| *tikus ‘rat’ | MAL, NES, SWS |
| *guan ‘heart; desire’ | MAL, NES, SWS |
| *lanʔkaw ‘large temp. shelter’ | MAL, SWS |
| *kəraʔ ‘long-tailed macaque’ | MAL, SWS |

3.6.3 Phonological evidence

The single most important piece of phonological evidence for a Greater North Borneo group is the innovation of a support vowel at the beginning of monosyllabic words. These support vowels appear in initial position on historically disyllabic words which underwent

monosyllabification in Pre-GNB. Support vowels served a specific function; to make monosyllabic content words conform to a Proto-Austronesian preference for disyllabicity. The most widespread example is found in the word for ‘head hair’, PMP *buhək, which underwent the following series of sound changes *buhək > *buək > *buk > PGNB *əbbuk and is reflected with an initial support vowel in PLD *abuk, PNS *əb^huk, PNES *əb^huk, PSWS *əbbuk, and PPUN-MÜL *ivuk. The Punan and Müller-Schwaner word may be secondary, but the presence of a support vowel in Land Dayak suggests this is a GNB innovation. Reflexes of PMP *bahaq ‘flood’ provide a second widely attested example of support vowel innovation, PLD *abaʔ, PNS *əb^haʔ, and PPUN *ivaʔ.

3.6.4 Internal subgrouping of Greater North Borneo

The following internal classification of Greater North Borneo is supported by the long list of lexical and phonological evidence presented above, after controlling for borrowing, chance, and the presence of near-cognates. The tree does not differ dramatically from that proposed in Blust (2010), except for the addition of a Central Sarawak subgroup, and an overall improvement in the robustness of the GNB argument as the result of larger data sets.

Figure 81

Greater North Borneo internal subgrouping

GREATER NORTH BORNEO

1. NORTH BORNEO

a. Northeast Sabah

Bonggi

Idaanic

b. Southwest Sabah

Dusunic

Murutic

c. North Sarawak

Bintulu

Berawan-Lower Baram

Dayic

Kenyah

2. CENTRAL SARAWAK

- a. Melanau
- b. Punan
- c. Kajang
- d. Müller-Schwaner

3. KAYANIC

- a. Kayan-Murik-Merap
 - i. Kayan
 - ii. Murik-Merap
- b. Segai-Modang
 - i. Segai
 - ii. Modang

4. LAND DAYAK

- a. Benyadu-Bekati
- b. Bidayuh-Southern Land Dayak

5. MALAYIC

- a. West Bornean Malayic
- b. *Other Malayic*

3.7 The position of Basap, Tunjung, Barito, and other languages of eastern Borneo

A certain peculiarity exists in Borneo regarding the distribution of subgroups, namely, the north and west coasts facing the South China Sea are home to several large subgroups, including South West Sabah, North Sarawak, Central Sarawak, Land Dayak, and Malayic while the eastern coast, which faces the Makassar Strait and the Java sea, lacks larger subgroups other than the Barito linkage. Most of eastern Borneo, as it were, is home to languages which have either migrated from the western areas, namely Kelabit and Lun Dayeh, Punan, Müller-Schwaner, Kenyah, or the many Southwest Sabahan languages, or languages which migrated from the central highlands, as is the case with Kayanic. East Kalimantan is, however, home to a single small subgroup with no clear subgrouping relationship to any other language on Borneo; Basap.

The main aim of this section is to identify and evaluate lexical evidence which might provide clues into the history of Basap. This involves searching the vocabularies of other languages of eastern Borneo, particularly NE Sabah and Barito, for signs of contact. NE Sabah and Barito play an important role in this, as they are the only other subgroups that seem to be native to this part of Borneo; i.e. they did not migrate from western Borneo.

3.7.1 Basap and Northeast Sabah?

Blust (2010) proposed 19 lexical innovations which define the Northeast Sabah subgroup. This is the best place to start when searching for lexical similarities, as matches between NE Sabah lexical innovations and Basap would imply a genetic relationship. As the list below makes clear, however, no such evidence exists:

Figure 82

Lack of evidence placing Basap in NES

| | | | |
|---------------------------------|----------------|--------------------------|----------------|
| *əpi? ‘hand’ | - Not in Basap | *suək ‘enter’ | - Not in Basap |
| *səd ^h əŋ ‘shoulder’ | - Not in Basap | *taməŋ ‘parent-in-law’ | - Not in Basap |
| *m-əg ^h ət ‘to hold’ | - Not in Basap | *tinduru? ‘index finger’ | - Not in Basap |
| *sikut ‘rat’ | - Not in Basap | *gəlu ‘pestle’ | - Not in Basap |
| *inak ‘fat; grease’ | - Not in Basap | *biag ‘full of food’ | - Not in Basap |
| *ulaŋ ‘snake’ | - Not in Basap | *tuka? ‘grasshopper’ | - Not in Basap |
| *kaba? ‘crab’ | - Not in Basap | *səra? ‘mat’ | - Not in Basap |
| *sidu ‘urine’ | - Not in Basap | *li?id ‘to look for’ | - Not in Basap |
| *sədun ‘hiccup’ | - Not in Basap | *tula? ‘criticize’ | - Not in Basap |

3.7.2 Basap and Greater North Borneo?

Compared to Northeast Sabah, there is much more evidence placing Basap in at least Greater North Borneo. Note that Blust’s original 2010 list of GNB innovations was modified and expanded in previous sections of this work. Some of the proposed GNB innovations in Blust (2010) with matching forms in Basap are thus not included here, as the original proposals have

been rejected or reinterpreted as evidence for an earlier proto-language which includes all of the languages of Borneo. In all, six lexical innovations support placing Basap in GNB:

Figure 83

Lexical evidence supporting placing Basap in GNB

| | |
|-------------------------------|--------------------------|
| *tuzuq ‘seven’ | Lebo <i>tujoʔ</i> |
| *saʔay ‘frog with loud croak’ | Lebo <i>sai</i> |
| *alud ‘canoe’ | Lebo <i>alun</i> |
| *lipəs ‘cockroach’ | Lebo <i>lepəs</i> |
| *tukul ‘hammer’ | Segai Basap <i>tukul</i> |
| *cəRaʔuŋ ‘sunhat’ | Lebo <i>sərauŋ</i> |

Figure 84

Apparent GNB innovations which are absent in Basap

| | |
|------------------------------|-----------------------------|
| *tikus ‘rat’ | *sulap ‘hut’ |
| *labi ‘soft shelled turtle’ | *kuju ‘heron’ |
| *kəraq ‘long-tailed macaque’ | *təgap ‘firm; sturdy’ |
| *damək ‘blowpipe dart’ | *laŋkaw ‘temporary shelter’ |
| *lunək ‘soft; mushy’ | *guanŋ ‘heart (emotional)’ |
| *lamin ‘room of a house’ | |

Figure 85

Evidence of a more remote ancestor than GNB, which includes Basap evidence

| | |
|-----------------------|-------------------|
| *kubuŋ ‘flying lemur’ | Lebo <i>kubuŋ</i> |
| *tiuŋ ‘hill myna’ | Lebo <i>tioŋ</i> |
| *butbut ‘coucal’ | Lebo <i>bubut</i> |

At face value, then, it appears that Basap belongs to Greater North Borneo, although there is no clear subgrouping relationship between Basap and any other branch of GNB. As the following sections make clear, however, the history of Basap is not so straightforward, and great care must be taken to ensure that the evidence of Basap’s ultimate position be interpreted correctly.

3.7.3 The larger history of Basap

Although it is true that there is evidence for placing Basap within GNB, there are also some intriguing lexical innovations that appear to be shared between either Basap and Tunjung, or between Basap and Barito. Basap-Barito shared lexical innovations are difficult to explain, as there is considerable distance between the two groups and no known history of contact. The sound correspondences between the forms are largely regular, and there is no evidence, other than implausibility, that the forms are not directly inherited. The full list of Basap lexical innovations which link Basap to other groups, is given below. Note that there is a single word found between Barito, Basap, and Paitanic, but this is almost certainly the result of contact. I have listed it below for completeness.

3.7.3.1 Basap-Tunjung

The following list of lexical replacement innovations are found exclusively between Basap and Tunjung. Tunjung is a unique language within the Barito linkage, so much so that Hudson (1967) placed it in its own subgroup. It is also the most easterly Barito language, spoken along the Mahakam River. Geographically it is the closest Barito language to Basap, which might explain the number of lexical similarities.

| | | |
|-------------|---|-----------------|
| *walu | > | *kaluŋ ‘eight’ |
| Lebo | | <i>kalon</i> |
| Segai Basap | | <i>kalon</i> |
| Batu Putih | | <i>kalon</i> |
| Tunjung | | <i>kalukŋ</i> |
| | | |
| *kuñiw/ñāRu | > | *bunia? ‘eagle’ |
| Lebo | | <i>bunia?</i> |
| Tunjung | | <i>bənia</i> |

| | | |
|-------------|---|-------------------|
| *qinəp | > | *tidiʔ ‘lie down’ |
| Lebo | | <i>tideʔ</i> |
| Tunjung | | <i>tiriʔ</i> |
| | | |
| *baŋun | > | *pukaw ‘wake up’ |
| Segai Basap | | <i>pukaw</i> |
| Tunjung | | <i>pokaw</i> |

Although the data is limited, it is of rather high quality. The sound correspondences between Tunjung and Basap are also regular, which makes analyzing this material difficult. There are four innovations, *kaluŋ ‘eight’, *buniaʔ ‘eagle’, *tidiʔ ‘lie down’ and *pukaw ‘wake up’. They are basic vocabulary items, and one would have to imagine an intense contact situation in order for these words to be borrowed. To complicate matters, there are only six lexical innovations that define Greater North Borneo which are also found in Basap, *tuzuq ‘seven’, *saʔay ‘frog with loud croak’, *alud ‘canoe’, *lipəs ‘cockroach’, *tukul ‘hammer’ and *cəRaʔuŋ ‘sunhat’. Of these, *tuzuq ‘seven’ has been widely borrowed, and Tunjung also reflects *tuzuq as ‘seven’, *tucuʔ*. So the question then becomes, which set should be given more weight? The four lexical innovations exclusively shared between Basap and Tunjung; two languages with no known history of contact? Or the six Greater North Borneo lexical innovations found in Basap, one of which is known to have been widely borrowed outside of GNB? The following section, which highlights shared lexicon between Basap and Barito as a whole may shed some light on this puzzle.

3.7.3.2 Basap-Barito lexical innovations

| | | |
|-------------|---|-------------------------------------|
| *hawak | > | *kaRaŋ ‘waist’ |
| Lebo | | <i>karaŋ</i> |
| Segai Basap | | <i>kahaŋ</i> |
| Tunjung | | <i>kahakŋ</i> |
| Bakumpai | | <i>kahaŋ</i> |
| Kapuas | | <i>kahaŋ</i> |
| Ngaju | | <i>kahaŋ</i> |
| Kadorih | | <i>kahaŋ</i> |
| - | | *udut ‘cigarette’/ŋ-udut ‘to smoke’ |
| Lebo | | <i>ŋ-udut</i> |
| Tunjung | | <i>udut</i> |
| Maanyan | | <i>udut</i> |
| Dusun Witu | | <i>udut</i> |

The Barito data is irregular here, as *-d- should have become *-r-. As such this word is not considered when forming a subgrouping hypothesis.

| | | |
|---------------|---|----------------|
| *jipən | > | *kəsɪŋ ‘tooth’ |
| Segai Basap | | <i>kəsɪŋ</i> |
| Tabalar Basap | | <i>kəsɪŋ</i> |
| Tunjung | | <i>kəsɪkŋ</i> |
| Kadorih | | <i>kosɪŋ</i> |
| Ngaju | | <i>kasiŋa?</i> |
| Kapuas | | <i>kəsiŋe?</i> |

This word does not have much subgrouping value as *PWIN *jipən is retained in Maanyan and Dusun Witu *dipen*. Taboyan and closely related dialects reflect *kukut, so *kəsɪŋ is only found in eastern Barito languages, Tunjung, and Basap. One may appeal to the linkage model as an

explanation for its distribution; i.e. it spread through several but not all languages in the linkage from an eastern Barito center of dispersal.

| | | |
|-----------|---|-------------------------|
| *ma-Raqan | > | *mə-Rian ‘light weight’ |
| Lebo | | <i>rean</i> |
| Paser | | <i>mean</i> |
| Kapuas | | <i>məhian</i> |
| Ngaju | | <i>mahian</i> |
| Kadorih | | <i>mahian</i> |

The connection between modern forms is not obvious. *R > *r* in Lebo Basap, and the form above appears without the *ma- sative prefix. Paser reflects *-R- as *y*, so *məRian > *məyian > *məian > *mean*. In eastern Barito languages *R > *h*, and the modern forms are thus more transparent.

| | | |
|---------------|---|-------------------|
| *pagi | > | *dilaw ‘tomorrow’ |
| Lebo | | <i>dilo</i> |
| Segai Basap | | <i>dilaw</i> |
| Tabalar Basap | | <i>dilaw</i> |
| Batu Putih | | <i>dilaw</i> |
| Tunjung | | <i>dilaw</i> |
| Paser | | <i>dilo</i> |

| | | |
|---------|---|----------------|
| saləR | > | *dasəR ‘floor’ |
| Lebo | | <i>dasar</i> |
| Benuaq | | <i>dasay</i> |
| Taboyan | | <i>dasəy</i> |
| Bentian | | <i>dasəy</i> |

| | | |
|----------------|---|--------------------|
| *bahaR, *tapis | > | *bilat ‘loincloth’ |
| Lebo | | <i>bilat</i> |
| Segai Basap | | <i>bilat</i> |

| | |
|---------------|--------------|
| Tabalar Basap | <i>bilat</i> |
| Batu Putih | <i>bilat</i> |
| Tunjung | <i>bələt</i> |
| Benuaq | <i>belet</i> |
| Taboyan | <i>belet</i> |
| Bentian | <i>belet</i> |

The vowel correspondences in this word are irregular, which is a likely indication that the word was borrowed. It's not clear, however, under what circumstances the word for 'loincloth' would be borrowed in the first place. Note that Bailey (1963) lists Sru Dayak *bilat* 'loincloth'. How the Basap word for loincloth came into a language on the other side of the island is unclear. In chapter two Sru was classified as a Punan dialect because of a large shared lexicon. This word will likely remain a mystery for some time. At any rate, it is not a strong piece of Basap-Barito evidence.

| | |
|---------|-------------------|
| | *pəmbakal 'chief' |
| Lebo | <i>pəmbakal</i> |
| Paser | <i>pəmbakal</i> |
| Taboyan | <i>pəmbakal</i> |

3.7.3.3 Some residual lexical items connecting Basap to various other subgroups in Borneo

In addition to the Basap-Barito data presented above, there are several lexemes found exclusively between Basap and other subgroups in Borneo. None of the following data is strong evidence for a subgrouping argument. It should only be interpreted in one of two ways; 1) the data shows contact between Basap and various other groups of Borneo or 2) Basap is a witness for retentions from a proto-language which would otherwise have gone unnoticed had Basap data not been gathered. A single lexical item is found only in Barito, Basap, and Southwest Sabah, *pəmpulu 'bird':

| | |
|-----------------------|--|
| *manuk-manuk ‘bird’ > | *pəmpulu |
| Basap | Lebo <i>pəmpulu</i> , Segai Basap <i>pəmpulo</i> , Tabalar Basap <i>mpulu</i> |
| Barito | Tunjung <i>əmpulu?</i> , Benuaq <i>pəpulu?</i> , Paser <i>təmpulu?</i> , Taboyan <i>pəmpulu?</i> |
| Paitanic | Sungai Beluran <i>pumpulu</i> , Lobo <i>pumpulu</i> , Kuamut <i>pampulu</i> |
| Murutic/Tidung | Bulusu <i>pumpulu</i> , Tidung Malinau <i>pəmpulu</i> , Tidung Kalabakang <i>pəmpulu</i> |

*pəmpulu is reconstructable to Proto-Paitanic, but no other subgroup in Sabah, which suggests a specific history of contact between Basap and Proto-Paitanic. It’s not clear where this contact might have taken place, since Paitanic languages are not located near any Basap groups. It could have entered Basap through Bulusu or Tidung, which are located closer to Basap than any other Sabahan language, but it is still unclear how it could have made its way all the way into Barito languages. This word may ultimately be a retention from an earlier proto-language. Western-Indonesian is the only common ancestor to all of these languages, but it is troublesome that this word is found nowhere in the numerous languages of western Borneo where *manuk is retained.

A few examples of lexical items shared exclusively between Basap and various other subgroups shows that the Basap have been under wide influences from languages spanning the entirety of the island. Data for reconstructions in figure 86 are in the appendix.

Figure 86

Residual lexical innovations between Basap and other Bornean languages

| | |
|---------------------|---|
| *uŋan ‘body’ | Found only in Basap and Land Dayak |
| *gəsaŋ ‘to sweat’ | Found only in Basap and Northeast Sabah |
| *liŋati ‘earthworm’ | Found only in Basap and Northeast Sabah |
| *jali? ‘floor mat’ | Found only in Basap and Central Sarawak |
| *taRup ‘evening’ | Found only in Basap and Kenyah |

3.7.3.4 The Basap-Barito connection

There can be no doubt that the lexical data above suggests a shared history between Basap and Barito. However, it is not so clear what the nature of that history was. It may be that these two groups share a common ancestor, but it may also be that the Barito linkage and Basap were at one point adjacent. Under those circumstances, contact explains the lexical similarities. The most critical task is to determine whether these similarities are, beyond a reasonable doubt, more likely to be the product of inheritance than borrowing. All known evidence linking Barito and Basap is given in figure 87 Below.

Figure 87

Basap-Barito lexical innovations

Basap-Tunjung

- *kaluŋ ‘eight’
- *buniaʔ ‘eagle’
- *tidiʔ ‘lie down’
- *pukaw ‘wake up’

Basap-Barito

- *kaRaŋ ‘waist’
- *kəsiŋ ‘tooth’
- *mə-Rian ‘light weight’
- *dilaw ‘tomorrow’
- *dasəR ‘floor’

The list of exclusively shared lexical innovations linking Basap with Barito is greater than the list linking Basap with Greater North Borneo, but both lists contain very basic vocabulary and are thus of similar quality. The situation would be different if the Basap-Barito evidence contained mass irregularities, or if it were composed of pan-Bornean near-cognates, or if clear signs of borrowing were identifiable in the phonology, but the sound correspondences between Basap and Barito in the ten exclusive innovations listed above are regular. Regularity does not rule out borrowing, since the phonologies of the languages where borrowing took place could have been nearly identical. However, it is impossible to make a precise judgement with the above data, as a lack of evidence for borrowing (negative evidence) is not in itself evidence for inheritance.

What remains is a sort of double bind, where bodies can be presented which supports either placing Basap in GNB or in Barito. Both pieces of evidence are valid, but because of the primary distinction between Barito and GNB, Basap cannot be both a GNB and Barito language, it can only be one or the other. In order to reach a decision on this, extra-linguistic factors need to be considered. 1) Basap is currently surrounded by GNB languages, including North Sarawak languages, Kayanic languages, and Tidung (SWS). 2) Basap is currently quite a distance from Barito languages, and it is unclear what kind of history of contact Basap has had with Barito, 3) even if Basap were part of the Barito linkage, it is impossible to point to any single sound change which would support this, because as a linkage, there is no single sound change which unites all Barito languages.

Other attempts have been made to subgroup Basap. Hudson (1978) lists four pieces of lexical evidence for linking Basap with languages to the west in his Rejang-Sajau subgroup; *jani ‘bird’, *asay ‘snake’, *basu ‘mountain’, and *buña? ‘white’. All of this data, however, appears to have been assigned to Basap in error. Each word is analyzed below:

*jani ‘bird’. I did not record reflexes of *jani in Basap. This word is restricted to Sajau, a Punan dialect. *jani is reflected in Punan Bah and Punan Tubu, which argues for subgrouping Sajau with those Punan dialects. It has no bearing on the subgrouping of Basap.

*asay ‘snake’. This is a Punan innovation, and Hudson was made to believe that this is also a Basap word because of the common confusion of Sajau and Basap. Sajau is a Punan dialect so this word has no bearing on the subgrouping of Basap. Basap languages reflect PMP *təduŋ ‘snake’, a retention.

*basu ‘mountain’. I did not record *basu, instead, a Basap innovation *dulun, was recorded in all dialects. This word thus has no impact on Basap subgrouping.

*buña? ‘white’. I did not record reflexes of *buña? in Basap, but even so, *buña? should be considered part of the near-cognate set for ‘white’ which includes *buRak, *buda?, and *puRak. It thus has no value as subgrouping evidence, as near-cognates are fundamentally incompatible due to irregular sound correspondences.

After considering the evidence, and the facts about Basap’s geographical position and the languages which currently surround it, it seems appropriate to place more weight on the Basap-Barito evidence than the Basap-GNB evidence. This implies that the GNB words in Basap are borrowings. While keeping in mind the classification of Barito as a linkage, the relationship between Basap and Barito must be both ancient and distant. It would be inappropriate to propose a discrete Basap-Barito subgroup, but at the same time, it does appear that Basap and Barito have more in common with each other than either does to GNB. Also, half of the proposed lexical innovations are found between only Basap and Tunjung, but still others are found between Basap, Tunjung, and other Barito languages, or between Basap and Barito languages excluding Tunjung. Thus, I propose placing Basap and Barito outside of GNB, with an equidistant relationship to one another as part of an ancient dialect network that stretched between the Barito River to the south and up towards the mouths of the Kayan and Sesayap rivers in North Kalimantan. This dialect network should be referred to as the Basap-Greater Barito linkage. It is fully expected that this proposal will be challenged or altered as evidence for Basap becomes more widely available, but given the realities of where Basap is located and the quality of Basap-Barito lexical innovations, there is currently no strong alternative. This has been the most difficult subgrouping challenge in this dissertation, and it promises to be a topic of debate and disagreement for some time.

3.8 Revisiting Blust's Western Indonesian hypothesis

One of the most interesting hypotheses of Blust (2010) is the Western Indonesian group, which contains all the languages of Borneo, plus languages of western Indonesia outside of Sulawesi. The evidence for such a group is again entirely lexical. The general hypothesis is that a single community of MP speakers entered Borneo through Palawan, and it was this first group that encountered the flora and fauna of Borneo and was responsible for naming plants and animals which did not exist in the Philippines. The implications of a Western Indonesian subgroup cannot be overstated. As more evidence is gathered supporting Western Indonesian, it has become increasingly clear that all of Borneo was settled by the descendants of a single Austronesian language. The following list contains all of the lexical evidence in Blust (2010) supporting a Western Indonesian subgroup. The list itself is fairly small, but as will be made clear in the rest of this section, Western Indonesian is much more robustly supported than originally thought:

Figure 88

Western Indonesian lexical evidence (Blust 2010)

| | | |
|--------------------------|---|--|
| *naŋa 'river mouth' | > | *əlunŋ 'river mouth; estuary' |
| *qazay 'chin; jaw' | > | *jaʔa 'chin; jaw' |
| *wahiR 'water; river' | > | *suŋay 'river' (possibly referring to streams and tributaries) |
| *buhət 'squirrel' | > | *buhEt 'squirrel'/*tupay 'tree shrew' |
| *buaq 'fruit; betel nut' | > | *pinaŋ 'betel nut' |
| - | > | *biRuŋ 'sun bear' |
| - | > | *kəlabət 'gibbon' |
| - | > | *bəduk/*bəRuk 'pig-tailed macaque' |
| - | > | *dəŋən 'river otter' |
| - | > | *pəlanuk 'mousedeer' |
| - | > | *kəjut 'surprised; started' |
| - | > | *duRian 'durian' |

3.8.1 Additional evidence for Western Indonesian

While Blust's original list of evidence for Western Indonesian wasn't as robust as one might hope for the type of argument he was developing, additional research has only uncovered more support for the original hypothesis that Borneo (and islands to the west) were settled by the descendants of a group that spoke a single language, PWIN. This additional evidence is listed below, and a full list of WIN evidence is presented at the end of the section.

***kəɫasi 'red-leaf monkey'**

| | |
|------------|---|
| Malayic | Ketapang <i>kəɫasi</i> , Keninjal <i>kəɫasi</i> , Seberuang <i>kəɫasəy</i> |
| Land Dayak | Ribun <i>kəɫasi</i> (loan) |
| Barito | Ngaju <i>kəɫasi</i> , Maanyan <i>kəɫahi</i> |
| Basap | Lebo <i>kəɫasi</i> |
| Kayanic | Ngorek <i>kəɫasi</i> , Busang <i>haseʔ</i> , Long Gelat <i>kənsaɕ</i> , Gaai <i>kalsay</i> , Kelai <i>kəlsay</i> |
| Punan | Punan Bah <i>kəɫəlasey</i> |
| Kenyah | E Penan <i>kəɫasi</i> , W Penan <i>kəɫasi</i> , Lebo' Vo' <i>kəɫasi</i> , Lepo Gah <i>kəɫasi</i> , Lepo Laang <i>kəɫasi</i> , Lepo Sawa <i>kəɫasi</i> , Badeng <i>kəɫasi</i> |
| Dayic | Long Lellang <i>kəɫasih</i> |

The red-leaf monkey is physically similar to the silver leaf monkey, but has a maroon colored coat. The word *kəɫasi is widely distributed in languages where primary data are available. In Sabah, Lobel (2016) does not contain 'red-leaf monkey', but even without Sabahan evidence, it can be reconstructed to Western Indonesian. The only Land Dayak witness that I recorded, Ribun *kəɫasi*, is an apparent Malayic borrowing as *l failed to become *h*.

***puRaʔ 'crab'**

| | |
|---------|---|
| Basap | Lebo <i>puraʔ</i> |
| Barito | Tunjung <i>puhaʔ</i> , Benuaq <i>puya</i> , Taboyan <i>puya</i> , Maanyan <i>puya</i> , Dusun Witu <i>puya</i> |
| Dusunic | Kujau <i>puhaʔ</i> , Minokok <i>puaʔ</i> , Dusun Talantang <i>puaʔ</i> , Dumpas <i>puaʔ</i> |

once more prevalent. Note that Blust and Trussel (ongoing) list Idaan *kənnuy*, Abai Sembuak *kanuy*, Bisaya Limbang *kanuy*, Tagol Murut *kanduy*, and Lun Dayeh (Long Semadoh) *kənu* as near cognate with Tagalog *banoy*, but these forms are only similar because of sporadic changes of *-iw to *-uy, a common feature of Austronesian languages. The wider picture supports *kəniw.

***ukəd ‘western tarsier’**

| | |
|------------|--|
| Land Dayak | Hliboi <i>koəd</i> , Sungkung <i>ə^hkəd</i> , Golik <i>ɲkət</i> , Jangkang <i>ɲkut</i> |
| Barito | Taboyan <i>ukər</i> , Benuaq <i>ukar</i> , Tunjung <i>ukər</i> , Bentian <i>ukər</i> |
| Melanau | Dalat <i>ukəd</i> , Kanowit <i>ukət</i> |
| Kajang | Sekapan <i>kət</i> , Kejaman <i>kət</i> , Lahanan <i>kət</i> |
| Punan | Tubu <i>iket</i> , Bah <i>iket</i> , Beketan <i>iket</i> , Lisum <i>iket</i> , Ukit <i>ikət</i> |
| Kenyah | W Penan <i>kət</i> , Lebo’ Vo’ <i>kət</i> , Lepo Gah <i>kət</i> , Lepo Tau <i>kət</i> |

The Western Tarsier (*Cephalopachus bancanus*) is found only on Borneo, southern Sumatra, and adjacent off-shore islands. It is not found in the Philippines or Taiwan and therefore was initially encountered by Austronesian speaking peoples upon first arrival in northern Borneo. There is no Sabahan evidence for *ukəd, but this is due to a lack of overall data.

***təlaʔus ‘barking deer’**

| | |
|-----------------|---|
| Barito | Kadorih <i>tarouyh</i> , Taboyan <i>təlawus</i> , Paser <i>təlaus</i> , Benuaq <i>təlaus</i> , Tunjung <i>təlauh</i> |
| Basap | Tabalar <i>təlaʔos</i> , Segai <i>təlaus</i> , Batu Putih <i>təʔus</i> |
| Kayanic | Ngorek <i>təlaʔoh</i> , Merap <i>klaʔawh</i> , Long Naah <i>təlaʔuh</i> , Data Dian <i>təlaʔuh</i> Balui Liko <i>təlaʔu</i> , Busang <i>təluʔu</i> , Bahau <i>təʔoh</i> , Long Gelat <i>uh</i> , Modang <i>oʔh</i> , Kelai <i>vs</i> |
| Kajang | Sekapan <i>təlaʔu</i> , Kejaman <i>təlaʔu</i> , Lahanan <i>təlaʔu</i> |
| Punan | Tubu <i>təlauʔ</i> , Bah <i>təlouʔ</i> , Beketan <i>təlahuʔ</i> , Lisum <i>təlahuʔ</i> , Aput <i>təlauʔ</i> Ukit <i>təlahuʔ</i> , Buket <i>təlahuʔ</i> |
| Müller-Schwaner | Kereho <i>taaʔu</i> , Seputan <i>toraʔu</i> , Aoheng <i>təraʔu</i> |

| | |
|--------|---|
| Kenyah | Sebop <i>təlaʔo</i> , W Penan <i>təlau</i> , Lebo' Vo' <i>təlaʔo</i> , Lepo Gah <i>təlaʔo</i> , Lepo Sawa <i>təlaʔo</i> , Lepo Tau <i>təlaʔo</i> , Badeng <i>təlaʔo</i> |
| Dayic | Long Semadoh <i>təlao</i> , Long Bawan <i>təlau</i> , Bario <i>təlaʔo</i> |
| B-L B | Miri <i>təlaʔaw</i> , Narum <i>təlaʔaw</i> , Kiput <i>təlaaw</i> , Long Jegan <i>təlaʔo</i> , Long Terawan <i>təlao</i> |

The barking deer (*Muntiacus*) has a wide distribution in Southeast Asia. PAN *sakəC, which is reconstructed using only Formosan evidence, supports the inference that the barking deer was known throughout Taiwan to PAN speaking peoples. The deer is not, however, found in the Philippines and speakers of PMP apparently lost the PAN word before re-encountering the barking deer in Borneo.

***kuliR ‘clouded leopard’**

| | |
|-----------------|--|
| Barito | Ngaju <i>kulih</i> , Kapuas <i>kuleh</i> , Maanyan <i>kuli</i> , Dusun Witu <i>kuli</i> , Taboyan <i>kuli</i> , Paser <i>kuli</i> , Benuaq <i>kuli</i> , Tunjung <i>kuleh</i> |
| Kayanic | Ngorek <i>koleh</i> , Merap <i>kluyh</i> , Long Naah <i>kuleh</i> , Data Dian <i>kuleh</i> , Balui Liko <i>kuleh</i> , Busang <i>kuleh</i> , Bahau <i>kuleh</i> , Long Gelat <i>kəleh</i> , Modang <i>kəlih</i> , Gaaï <i>kleh</i> , Kelai <i>kleh</i> |
| Melanau | Kanowit <i>kuli</i> |
| Kajang | Sekapan <i>kuʔi</i> , Kejaman <i>kuʔi</i> , Lahanan <i>kuʔi</i> |
| Punan | Tubu <i>kuli</i> , Bah <i>kuli</i> , Beketan <i>kuʔi</i> , Lisum <i>kuʔi</i> , Aput <i>kuʔi</i> , Ukit <i>kuli</i> , Buket <i>kuli</i> |
| Müller-Schwaner | Hovongan <i>kuri</i> , Kereho <i>kuri</i> , Seputan <i>kuri</i> , Aoheng <i>kuri</i> |
| Kenyah | W Penan <i>kuli</i> , Lebo' Vo' <i>kule</i> , Uma Pawe <i>kule</i> , Lepo Gah <i>kule</i> , Lepo Laang <i>kule</i> , Lepo Sawa <i>kule</i> , Lepo Tau <i>kule</i> , Badeng <i>kole</i> |
| Dayic | Pa' Dalih <i>kuir</i> , Long Bawan <i>kuir</i> |
| B-LB | Kiput <i>kulay</i> |

The clouded leopard (*Neofelis*), like the barking deer, has a wide distribution in Southeast Asia and was known to PAN speaking peoples (PAN *lukəNaw). It too is not found in the Philippines and the PAN word was lost by PMP speakers before they moved into northern Borneo.

***kəRiw ‘orangutan’**

| | |
|----------|---|
| Dusunic | Rungus <i>kogiw</i> , Papar <i>kogiw</i> , Kujau <i>kəgiw</i> , Minokok <i>kəgiw</i> , Dusun Talantang <i>kogiw</i> , Dumpas <i>kogiw</i> |
| Paitanic | Sungai Beluran <i>kəgiw</i> , Lingkabau <i>kəgiw</i> , Kuamut <i>kagiw</i> |
| Murutic | Tatana <i>kaguy</i> , Nabaay <i>kaguy/kagiw</i> , Gana <i>kəgiw</i> , Tagol <i>kahuy</i> , Bulusu <i>aguy</i> |
| Barito | Kereho <i>kahiu?</i> , Ngaju <i>kahiu?</i> , Maanyan <i>keu?</i> , Dusun <i>keu?</i> |
| Basap | Lebo <i>kəriu</i> |
| Kayanic | Modang <i>kahjo</i> , Gaai <i>kahjeəw</i> , Kelai <i>kahjaw</i> |

The orangutan is today found only in the forests of Borneo and Sumatra. Although *kəRiw is nearly absent in central Borneo, its presence in SW Sabah, Kayanic, and Barito provides sufficient genetic diversity to reconstruct it to PWIN.

***pəŋanən ‘python’**

| | |
|-----------------|--|
| Land Dayak | Hliboi <i>ŋanun</i> , Sungkung <i>ŋanən</i> , Golik <i>pəŋanin</i> |
| Barito | Kadorih <i>pəŋanon</i> , Ngaju <i>pəŋanən</i> , Kapuas <i>pəŋanən</i> , Maanyan <i>pəŋanen</i> , Dusun Witu <i>pəŋanen</i> , Taboyan <i>pəŋanən</i> , Benuaq <i>pəŋanən</i> , Tunjung <i>pəŋanan</i> |
| Basap | Lebo <i>pəŋaʔan</i> |
| Kayanic | Ngorek <i>pəŋanən</i> , Merap <i>pəŋanan</i> , Long Naah <i>pəŋanən</i> , Data Dian <i>pəŋanən</i> , Balui Liko <i>pəŋanən</i> , Bahau <i>pəŋanan</i> , Long Gelat <i>pənnan</i> , Modang <i>pənnan</i> , Kelai <i>pəʔ ŋan</i> |
| Punan | Punan Tubu <i>pəŋanen</i> , Punan Bah <i>pəŋanən</i> , Punan Lisum <i>pəŋanən</i> , Punan Aput <i>pəŋanen</i> , Ukit <i>pəŋanən</i> , Buket <i>pəŋanən</i> |
| Müller-Schwaner | Hovongan <i>pəŋanon</i> , Kereho <i>pəŋanon</i> , Seputan <i>pəŋanon</i> , Aoheng <i>pəŋanon</i> |
| Kenyah | Sebop <i>pəŋanən</i> , E Penan <i>pəŋanən</i> , W Penan <i>pəŋanən</i> , Lebo’ Vo’ <i>pəŋanən</i> , Uma Pawe <i>pəŋanən</i> , Lepo Gah <i>pəŋanən</i> , Lepo Sawa <i>pəŋanən</i> , Lepo Tau <i>pəŋanən</i> |

Although reflexes of *pəŋanən are absent in Sabah, the word is widely attested throughout the rest of Borneo. It is found in Greater North Borneo as well as Barito, which suggests that the word was innovated in WIN. Malayic languages retain PMP *sawa ‘python’ which means that two words must be reconstructed for python in PWIN. In many communities where primary research was performed, a semantic distinction between two types of python, a long python and a short and stout python, were recorded. This may have been why two names appeared in WIN.

***ma-tuRun ‘binturong’**

| | |
|------------|--|
| Malayic | Ketapang <i>bənturun</i> , Kapuas Iban <i>turun</i> |
| Barito | Ngaju <i>tuhun</i> , Dusun Witu <i>munin tuyun</i> , Bentian <i>munin tuyun biau</i> |
| Land Dayak | Sungkung <i>tuutn</i> , Ribun <i>munuhun</i> |
| Kajang | Sekapan <i>mətun</i> , Kejaman <i>mətun</i> , Lahanan <i>mətun</i> |

The binturong, or “bear-cat” is well-known to the people of Borneo and two words with wide distributions are in competition with one another; *kitan and *matuRun. Although *kitan is much more robustly attested in the languages where it is found, *matuRun is the only word for ‘binturong’ which crosses important subgrouping boundaries. It is found in three major Greater North Borneo subgroups plus Barito.

***giRam ‘river rapids’**

| | |
|-----------------|---|
| Land Dayak | Sungkung <i>giapm</i> |
| Barito | Kadorih <i>kiham</i> , Maanyan <i>kiham</i> , Dusun Witu <i>kiham</i> , Tunjung <i>kehapm</i> |
| Basap | Segai Basap <i>kiham</i> |
| Kayanic | Data Dian <i>giham</i> , Balui Liko <i>giham</i> , Bahau <i>giam</i> , Long Gelat <i>giim</i> , Kelai <i>giəm</i> |
| Kajang | Sekapam <i>geam</i> , Kejaman <i>giam</i> , Lahanan <i>giam</i> |
| Punan | Punan Bah <i>giam</i> , Bektetan <i>giham</i> , Punan Lisum <i>giham</i> , Punan Aput <i>giham</i> , Ukit <i>giam</i> , Buket <i>giam</i> |
| Müller-Schwaner | Seputan <i>keham</i> , Aoheng <i>keham</i> |
| Murutic | Bulusu <i>giram</i> |

***Rimba? ‘jungle’**

| | |
|-----------------|---|
| Malayic | Malay <i>rimba</i> , Ketapang <i>rimbo</i> , Keninjal <i>yima?</i> , Seberuang <i>yimba?</i> Mualang <i>yima</i> |
| Land Dayak | Jangkang <i>yima?</i> , Ribun <i>himo</i> , |
| Barito | Kadorih <i>himba?</i> , Ngaju <i>himba?</i> |
| Basap | Lebo <i>rima?</i> |
| Müller-Schwaner | Kereho <i>hiwa?</i> |
| Kenyah | Sebop <i>va?</i> , Penan <i>va?</i> , Lebo’ Vo’ <i>va?</i> , Lepo Tau <i>mpa?</i> |
| B-LB | Long Terawan <i>ma?</i> |
| Bulusu | <i>limba?</i> |

This word poses an issue for reconstruction, as PMP *tuqan ‘primary forest’ is retained with a wide distribution in Borneo, but *Rimba? is well represented in a number of languages which span the entirety of the island. It is thus necessary to reconstruct two words for primary forest.

***qulun ‘outsider’**

| | |
|--------------------|---|
| Malayic ‘slave’ | Ketapang <i>hulon</i> , Kapuas Iban <i>ulun</i> |
| Land Dayak ‘slave’ | Benyadu <i>ulutn</i> |
| Melanau ‘slave’ | Sarikei <i>ulun</i> , Mukah <i>ulun</i> |
| Barito ‘person’ | Kadorih <i>urun</i> , Ngaju <i>uluh</i> , Kapuas <i>uluh</i> , Maanyan <i>ulun</i> , Dusun Witu <i>ulun</i> , Taboyan <i>ulun</i> , Paser <i>ulun</i> , Benuaq <i>olutn</i> , Tunjung <i>ulutn</i> |
| Basap ‘person’ | Lebo <i>ulun</i> |
| Kayanic ‘person’ | Ngorek <i>ulun</i> , Merap <i>loꞗŋ</i> , Long Naah <i>kəlunan</i> , Data Dian <i>kəlunan</i> , Balui Liko <i>kəlunan</i> , Busang <i>kəlunan</i> , Gaai <i>luꞗn</i> , Kelai <i>loꞗn</i> |
| Kenyah ‘person’ | Sebop <i>kəlunan</i> , Long Wat <i>kəlunan</i> , E Penan <i>kəlunan</i> , W Penan <i>kəlunan</i> , Lebo’ Vo’ <i>kəlunan</i> , Uma Pawe <i>kəlunan</i> , Lepo Gah <i>kəlunan</i> , Lepo Laang <i>kəlunan</i> , Lepo Tau <i>kəlunan</i> |
| Bintulu ‘person’ | <i>ulun</i> |
| Dayic ‘person’ | Long Semadoh <i>ləmulun</i> , Long Bawan <i>lun</i> |
| B-LB ‘person’ | Miri <i>jəmulon</i> , Narum <i>jəmunawn</i> , Kiput <i>bulun</i> , Long Jegan <i>lamulawŋ</i> , Long Terawan <i>ləmulon</i> |

| | |
|-------------------|---|
| SW Sabah ‘person’ | Southern Bisaya <i>ulun</i> , Rungus <i>ulun</i> , Kadazan Papar <i>uhun</i> , Dusun Talantang <i>tulun</i> , Dumpas <i>ulun</i> |
| NE Sabah ‘person’ | Idaan <i>ulun</i> , Seguliud <i>ulun</i> , Begak <i>ulun</i> |

This is one of the most widely attested words in Western Indonesian, but it is not included in Blust’s list of WIN lexical innovation because of a single witness outside of Western Indonesian: Ngadha *ulu* ‘person; human being; counting word for children’. Ngadha is spoken on Flores and is no stranger to Malayic influences. Given how widely attested *qulun is in WIN, it seems that a single outlier in Ngadha is best considered a remnant of contact. If more examples are found outside of the WIN area, then this word would have to be reconsidered, but there is additional evidence which suggests that *qulun was a WIN replacement innovation; the distribution of PMP *qaRta ‘outsider’. Reflexes of *qaRta abound in the Philippines, Palau, Sulawesi, and CEMP but are otherwise unattested in languages which fall within Blust’s Western Indonesian subgroup. The simplest interpretation of this is that PMP *qaRta was replaced by *qulun in PWIN and that the only attestation of this word outside of WIN is a borrowing from a Malayic source. The key piece of supporting evidence for this interpretation is again found in Ngadha. Although *ulun* is found in this language, *ata* (< *qaRta) is also attested with a very similar meaning, ‘person, human image, enemy, someone’. Ngadha’s closest relative, Li’o, also reflects *qaRta as *ata* ‘people’ but does not have a reflex of *ulun. All of the available evidence, then, points to PWIN *qulun.

***iban ‘reciprocal affine; parent-in-law; child-in-law’**

| | |
|------------|---|
| Land Dayak | Benyadu <i>ibatn</i> ‘child-in-law’, Bekati <i>bat</i> ‘child-in-law’, Jangkang <i>ibatn</i> ‘child-in-law’, Ribun <i>ibatn</i> ‘child-in-law’, Golik <i>ibətn</i> ‘child-in-law’ |
| Barito | Tunjung <i>ewan</i> ‘parent-in-law’ |
| Kayanic | Ngorek <i>eban</i> , Merap <i>bĩṅ</i> , Long Naah <i>divan</i> , Data Dian <i>difan</i> , Busang <i>divan</i> , Bahau <i>difan</i> |
| Kajang | Sekapan <i>ivan</i> , Kejaman <i>ivan</i> , Lahanan <i>ivan</i> |
| Punan | Punan Bah <i>ivan</i> |
| Kayan | E Penan <i>kivan</i> , W Penan <i>kivan</i> , Lebo’ Vo’ <i>iban</i> , Uma Pawe <i>divan</i> , Lepo Gah <i>iban</i> , Lepo Sawa <i>iban</i> , Lepo Tau <i>iban</i> |

| | |
|----------|--|
| Dayic | Bario Kelabit <i>iban</i> , Long Bawan <i>eban</i> |
| B-LB | Kiput <i>ibin</i> ‘parent-in-law’ |
| Dusunic | Southern Bisaya <i>ivan</i> , Brunei Dusun <i>ivan</i> , Limbang Bisaya <i>yuan</i> , Rungus Dusun <i>ivanan</i> ‘parent-in-law’, Dumpas <i>ivan</i> ‘parent-in-law’ |
| Paitanic | Sungai Beluran <i>ivan</i> ‘parent-in-law’, Kuamut <i>ivanon</i> ‘parent-in-law’ |
| Murutic | Tatana <i>ivan</i> , Papar <i>ivan</i> , Timugon <i>ivan</i> , Tagol <i>ivan</i> , Bulusu <i>ivan</i> |

***gətəm ‘harvest’**

| | |
|-----------------|--|
| Land Dayak | Benyadu <i>ηutupm</i> , Bekati <i>ηutup</i> , Sungkung <i>ηa^htipm</i> |
| Barito | Kapuas <i>məηətəm</i> , Benuaq <i>ηotapm</i> , Tunjung <i>ηətəpm</i> |
| Basap | Batu Putih <i>aηətəm</i> |
| Müller-Schwaner | Kereho <i>ηotom</i> , Seputan <i>ηotom</i> |
| Kayanic | Kelai <i>tam</i> |
| B-LB | Narum <i>gutəm</i> |

***likaw/*liḡkaw ‘brow’**

| | |
|-----------------|--|
| Barito | Kadorih <i>likow</i> , Ngaju <i>liḡkaw</i> , Kapuas <i>liḡkaw</i> , Bakumpai <i>liḡkaw</i> |
| Basap | Tabalar <i>ligaw</i> |
| Kayanic | Ngorek <i>leko</i> , Long Naah <i>likaw</i> , Data Dian <i>likaw</i> , Balui Liko <i>liko</i> , Busang <i>liko</i> , Bahau <i>likaw</i> |
| Melanau | Dalat <i>likaw</i> , Kanowit <i>likaw</i> |
| Kajang | Sekapan <i>likaw</i> , Kejaman <i>likaw</i> , Lahanan <i>likaw</i> |
| Punan | Punan Bah <i>likuow</i> , Beketan <i>likow</i> , Punan Lisum <i>likow</i> , Punan Aput <i>likow</i> , Buket <i>liko</i> |
| Müller-Schwaner | Hovongan <i>diko</i> , Kereho <i>diko</i> , Seputan <i>liku</i> , Aoheng <i>liku</i> |
| Kenyah | E Penan <i>likaw</i> , W Penan <i>likaw</i> , Lebo’ Vo’ <i>likaw</i> , Uma Pawe <i>likaw</i> , Lepo Gah <i>likaw</i> , Lepo Tau <i>likaw</i> |

***siliḡ/*tiliḡ ‘to fly’**

| | |
|---------|--|
| Barito | Maanyan <i>samidiḡ</i> , Dusun Witu <i>samidiḡ</i> , Taboyan <i>mənsiliḡ</i> |
| Melanau | Balingian <i>siliḡḡ</i> , Matu <i>tiliḡḡ</i> , Sarikei <i>tiliḡḡ</i> , Mukah <i>siliḡḡ</i> , Dalat <i>tili</i> |

| | |
|-----------------|--|
| Müller-Schwaner | Seputan <i>ñeleŋ</i> |
| Basap | Lebo <i>təmiliŋ</i> |
| Kayanic | Long Gelat <i>məliəŋ</i> , Gaai <i>mleəŋ</i> |

The initial consonant is inconsistent even in very closely related languages (within Melanau for example). The word is, however, well attested in a variety of languages in southern Borneo plus Basap. Directionality is difficult to determine and it must have been retained in the languages in question from a more ancient source.

***madam ‘rotten’**

| | |
|-----------------|---|
| Land Dayak | Benyadu <i>madap</i> , Bekati <i>madam</i> , Hliboi <i>medepm</i> , Sungkung <i>madepm</i> , Ribun <i>modam</i> |
| Barito | Kadorih <i>maram</i> , Ngaju <i>maram</i> |
| Melanau | Matu <i>madam</i> , Mukah <i>madam</i> , Dalat <i>madam</i> |
| Kajang | Lahanan <i>maram</i> |
| Punan | Tubu <i>məram</i> , Bah <i>meram</i> , Aput <i>maram</i> |
| Müller-Schwaner | Hovongan <i>maram</i> , Seputan <i>maram</i> |
| Kayanic | Ngorek <i>maram</i> , Merap <i>marãə</i> , Modang <i>məleəm</i> , Gaai <i>mleəŋ</i> |
| Kenyah | Uma Pawe <i>maram</i> , Lepo Tau <i>madam</i> |

***bə-təRi? ‘pregnant’**

| | |
|-----------------|---|
| Land Dayak | Benyadu <i>batahi</i> , Bekati, <i>batahi?</i> , Hliboi <i>ntia?</i> , Sungkung <i>ba?tia?</i> , Ribun <i>biti</i> , Golik <i>bətia?</i> , Sanggau <i>bitti</i> |
| Barito | Kadorih <i>batohi?</i> , Ngaju <i>batahi?</i> , Kapuas <i>bətih?</i> , Tunjung <i>tehe?</i> |
| Melanau | Dalat <i>pətai?</i> , Kanowit <i>bətehe?</i> |
| Kajang | Sekapan <i>tii?</i> , Kejaman <i>tai?</i> , Lahanan <i>pətai?</i> |
| Punan | Bah <i>batei?</i> , Beketan <i>bute?</i> , Aput <i>bətai?</i> |
| Müller-Schwaner | Kereho <i>botohi?</i> , Aoheng <i>bətohi</i> |
| Lower Baram | Long Terawan <i>təre?</i> |
| Bulungan | <i>bətəri</i> |
| NE Sabah | Idaan <i>təgki?</i> , Bonggi <i>togi?</i> |

The Long Terawan word is most likely a borrowing, since this is otherwise unattested in North Sarawak and *R is usually reflected as *k* in intervocalic position in Long Terawan. In which case, this word is geographically restricted to South Borneo plus Northeast Sabah. It must be assignable to an ancestor language that covers all of Borneo. Note that Blust (2010:63) lists *təgiʔ as a NE Sabah innovation, with evidence from Bonggi *togi* and Ida'an *təgkiʔ*. The larger picture, however, reveals that this word has a more ancient origin, and in this case *g in NE Sabah ultimately comes from *R.

3.8.2 Expanded list of Western Indonesian lexical innovations

A long list of Western Indonesian lexical innovations has been identified. Quantitatively, WIN is better supported than Greater North Borneo, but the quality of words in each list is similar. Below is the full list of WIN lexical innovations, and below that, the final proposal for higher-order subgrouping in Borneo, with two primary branches of Western Indonesian in Borneo, Greater North Borneo and the Basap-Greater Barito linkage. Several other subgroups are located outside of Borneo, as discussed in Blust (2010).

Figure 89

Lexical evidence for Western Indonesian (35 in total)

| | | |
|--------------------------|---|--|
| *naŋa 'river mouth' | > | *əlun 'river mouth; estuary' |
| *qazay 'chin; jaw' | > | *jaʔa 'chin; jaw' |
| *wahiR 'water; river' | > | *suŋay 'river' (possibly referring to streams and tributaries) |
| *buhət 'squirrel' | > | *tupay 'squirrel' |
| *buaq 'fruit; betel nut' | > | *pinaŋ 'betel nut' |
| *paniki 'flying fox' | > | *kubun 'flying lemur; flying fox' |
| *sawa | > | *sawa/*pəŋanən 'python' |
| *tuqan 'primary forest' | > | *tuqan/*Rimbaʔ 'primary forest' |
| *qaRta 'outsider' | > | *qulun 'outsider' |
| - | > | *biRuaŋ 'sun bear' |
| - | > | *kələbət 'gibbon' |
| - | > | *bəduk/*bəRuk 'pig-tailed macaque' |

| | | |
|---|---|-------------------------------|
| - | > | *dəŋən ‘river otter’ |
| - | > | *pəlanuk ‘mousedeer’ |
| - | > | *kəjut ‘surprised; startled’ |
| - | > | *duRian ‘durian’ |
| - | > | *butbut ‘coucal’ |
| - | > | *tiuŋ/*kiuŋ ‘mya bird’ |
| - | > | *kəlasɪ ‘red-leaf monkey’ |
| - | > | *puRaʔ ‘crab’ |
| - | > | *buRis ‘silver-leaf monkey’ |
| - | > | *kəniw ‘eagle’ |
| - | > | *ukəd ‘western tarsier’ |
| - | > | *təlaʔus ‘barking deer’ |
| - | > | *kuliR ‘clouded leopard’ |
| - | > | *kəRiw ‘orangutan’ |
| - | > | *ma-tuRun ‘binturong’ |
| - | > | *giRam ‘river rapids’ |
| - | > | *iban ‘co-referential affine’ |
| ? | > | *gətəm ‘harvest’ |
| ? | > | *likaw/*liŋkaw ‘brow’ |
| ? | > | *tiliŋ/*siliŋ ‘to fly’ |
| ? | > | *madam ‘rotten’ |
| ? | > | *bə-təRiʔ ‘pregnant’ |

Figure 90

Western Indonesian internal subgrouping

WESTERN INDONESIAN

GREATER NORTH BORNEO

North Borneo

Central Sarawak

Kayanic

Land Dayak

Malayic

BASAP-GREATER BARITO LINKAGE

Greater Barito Linkage

Barito

Sama-Bajaw

Basap

OTHER WESTERN INDONESIAN

Languages outside of Borneo which belong to Blust's Western Indonesian group.

This is not a single subgroup, but a collection of possibly several subgroups which lie outside of the scope of this dissertation.

3.9 Chapter summary

Higher order subgrouping in Borneo has always been difficult, in part because despite a great deal of phonological divergence in modern languages, all seem to be descended from phonologically conservative proto-languages. It's difficult, then, to identify wide-ranging sound changes which join major subgroups together. The only evidence available appears to be lexical, and here, more issues emerge. As this chapter has pointed out, two main problems exist when attempting to compile lexical evidence for higher order subgrouping in Borneo: 1) borrowing between Bornean groups, which includes not only easily identifiable Malayic borrowing but borrowing between various indigenous groups of the interior and 2) the presence of pan-Bornean near-cognates which have no identifiable source, and cannot be reconstructed to any higher order proto-language due to phonological irregularity. The lexical innovations identified in this chapter, after controlling for borrowings and pan-Bornean near-cognates, support the hypothesis

of a single proto-language which is ancestral to all languages of Borneo. The data set used for this dissertation, which is larger and more complete than that used in any other higher-order subgrouping attempts for the languages of Borneo, has aided tremendously in cementing the validity of the Western Indonesian hypothesis. Major changes to the internal subgrouping of this large subgroup include the formation of a Basap-Greater Barito linkage based on high quality lexical innovations which were identified between Basap and Barito languages. Central Sarawak, a previously unrecognized subgroup, is also included in Greater North Borneo, again as the result of new data which has allowed for the identification of lexical innovations.

CHAPTER 4

HISTORICAL LINGUISTICS, INITIAL SETTLEMENT, AND SECONDARY POPULATION MOVEMENT IN BORNEO

4.1 The archaeological prehistory of Borneo

The archaeological record of Borneo begins about 40,000 BP in and around the Niah cave complex, between the modern towns of Bintulu and Miri (Bellwood 1992, Majid 1982). The oldest materials found which are attributable to ancient humans are stone tools and animal bones, but human skeletal remains from around 12,000 BP have also been excavated. More recent, pre-Neolithic tools have been found in Sabah dating from 20,000 to as recent as 8,000 BP (Bellwood 1988, 1990). It is assumed that the human populations of Borneo during these times were of similar physical type with that of Papua New Guinea and Australia, and not of the current “Southern-Mongoloid” type one finds today. Although it is a matter of some debate, there is no archaeological evidence that human populations penetrated the rainforest into central Borneo before Austronesian speaking agriculturalists arrived on the island some 4,000 years ago (Bellwood 1992:10). Of course, the absence of archaeological evidence is not in itself enough to claim that there could not have been pre-Austronesian populations in the interior of Borneo, but considering the fact that modern hunter-gatherers in Borneo supplement their existence through trading with agriculturalists, and the difficulties of penetrating the forest in general, there could not have been large human numbers more than a hundred or so miles inland.

Austronesian speakers arrived on Borneo via the Philippines between 4,000 and 4,500 years ago (Bellwood 1988, 1989, Blust 2010) as part of the larger migration of people out of Taiwan (Blust 1984-85). They would have reached the north first, settling Sabah before moving along the coast to southern Borneo and eventually west, into the islands of Java, Sumatra, and the Southeast Asian Mainland. Archaeology in southern, southwestern, and southeastern Borneo is in a much earlier stage than archaeology to the north, and as a result there are no clear dates for the arrival of Neolithic cultures there.

The remainder of this chapter addresses the history of Borneo’s Austronesian speaking populations. 1) how did the first Austronesian settlers of Borneo settle the island? 2) what subsequent migrations have taken place, and what is the linguistic evidence for this? 3) what are

the events which led to the current distribution of subgroups in Borneo? These areas of inquiry merit a broad discussion of Borneo's linguistic, cultural, and political past. To fully address these questions, this chapter focuses on the following topics: 1) linguistic evidence for a pre-Austronesian speaking population, 2) whether there is evidence to claim that this population was on the island at the time of Austronesian arrival, 3) alternative explanations for observed similarities between Austronesian and Mon-Khmer lexicons in Borneo and mainland Southeast Asia, 4) linguistic and traditional arguments for the homelands of all major subgroups found on the island today, 5) the events which led to mass migrations in the 1800's, including oral and linguistic evidence, 6) the role Indianized kingdoms and Malay sultanates played in the linguistic situation on Borneo, 7) where linguistic diversity has been leveled, and how this might have happened.

4.2 Linguistic arguments for a pre-Austronesian population

Adelaar (1995b:90) published an important chapter identifying several similarities between the Land Dayak languages of Borneo and the Mon-Khmer Aslian languages of Peninsular Malaysia. This evidence includes the presence of preploded final nasals in both Land Dayak and Aslian and similarities between the words 'to die' and 'to bathe'. This evidence is considered below, with supplementary evidence from my own research. In the end, however, it is found that evidence for a Land Dayak-Aslian connection is insufficient for coming to a clear conclusion on the history of these languages.

4.2.1 Preploded final nasals

In Chapter two, it was noted that final nasal prepllosion is one of the most salient features of Land Dayak languages. It appears in Southern Land Dayak and Bekati-Banyadu, but is largely absent in Bidayuh. It thus cannot be reconstructed to proto-Land Dayak, but nevertheless remains a distinguishing characteristic of many LD languages. Adelaar notes the presence of preploded nasals in Aslian languages, but the larger comparative picture reveals that preploded nasals are found throughout Southeast Asia. Outside of Aslian and Land Dayak, preploded nasals are reported in at least Tunjung (Barito), many East Barito languages due to contact with Tunjung, Kendayan and Salako (Malayic), some Peninsular Malay dialects (Benjamin 1985), Urak Lawoi (Malayic), Bonggi (NE Sabah), and Chamic (Thurgood 1999). Blust (1997)

provides an overview of this phenomenon in Southeast Asia with a more thorough discussion about its distribution. Adelaar (1995b:89) does make note of this, and states that pre-plosion in Land Dayak and Aslian is therefore “not significant in itself”. The most interesting connection appears in the lexicon.

4.2.2 Similarities in the word for ‘to die’

Adelaar (1995b:89) points to similar words for ‘to die’ as a major piece of evidence linking Aslian and Land Dayak. In the postscript (page 91) he acknowledges the presence of similar forms in Punan and Müller-Schwaner. I have attempted to make this list as robust as possible, and include below evidence that *kəbəs is reconstructable to PLD, and PCS, and that similar forms are found in Nicobaric and Aslian (although Aslian languages have many, unrelated words for ‘to die’ as well and it is not clear that a word similar to *kəbəs may be reconstructed). Proto-Nicobaric *kapah, however, may be sufficiently distinct to exclude it from the comparison, as it would be odd to posit irregular intervocalic devoicing in this word only. Also note that even where an Aslian language does have a word similar to *kəbəs, the same language also often has unrelated words with apparently the same meaning. For example, Jahai *kabis* ‘to die’, but also *hapaʔ*, *slap*, *ñañuʔ*, and *ʔis*, all apparently meaning ‘to die’. Mon-Khmer data are from several sources. For Aslian vocabulary Benjamin (1976) is used. Bahnaric and Katuic data are from Sidwell (2000, 2005) and Jacq and Sidwell (2000). Pearic data are from Headley (1985). Surin Khmer data are from Čanthrupant and Phromčhakkarin (1978).

| | |
|------------------|--|
| PLD *kəbəs | Benyadu <i>kabis</i> , Bekati <i>kabih</i> , Hliboi <i>kibos</i> , Sungkung <i>kabis</i> , Ribun <i>kobis</i> , Golik <i>kobəs</i> , Sanggau <i>kobis</i> , (Jangkang <i>kobeʔ</i>) |
| PCS *kəbəs | Sarikei <i>kəbəs</i> , Kanowit <i>kəbeh</i> , Punan Tubu <i>kəfoh</i> , Punan Bah <i>makovo</i> , Beketan <i>kavo</i> , Punan Lisum <i>kavə</i> , Punan Aput <i>kavo</i> , Ukit <i>kavə</i> , Buket <i>kavə</i> , Hovongan <i>kovo</i> , Kereho <i>kovo</i> , Seputan <i>kovo</i> , Aoheng <i>kovo</i> |
| Aslian | Jahai <i>kabis</i> , Kensiu <i>kabis</i> , Semnam <i>kbəs</i> , Semelai <i>khbəs</i> |
| Nicobaric *kapah | Nancowry <i>kapah</i> , Car <i>kapah</i> |

Other words for ‘to die’ in Aslian

Semlai *cləy*, *cəŋ*

Semai *dat*

Jahai *hapaʔ, slap, ñaṅuʔ, ʔis*

Tonga *səʔ*

4.2.3 Similarities in the word for ‘to bathe’

The word ‘to bathe’ was also presented as evidence for a Land Dayak-Aslian connection, with words of the shape *mamuh* reported in several languages. Again, similar words for ‘bathe’ are also found in several Central Sarawak subgroups. Although it is difficult to reconstruct a single form due to irregularities in prefix shape, it appears that a root *-mu was used throughout the area of west and central-western Borneo for ‘bathe’. Also note that the apparent similarities between LD *mamuh* and various Aslian examples of *mamuh* with regard to final *h* are due to final *h* innovation in some but not all Land Dayak languages, and *mamu is the reconstructed PLD form.

| | |
|---------------|---|
| PLD *mamu | Banyadu <i>mamuʔ</i> , Bekati <i>mamuʔ</i> , Hliboi <i>mamuh</i> , Sungkung <i>mamuh</i> , Golik <i>mamuh</i> |
| PMEL *tə-muʔ | Balingian <i>təmuʔ</i> , Matu <i>təmuʔ</i> , Sarikei <i>təmuəʔ</i> , Dalat <i>tə-mu:ʔ</i> , Kanowit <i>mu:ʔ</i> |
| PPUN *nəmu | Beketan <i>nomu</i> , Punan Lisum <i>namu</i> , Punan Aput <i>nomu</i> , Ukit <i>namu</i> , Buket <i>ṅamu</i> |
| PMÜL *nomu | Hovongan <i>nomu</i> , Kereho <i>nomu</i> |
| PKAJ *mu | <i>məw</i> (all languages) |
| Aslian *mamuh | Səmnam <i>mamu:h</i> , Semai <i>mamuh</i> , Temiar <i>muh</i> |

Other Mon-Khmer languages have similar forms for ‘to bathe’ but with apparent metathesis. Note that it is not clear at all if the forms below are related to *mamuh*, and without a better understanding of Mon-Khmer historical linguistics, it is best to assume that they are not. I include them here, however, for completeness.

| | |
|----------------|--|
| Pearic *hu:m | Pear <i>haom</i> , Chong (of Kampong Som) <i>hu:m</i> , Chong (Western Pearic) <i>hu:m</i> |
| Bahnaric *hu:m | Proto-Central Bahnaric *hu:m, Proto-North Bahnaric *hu:m, Proto-West Bahnaric *ho:m, Proto-South Bahnaric *ʔum |
| Katuic *hoom | |

4.2.4 Similarities in the Word for ‘barking deer’

Earlier, PWIN *təlaʔus ‘barking deer’ was reconstructed, with extensive evidence throughout Borneo. Similar words for barking deer also appear in Pearic and Khmeric, as shown below. The similarity is particularly striking between PWIN and Surin Khmer. However, it is not likely that similarities of this type are more than simple chance, as there is otherwise no apparent connection between the languages of Borneo and these specific Mon-Khmer languages.

PWIN *təlaʔus

Pearic Kasong Chong *loh*, Som Chong *laot*, Kanchanaburi Chong *laot*

Khmeric Surin Khmer *təhlu:h*

4.2.5 The role of pan-Bornean near-cognates

In Chapter three, significant space was dedicated to the identification of pan-Bornean near-cognates; words of identical meaning and similar shape, but which cannot be reconstructed due to irreconcilable irregularities in sound correspondences. Reconstructable forms (at lower-level proto-languages) like *kibaʔ, *kabiʔ, *kibaŋ, and *kabiŋ (all meaning ‘left side’) force one to consider the possibility that these forms were introduced through contact with other, non-Austronesian languages before their eventual extinction. However, extensive searching for similar forms in Mon-Khmer languages have so far revealed no apparent connections.

4.2.6 The larger picture

Although Adelaar himself was careful in his analysis of the observed similarities, it appears that many scholars who work in island Southeast Asia read his paper as much more concrete and conclusive. Though he tended towards (but did not endorse) a scenario of language-shift, where Mon-Khmer speakers in Borneo shifted to PLD in the distant past, the following

excerpt shows that he was aware of the tentative nature of the study of Bornean-Mon-Khmer connections (pg. 91): “Allowing for the fact that our present knowledge is too scanty to draw any definite conclusion, I tend towards explaining these similarities as the result of language shift.” It seems premature, then, for scholars to assume that Adelaar’s tendency towards the language shift explanation be taken as historical fact. The word for ‘to die’ is not straightforwardly connected to the Aslian forms for the following reasons. *kəbəs is reconstructable to both PLD and PCS, two large subgroups that do not appear to share an exclusive common ancestor. It is well attested in both, and there are no other forms that compete for *kəbəs as the reconstruction. In Aslian, however, similar forms to *kəbəs* appear in competition with several other, widespread words for ‘to die’ as indicated in the data set above. If *kəbəs were an Aslian word, it is striking that it is far more robustly represented in AN languages than in MK languages. ‘to bathe’ is similarly complex. If one understands the fact that similar reconstructions in Central Sarawak point to a root *-mu, then the similarity between LD *mamu and Aslian *mamuh* is far less striking. Also, if borrowing does in fact explain the similarities between Aslian and MK words, then it may be that Aslian words come from an AN source, and not the other way around. Considering the fact that final *h* in Land Dayak *mamuh* is secondary, then Aslian *mamuh* may simply be from a particular Land Dayak source.

Some may object to an AN source hypothesis for these words, but such an objection seems unnecessary. It is a known fact that Austronesians were historically seafaring and that there was an extensive trade network throughout the areas between Peninsular Malaysia and Borneo. Although Land Dayak have been known as “land locked” since the time of the British occupation of Borneo, there is no reason to assume that this has always been true, and that speakers of Proto-Central Sarawak and Proto-Land Dayak were always land oriented or that they were somehow excluded from the South China Sea trade routes. The very fact that PLD and PCS have reconstructable innovations for ‘to bathe’ and ‘to die’ despite their not being part of a larger exclusive subgroup is testament to the fact that the area of western Borneo was an area of contact. Even if PLD and PCS speakers were not directly involved in sea trading, they almost certainly were exposed to areas outside of Borneo through contact with Malay traders, much as Malagasy were first introduced to the sea trade by Malay traders (Adelaar 1989).

The larger picture, then, does not show with certainty that similarities between LD and Aslian languages are the result of shift from Aslian to PLD, as the trade dynamics of the area and

the distribution of ‘to die’ and ‘to bathe’ also support borrowing in the opposite direction. The observed similarities, then, do not favor any interpretation, and it should not be assumed that similarities are the result of a pre-Austronesian population on Borneo.

4.3 The locations and homelands of major subgroups in Borneo

In this section, the locations of major subgroups in Borneo are discussed, with particular attention paid to historic population movements. There are 14 major subgroups, as discussed in chapter 2, which are considered below. The end goal is to pinpoint the homelands of major subgroups using linguistic data supplemented by oral histories. In many cases, it is found that oral histories are strikingly similar to the linguistic inferences, and both provide fairly robust evidence for precise homelands for each subgroup.

4.3.1 Watershed boundaries and cross-border river access

Mobility in Borneo is traditionally dependent on its large rivers. The interior of the island was undoubtedly settled by groups that followed various rivers to their sources, near the modern day border between Malaysia and Indonesia. This is as true for speakers of Austronesian languages as it might be for hypothetical pre-Austronesian peoples who may have been in the area. The central highlands offer access to the sources of almost every major river on Borneo. Referring back to river map 1 in chapter one, the following cross-border river boundaries are apparent:

Figure 91

Cross-border river access

| Sarawak | | | Kalimantan | |
|--------------------------|---------------|--|-------------------------------|--|
| the upper Baleh | has access to | | the upper Kapuas, Mahakam | |
| the upper Balui | has access to | | the upper Kayan | |
| the upper Rejang (Murum) | has access to | | the upper Kayan (Iwan branch) | |
| the upper Baram | has access to | | the upper Bahau, Pujungan | |
| Kelabit Highlands | has access to | | the upper Bahau, Sesayap | |

The above cross-border river access points play a major role in the paths taken by recent migrants from the central highlands of Borneo. The following sections highlight those paths and state precisely where each major subgroup came from.

4.3.2 The Apo Kayan

The population of the Apo Kayan is almost entirely Kenyah speaking. Data Dian is the only Kayan village, and there is a minor Punan presence (Whittier and Whittier 1974), however it is generally accepted that the Apo Kayan is the Proto-Kayan (not Proto-Kayanic) homeland. Adjacent highland areas, particularly the areas of the Bahau River, were home to various other Kayanic groups, including the Bahau, Murik, Merap, and possibly Proto-Segai-Modang (Guerreiro 1996b:205-206). The Proto-Kayanic homeland, then, was the entire highland area of the Apo Kayan, Pujungan, and Bahau.

Kayan dominance of the Apo Kayan and nearby Bahau River system ended when Kenyah settlers moved into the area. Although local testimony from many Kenyah groups in the upper Baram claims that they originated from the Apo Kayan and Pujungan (a tributary of the Bahau) these migrations out of the Apo Kayan are almost certainly back-migrations. Higher-level diversity in Kenyah is contained almost exclusively along the Baram and Tinjar rivers in Sarawak, where Lowland Kenyah dialects dominate, and apparently came from the Usun Apau watershed, itself located in Sarawak (Smith 2015b). Highland dialects along the upper Baram, however, do seem to be recent back-migrations from Kalimantan. At the very least, Proto-Kenyah appears to have undergone an early split where speakers of what would become Highland Kenyah moved into Kalimantan via the Pujungan and Apo Kayan, and speakers of what would become Lowland Kenyah remained in Sarawak.

After the Kenyah moved into the Apo Kayan and Bahau areas, speakers of the various Proto-Kayanic dialects moved downriver. Speakers of Kayan are found in the middle Baram River, the Balui River, the upper Kapuas, and Mahakam Rivers. Most of these areas are easily accessible from the Apo Kayan, and suggest that Kayan movement began in a central location, and radiated out in all directions, away from the center of the island. Linguistically, Kayan dialects are fairly homogenous, albeit with clearly identifiable differences. It follows from this observation that the Kayan occupied a compact area where they were developing as a single unit in the recent past. The linguistic evidence thus matches the local testimony.

4.3.2.1 Other Kayanic groups

The linguistic histories of the Murik-Merap and Segai-Modang subgroups are more opaque for identifying a homeland. Murik dialects are spoken both along the lower Baram and Kayan Rivers, while Merap is located along the Malinau. The Malinau and Tubu rivers both begin near the Bahau, and the source of the Bahau is just a short trip from the upper Baram. If the Kayan model of migration, radiating outward from the center, is applied to the Murip-Merap, then it suggests that they are indeed from the Bahau, and followed the various rivers of their areas downstream.

Linguistic evidence can partially explain the migrations of Segai-Modang as well. The primary distinction between Segai-Modang groups is the Segai, a group consisting of Gaai (also Menggaai) and Kelai (also Punan Kelai), and the Modang (including Wahau, Kelinjau, and Long Gelat varieties). All Segai and Modang languages, with the exception of Long Gelat, are spoken in a continuous stretch of land that includes the Segah, Kelai, Wahau, and Kedung Kelapa. Long Gelat is spoken in the upper Mahakam, near the Boh tributary. There are thus two possible locations for the Segai-Modang homeland, the upper Mahakam where Long Gelat is found today, or around the Wahau and Berau areas, where the majority of speakers are found today. The linguistic subgrouping, which places the primary split between Segai and Modang in the Wahau area (as both groups are found here), suggests that the Segai-Modang homeland is Berau, and not the upper Mahakam. Ockham's razor provides the motivation for this interpretation. Long Gelat is the only Modang dialect of the upper Mahakam River. If all Segai-Modang peoples came through the Mahakam, the internal subgrouping forces one to assume two movements: 1) Proto-Segai separated from Proto-Modang and moved into Berau via the Kedang Kepala tributary and 2) Modang speakers later moved into their current location, while the Long Gelat stayed behind. The other assumption, that the Proto-Segai-Modang speakers moved through Berau into East Kutai requires fewer moves; Segai and Modang differentiated in situ, in the Berau and Wahau areas, then Long Gelat left Wahau and moved into the upper Mahakam. Although Segai-Modang speakers tend to claim that they too are from the Bahau area, linguistic evidence cannot be used to verify these claims. We can only state with confidence that Segai and Modang differentiated in the Berau-Wahau area.

Specific dates for the Kayan exodus out of the Apo Kayan appear throughout the literature, and there is general agreement that this event occurred between 1800 and 1850. The following dates are attested in the literature:

Baram River Kayan

The Kayan entered the Baram in the 1800's (Metcalf 1974).

Mahakam River Kayan

Speakers of Kayan dialects moved into the upper Mahakam, probably via the Boh tributary, from the Apo Kayan area in the late 1700's and early 1800's. These groups exercised significant influence over the Müller-Schwaner. Prior to this migration, the Mahakam River was apparently devoid of significant Kayan populations (Sellato 1980, 1986).

Rejang River Kayan

The Kayan entered the upper tributaries of the Rejang River from the Apo Kayan in the early 1800's (Nyipa 1956).

The history of Kayanic migrations can thus be summarized as follows: Proto-Kayanic was spoken along the highland areas of the Apo Kayan, Pujungan, and Bahau. Sometime in the late 1700's to the early 1800's speakers of a highland dialect of Proto-Kenyah moved into these traditionally Kayan areas and Proto-Kayanic speakers were forced downriver. Kayan and Murik speakers moved down the Baram, Rejang and Mahakam Rivers, while Segai-Modang speakers moved down the Segah and Kelai into Berau, and on into Wahau.

4.3.3 The Iban homeland and northward expansion

The oral histories of the Iban are complex, but it is generally agreed that the Iban came from the upper Kapuas area, in modern day Kapuas Hulu regency in West Kalimantan. This area, also called the Kapuas Lakes area due to the presence of several large lakes, is near a low-lying watershed which separates southeast Sarawak from Kalimantan. The original Iban migrations into Sarawak began in the early 1800's here, around modern Lubok Antu town (Sutlive 1978:20, Sandin 1994, map 5). In the areas between Miri and Kuching, the Iban are the most powerful and

populous group. Several smaller pockets of Melanau, Kajang, and Punan languages are found peppered throughout this region, but the Iban form the only contiguous tribe. This type of distribution, a single contiguous area occupied by a large homogenous group which overpowers smaller, more diverse groups, has parallels in other parts of Borneo. Referring to Idaan and Bonggi in Sabah, Blust (2010:63-64) noted the relative lack of diversity in Sabah, and the presence of two geographically separated remnant populations that are more closely related to each other than to SW Sabah (a large, relatively homogenous, and contiguous group). This indicates a historical expansion which leveled out the linguistic diversity of the area, leaving only traces of what once was. In Sarawak, a similar history has resulted in an almost identical result with distribution of Iban. The main difference between Sarawak and Sabah is that the Iban expansion was relatively recent, appearing in colonial records of the late 19th century. Because of this, more of the original diversity remains, which allows one to infer the past distribution of languages in central Sarawak.

Kayan migrations out of the Apo Kayan and into adjacent river systems, combined with the northward expansion of Iban, have significantly altered the linguistic landscape of central Borneo. The following sections identify areas where Kayan and Iban movements have forced other groups out of their homelands.

4.3.4 The Punan homeland

In this section I argue that the Punan homeland was located along the upper Baleh and Balui Rivers, large tributaries of the Rejang River in Sarawak. The Balui is dominated by Kayan, and the Baleh by Iban. The only Punan groups along the Rejang River today are the Punan Bah (and closely related Punan villages in the immediate vicinity of Punan Bah). The Ukit were once located along the Balui, but are now settled in the Sungai Asap resettlement area due to the construction of the Bakun dam. The large majority of Punan groups are thus located in Kalimantan. Some, like the Buket, Beketan, Lisum, and Aput are located in the headwaters of rivers which are immediately adjacent to the headwaters of the Balui. Others, like the Punan Tubu and Sajau, are located hundreds of miles away, near the east coast of Borneo. The date of Punan dispersal from the Rejang River is approximately 1800, and was completed by 1850.

4.3.4.1 Linguistic arguments

Previous chapters have argued that Punan is a single language with internal dialect diversity, yet the current distributions of Punan speaking communities does not appear to coincide with any center of dispersal. The fact that Punan remains a single language provides evidence that the language was quite recently spoken in a more cohesive community, and was developing as a unit before the Punan moved to their current locations. The linguistic evidence, which is summarized below, strongly suggests that the Rejang River is the Punan homeland.

1) The upper tributaries of the Rejang are dominated by two groups, Iban and Kayan. In both cases, the languages of these groups remain homogenous, with limited dialectical variation. This implies that Iban and Kayan groups have only been in the Rejang for a short time, as they have not had the opportunity for diversification.

2) The Punan are part of the larger Central Sarawak subgroup, which includes two subgroups currently located on the Rejang River, and one, Müller-Schwaner, which is located on adjacent headwaters. Proto Central Sarawak was almost certainly spoken along the Rejang River, and Proto-Punan apparently developed out of a dialect of Proto-Central Sarawak that was itself spoken in the upper Baleh.

The linguistic evidence points unambiguously to the Rejang as the Punan homeland, and as will be shown below, oral histories are astonishingly similar to the linguistic realities.

4.3.4.2 Buket oral history

The Buket trace their ancestry to the upper Baleh River, which closely follows the border between Sarawak and West Kalimantan. They came to be a major tribe in the upper Kapuas area in the early 1800's around the Mendalam tributaries in lands which are today occupied by Tamanic groups. The Buket endured wars fought between large settled groups, particularly between the Taman and the Kayan, who had migrated into the area from the Apo Kayan. During the middle 1800's, when the Iban began to spread up the Baleh River into the upper Kapuas area, most of the Buket abandoned the Kapuas, and moved towards their current location in East Kalimantan (Sellato 1994:21-48).

4.3.4.3 Punan Aput oral history

The Punan Aput apparently get their name from a tributary of the Balui River, itself a tributary of the larger Rejang River in Sarawak (Kaboy 1974). They migrated to Kalimantan via the Balui River, since its source is only a short hike from the source of the Kayan River in Kalimantan.

4.3.4.4 Punan Tubu oral history

Some informants assert that the Punan Tubu migrated to the area from Mentarang and ultimately from Sesayap (A coastal area at the mouth of the Malinau river in eastern Borneo, see Sellato 2001:33 and river map 1 from the first chapter of this work), but others suggest a more ancient migration from the Bahau area, a highland region which borders the Apo Kayan, and is today occupied by Kenyah. Linguistically, the Punan Tubu appear more closely related to the Punan Bah of the middle Rejang than to any other Punan group. Evidence for this is dissimilatory raising of *a in the penultimate syllable before *a in the final syllable (Punan Tubu *makəpan* ‘thick’ and Punan Bah *makopan* from *ma-kapal) and devoicing *z (Punan Tubu *ucan* and Punan Bah *usan* from *quzan). Because Punan Tubu and Punan Bah form a subgroup within Punan, Punan Tubu most likely entered Kalimantan through the Bahau, from the upper Balui, and eventually made their way down to their current location in Malinau, leaving the Punan Bah behind in Sarawak.

4.3.4.5 Other Punan Histories

The Ukit and Sru are both argued to have originated from the Baleh River (F. de R. 1963, Sandin 1980) but were pushed out by invading Kayan, and later, Iban. There remains an Ukit settlement in the Sungai Asap resettlement area, which was formerly located along the Balui River, amongst a much larger Kayan population. This Ukit group is considered a remnant, which never left the Punan homeland. The Sru were located in the middle Rejang and Baleh, but were totally assimilated into Iban.

All of this evidence agrees with testimony from Kayan speakers who claim the Kayan moved out of the Apo Kayan in the early 1800’s (the same dates that Punan claim to have been driven out of the Baleh and Balui areas). Secondary invasions by the Iban at slightly later dates

(closer to the mid 1800's) only made things worse for the Punan. Linguistic evidence and local testimony in this case are in perfect agreement; their current, wide and thin distribution is the direct result of being forced out of their ancestral homeland by invading forces. Originally, Punan was spoken in and around the Baleh and Balui tributaries of the upper Rejang River.

4.3.5 The Kajang homeland

Recorded histories of the Kajang are scarce, but it is generally assumed that the Kajang were pushed downriver into their current location by invading Kayan in the Balui area (Rousseau 1974a). The Kayan extended significant power over the Kajang after forcing them downriver, and that influence can be seen in the lexicon (Chapter three). A significant number of apparent borrowings were also identified between Lowland Kenyah languages and Kajang (chapter three) which strongly suggests that the Kajang once occupied areas much closer to the Usun Apau (the homeland of Lowland Kenyah, as argued in Smith 2015b). The Balui and Murum tributaries of the Rejang flow through or near this area. Thus, the Kajang homeland can be placed along the Balui and Murum Rivers.

4.3.6 The Müller-Schwaner homeland

The Kereho and Hovongan seem to have always inhabited the area of the upper Kapuas River (Sellato 1980, 1986, 1994:77). Oral histories point to no other area. Another little understood group (referred to locally as Pin) apparently occupied much of the upper Mahakam area (Sellato 1980, 1986), but it is not clear precisely what language they spoke. Sellato and Soriente (2015:341) appear to endorse the view that they were part of the Barito Ot Danum, but it is equally possible that they were ancestral to today's Aoheng and Seputan, and spoke a Proto-Aoheng-Seputan dialect of Proto-Müller-Schwaner. Ultimately, however, there is no direct linguistic or archaeological evidence to confirm even the existence of the Pin. Any trace would have been wiped out long ago. Linguistic data does link the Müller-Schwaner to the Punan, and more distantly, to the Kajang and Melanau. If the Punan homeland was the Baleh, then it follows that Proto-Punan-Müller-Schwaner speakers moved into the Kapuas and Mahakam from the Baleh, where their dialect developed into Proto-Müller-Schwaner.

4.3.7 The Melanau homeland

There is not a clear history of the Melanau, and it appears that their current distribution is more or less the same as it was hundreds of years ago. They have, however, contracted considerably to smaller pockets of Melanau settlements in a larger majority Iban area. Today the Melanau are found at the mouths and along the banks of the rivers for which they are named (the Mukah river, Oya river, Balingian river, and so on). They thus occupy islands of disconnected land, not a contiguous region as a result of Iban expansion, which came from Kalimantan and was diverted away from Kuching into the Rejang by the Brooke government in the very early 1800's (Morris 1991:21-31).

4.3.8 Basap-Greater Barito

There are no reliable sources on the ancient history of the Basap, but oral histories reported in Guerreiro (2015:151-152) point to the Lesan river as the most recent Basap homeland. This river is located in the Berau Regency, near the Wahau area, a location that is today dominated by speakers of Segai-Modang languages. It is a tributary of the Kelai, but flows northward. At most, the Basap appear to have been in the general vicinity of the easternmost peninsula of East Kalimantan, an area that is split between Berau and East Kutai, for as long as we know.

4.3.8.1 Linguistic evidence for Basap-Barito contact with Segai-Modang

The linguistic evidence for Basap contact with outside groups is minimal. Guerreiro (2015:149) reports that the Basap practiced silent trade of forest products in the recent past and this general tendency towards avoiding conflict with other tribes may be partially responsible for a lack of Basap vocabulary in nearby settlements. Malay seems to be the major source of borrowing in Basap, but at least one lexical item appears to have been borrowed by the Segai-Modang from a Basap source, **bəlum* 'alive'.

This word is part of a larger near-cognate set (chapter 3), but also provides some contact evidence. There is a clear relationship between Basap *bəlum* and Barito examples such as Kadorih *borum*, Kapuas *belum*, Maanyan *welum*, and Tunjung *bəlupm*, but similar witnesses in Segai Modang are irregular. Segai languages regularly reflect **bəlum*, Gaii and Kelai *bəlum*, but Modang languages apparently reflect **bələm*, Modang and Long Gelat *bələm*. It thus appears

that this word entered Segai and Modang separately, after they had begun to differentiate. There is no regular *v* : *a* correspondence in these languages. One explanation for this is contact, where PKAY *urip was replaced with borrowed cognates of *bəlum after Proto-Segai-Modang speakers moved into what is considered ancient Basap-Barito territory. The scenario under which this contact might have occurred is fairly obvious; Segai-Modang speakers came into contact with and eventually wiped out Basap speakers when they moved into Berau from the upper Bahau area.

4.3.8.2 Barito

The distribution of Barito languages today suggests that the dialect network developed along the Barito River and towards the northeast, but that the distribution of Ngaju dialects and the westerly Ot Danum is a more recent expansion. Diversity in the Barito linkage is centered along the Barito, and in the hill-country between the Barito and Mahakam Rivers. To the west of the Barito, one finds closely related dialects and little diversity.

Dates for specific groups along the Barito are widely reported in the literature. Pre-Malagasy, and all languages of the Central East Barito subgroup (Maanyan and Barito Dusun varieties) were present in areas closer to the sea, along the mouth of the Barito River, at the time of Malagasy migration to Madagascar. This is dated in Adelaar (1989:32-35) as occurring between 600 and 1200 CE. This is striking, as Malagasy has been shown to belong to the East Barito group (Dahl 1951) which further implies that these languages have remained stable for a millennium. Other Barito languages were present in their current locations as early as the latter half of the 1800's (Hamer 1889).

4.3.9 Sabah

A probable history of the languages of Sabah hinges critically on the history of the Northeast Sabah group. As Blust (2010:63-68) makes clear, linguistic evidence supports the inference that NES was once spoken throughout eastern Sabah. Further, the extent of NES territory may have extended into the Sulu Archipelago as recently as 800 AD (Pallesen 1985:117). The migration of Sama-Bajaw (Basap-Greater Barito) into the Sulu archipelago forced the contraction of NES to the Bornean mainland. Later, NES was further fragmented by

SWS expansion, a relatively recent event as shown by the homogeneity of SWS languages in general.

4.3.10 Known histories of other groups in Borneo

The Tamanic speaking people appear to have been in the upper Kapuas for as long as Western writers have been in the area, from at least the early-mid 1800's (Keppel 1846, Wadley and Smith 2001:61-62). King (1985) claims that the Tamanic people (specifically the Maloh) have been in the upper Kapuas for 20 generations, which roughly equals 400 years (1 generation = 20 years). It's difficult to pinpoint exactly when Tamanic speaking people entered Borneo, but it is assumed that their ultimate origin is south Sulawesi (Adelaar 1994, von Kessel 1850, Hudson 1978).

There is no consensus on where Dayic speakers were before reaching the highlands of central Borneo. There is a significant population in Kalimantan, directly across the border from Bario. The Dayic population expands north somewhat, towards Sabah. Although it has been claimed that they are originally from southeast Borneo or that they entered Sarawak through the adjacent highlands after Kayanic expansion (Rousseau 1990), it is probably best to assume that speakers of Proto-Dayic were themselves highlanders of the upper Baram, and that they have lived in this area for as long as can be inferred.

4.3.11 West and Central Kalimantan between the Kapuas and Barito

Ketapang regency (the farthest west portion of Borneo, well south of Pontianak) was apparently home to a large population of "Dayak" although the language of these people may have been Land Dayak or Malayic. This agrees with the larger belief that a politically powerful entity existed in modern Ketapang, and flourished despite influences of the Malay sultanate based out of nearby Sukadana in the southern coastal edge of the Kapuas River (Wadley and Smith 2001). This area of southern West Kalimantan was under particularly heavy Malay and Javanese influence, since the rise of Indianized states in island Southeast Asia. Because of the current distribution of languages, we have no idea what might have been spoken in this area in the distant past.

4.3.12 Invasion, and the chain reactions of the late 1700's and early-mid 1800's

The distribution of languages on Borneo as we see it today was the product of a chain reaction set off by the Kenyah takeover of the Bahau and Apo Kayan areas. This forced speakers of early Kayanic languages to seek new lands outside of their homeland. Kayanic speakers moved down river, into the Kutai and Berau areas (today's Segai-Modang), into the Mahakam (today's Bahau and Busang), into the lower Kayan and Malinau rivers (today's Murik and Merap) and into Sarawak via the Balui tributary of the Rejang and Baram Rivers (today's Kayan). The movement of Kayan into the Balui is also responsible for the contraction and downriver migration of the Kajang, who were once the majority group along the Balui. Kayan movement into the Balui, combined with pressures from downriver Iban along the Baleh tributary, also caused the dispersal of the Punan into far-flung corners of the island. The movement of Segai-Modang into the Kutai and Berau areas may be partially responsible for severing the Basap-Greater Barito dialect chain. Kayan movement into the upper Mahakam completely leveled any linguistic diversity which might have existed there in the past (again, this may have had a role in separating Basap and Barito). To the north, a very similar migration, from west to east, is responsible for the current fragmented distribution of NES.

4.3.13 The larger history of the Mahakam

As the above sections have made clear, most major river systems in Borneo are also home to discrete linguistic groups. The North Sarawak subgroup developed along the Baram River, the Central Sarawak group along the Rejang River, the Land Dayak group along the Kapuas River, the Kayanic group along the Kayan River, the Barito linkage along the Barito River. The reasons for this distribution are straightforward; large rivers are the lifelines of interior communities and acted as highways for trade and population movements as well as sources of food, drink, and stability. However, in East Kalimantan one of the largest and most populated rivers on the island, the Mahakam, is mostly occupied by Kayanic speaking people who moved down river into the Mahakam from the Apo Kayan. There are no large subgroups that appear to have originated from the Mahakam.

4.3.13.1 Detailed distribution of languages along the Mahakam River

The Mahakam River is just over 600 miles long. It is longer than the Rejang River (the longest river in Malaysia) by 250 miles. Only West Kalimantan's Kapuas River is longer, at 710 miles. The river can be separated into three areas, upper, middle, and lower, with the following rough borders (it may be helpful to refer back to river map 6):

Upper Mahakam

The area of the Mahakam River from its source, downstream towards Melak town. This area is dominated by Kayan speakers, but the farthest reaches of the Mahakam are also home to Müller-Schwaner languages.

Middle Mahakam

From around Melak town to the confluence of the Kedang Kepala River. This area is occupied largely by Tunjung speakers, and includes the large Mahakam River lakes and surrounding peat lands.

Lower Mahakam

The area downstream from the Kedang Kepala river, including the major cities of Tenggarong and Samarinda, the capital of East Kalimantan. Kutai Malay is the major language of this area.

It is most likely that there was at one time more diversity along the Mahakam. Barito and Basap form a Basap-Greater Barito linkage which presumably stretched from the Barito to modern day Berau centuries ago, an area that includes the Mahakam and its major tributaries. Thus, ancient linguistic diversity along the Mahakam most likely involved Basap-Barito languages. This section seeks to identify the cause of linguistic leveling in the Mahakam.

4.3.13.2 Recorded history of the Mahakam River

Coedès (1968) provides a wide overview of the rise and fall of Indianized states in Southeast Asia. Here, it is generally believed that the spread of Indian influence occurred in both mainland and island Southeast Asia at around the same time. The earliest records of Indianized

states in Borneo were discovered on four Yūpa stones in June of 1897, which are dated at around the 4th century (Vogel 1918, Chhabra 1947). These stones belonged to King Mulavarman, ruler of the Indianized state of Kutai which was founded by his father, Aśvavarman, along the middle and lower courses of the Mahakam River in the Mahakam lakes region and along major tributaries thereof. This area is home to the Kutai Malayic language, although it is not known if this was the language of the Indianized Kutai kingdom, or if Malay was introduced later.

The Kutai kingdom exercised influence throughout eastern Borneo, and it appears that the kingdom's seat of power lay more towards the interior than the coast. Tenggarong, the capital of the later Kutai Kartanegara sultanate, is located 50 miles inland from the coast, and Buddhist statues of the earlier Kutai kingdom have been located in Kota Bangun, in the Mahakam lakes area in the middle course of the Mahakam River some 80 miles upriver (Coedès 1968:52).

As Indianized states began to weaken in Southeast Asia, Kutai was a subject of Majapahit, the last Indianized stronghold of Java. The Nāgara-Kērtāgama, an early Javanese manuscript highlighting the extent of Majapahit's influences in island Southeast Asia, lists *Tuñjung-Kute* as a tributary to the king (Pigeaud 1962:32). This is quite interesting, because Tunjung speakers are today located around the Mahakam lakes area, and if this document does in fact refer to the Tunjung, then it establishes their presence as a discrete group, possibly one of political importance, as early as the mid 1300's (the date of the manuscript's writing).

What is clear from this is that the Mahakam River has been home to powerful, centralized rule for centuries, beginning with the rise of Indian influence in island Southeast Asia. However, the name *Tuñjung-Kute* in the Nāgara-Kērtāgama manuscript appears to at least partially confirm that linguistic diversity was maintained along the Mahakam during this time. The language of Kutai is not known, although the later sultanate probably used Malay. Also unknown is the status of more northern Basap dialects in the Kutai kingdom. It is likely, however, that Basap was spoken over a larger territory during Kutai rule than it is today.

4.3.13.3 Inferences on Basap-Barito history

At some point the entire middle Mahakam River, including the Mahakam lakes region, and the large tributaries of the Kedung Kepala was home to dialects of a larger Basap-Greater Barito dialect chain. This chain stretched from the eastern shores of the Barito River to the Mahakam, through Kutai, and into at least Berau (if not all the way to the lower Kayan). Today,

only Tunjung remains on the Mahakam, and their presence in this region is more ancient than previously thought (at least the mid 1300's). Further to the north, however, Segai-Modang movement into the Segah, Kelai, Wahau, and Kedang Kelapa rivers severed the dialect chain, and whatever was spoken in these areas has been completely replaced by Segai-Modang daughter languages. It is possible to infer the presence of now-extinct Basap-Barito languages because of the borrowing for 'alive' found in Segai-Modang, but no other Kayanic group. The Basap are thus the only remnant population in this area that pre-date Kayanic expansion. The combination of a large centralized sultanate, Kutai Kartanegara, after the fall of Majapahit, plus the later linguistic extinction events brought by Kayanic movement into downriver areas, have almost completely wiped away any evidence of Basap-Greater Barito. The Basap may have survived in Kutai Kartanegara with limited effects (Malay loans in Basap are likely the product of the sultan's dominion over the Basap), but warfare and frequent headhunting raids by Kayanic speakers seem to have pushed the language to the brink of extinction.

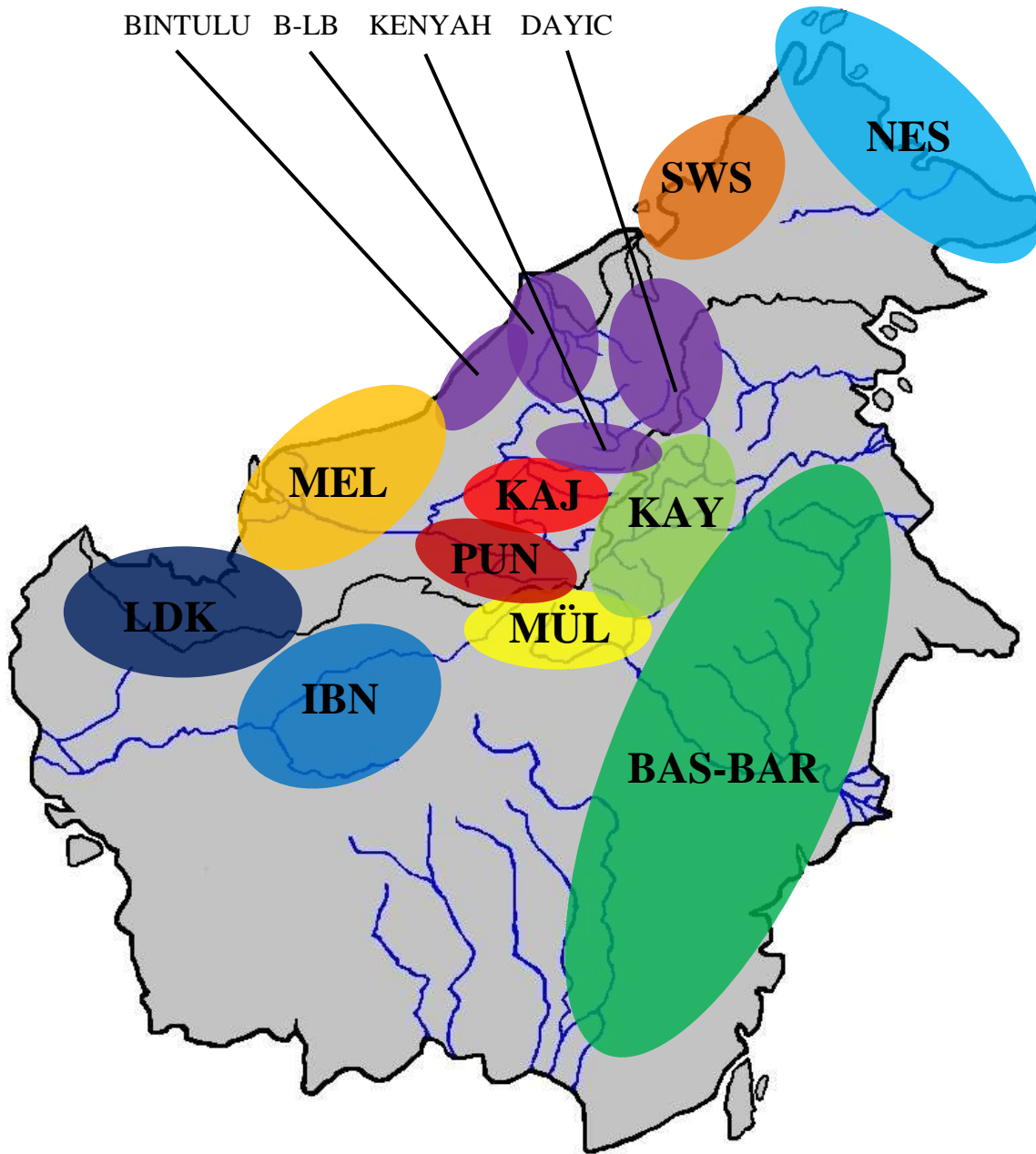
4.3.14 Summary of population movements in Borneo in the last 200 years

The above evidence is put together into two maps. The first states the homelands of major subgroups before the 1800's. The second gives a more modern distribution of languages after the many migration events of the 1800's. Excluded from the following maps are Tamanic and non-Ibanic Malayic languages whose histories are more opaque. There are several observations one can make with the following maps. 1) Central Sarawak languages formed a cohesive unit, and dominated the Rejang River before Kayanic and Iban expansion either forced them out, contracted their territory, or forced their assimilation. 2) The only group native to central and eastern Kalimantan, for which evidence is available, was the Basap-Greater Barito dialect network. 3) While Kenyah, Kayan, and Iban movements had wide ranging effects in central and southern Borneo, Southwest Sabah languages underwent an equally dramatic expansion, nearly wiping out the Northeast Sabah languages. Their expansion south into Kalimantan can also be observed, although there is no evidence of what languages might have been spoken in the area of the modern Sabah-Kalimantan border. 4) It is not known what languages were spoken in the areas of modern Central Kalimantan to the west of the Barito River. Whatever linguistic diversity might have existed in this area was leveled when western Barito languages moved out of the Barito River into their current locations.

Note also that the title for map 10, “current location of major subgroups in Borneo”, is a bit misleading, as projects like the Bakun dam have resulted in the complete de-population of the Balui River, now the Bakun reservoir. Very recent population movements, towards large city centers, are also not indicated on the “current” map.

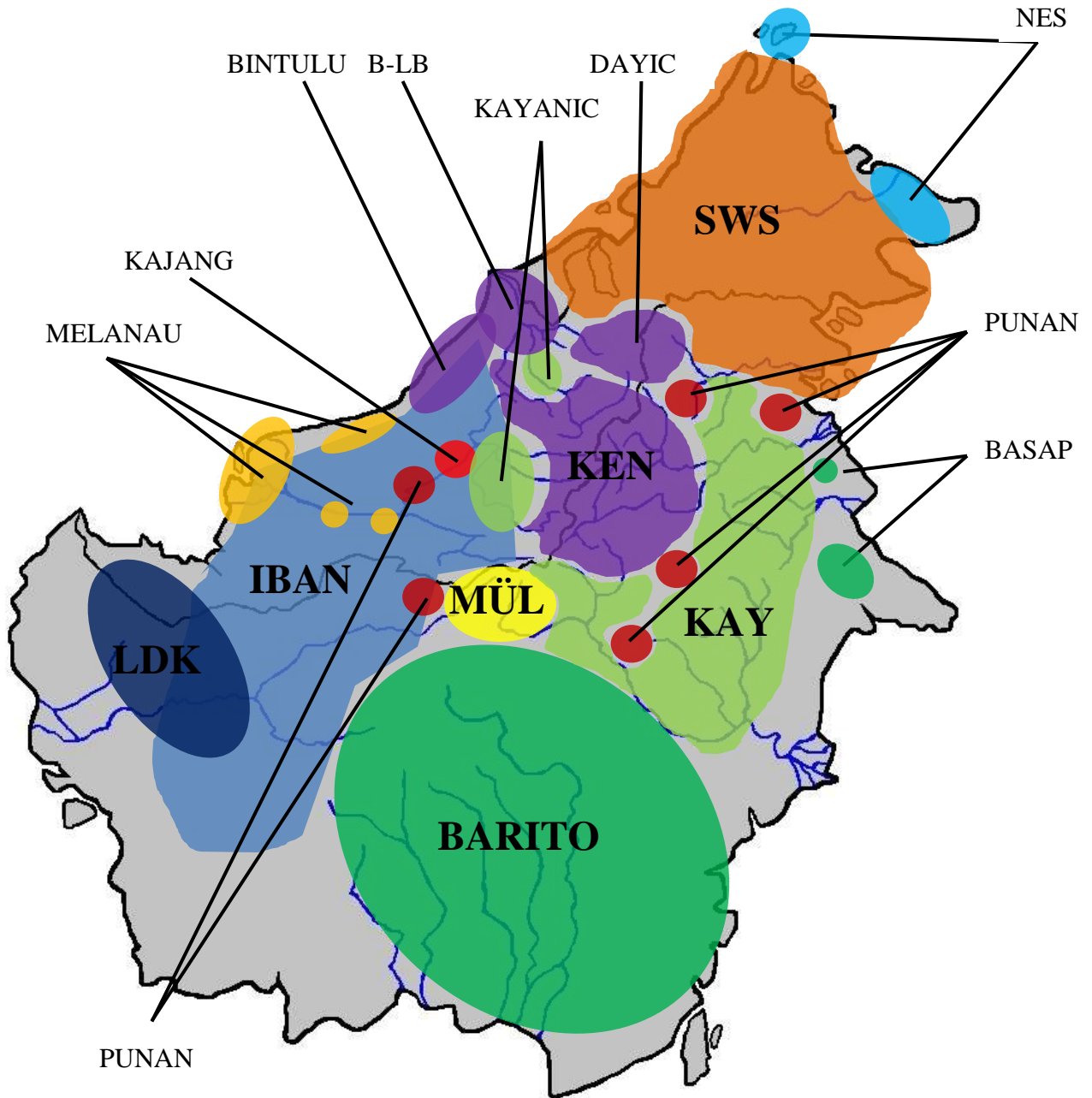
MAP 9

The location of major subgroups before the 1800's



MAP 10

The current location of major subgroups in Borneo



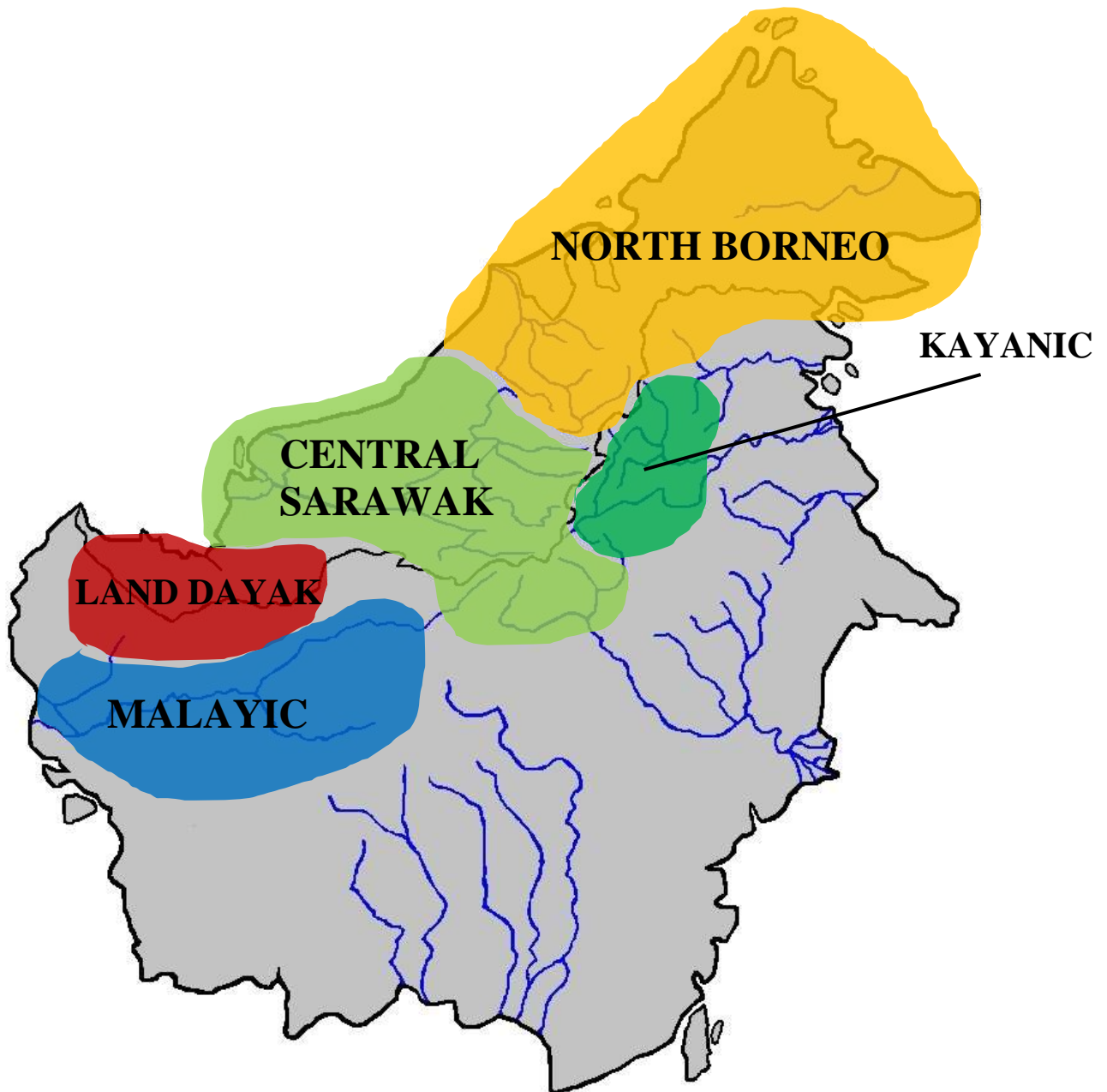
4.4 Greater North Borneo homeland

Map 11 provides a visualization of the homelands of major Greater North Borneo subgroups, and should be referenced while reading. It is difficult to propose a GNB homeland without resorting to speculative statements beyond what linguistic evidence allows us to infer. Although most GNB diversity is today found in the south, in an area where Malayic, Land Dayak, and Central Sarawak come together near the modern international border, the lack of diversity where North Borneo is located may be the result of migrations which leveled the diversity that once existed there.

Also in question is the ultimate position of Kayanic. First, Proto-Kayanic cannot have sprung out of nowhere, in the most central part of Borneo. Rather, pre-Proto-Kayanic speakers traveled upriver from the coast to the Apo Kayan where their language developed into Proto-Kayanic. This is not a speculation, but a geographic truth which is supported by the long-established hypothesis that Austronesian speaking people left Taiwan over 4,000 years ago, and settled the Philippines, and later Borneo, from the sea. If the Apo Kayan was settled from the Rejang, then it follows that Kayan may be more closely (but still fairly distantly) related to Central Sarawak than to other languages of Borneo. If the Apo Kayan was settled from the Baram, however, then it would imply that Kayanic is more closely related to North Borneo. Note that although the Kayan River, which is named for the Kayan who traditionally occupied its headwaters, enters the sea on the east coast of Borneo, the Kayan themselves do not seem to have reached the highlands from the east. Their closer relationship with GNB indicates that the language came from the west. Unfortunately, the linguistic and anthropological data gives no preference to subgrouping Kayan with either Central Sarawak or North Borneo, and the most supported history is one where Proto-Kayanic, a primary branch of GNB, became linguistically isolated after Proto-Central Sarawak and Proto-North Bornean expansion into the Rejang and Baram Rivers leveled the linguistic diversity of most of Sarawak.

MAP 11

Higher-order subgroups of Greater North Borneo



4.5 Initial settlement and secondary eastward expansions

Blust (2010:48) argues that Borneo was initially settled by speakers of a PMP dialect who entered via Palawan. The main piece of evidence for this is reflexes of PAN *qaRəm ‘scaly anteater’ which are found in Taiwan and Borneo, but are absent in the Philippines. The scaly anteater never made it to the Philippines because the islands are not part of the Sunda shelf, and

were thus never connected by land to mainland Southeast Asia. Palawan, however, which is politically and linguistically part of the Philippines, is located on the Sunda shelf and was at one time home to a type of scaly anteater. It follows from this observation that in order to maintain reflexes of *qaRəm, PMP speakers who settled Borneo must have passed through Palawan. From this, the geographic realities of north Borneo force one to assume that two groups quickly formed as Austronesian speakers moved along the coast; one group that followed the western route along the South China Sea, and one that followed the eastern route, along the Makassar Strait. This corresponds with the two major divisions in PWIN that are found on Borneo today, Greater North Borneo and Basap-Barito. Blust's original hypothesis is accepted here, but some observations need to be made to clarify specifics about the earliest AN settlers of Borneo.

Observations:

- 1) Greater North Borneo could not have been spoken along the entire area where its daughter languages were located in the late 1700's. Its current distribution must have been the result of an expansion from a more compact area, although the location of that area is not clear.

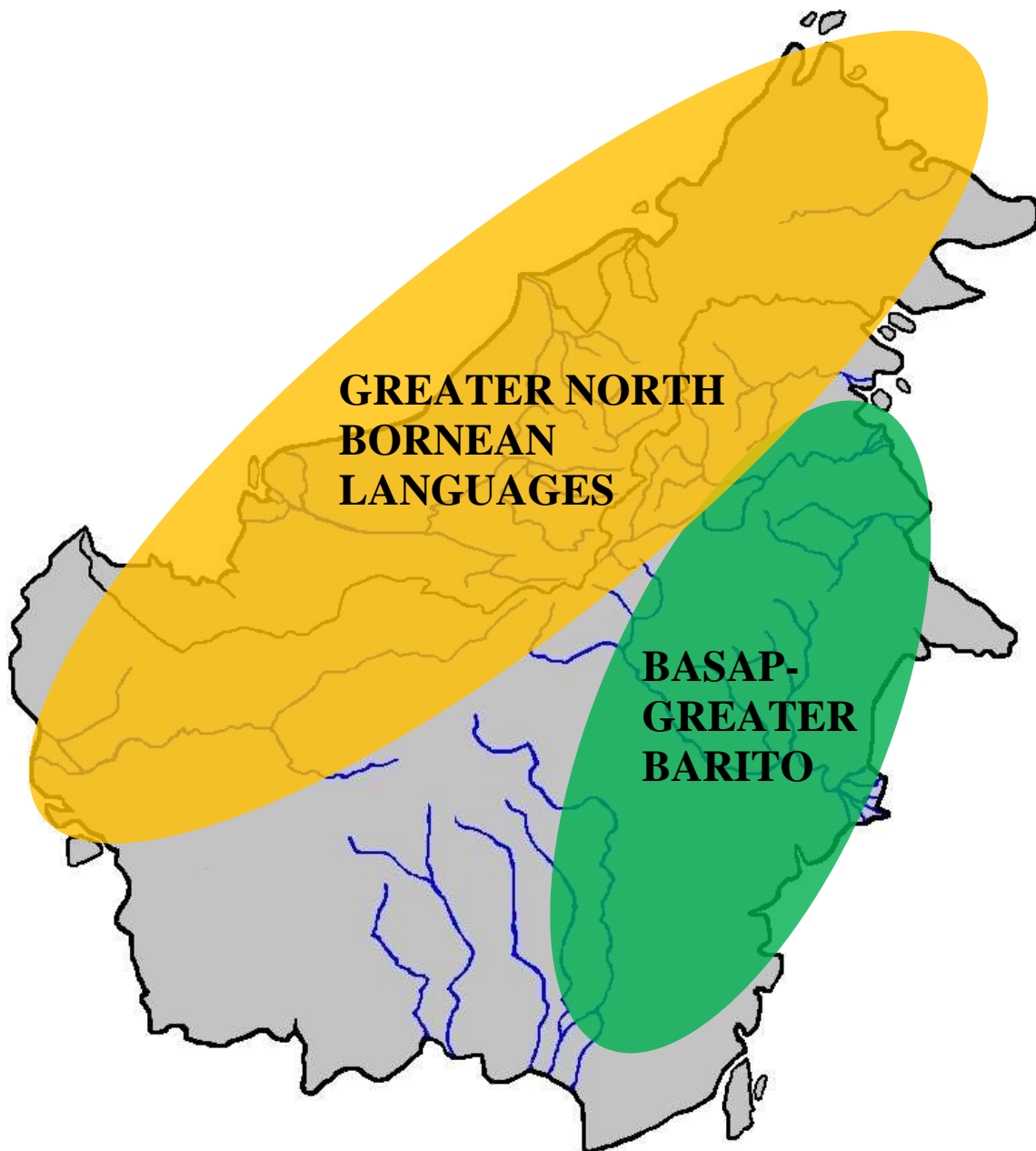
- 2) Basap-Greater Barito is a linkage consisting of individual languages along an extensive dialect network. It is thus likely that the distribution shown in the following map (map 12) more closely matches the actual distribution of these languages, since there was no "Proto-Basap-Greater Barito" language and thus no need to assume a compact area of in-situ development.

- 3) Blust's original observation, that Borneo was settled by two groups, one which followed the west coast facing the South China Sea, and one which followed the eastern coast facing the Macassar Strait is basically accepted as is. Additional data has only added support for his original claims. However, it is not clear if the group that followed the west coast spoke PGNB, or simply some dialect of PWIN. Because GNB is a discrete subgroup, it follows that it must have been spoken in a compact area, where it developed as a unit before diversifying. It is possible that the west coast of Borneo was home to more than one primary branch of WIN, but that past diversity was leveled after the expansion of PGNB. Compare, for example, the multiple primary branches of PAN which are found on Taiwan. Although Taiwan is a much smaller island than

Borneo, the pattern of settling the coast before moving inland produced a large, island-wide dialect chain that eventually diversified into several distinct subgroups. Although it is assumed that the same pattern of settling the coast before moving inland applied to Borneo, there are only two primary branches of PWIN spoken on the island today. The expected diversity is absent, and we are forced to assume either that speakers of PGNB itself settled the western coast, or that PWIN speakers settled the coast, diversified, and one group (PGNB) eventually expanded at the expense of others. Whatever the case, however, it can be confidently stated that at least some speakers who followed the western coast gave rise to PGNB, which eventually became the dominant subgroup of western Borneo, and those who followed the eastern coast gave rise to a large Basap-Barito dialect chain, which suggests that the east coast did not experience the same type of leveling events that occurred along the west coast until quite recently.

MAP 12

The initial split of PWIN in Borneo



4.6 Chapter summary

This chapter has presented a clear interpretation of the linguistic prehistory of Borneo. Using inferences drawn from the subgrouping hypotheses in chapters two and three, this chapter proposed the following: 1) Speakers of PWIN entered Borneo from the north, and settled the

coasts of Borneo, causing an early split between those who followed the east coast and those who followed the west coast (facing the South China Sea). 2) at least on the east coast, a large dialect chain developed that stretched from modern day north Kalimantan south to the Mahakam and Barito Rivers. This was most likely the result of a rapid initial settlement followed by an extended period of in situ development. 3) on the west coast, the linguistic picture is markedly different. There is a clear GNB group which appears to be descended from a discrete PGNB language. It is not immediately clear where the PGNB homeland was, but it must have been somewhere along the coast facing the South China Sea. From a compact area, PGNB spread out and leveled whatever linguistic diversity might have been found on the west coast. 4) PGNB first split into five groups, North Borneo, which came to cover the entirety of Sabah and northern Sarawak, Central Sarawak, which developed along the entire Rejang River system, Kayanic, which evolved in the isolated Apo Kayan highlands, Land Dayak, which appears to have always been spoken in the area around the modern-day border between Sarawak and West Kalimantan, and Malayic, which developed somewhere in coastal West Kalimantan. 5) These five groups began to diversify more or less in situ, and during this period, the modern large subgroups of Borneo evolved. Southwest Sabah was located along the west Sabah coast, from Kota Kinabalu south towards the border with Sarawak and Brunei. Northeast Sabah covered the opposite coast, from Banggi Island south toward the easternmost peninsula in Sabah and into the Sulu Archipelago. North Sarawak was located along the Baram River. Central Sarawak split into the Melanau, who occupied the entire lower Rejang and much of the coast from just south of Bintulu towards the southern edge of the Rejang River delta, the Punan, who occupied the Baleh tributary and the upriver areas bordering the upper Kapuas area in West Kalimantan, the Kajang who occupied the Balui and upriver areas in the Rejang tributaries close to Usun Apau, and the Müller-Schwaner, who crossed into the upper Kapuas and Mahakam Rivers early, and appear to have developed in situ. Kayanic began to diversify in the Apo Kayan and Bahau areas before they were forced downriver. Land Dayak split into two groups, Bekati-Banyadu, and Bidayuh-Southern Land Dayak, early in its history. There is not much evidence for migration, and it appears that they have occupied the same area for some time, although they were in contact with Melanau speakers at some point. Malayic languages are hard to pin down, in terms of homeland. It is generally agreed that Proto-Malayic was spoken along the western coast, possibly around the mouth of the Kapuas. 6) A recent chain reaction has resulted in major changes to the

linguistic landscape. It was set in motion in the early 1800's by Kenyah who moved into the Bahau, Pujungan, and Apo Kayan areas expelling Kayanic speakers from their homeland. These Kayanic speakers moved into the Rejang, Berau, Mahakam, and Baram Rivers. At a slightly later date, the Iban expanded northward from the Upper Kapuas, and leveled much of central and northern Sarawak in areas near the coast. As a result, Kajang speakers lost much of their territory in the Balui, Punan were forced out of the Baleh, Melanau lost most of their previous territory, and the Basap-Barito linkage was severed in East Kalimantan. 7) In what may have been a separate major migration, speakers of Southwest Sabah languages moved east, and leveled much of the diversity that existed, leaving only traces of Northeast Sabah in Modern Idaanic and Bonggi.

There are some areas where linguistics cannot provide clear answers. The part of North Kalimantan and southeast Sabah, near the border, may have been home to speakers of a NES language, or to speakers of a BAS-BAR language, but the expansion of SWS has removed any trace of these. The same is true for the vast areas to the west of the Barito River. It is not clear at all what languages were spoken along the Central Kalimantan Kapuas, Kahayan, Rungan, and Sampit rivers (river map 5). These areas are today occupied by speakers of relatively homogenous Ngaju dialects, but may have been a locus of greater diversity in the past.

CHAPTER 5

CONCLUSION

5.1 Introduction

In this final chapter, the basic arguments found in chapters 2 through 4 are presented in a compact form. First, each of the major subgroups in chapter 2 are named, with lists of evidence where appropriate. Next, the major findings of chapter 3, including zones of lexical borrowing, pan-Bornean near cognates, and evidence for Central Sarawak, Basap-Barito, North Borneo, Greater North Borneo, and Western Indonesian is reprinted in brief with evidence where appropriate. Finally, the several homeland hypotheses described in chapter 4 are summarized, with a note on the initial settlement of the island by AN-speaking peoples. This chapter is concluded with a full tree representation of the languages of Borneo as argued throughout this dissertation.

5.2 Chapter 2 summary

Chapter 2 provided linguistic arguments in the form of phonological and lexical replacement innovations for the following subgroups: Kayanic, Kajang, Melanau, Punan, Müller-Schwaner, Land Dayak, Barito, Basap, Malayic (particularly with respect to West Bornean Malayic), Southwest Sabah, Northeast Sabah, Dayic, Berawan-Lower Baram, Bintulu, and Kenyah. Details of each of these proposals are reviewed below.

5.2.1 Kayanic

The Kayanic subgroup includes Kayan, Busang, Bahau, Murik, and Merap languages and dialects. The subgroup is defined by a set of 12 lexical innovations, including irregular change PMP *bibiR > PKAY *sibih ‘lips’ (irregular *b- > *s-) and 11 lexical replacement innovations of high quality.

Figure 92

Lexical replacement innovations that define Kayanic

| | |
|----------------------------|------------------------------|
| PKAY *hinəŋ ‘face’ | PKAY *irək ‘snot; mucus’ |
| PKAY *luraʔ ‘to spit’ | PKAY *laʔuŋ ‘back (anatomy)’ |
| PKAY *saləŋ ‘earthworm’ | PKAY *pahu ‘grasshopper’ |
| PKAY *təlis ‘squirrel’ | PKAY *haruk ‘canoe’ |
| PKAY *maʔud ‘wake up’ | PKAY *puhak ‘handspan’ |
| PKAY *kul kayu ‘tree bark’ | |

Kayanic is divided into three subgroups, Kayan, Murik-Merap, and Segai-Modang. The chapter includes the first linguistic defense of Segai-Modang, and defines the subgroup using only phonological evidence. Also, the aberrant Kayanic languages Kelai and Merap were discussed in more detail, giving descriptions of interesting aspects of their phonologies and histories.

5.2.2 Melanau and Kajang

Melanau and Kajang languages were shown to not form an exclusive subgroup with each other. Instead, Kajang and Melanau were treated as separate entities (although later, in chapter 3, it was shown that both belong to the larger Central Sarawak subgroup). Kajang languages are fairly innovative and the subgroup is entirely phonologically defined. PKAJ altered *l to *ɭ in the onset of final syllables and this change is inherited in all modern Kajang languages where ɭ is a positionally conditioned allophone of l. PKAJ also changed the first consonant of medial consonant clusters to glottal stop (*CC > *ʔC) and strengthened intervocalic glides (*w > *g^w and *y > *z).

Melanau languages do not form a strongly defined subgroup in the way Kajang does. Evidence for a discrete Melanau group is entirely lexical. Because Melanau is a dialect network, there are no single sound changes that are shared by all Melanau languages. There are rather, several changes shared by some but not all, in an overlapping fashion. The lexical evidence is:

Figure 93

Lexical replacement innovations that define Melanau

| | |
|--------------------------|-------------------|
| *tutəŋ ‘to drink’ | *tuRun ‘to swim’ |
| *tənanaw ‘person; human’ | *laki ‘old’ |
| *biləm ‘black’ | *sak ‘red’ |
| *məRu ‘woman’ | *s-upat ‘swollen’ |
| *aRuh ‘road’ | *paŋay ‘wind’ |
| *tigah ‘straight’ | |

5.2.3 Punan

Punan was shown to be a single language with internal dialect diversity which is spoken by isolated groups over much of central Borneo. Only a small number of sound changes occurred in Proto-Punan, and none are of high quality. Lexical evidence, in the form of irregular sound changes and lexical replacement innovations however, provide convincing evidence for the validity of Punan.

Figure 94

Lexical replacement innovations that define Punan

| | |
|--|------------------|
| *təlasu? ‘barking deer’ (irregular metathesis) | *hen ‘he/she/it’ |
| *lahaut ‘animal’ | *asay ‘snake’ |
| *ayam ‘scaly anteater’ | *matək ‘fall’ |
| *kañiŋ ‘sweet’ | *uba(h) ‘new’ |
| *buhak ‘white’ | *balum ‘finish’ |
| *diriŋ ‘thin’ | *karən ‘every’ |
| *taduŋ ‘road; path’ | *limu ‘naked’ |
| *ovet ‘animal trap’ | |

One interesting outcome of this section was the inclusion of Sru, an extinct language with only 170 words available for analysis, in Punan. Evidence was lexical, and comfortably places Sru within Punan. An internal subgrouping of Punan dialects recognizes a primary split between Punan Tubu, Bah, Sajau, and the rest of Punan. This separation is phonologically defined, based

on the fact that Punan Bah and Tubuh show raising of *a to *ə in penultimate syllables before *a in the final syllable and the devoicing of PMP *z. Other Punan languages form a group based on the merger of penultimate *ə with *a. Sajau (and Latti) are included with Punan Bah and Tubu because of apparent lexical innovations (from data in Guerreiro 2015). This section also pointed out several ways in which the phonology of Punan Bah has been altered by close contact with Kajang languages along the Rejang, including raising and off gliding of *a before word-final *-k and *-ŋ and off gliding of high vowels before the same final velars.

5.2.4 Müller-Schwaner

Müller-Schwaner languages proved to be phonologically very interesting. PMÜL innovated two vowels, tentatively identified as *ɯ and *ɪ. In particular, *ɪ was innovated before word-final *l, which was subsequently deleted, where *-əl and *-al became *-ɪ. This odd environment provides strong evidence that these languages form a subgroup. Although not all Müller-Schwaner languages retain *ɪ, distinct correspondence sets between languages with and without ɪ suggests that the vowel was indeed present in PMÜL. Another, quite odd sound change which defines this group is apparent metathesis of vowels in words that ended in *-əCuR. For example, *bəsɯR is reflected as *bosa* and apparently went through the following stages: *bəsɯR > *bəsɔh > *bosah > *bosa*. Similar changes are found in other words which ended in *-əCuR, including *təluR > *toa* ‘egg’, and *niuR > *əñuR > *oña* ‘coconut’. The internal subgrouping of Müller-Schwaner is less straightforward, but Aoheng and Seputan are grouped together as both retained intervocalic *-l- in words that ended in *-ŋ and *-ʔ, where Kereho and Hovongan deleted *-l- in this environment. This odd condition provides good evidence for a Seputan-Aoheng group within Müller-Schwaner.

5.2.5 Land Dayak

Land Dayak proved particularly challenging, as the many Land Dayak languages show numerous sound changes, and are often obscured by the overwhelming presence of Malay loanwords. However, an internal subgrouping of Land Dayak was accomplished by careful application of the comparative method, and by discarding all identifiable Malay loanwords from consideration. As a whole, Land Dayak is defined by two shifts, *R > *h and *l > *r, although some cases where *l is reflected as *l* may cause problems for this evidence. It is not clear if cases

where *l is reflected as *l* are actual retentions, or if the past sound change *l > *r was later covered up by a subsequent change *r > *l*. Normally, such a hypothesis would be immediately suspect, as it is not generally acceptable to posit intermediate changes, only to have them covered up completely by a later change. However, Land Dayak languages that do reflect *l as *l* are closely related to other Land Dayak languages where *l did become *r. At any rate, there is also robust lexical evidence for a Land Dayak subgroup:

Figure 95

Lexical replacement innovations that define Land Dayak

| | |
|----------------------|-------------------|
| *mahi ‘eight’ | *piray ‘nine’ |
| *simaŋ/siməŋ ‘ten’ | *abak ‘head’ |
| *rayaŋ ‘saliva’ | *uŋaŋ ‘body’ |
| *mandam ‘sick’ | *kəpuŋ ‘waist’ |
| *kajaʔ ‘leg’ | *subay ‘ant’ |
| *paruŋgaŋ ‘mosquito’ | *(a)mut ‘ghost’ |
| *paras ‘hot’ | *paʔin ‘water’ |
| *bəŋu ‘lime chalk’ | *maŋkat ‘wake up’ |
| *baʔay ‘parang’ | *siŋgət ‘black’ |
| *sawaʔ ‘year’ | |

An important contribution of this section was the observation that *ə and *a merged as *a in the penultimate syllable in Bekati and Banyadu, but not in Bidayuh or Southern Land Dayak. In the latter two subgroups, *ə and *a merged as *a except when following a labial consonant, where schwa was retained. This observation allows for an updated internal subgrouping of Land Dayak, where PLD split into two primary groups, Banyadu-Bekati, and Bidayuh-Southern Land Dayak. This internal subgrouping differs considerably from that in Rensch et al. (2012), where Bidayuh was grouped together with Banyadu and Bekati. This section also provided a first look at Hliboi Bidayuh, an otherwise undocumented language located in West Kalimantan, near the border with Sarawak. Hliboi is interesting in that it developed word-initial geminate consonants through deletion of non-low penultimate vowels, a sound change that directly parallels the development of geminates in Sa’ban

5.2.6 Barito

Chapter two made a significant contribution to the classification of Barito languages. Using phonological evidence that was unavailable to Hudson (1967), it was shown that relevant sound changes in Barito occur in a clear linkage pattern. There are several sound changes which are found in some but not all Barito languages, and no sound changes which are present throughout the subgroup. The result is a prototypical example of a linkage. It was concluded that lexical and phonological evidence for a Barito subgroup is not satisfactory, and that there was likely never a distinct “Proto-Barito” language, despite some attempts at a Proto-Barito reconstruction. The following table, reprinted from chapter 2, summarizes the linkage:

Table 91

Barito sound changes supporting a linkage hypothesis

| | Kadorih | Ngj-Kps | Yakan | Man-DusW | Dusun B | Tab-Ben | Tunjung |
|---------------|---------|---------|-------|----------|---------|---------|---------|
| *R > h | + | + | + | | | | + |
| *ə > e | | + | + | + | + | | |
| *z > *d > (r) | | | + | + | + | + | |
| *-R > y | | | | + | + | + | |
| *-b > w | | | | | + | + | + |
| *-d > r | | + | | | | + | + |
| *-l > r | | | | | | + | + |
| *d- > r | | | | + | + | | + |
| *b- > w | | | | + | + | | |

5.2.7 Malayic

Although Malayic is one of the best understood groups of languages in Borneo, there remain key questions regarding its internal subgrouping. In chapter two, following Nothofer (1997), the Malayic languages of West Kalimantan including Iban, Mualang, Seberuang, Kendayan, Salako, and Keninjal, were put into a single West Bornean Malayic group with several Malayic languages of Sumatra, including Besemah, where *-R is reflected by -ʔ in a particular set of words. The West Bornean Malayic subgroup excludes all “standard” dialects of Malay and Indonesian and any Malayic language where *-R is regularly reflected as -r.

5.2.8 Basap

Basap remains a little-known group of languages, and much linguistic work is needed before these languages are lost. Basap is a conservative subgroup, and the only sound change which unites all Basap languages is *-b > *-m. Beyond this, however, Basap has a number of apparent lexical replacement innovations which add support to the subgroup:

Figure 96

Lexical replacement innovations that define Basap

| | |
|-----------------------|----------------------------------|
| *tulək ‘ear’ | *jaŋur ‘chin’ |
| *buŋkuŋ ‘neck’ | *buat ‘wake up’ |
| *jaga ‘see’ | *tərais ‘shout’ |
| *pədiŋ ‘dig’ | *bunaŋan ‘pregnant’ |
| *hukut ‘back’ | *bayad ‘small insectivorous bat’ |
| *dulun ‘mountain’ | *waʔid ‘betel nut’ |
| *bawan ‘long’ | *kinis ‘pinky’ |
| *ñəRit ‘itchy’ | *gəsəŋ ‘sweat’ |
| *bunaŋ ‘egg’ | *lucut ‘smooth’ |
| *[l/n]imbuluR ‘naked’ | *tum ‘to wrap’ |
| *ləbus ‘loose’ | *ñilam ‘enter’ |
| *ləhiŋ ‘honey’ | *muRu(h) ‘steal’ |

5.2.9 Sabah

Much of the discussion of Sabah in Chapter two consists of summarizations of work by Blust (1998; 2010) and Lobel (2013b; 2016). An original contribution, however, was made when specific phonological evidence was provided which supports that hypothesis that Molbog subgroups with Greater Central Philippines to the north, and that Bonggi subgroups with the Bornean languages to the south. This evidence is summarized below:

Simplification of heterorganic consonant clusters in reduplicated monosyllables

Clusters of the type $-C_1C_2-$ became geminate singleton stops of the shape $-C_2C_2-$ in Bonggi and at least Proto-Greater North Borneo, but not in Molbog or Greater Central Philippines.

Deletion of *-h- followed by vowel coalescence and support vowel innovation

Where *h occurred between vowels, in the onset of the final syllable, it deleted and the vowel cluster coalesced in cases where *ə was the nucleus of the final syllable or where *h was between like vowels. Later, a support vowel was added to the beginning of the derived monosyllabic word to maintain disyllabicity, giving *əCVC, which then caused the medial consonant to regularly geminate after schwa, giving *əC:VC. Reflexes of *buhək ‘head hair’ thus went through the following stages: *buhək > *buək > *buk > *əbuk > PGNB *əbbuk. Evidence for this is found in Bonggi, but not Molbog.

Assimilation of the nasal and following consonant in heterorganic nasal-obstruent clusters

Heterorganic nasal-obstruent clusters became homorganic when the nasal assimilated to the place of the following consonant. Thus, *diŋdiŋ ‘wall’ became Bonggi *dindikŋ*. This change is not found in Molbog, which preserves all heterorganic clusters.

Metathesis in two items, *tikus and *bəRuk

The forms *tikus ‘rat’ and *bəRuk ‘pig tailed macaque’ became *sikut and *Rəbuk through two separate cases of sporadic metathesis in Sabahan languages, including Bonggi, but not Molbog.

Lenition of *R in specific environments

Reflexes of *R in Sabah are complex, but only became *g in specific strengthening environments. In other environments, *R became *h or *w. Molbog changed *R to *g in all positions, which is consistent with Greater Central Philippine languages.

5.2.10 North Sarawak

In all, the arguments for a North Sarawak group in chapter two are not controversial or groundbreaking, as this is one of the better understood subgroups in Borneo. The most useful contribution of this section may have been putting evidence from a variety of sources into a single section, and explicitly stating the evidence for internal subgrouping in the North Sarawak group.

5.3 Chapter 3 summary

Some time in chapter three was devoted to identifying borrowing relationships between interior languages, in an effort to prune the data and remove borrowings from consideration when performing higher-order subgrouping tasks. The chapter also identified pan-Bornean near-cognates and proposed two new subgroups, Central Sarawak and the Basap-Barito Linkage. Both are reviewed below. Chapter three also tested and verified Blust's claims (Blust 2010) that the languages of Borneo are likely descended from a single common ancestor, Proto-Western Indonesian.

5.3.1 Kayanic influence

Kayanic languages have had a large impact on the vocabularies of various groups, including Kenyah (Badeng, Eastern Lowland), Barito (Tunjung, Kadorih), Punan, Müller-Schwaner, Kajang, and Basap. Specific examples of borrowing between Kayanic and these languages were identified and discussed.

5.3.2 Müller-Schwaner and Kadorih

Additional phonological evidence was presented to show how Müller-Schwaner languages and Kadorih have interacted for some time in a convergence area in the upper Barito, Mahakam, and Kapuas River areas. Both groups have innovated a distinct alveolar flap, *r*, which contrasts with *r* (from *d) and *l* (from *l in Müller-Schwaner and from borrowing in Kadorih) and both have devoiced *z [dʒ] to *c*. Although the latter change is widespread in Borneo, these are the only two languages where *l became *r. To complicate matters, a more recent impact on the vocabulary of Kadorih is observable in many borrowings from Ngaju, which has resulted in an apparent split in reflexes of *z (where *z > *c* in native vocabulary but *j* in Ngaju borrowings).

5.3.3 Land Dayak and Malayic

Simply put, there are an enormous number of Malayic words in Land Dayak. In some cases as much as half of the vocabulary recorded was Malayic. However, because of the complex phonological history of Land Dayak, identifying Malayic borrowings is straightforward. In Chapter 3 several loan word diagnostics were identified and used to make a list of some of the more common Malayic borrowings. This section does not attempt to make an exhaustive list of Malayic words in Land Dayak, however, as such a task would take far too much space.

5.3.4 Penan, Sebop, and Kajang

Chapter three also identified a borrowing relationship between Kajang and Sebop-Penan (part of Western Lowland Kenyah). This is interesting as it provides evidence that Kajang speakers once occupied territory much closer to the Usun Apau area, the Homeland of Western Lowland Kenyah. From this, it is apparent that Kajang speakers were forced downriver from the upper Rejang at a later date, but not before borrowing a number of lexical items from Kenyah.

5.3.5 Pan-Bornean Near-Cognates

One of the more interesting contributions of chapter three was the identification of a large set of pan-Borneo near-cognates. These are words with a wide distribution and identical meanings, but which cannot be reconstructed to a common ancestor due to phonological irregularities in their sound correspondences. Pan-Borneo near-cognates thus provide a challenge to comparative linguistics, as they cannot be confidently used in subgrouping arguments, given their irregularities. Despite a concerted search, no sources have yet been identified which might shed light on the ultimate source of these words, and their presence in Borneo remains a mystery. The current list of near-cognates is reprinted below:

Figure 97

List of pan-Bornean near-cognates

| | |
|-------------|--------------------------------|
| ‘longhouse’ | *bətaŋ |
| ‘left’ | *kibaʔ, *kabiʔ, *kabiŋ, *gibaŋ |
| ‘back’ | *Rukud, *tukud |

| | |
|-----------------------|--|
| ‘fish’ | *mətuʔ, *tuk, *atuk |
| ‘cold’ | *səŋəm, *siŋəm, *səŋim |
| ‘waist’ | *aʔiŋ, *iʔiŋ, *kaʔiŋ |
| ‘shoulder’ | *laʔip, *liʔip |
| ‘rhinoceros hornbill’ | *əŋgaŋ, *tiŋaŋ, *takuan, *bələŋaŋ, *bələŋan, *təbəŋaŋ, *mənəŋan, *mənəŋaŋ, *təjaləŋ |
| ‘blind’ | *pəsa, *pəsaʔ, *pəcaʔ, *pəsu |
| ‘to fry’ | *ñəŋaʔ, *ñəŋəʔ, *ñəŋa, *ñəŋa, *ñakaR, *ñikaR, *ñəŋaR, *ñəŋgu |
| ‘ear’ | *kəpiŋ, *kəbiŋ, *biŋ, *apəŋ, səbiŋ |
| ‘drink’ | *duʔiʔ, *duʔ, uduʔ |
| ‘alive’ | *bəlum, *mulun, *əlun |
| ‘sharp’ | *ñiRiʔ, *ñəRit, *ñəʔat, *ñit, *ñat, *ñəʔit |
| ‘blowpipe dart’ | *ləjaʔ, *ləŋaʔ, *ləŋan |
| ‘shy’ | *məŋən, *məŋan |
| ‘lips; beak; mouth’ | *munuŋ, *muncuŋ, mucuŋ, *muju-n, *mucin, *ujun |
| ‘ironwood’ | (various unreconstructable words of the following shapes: bəlían, bələŋian, təbəlían, təlian, bəŋian, bulian, buliʔan, təluyan, bəliʔan, bəlínian) |
| ‘white’ | *budaʔ, *buRak, *pudak |
| ‘red’ | *məʔaŋ, *məRaŋ, *miaŋ, *madian |
| ‘red’ | *bala, *bəlaʔ |
| ‘banana’ | *balak, *balat |
| ‘one’ | *injiʔ, *icah, *ja, *ciʔ, *əj ^h a, *idə, *ija |
| ‘eight’ | *məhi, *mədi(?) |
| ‘eight’ | *həñaʔ, *jaya, *hayan, *aya |
| ‘nine’ | *tiən, *tiʔan |
| ‘nine’ | *pitan, *piʔən, *piʔin |
| ‘ten’ | *siməŋ, *səbaŋ, *səbəŋ |

Also included in this discussion are several words with wide but sparse distributions which, for a variety of reasons, cannot be confidently reconstructed to higher-order subgroups.

Metathesis of *zulaq to *luzaq ‘to spit’, dissimilation of *nVn- to *IVn- sporadically in *nunuk ‘banyan tree’ and *nanaq ‘pus’, and the presence of a larger than expected number of riverine-based directional terms with strong semantic overlap. It is also important to note here that although pan-Bornean near-cognates are intriguing, especially with regard to possible pre-Austronesian populations on the island, they do not in themselves provide substratum evidence unless a source can be found.

5.3.6 Central Sarawak

Chapter three begins its discussion on higher-order subgrouping by grouping Melanau, Kajang, Punan, and Müller-Schwaner into a larger Central Sarawak group of languages. The evidence is lexical, and consist of the following innovations:

Figure 98

Lexical replacement innovations for Central Sarawak

| | |
|-----------------------------|----------------------|
| *cuk ‘heron’ | *pəla ‘paddle’ |
| *təʔaŋ ‘handspan’ | *tilaŋ ‘tiger leech’ |
| *laʔi-n ‘voice’ | *linaw ‘person’ |
| *dəlay ‘man’ | *saluy ‘canoe’ |
| *kətip ‘woman’s skirt’ | *piʔuŋ ‘to be fat’ |
| *makan ‘give’ | *siaw ‘chicken’ |
| *buʔut ‘afraid’ | *(ə)liŋ ‘saliva’ |
| *təjaku ‘helmeted hornbill’ | *hayan ‘eight’ |
| *kala-səriŋ ‘millipede’ | *manikaw ‘to steal’ |
| *ulay ‘tattoo’ | |

Additionally, chapter three groups Punan and Müller-Schwaner together within Central Sarawak in a Punan-Müller-Schwaner subgroup, also based on lexical evidence.

5.3.7 Land Dayak

In chapter three the position of Land Dayak languages in relation to both Central Sarawak and Malayic were considered. It is widely accepted that Land Dayak languages do not form a

subgroup with Malayic, but there has been no solid attempt to compare Land Dayak with Central Sarawak, as CS is a new proposal. Several interesting exclusively shared lexemes were found between Central Sarawak and Land Dayak, including the following, *maRu ‘woman’, *tawan ‘scar’, *badaŋ ‘rice husk’, *makan ‘give’, *buʔut ‘afraid’, *dəlay ‘man’, *kəbəs ‘to die’, *mandam ‘sick’, and *bəñu ‘lime’. Closer inspection of these lexical similarities reveals, however, that much of the evidence is found exclusively between Banyadu-Bekati and Central Sarawak, which in turn suggests that specific groups of Land Dayak languages were in contact with PCS, but not that these words represent PLD-PCS innovations. This section concludes that the similarities observed between Land Dayak and Central Sarawak are best considered the product of contact, which must have taken place before Iban speakers moved into Sarawak.

5.2.8 North Borneo and Central Sarawak

North Borneo is a proposed subgroup containing SWS, NES, and NS. Chapter three critically assessed the evidence for a North Sarawak group, and further, tested a hypothesis that Central Sarawak languages, where one finds differential reflexes of *-b- after schwa in Kajang, also belong to North Borneo. To quickly summarize, North Borneo is phonologically defined by the presence of differential reflexes of intervocalic voiced obstruents after schwa and intervocalic voiced obstruents after any other vowel. Thus, when *b, *d, *z, and *g occurred in the onset of a final syllable after schwa they automatically geminated, producing PGNB *bb, *dd, *zz [dʒ:], and *gg. In North Borneo, these geminates were terminally devoiced, producing PNB *b^h, *d^h, *j^h, and *g^h. Evidence for this is found in languages where fortis reflexes of these stops are found after historical schwa and lenis reflexes everywhere else. Additionally, evidence for terminal devoicing is found in Dayic languages (NS) where they are retained as voiced aspirated stops in certain dialects, and in Idaan, where they are reflected as homorganic voiced-voiceless obstruent clusters. Central Sarawak does have evidence for gemination after schwa in Kajang, but there is no evidence that these geminate stops underwent terminal devoicing. As a result, Central Sarawak can be placed in Greater North Borneo on phonological grounds, but there is no positive evidence to place it further in the North Borneo group.

5.3.9 Greater North Borneo

Greater North Borneo was first proposed in Blust (2010) and places North Borneo, Central Sarawak, Kayanic, Land Dayak, Malayic, and several languages outside of Borneo in a single subgroup based largely on a set of widespread lexical replacement innovations. This dissertation identified a number of additional innovations, presented in the list below, along with accepted evidence from Blust (2010):

Figure 99

Expanded list of Greater North Borneo replacement innovations

| | |
|---|--|
| *ajən ‘fish’ | *ñaRu ‘eagle’ |
| *cəRaʔuŋ ‘sun hat’ | *saʔup ‘parang handle’ |
| *kuyad ‘long-tailed macaque’ | *təmədur ‘rhinoceros’ |
| *kitan ‘binturong’ | *gadun ‘grue’ |
| *kadis ‘grasshopper’ | *puʔan ‘squirrel’ |
| *kəlīt ‘small bat’ | *damək ‘blowpipe dart’ (Blust 2010) |
| *təgap ‘firm; sturdy’ (Blust 2010) | *ambay ‘sweetheart’ (Blust 2010) |
| *lamin ‘room of a house’ (Blust 2010) | *kuju ‘heron’ (Blust 2010) |
| *lunək ‘soft; mushy’ (Blust 2010) | *sulap ‘temporary shelter’ (Blust 2010) |
| *alud ‘canoe’ (Blust 2010) | *tikus ‘rat’ (Blust 2010) |
| *guan ‘heart; desire’ (Blust 2010) | *laŋkaw ‘large temp. shelter’ (Blust 2010) |
| *kəraʔ ‘long-tailed macaque’ (Blust 2010) | *tujuʔ ‘seven’ (Blust 2010) |
| *kuini ‘mango species’ (Blust 2010) | *saʔay ‘frog’ (Blust 2010) |
| *lipəs ‘cockroach’ (Blust 2010) | *sakay ‘stranger’ (Blust 2010) |
| *labi ‘soft shelled turtle’ (Blust 2010) | *tukul ‘hammer’ (Blust 2010) |

5.3.10 Basap-Barito

Chapter three also represents one of the first comprehensive attempts to subgroup Basap languages with other languages of Borneo. This proved a particularly difficult task, as the data provide contradictory evidence as to Basap’s larger position. To summarize, Basap shares a small number of lexical innovations with GNB, which in turn suggests that Basap is a greater North Borneo language. Research for this dissertation, however, also uncovered an even larger

amount of data which supports placing Basap in a larger subgroup with languages of the Barito linkage. After considering the evidence, it was decided that evidence linking Basap and Barito is stronger than evidence linking Basap and GNB because Basap is currently surrounded by GNB languages but separated by hundreds of miles from the nearest Barito language. This supports the view that lexical similarities between Basap and GNB are the result of contact. The same cannot be said for Basap-Barito evidence, however, because there is no clear history of contact between the two.

5.3.11 Western Indonesian

Western Indonesian was first proposed in Blust (2010) as a large subgroup which includes all of the languages of Borneo and western Indonesia/Malaysia, excluding Sulawesi. Although the scope of this dissertation is not wide enough to consider the legitimacy of Western Indonesian with languages to the west of Borneo, the evidence strongly supports the hypothesis that Borneo itself was settled by speakers of a single language (PWIN) and that Greater North Borneo and Basap-Barito are the two primary branches of PWIN currently found on Borneo. Blust's original list of lexical replacement innovations for this group was limited, but research for this dissertation has uncovered a large number of innovations which lend much support to Blust's original hypothesis. The combined evidence is summarized below:

Figure 100

Lexical evidence for Western Indonesian

| | |
|--|-------------------------------|
| *əluŋ ‘river mouth; estuary’ (Blust 2010) | *puRaʔ ‘crab’ |
| *jaʔa ‘chin; jaw’ (Blust 2010) | *buRis ‘silver-leaf monkey’ |
| *suŋay ‘small river’ (Blust 2010) | *kəniw ‘eagle’ |
| *tuɔpaj ‘tree shrew’ (Blust 2010) | *ukəd ‘western tarsier’ |
| *pinaŋ ‘betel nut’ (Blust 2010) | *kuliR ‘clouded leopard’ |
| *kubuŋ ‘flying lemur’ (Blust 2010) | *təlaʔus ‘barking deer’ |
| *sawa/*pəŋanən ‘python’ (Blust 2010) | *kəRiw ‘orangutan’ |
| *tuqan/*Rimbaʔ ‘primary forest’ (Blust 2010) | *ma-tuRun ‘binturong’ |
| *biRuaŋ ‘sun bear’ (Blust 2010) | *giRam ‘river rapids’ |
| *kələbət ‘gibbon’ (Blust 2010) | *iban ‘co-referential affixe’ |
| *bəduk/*bəRuk ‘pig-tailed mac.’ (Blust 2010) | *gətəm ‘harvest’ |
| *dəŋən ‘river otter’ (Blust 2010) | *likaw/*liŋkaw ‘brow’ |
| *pələnuŋ ‘mousedeer’ (Blust 2010) | *tiliŋ/siliŋ ‘to fly’ |
| *kəjut ‘surprised; started’ (Blust 2010) | *madam ‘rotten’ |
| *duRian ‘durian’ (Blust 2010) | *bə-təRiʔ ‘pregnant’ |
| *butbut ‘coucal’ (Blust 2010) | *qulun ‘outsider’ |
| *tiuŋ/*kiuŋ ‘myna bird’ (Blust 2010) | *kələsi ‘red-leaf monkey’ |

5.4 Chapter 4 summary

The fourth chapter, though shorter than chapters 2 and 3, addressed several issues related to pre- and post-Austronesian populations on Borneo. First, the chapter critically assessed the evidence for a non-Austronesian population on Borneo, citing Adelaar’s work on Land Dayak and Aslian (Mon-Khmer). Although it is true that two words, *kəbəs ‘to die’ and *mamuh ‘to bathe’, are shared between Land Dayak and Aslian, the explanation for this similarity is far from clear, as originally noted by Adelaar himself. The fact that *kəbəs is also reconstructable to Proto-Central Sarawak, and that there is a general root *-mu for ‘to bathe’ in both Land Dayak and Central Sarawak, casts doubt on the importance of these words for a Land Dayak-Aslian connection. In the end, there is also reason to believe that the extensive trade networks of the South China Sea brought Land Dayak and Central Sarawak speakers into contact with Aslian

speakers, and that borrowing occurred in the opposite direction, i.e. from Land Dayak to Aslian. Although it was hoped that a larger data set would reveal more concrete connections between Borneo and mainland Southeast Asia, one is forced to remain agnostic on the issue until more evidence is available.

5.4.1 The homelands of major subgroups

Using linguistic evidence, complemented with oral histories, chapter four's main contribution was the establishment of linguistically informed homeland hypotheses for the major subgroups of Borneo. Particularly, it was shown that the Punan occupied the Baleh tributary of the Rejang and its immediate surroundings, and the Kajang occupied the Balui and Murum areas into the Usun Apau, before they were forced out of this area by Kayan migrations from the central Apo Kayan area. The Kayan themselves were forced out of this area when the Kenyah moved in from the upper Baram. Additionally, speakers of Central Sarawak languages along the Rejang were subject to Iban raids as the Iban moved north out of Kalimantan into most of present day Sarawak. These statements are based on linguistic arguments, but agree closely with oral histories and testaments. The fact that the Punan speak a single language but are found in small pockets throughout the island strongly suggests that they were, until very recently, developing as a single unit in a compact area. The chapter also identified the areas where Basap-Barito must have existed in the past, which includes the Mahakam River and its major tributaries, and the Berau area. After centuries of centralized rule by Indianized kingdoms and later by the Kutai sultanate, this was followed by massive Kayan migrations out of the Apo Kayan which led to the severing of the Basap-Barito dialect network, and near-extinction of the Basap themselves.

5.4.2 Initial settlement

Regarding the initial settlement of Borneo, the long held view that Borneo was settled directly from Palawan island was accepted, but with a few observations that needed to be clearly stated. Most importantly, PGNB, being a single language, must have developed in a discrete location long enough for it to become distinct from PWIN. Because GNB languages today occupy most of the island, speakers of PGNB probably expanded somewhere along the western coasts of Borneo leveling whatever linguistic diversity might have previously existed. If the

western coast of Borneo had been settled immediately 4,000 years ago, then enough time presumably would have passed for more than a single primary branch of PWIN to develop. Because this expected diversity is absent, we must then assume that there was a levelling event. Because Basap-Barito is a long dialect network and because as a linkage there was probably no Proto-Basap-Barito language, there is also no need to assume a period of in situ development. This is to say, that there was probably not a large leveling event in the east until the Kayan expansion broke the linkage.

5.5 Final remarks

This dissertation represents the summation of 3 years of research and field work in Borneo. It is hoped that the above analyses and hypotheses of linguistic classification in Borneo will serve as a starting point for many more conversations about these languages. Although it will almost certainly be challenged and altered as new work is done, more data collected, and more thorough analyses of the languages are produced, I would like to end my discussion with a tree representation of every language on Borneo that is included in this dissertation, according to the proposals in chapters two and three.

Figure 101

Family tree that includes all languages of Borneo discussed in chapters 2 and 3

WESTERN INDONESIAN

1. GREATER NORTH BORNEO

a. North Borneo

i. Northeast Sabah

Bonggi

Idaanic

ii. Southwest Sabah

Greater Dusunic

Bisaya-Lotud-Dusunic

Bisaya-Lotud

Sabah and Limbang Bisaya, Brunei Dusun,

Lotud

Dusunic

Rungus, Kadazan, Kujau, Minokok, Dusun,
Dumpas

Paitanic

Beluran, Lingkabau, Lobu, Kuamut, Murut
Serudong

Greater Murutic

Tatana

Papar

Murutic

Murut (Nabaay, Timugon, Paluan, Tagol,
Kalabakan), Gana, Tingalan, Kolod, Abai, Bulusu,
Tidung (Bengawong, Sumbol, Kalabakan,
Mensalong, Malinau)

iii. North Sarawak

Bintulu

Berawan-Lower Baram

Berawan (various dialects)

Lower Baram

Miri, Kiput, Narum, Belait, Lelak, Lemeting, Dali'

Dayic

Kelabit

Bario, Pa' Dalih, Tring, Sa'ban, Long Seridan,

Long Napir

Lun Dayeh

Long Bawan, Long Semadoh

Kenyah

Highland

Lepo' Gah, Lepo' Tau, Lepo' Sawa, Lepo', Lepo'
Laang, Badeng, Lepo' Jalan, Uma' Baha, Uma'
Bem, Òma Lóngh

Lowland

Eastern Lowland

Uma' Pawe, Uma' Timai, Lebo' Kulit

Western Lowland

Lebo'Vo'

Sebop

Penan (eastern and western varieties)

b. Central Sarawak

i. Melanau

Dalat, Sarikei, Mukah, Balingian, Matu, Sibul, Kanowit

ii. Kajang

Kejaman, Sekapan, Lahanan

iii. Punan-Müller-Schwaner

Punan

Punan Bah, Punan Tubu, Sajau

Punan Lisum, Punan Aput, Beketan, Ukit, Buket

Müller-Schwaner

Hovongan

Kereho, Aoheng, Seputan

c. Kayanic

i. Kayan-Murik-Merap

Kayan

Baram, Rejang-Busang, Bahau, Data Dian

Murik-Merap

Ngorek, Pua', Huang Bau, Merap

ii. Segai-Modang

Segai

Gaai, (Punan) Kelai

Modang

Kelinjau Modang, Wahau Modang, Long Gelat

d. Land Dayak

- i. Banyadu-Bekati
 - Banyadu, Bekati, Rara, Lara
 - ii. Bidayuh-Southern Land Dayak
 - Bidayuh
 - Bau-Jagoi, Bukar-Sadong, Sungkung, Hliboi, Biatah
 - Southern Land Dayak
 - Golik, Jangkang, Ribun, Sanggau, Simpang
 - e. Malayic
 - i. West Bornean Malayic
 - Kendayan-Salako
 - Ibanic
 - Iban, Mualang, Seberuang, Keninjal
 - Besemah
 - ii. *Other Malayic*
2. BASAP-GREATER BARITO
- a. Greater Barito Linkage
 - Northwest Barito
 - Kadorih, Siang, Murung
 - Southwest Barito
 - Ngaju, Kapuas, Bakumpai
 - Sama-Bajaw
 - Yakan, etc.
 - Southeast Barito
 - Maanyan, Dusun Witu, Malagasy
 - Central-East Barito
 - Dusun Malang, Dusun Bayang, Paku, Semihim,
 - Northeast Barito
 - Taboyan, Lawangan, Bentian, Pasir, Benuaq
 - Tunjung
 - b. Basap
3. *OTHER WESTERN INDONESIAN*

APPENDIX 1

KAYANIC

| English | long time ago | above | adam's apple | adopted | aflake | afraid | agree |
|------------|---------------|----------|-----------------|----------------|--------------------|---------------------|--------|
| PKAY | *nuna | *mbaw | | *anak amuŋ | *tutuŋ | *takut | |
| Ngorek | | | bəkurok | mamouŋ | napi | takut | sətuju |
| Mpraa | nuəʔ | ka mpa:ɔ | | lanayəʔ | tutuə | takawk ^v | kiəm |
| Long Naah | mənunaʔ | | təŋak | amouŋ | | takut | akun |
| Data Dian | ariəŋ | hoʔ baw | lufeəŋ ŋok | aneək amuŋ | tutuŋ | takut | sətuju |
| Balui Liko | | | ŋok | | | takut | |
| Busang | unaʔ | haʔ usun | bukak | anak hlun/amuŋ | tutuŋ | jən təvah | ŋənap |
| Bahau | | huʔ hun | | anak paŋu:ʔ | tutu:ŋ | bate:ʔ | ŋədap |
| Long Gelat | mənawʔ | ləbiə | bukək | niək mayt | təŋ | təkət | |
| Modang | | ləbeə | gəhuəŋ | naək met | təw ^s ŋ | təkoyt | həyəwʔ |
| Gaai | noʔ | kambeəw | gugɔəl | laəʔ neak | ptəwŋ | tkoət | msaŋ |
| Kelai | nɔʔ ɔn | a tutbəw | kalgos (throat) | nək sʔan | ptəwŋ | tkuət | pəggaʔ |

| English | alive | all | already | also | always | ancestors | and |
|------------|--------------------|----------|---------|---------|---------------|----------------------------------|--------------------|
| PKAY | *murip | | | | | | |
| Ngorek | murip | kətoʔ | | | mepan | | |
| Mpraa | mpruyɔ | mamawə | awh | | wa:ɛ | luŋ nuək | ma |
| Long Naah | murip | lim | | | tutək | pahu | |
| Data Dian | murip | kəttu:ʔ | | pah/saŋ | paʔan | | dahi:n |
| Busang | murip | pah | aoʔ | lim | lalo | hukuʔ boʔ | |
| Bahau | murip | mu:ŋ | ŋaʔ | mu:ŋ | putu:ŋ | bo:ʔ mənə:ʔ | bahe:ŋ |
| Long Gelat | bəla:m | hasawʔ | ŋaʔ | baəh | kən jawʔ-jawʔ | poʔ mənawʔ | |
| Modang | bəla:m | hɔʔ sawʔ | ŋa:ʔ | a:ŋ | kən jawʔ-jawʔ | sawh poʔ sawh pey ^d n | wəə ^d n |
| Gaai | blɔ ^v m | bubaəh | tah | | sələləwʔ (L) | gai noʔ | un |
| Kelai | blɔm | bibəh | ŋaʔ | seʔ | an coʔ aŋ | bɔtnɔʔ | uəŋ |

| English | angry | animal | answer | ant | orangutan | argus pheasant | arm |
|------------|--------|------------|-----------|----------|--------------|----------------|------------|
| PKAY | | *tulad | | | *kəhiw | *kuay | *ləŋən |
| Ngorek | məʔah | tolan | jawap | betek | koyaŋ | kuwe | kawe |
| Mpraa | manawʔ | klūʔ | tuəh | tiʔʔ | kuyeʔ | kuaɛ: | tapa:ŋ |
| Long Naah | bunəʔ | tulan | ñuʔay | kəbiraŋ | kuyaŋ | kuay | ləŋən |
| Data Dian | bunəʔ | tulan | ñuʔay | kəbireʔŋ | lakin kuyeʔŋ | kuay | |
| Balui Liko | kətoʔ | tular | | kawiraŋ | kuju | kue | ləŋən |
| Busang | kətoʔ | tular | ñue | kəbiraŋ | iraŋ utan | kue | ləŋan |
| Bahau | | sa:ʔ/tulal | | bitik | | kuay | ləŋaʔ hida |
| Long Gelat | kətoʔ | seʔ | mpaʔ | uluʔŋ | hələŋ lətin | koʔŋ | |
| Modang | kətoʔ | saɛʔ | əmpaʔ waʔ | wəliʔŋ | kah jo | kɔʔŋ | ləŋan |
| Gaai | mhəwk | caɛʔ | mtuh | walheʔŋ | kahjeʔw | kɔŋguy | |
| Kelai | mŋat | dakoʔt | siw taɛ | wəlhiʔŋ | kəhjaw | kəhguy | jəws |

| English | armpit | arrive | ash | ask | baby | baby carrier | back | bad |
|------------|---------------|--------|-------|---------|-------------|----------------|--------|---------|
| PKAY | | | *abu | *mətəŋ | | *habəʔ | *laʔuŋ | *jaʔak |
| Ngorek | intay itək | | aboʔ | mətəŋ | anak bala | bilan anak | laʔoŋ | saʔak |
| Mpraa | titiʔk/kətiʔk | tata:ŋ | | taŋ | ñāʔ (ʔ)ūʔʔ | | laʔawʔ | taʔayʔʔ |
| Long Naah | | | | mətəŋ | hapəŋ | avət | laʔoŋ | jiʔək |
| Data Dian | bləkarak | ataŋ | afo:ʔ | məttan | | avat | laʔuŋ | jiʔək |
| Balui Liko | ləkarək | | avoʔ | | | | laʔoŋ | |
| Busang | ləkarak | atəŋ | | mətəŋ | hapəŋ | beʔ | ligan | jaʔak |
| Bahau | hida:ʔ tak | ataŋ | afo:ʔ | mətəŋ | hapit | təlbe:ʔ/katu:ŋ | laʔo:ŋ | siʔak |
| Long Gelat | duʔ iʔʔ | teʔŋ | awa: | məteʔŋ | amək | hawət | oʔŋ | eʔʔ |
| Modang | diʔʔ pəlian | ñəne | əwaʔ | məta:ŋ | naek məpeʔŋ | həwa:t | kətuʔt | a:k |
| Gaai | dilia | tawɔʔʔ | awaw | dahwaɛʔ | nak aɛʔ | | guknək | ak |
| Kelai | diliʔŋ | tawoʔ | awəw | də wə:ʔ | næk æʔ | hawət | koʔ | æk |

| English | bait | bamboo | banana | banyan | bark | barking deer |
|------------|-----------|------------|--------|--------------|--------------|--------------|
| PKAY | | *buluʔ | *puti | *lunuk | *kul kayu | *təlaʔus |
| Ngorek | | bulu bətoŋ | poteʔ | lunok | kun kayoʔ | təlaʔoh |
| Mpraa | puʔʔ | mbləw | toyʔ | lunu:ʔʔ | kəwŋʔ kayawʔ | klaʔawh |
| Long Naah | | buluʔ bun | | lunok | kun kayoʔ | təlaʔuh |
| Data Dian | upət | bulu:ʔ | pute:ʔ | lunuk | kun kayoʔ | təlaʔu:h |
| Balui Liko | | bulu | puteʔ | lunun/lunok | | təlaʔu |
| Busang | upət | buluʔ | puteʔ | lunuk | kul kayoʔ | təluʔu |
| Bahau | upət/uput | bulo:ʔ | ute:ʔ | lunuk | | təlʔoh |
| Long Gelat | piʔŋ | ləwʔ | pətoʔ | lənək | | uh |
| Modang | | ləwʔ | pətoɛ | | koʔʔn kəjo | oʔh |
| Gaai | pan | ləwʔ | ptay | pʔoʔŋ alnəwk | la:s gjaw | ɔʔs |
| Kelai | pæ:n | ləwʔ | ptai | lunuk | lə:s kjaw | ɔs |

| English | base; origin | bathe | bear | beautiful | because | become |
|------------|--------------------|-------|---------|---------------|----------------------|-----------|
| PKAY | *puʔun | *nduh | *bəhuan | | | *baliw |
| Ngorek | puʔun | ntoh | buan | magat | | |
| Mpraa | puʔuŋ ^w | ntawh | ŋgueɔ | hnawh | hara:y | tə-mala:y |
| Long Naah | paʔun | | buan | kajaw | avin | |
| Data Dian | paʔun | duh | bueɔŋ | | kəna:n | jadih |
| Balui Liko | | | buan | | | |
| Busang | puʔun | du | buan | ñəmdoh | kənan | jadih |
| Bahau | puʔun | do:h | bua:ŋ | | kəna:n | baliw |
| Long Gelat | | duh | wahguɔŋ | ñəmdoh/ñəmkay | sənuan | (pə)bəlu |
| Modang | | duəh | wahguɔŋ | kən ãẽ? | sənwa ^d n | bəliə |
| Gaai | pʔoɔn | də? | wahguan | canteyk (L) | karəna? (L) | bleɔw |
| Kelai | | də? | wahguɔŋ | təmdəh | kətnə? (L) | si blew |

| English | bee | beetle | begin | behind | betel nut | bite | between |
|------------|----------|--------|-----------------------|--------------|-----------|---------------|----------|
| PKAY | *siŋət | | | *laʔuŋ/*abut | *gahat | *maʔat | *(i)haŋ |
| Ngorek | añe? | təluɔŋ | nari | kai buri | gahat | məri | taʔaŋ |
| Mpraa | hŋiɔt | | larai | ka laʔawɔ | paʔa:n | maʔa:t/paʔa:t | ka ŋayɔ |
| Long Naah | hiŋət | təluɔŋ | matoh | laʔoŋ | gahat | maʔat | haŋ |
| Data Dian | hiŋət | təluɔŋ | nahari:ʔ | hoʔ laʔu:ŋ | gahat | maʔat | teʔ heɔŋ |
| Balui Liko | hiŋət | | | | gahat | maʔat | |
| Busang | hiŋət | təruɔŋ | nahari? | haʔ avut | paʔan | maʔat | haʔ haŋ |
| Bahau | haŋat | | | | paʔan | maʔat | a:ŋ |
| Long Gelat | səŋo(ə)t | | nahaley? | ləwoɔt | gihit | maʔát | təhuɔŋ |
| Modang | wəñoɔ | gəheɔt | naʔ oɔ ^d n | ləwat | | məʔoɔt | hiɔŋ |
| Gaai | wahñoy | | mulay (L) | kam kək | gahat | kap | |
| Kelai | wuñay | cunɔun | mtaw lahtaɪ | a kok | gəhæ:t | kap/tap | a hiɔŋ |

| English | bitter | black | blader | blind | blink | blood | blow nose |
|------------|---------------|----------------------|-----------------|----------|--------|--------|-----------|
| PKAY | *paʔiʔ/*paʔit | *pitəm | | *butaʔ | *ŋəjəp | *dahaʔ | |
| Ngorek | paʔi | pitəm | | botaʔ | | raa | məmpəh |
| Mpraa | paʔa:y | tiɔm | citataŋ | tuɔʔ | kajap | la: | bat riɔk |
| Long Naah | paʔiʔ | pitəm | | butaʔ | | daha | nələhaʔ |
| Data Dian | paʔi:ʔ | itam | buhan ŋat tiʔan | butaʔ | ŋəjap | daha:ʔ | bat irak |
| Balui Liko | | | lanitan | butaʔ | nəjəp | daha | |
| Busang | piʔiʔ | pitam | sauv həŋit | butaʔ | ŋəjap | dahaʔ | siʔirak |
| Bahau | paʔe:ʔ | pitam | bəlanatan | butaʔ | yap | daha:ʔ | ŋirak |
| Long Gelat | paʔayʔ | mənda:ŋ | suət həhayt | mətawʔ | ŋəjəp | ləheʔ | wa:ŋ la:t |
| Modang | pəʔayʔ | məndə ^s ŋ | | mətawʔ | ŋələp | ləhaʔ | |
| Gaai | pʔeɔt/pəʔeɔt | madon | guŋeɔt | buta (L) | ŋləɔp | alhæɔ? | ŋoɔs lok |
| Kelai | pəʔeɔt | madon | | psit | ŋlap | lhæ:ʔ | wat uʔaŋ |

| English | blow | blow, w/ mouth | blowpipe | blue | boar | body | body hair |
|------------|-----------|----------------|-------------------|--------------------|--------|------------------|---------------------|
| PKAY | | | *(a)put | | *babuy | *luʔuŋ | *bulu-n |
| Ngorek | kələkət | parin | put | | mabiʔ | yoŋ | boloʔ |
| Mpraa | paray | maray | pawk ^w | mayc | mabai | ñiəwə | mbləwŋ ^w |
| Long Naah | | | aput | | babuy | | jiʔan |
| Data Dian | mədih | mahan | hiput | ñəmɪt | bafuy | batuŋ | buloʔ |
| Balui Liko | | mahar | | | bavuy | luʔoŋ/batoŋ | buloʔ |
| Busang | gaʔ pahar | mahar | hamput | ñəmit | bavuy | luʔuŋ | bulun |
| Bahau | | | | bunan | bafuy | luʔu:ŋ | bulo:ʔ |
| Long Gelat | ñəp | əñəp/kaʔ ñəp | puət | mənha:m | awoə | oəŋ | b(ə)lən |
| Modang | | | poət | mənham | əwoə | oŋ | bəluəŋ |
| Gaai | gaʔ jəwp | jəwp | poət | mah ^w m | daʔ | v ^w ŋ | bloəŋ |
| Kelai | gaʔ jup | jup | poət | ŋalhəm | awoy | vŋ | bloəŋ |

| English | bone | brain | branch | brave | breast | borrow | bracelette | breast feed |
|------------|----------|-------|--------|-------------|--------|---------------------|------------|-------------|
| PKAY | *tulaŋ | *utək | *daʔan | | | *pinjam | *ləkuʔ | |
| Ngorek | tolaŋ | utək | laʔan | makaŋ | tohoʔ | | ləku gəlaŋ | tohoʔ yoŋ |
| Mpraa | kloyə | tuək | laʔāq̃ | hiʔeyc | tuhuəŋ | ncāq̃ | kaʔ: | nohəoʔ |
| Long Naah | | utek | daʔan | makaŋ | moʔ | tuyuʔ | ləku | moʔ baton |
| Data Dian | tuleəŋ | otak | daʔa:n | makeəŋ | mo:ʔ | | ləku:ʔ | mo:ʔ |
| Balui Liko | tulaŋ | utək | daʔan | makaŋ | moʔ | | ləku | pusoʔ anak |
| Busang | tula:ŋ | utak | haŋat | təvah | moʔ | mujam | ləkuʔ | moʔ |
| Bahau | tula:ŋ | utak | daʔa:n | | hua:t | mujam | lasu:ŋ | niwat |
| Long Gelat | təluəŋ | ta:k | səŋiət | təja:m | wəyʔ | ənsu:m | ləkoʔ | |
| Modang | təluəŋ | tawʔ | səŋəat | təja:m | wəyʔ | ənsi ^b m | ləkoʔ | |
| Gaai | tleəŋ | tok | alʔan | braneyʔ (L) | geyʔ | ciəŋ | alkəʔ | |
| Kelai | t(ə)læ:ŋ | tok | lʔæ:n | mayam | geʔ | ciəŋ | | geʔ ənək |

| English | breathe | bridge | broom | burn | burry | but | butterfly |
|------------|------------|--|--------|----------------------|-----------------------|--------|--------------|
| PKAY | *ŋəhaŋan | *-alaŋ | | *nutuŋ | *nanəm | | *siap tuʔ |
| Ngorek | ŋəhaŋ | jəmatan | | notoŋ | nanəm | | yap toʔ |
| Mpraa | ŋəhŋāq̃ | | pah | lutuə | lanam | tapi:ʔ | |
| Long Naah | ŋahaŋan | paŋaŋ | | | nanəm | piʔ | yap toʔ |
| Data Dian | hŋan | saleəŋ | pah | nutuŋ | ñafun | | |
| Balui Liko | məjat hŋaʔ | jaʔit | | | | | hñap toʔ |
| Busang | ŋəhəŋan | | pa | pisak | ŋubur | tapiʔ | həñap toʔ |
| Bahau | həŋha:p | kala:ŋ | payik | nutu:ŋ | ŋale:ʔ | | |
| Long Gelat | ŋətñiəŋ | təŋ ʔaliəŋ | pəñeyc | əntəŋ/əntəwŋ | nəna:m | tapiʔ | jup put duə |
| Modang | ŋət ñeəŋ | təw ^s ŋ alaə ^s ŋ | pəñeyk | əntəw ^s ŋ | ŋənda: ^b m | | jip poəʔ doə |
| Gaai | ŋasŋan | aleəŋ | pñeyk | təwŋ | naphaʔ | tapeyʔ | buŋbaŋkeək |
| Kelai | nalasŋan | alə:ŋ ktəwŋ | pñeyk | təwŋ | tikæ:t | dəsi:ʔ | toŋkdæ:m |

| English | buy | calf | call | can; able | canine | canoe | carry on back |
|------------|--------|-----------------------|---------|----------------------|-------------|---------|-------------------|
| PKAY | *məli | *bətis | | | | *haruk | |
| Ngorek | məle? | bəte? | koma? | ntəŋ | | | be? |
| Mpraa | mblay? | | nawa:h | ntəŋ | təŋko:w pin | harawə? | bay? |
| Long Naah | bəle? | bətih | muvoy | | ipən aso? | harok | be? |
| Data Dian | məle:? | bətih | mufuy | dəŋ | ipan ok | haruk | be:? |
| Balui Liko | | itət | | dəŋ | | harok | |
| Busang | məle? | bəti | muvuy | | bəŋlin | haruk | be? |
| Bahau | məle:? | bəteh | mi?ew | niŋa:n | ipa? awit | haruk | be:? |
| Long Gelat | ñəlu | həmeyn tayh | nəhūñ | nleəŋ | biəŋ leyn | hələk | bayñ |
| Modang | ñəliə | se ^d n tes | | pətey ^s ŋ | bañ lm | hələwk | bē ^d n |
| Gaai | nleəw | sian koəl | nak?al | bleəw | | haləwk | beən |
| Kelai | nlew | sen kol | nak?əəl | blew | kiw tal | haləwk | be:ən |

| English | capsize | carry by handle | carry w/ hands | cat | carry on shoulder |
|------------|---------|-----------------|----------------|-----------|---------------------|
| PKAY | *kahəm | | | | *ñu?un |
| Ngorek | kaam | ŋələbek | ŋələle? | siŋ | ñu?un |
| Mpraa | ŋəka:p | buyc | | ŋa:ɔ | ñu?owŋ ^w |
| Long Naah | | | kəlaməŋ | seŋ | ni?on |
| Data Dian | kahəm | | gəri:? | seəŋ | hu?un |
| Balui Liko | kahəm | | | siəŋ ŋaw | |
| Busang | kaham | mə-kam | gəri? | seŋ | hiun |
| Bahau | pəkaam | kibi:ŋ | | ŋa:w/si:ŋ | be:? |
| Long Gelat | kaha: | kaam | layñ | ŋiə | ma?an |
| Modang | kəhaə | ŋəjəwiəŋ | | | mə?oəŋ |
| Gaai | tham | wet | lay? | tŋeəw | n?oəŋ |
| Kelai | khaw | ntəəp | | tŋəw | n?oəŋ |

| English | carry under arm | centipede | cheek | cataract | catch | cave |
|------------|--------------------|-----------|---------|-------------|----------------------|--------------|
| PKAY | *kətip | *-lipan | | | *təŋap | *lubəŋ batu |
| Ngorek | ñetaŋ | təlipan | pilek | jəle | | |
| Mpraa | kətayc | kəlapāə | na:ŋ | mbrəw matāə | tantawk ^w | ləboyə |
| Long Naah | | dəlipan | piŋah | jəlay | | |
| Data Dian | | jəlipan | | buta? hiap | təŋkap | lufeəŋ bato? |
| Balui Liko | | dəripan | piŋa | lunu | | luvaŋ bato? |
| Busang | ŋahap | dəripan | piŋa | jəle | təŋap | lian |
| Bahau | kibi:ŋ | təbəlifan | pilik | | təŋap | |
| Long Gelat | ŋətep | ñəmpūn | təpku | | nəŋa:p | ləjuəŋ |
| Modang | ley ^s ŋ | ñəmpin | tap kiə | hələŋ | nəŋap | |
| Gaai | | jəlpin | mapəŋ | msiəw | nbəwp | guan |
| Kelai | | jəlpin | mipəŋ | madə:p | nbəwp | |

| English | chest | chew | chicken | child | chin | choke | choose | chop |
|------------|---------|---------------------|---------|-------|----------|-----------|-----------------------|---------------------|
| PKAY | *usuk | | *siap | *anak | *jaʔaʔ-n | *kədul-ən | *miliʔ | |
| Ngorek | ohok | ñəra | yap | | jaʔaʔ | kələlən | mili | nətək |
| Mpraa | ŋuhu:əʔ | ŋunowŋ ^w | hɛ:əʔ | naɣəʔ | ñaʔãǰ | kəluluən | mbley | kla:ŋ |
| Long Naah | usuk | ñəpa | hiyap | | | kəlulən | mili | nətək |
| Data Dian | usuk | maʔat | hiap | aneək | jaʔan | kəhran | miliʔ | muneəŋ |
| Balui Liko | usok | ñəpa | hñap | | jəʔaʔ | kalulən | | |
| Busang | usuk | ñəpaʔ | həñap | ana:k | jaʔan | kədul | miliʔ | munəŋ |
| Bahau | lihaw | nifa:ʔ | hiap | ana:k | siʔaʔ | | mili:ʔ | ta:k |
| Long Gelat | səmbeəŋ | əmpeʔ | jup | niək | siʔin | kədən | ŋəleyʔ | əndəŋ |
| Modang | me bəŋ | | jip | naək | səʔeən | sədəək | ŋələyʔ | əndə ^s ŋ |
| Gaai | dibaŋ | nʔeəw | jip | neək | tʔan | kas aŋ | pileyh (L) | toəl |
| Kelai | dibaŋ | nəʔaw | jip | ənək | caʔæn | səndok | le ^y h (L) | toəl |

| English | cigarette | clean | climb | cloud | coconut | coffin | cold |
|------------|---------------------|--------|---------------------|---------------------|-------------------|--------------------------|-------------|
| PKAY | | *maʔaŋ | *muʔun/*maʔun | *abun | *ñuh | | *səŋəm |
| Ngorek | lukoʔ | mahuŋ | | abun | ñoh | luŋun | ŋəm |
| Mpraa | tidiwk ^w | təmaɣ | məʔəwŋ ^w | bəwŋ ^w | | tənnəyǰ | hŋam |
| Long Naah | jakoʔ | maʔaŋ | | əp | ñoh | luyan | ŋinəm |
| Data Dian | jakoʔ | maʔeəŋ | maʔuən | afun | ñoh | luyan | həŋam |
| Balui Liko | jakoʔ | | | laŋət | ñoh | | |
| Busang | | maʔaŋ | muʔun/nakar | ap | ñoh | luŋun | həŋəm |
| Bahau | luko:ʔ | maʔa:ŋ | muʔun | bo:ʔ | | luŋun | həŋam |
| Long Gelat | ləkoʔ | miʔiəŋ | abi asən | da:m | ñoh | təŋ/təwŋ | həŋam |
| Modang | ləkoʔ | əñəwʔ | | həwu ^d n | ñəwh | təw ^s ŋ pətəy | həŋam/bəlaʔ |
| Gaai | lukoʔ | | nkeat | bəwp | ñp ^w h | kəwŋ/takluəŋ | baŋəəʔ |
| Kelai | lkoʔ | kɔs ip | təʔoən | əwun | ñuh | aʔkuŋ | sŋam |

| English | collapse | cooked rice | corpse | coucal | cockroach | come | cook |
|------------|---------------------|-------------|--------|-------------------|------------------------|----------|-----------|
| PKAY | | | *patay | *but | *lipas | *n-ai | *paka-sak |
| Ngorek | | paru | | | aŋkiŋ ayaʔ | ne | maru |
| Mpraa | kahawk ^w | kanan | mutu:ə | bəwk ^w | | naɣ | marau |
| Long Naah | | kanən | | | lipah | nay | nakanən |
| Data Dian | pufa:ʔ | kanən | | but | lipah | nay | pakseək |
| Balui Liko | | kanən | | but | lipah (big)/agil (sm.) | | |
| Busang | pəvaʔ | | pate | but | lipah | ataŋ | paksak |
| Bahau | bufa:ʔ | usaw | | | kapa:ŋ | | matuk |
| Long Gelat | tasut | meh | pətəy | dohboəŋ | poəh | teəŋ | pətsiək |
| Modang | | moəh | | | pəeh | | mənspek |
| Gaai | mhoət | guhŋəŋ | pta:y | dahbəwŋ | | hay | ma-seək |
| Kelai | thuən | guhŋəŋ | ptaɣ | dahboŋ | slip | hay (ha) | mtəək |

| English | cough | count | cousin | cow | crab | crack | crazy | crocodile |
|------------|--------|------------|--------------|--------|--------|---------|---------|-----------|
| PKAY | *nikəd | *unjab | | | *tuyu | | | *bəhaya |
| Ngorek | nəkən | nasap | panak | sape? | toyo? | ləkaŋ | miyat | baya? |
| Mpraa | ki:ən | | haka:n | cəpey? | toyo? | miʔi:ḡ | talayə | maya:ʔ |
| Long Naah | nikən | | harin igət | sapi? | | | | baya? |
| Data Dian | nikan | pujap | harin higət | sapih | tuyo:ʔ | biʔeəŋ | buliəŋ | baya? |
| Balui Liko | nikər | | | | | | buliəŋ | baya? |
| Busang | ñikər | m-ujav | harin higət | sapi | tuyo? | | buliŋ | baya? |
| Bahau | nikal | mujap | harin higat | sape:ʔ | puya? | ləmitan | buli:ŋ | baya? |
| Long Gelat | əŋkoəŋ | ənsaʔ? | uleyñ pədaəŋ | sapi | joə | | mənlu | wahəjaw? |
| Modang | əŋkoŋ | ənsaw? | pədəyn | | | ləŋeət | həlbeʔn | wahjaw? |
| Gaai | koəl | hitəwŋ (L) | ulean daəŋ | sapey? | jiəw? | klɔʔk | ŋgoət | wahjo? |
| Kelai | yəŋŋ | likkm | uyin deəŋ | | jaw | klok | ple? | wajə? |

| English | crush | cry | dance | dark | dart | dart case | child in law | day |
|------------|------------|---------|--------|---------|--------|-----------|--------------|--------|
| PKAY | | *nanjis | *ŋaraŋ | *lindəm | *laŋa? | *təlu? | *-iban | *daw |
| Ngorek | | | ŋaraŋ | lintəm | laŋa? | | | ro/ro? |
| Mpraa | paʔ-pəhəw? | nanjayh | ŋarayə | ntiəŋ | laŋa:ʔ | | biḡ | raʔ |
| Long Naah | | | nivan | lidəm | laŋa? | təlu? | | daw |
| Data Dian | jəmiʔak | nanjih | ñifa:n | lidəm | laŋa? | təlaŋa? | difan | daw |
| Balui Liko | | | | | | | | |
| Busang | lamruk | naji | ŋaraŋ | lidəm | laŋa? | | anak divan | do |
| Bahau | naha:ʔ | nanjeh | ŋajo:t | lida:n | | | anak difa:n | raw |
| Long Gelat | ŋəloəʔ | nəŋay? | ŋəñeh | ŋənda:m | ləŋa? | | niək kuūm | diə |
| Modang | ŋəlok | nəŋeyh | | ŋəndaʔm | ləŋa? | təlo? | | deə |
| Gaai | paʔ kləwk | njeəs | ŋləəŋ | ŋaldom | ulan | | | deəw |
| Kelai | pəkkləwk | njeəs | ŋləəŋ | ŋəldam | uyən | taləw? | kuyin | dəw |

| English | day after tomorrow | day before yesterday | deaf | deep | deer |
|------------|--------------------|----------------------|----------|------------|--------|
| PKAY | | *dahalam əŋjiʔ/icah | | *daləm | *payaw |
| Ngorek | sai | ro? nji | mantəŋ | laləm | |
| Mpraa | təkruy? | nciraw halam | ŋiʔ/ŋiəw | lalam | paya:ʔ |
| Long Naah | | | madəŋ | | payaw |
| Data Dian | daw alaŋ saŋ nay | kuri? daw alaŋ uh | madəŋ | haləm | payaw |
| Balui Liko | | | madəŋ | | payo |
| Busang | do ji:ʔ | dahalam ji:ʔ | madəŋ | haləm | payaw |
| Bahau | li? rah ji:ʔ | dahlam ji:ʔ | madaŋ | hala:m | payaw |
| Long Gelat | ñəmisəʔ? | ñəmisəʔ? suh | təlaŋ | dələm | pəju |
| Modang | ñəmeəh saw? | dah lam saw? | tələsŋ | dəla:m | pəjiw |
| Gaai | nmas cih | dahlam cih | mtək | dlam | bjiw |
| Kelai | nmas cih tai | dahlam cih tai | matək | amai/dəla? | bjiw |

| English | derris root | diarrhea | die | different | difficult | dig |
|------------|-------------|-------------|-------------|----------------|---------------------|--------------|
| PKAY | *tuba | | *matay | | | *ŋali |
| Ngorek | toba? | məsoroh | mate | jinaʔan | to sah na | ŋəkut/ ŋamit |
| Mpraa | | pəlitik | mata:ɣ | pəmhpɪəh | kiət | ŋalay? |
| Long Naah | kaləŋ | | matay | sək dəp | mahan | ŋale? |
| Data Dian | tufa? | səŋit | matay | sakdap | maha:n/pasi:ʔ | ŋəlufeəŋ |
| Balui Liko | tuva? | pərah butit | | | | |
| Busang | tuva? | | mate | jan samah | biʔil | ŋale? |
| Bahau | tufa? | niba?-niba? | mataɣ | pəʔarap | | |
| Long Gelat | təgaw? | bəlōyh | mətey | paʔlap/paʔəlap | baʔayñ | əŋkiət |
| Modang | təgaw? | bəloyh | mətey/ləwah | pət təpis | bəʔe ^d n | əŋkeət |
| Gaa | kuo? | masaw | alwas | alap | susah (L) | kat |
| Kelai | ptak | | lwas | pəkns | mhal | kæ:t |

| English | dirty | divide | divorce | dizzy | dog | dom. Pig |
|------------|------------|----------------|----------------------|-----------------------|-------|----------|
| PKAY | *masap | | | | *asu | *ayam |
| Ngorek | lano | | lau | buleŋ ilu | aho? | ayam |
| Mpraa | tuduəp | maʔayh /ləwəʔ? | pətəŋãḡ/təŋãḡ | | haw? | ñãḡ |
| Long Naah | masap | | puli? | | aho? | utiŋ |
| Data Dian | maŋah | pətiʔaw | pəta:t | ləmuliəŋ | aso:ʔ | utiəŋ |
| Balui Liko | | | | ŋəlivək | aso? | utiəŋ |
| Busang | masap | tətap/bagi? | pəlkaʔ/pələkaʔ | ŋəliwa? | aso? | utiŋ |
| Bahau | ligat | bagi:ʔ | pəlka? | ŋəliduŋ ilaw | ho:ʔ | aya:m |
| Long Gelat | məsa:p | | pələkaɣ? | dəmlu | sa: | jum |
| Modang | məʔ ənãw̃h | pah?it | pətɔy ^d n | də ^b m liə | saɣ | jim |
| Gaa | msap | bagey? | pawaɣh | puseyŋ | kleas | jim |
| Kelai | mañit | pətæ:ʔ | pəwat | ak təkhəuŋ | asaw | jim |

| English | door | downriver | dragonfly | dream | drink | drop |
|------------|--------------------------------------|----------------------|----------------------|---------------------|---------------------|-----------|
| PKAY | | *aʔuh | | *ŋəlupi/*ŋənupi | | |
| Ngorek | bətamən | təbai | yap to? | ŋənupe? | ñərup | mələbu |
| Mpraa | təbãḡ | n̄tea/haʔawh (to go) | liŋgayə | | ñiriwk ^w | labaw |
| Long Naah | kətamən | | kala haŋiŋ | ŋənupe? | duʔi? | mavok |
| Data Dian | kətamən | huʔoh | kahagiəŋ | ŋəjupe? | duʔi:ʔ | pələgeək |
| Balui Liko | bətamən | haʔoh | kələhagiəŋ | | | |
| Busang | | hoʔoh | ada? | ŋələrap | dui? | pələgak |
| Bahau | bətaman | haʔoh/niʔoh | katurəŋ | ŋəlupe:ʔ | du:ʔ | pəlga:k |
| Long Gelat | guəŋ wiə? | ləʔoh | ada? | əmpɛyñ | mup | pətəʔi:ə? |
| Modang | guə ^s ŋ ba ^s ŋ | loʔoh | tələy ^s ŋ | əmpɛ ^d n | mup | nəʔayt |
| Gaa | gubaŋ | kamʔoh | betaneəŋ | ŋampeəŋ | mɔʔ | paʔ tʔeək |
| Kelai | gubaŋ | kamʔoh/taʔoh (go) | tək səm bey | hŋəm pɪn | yɔʔ | sənʔəwp |

| English | drown | drum | drunk | dry | dry season | drying rack | dull |
|------------|---------|---------------------|---------|--------|------------|-------------|----------------------|
| PKAY | | *tubuŋ | *mabuk | | | *pahaʔ | *kacəl |
| Ngorek | | | | təʔoh | | pa | ŋasən |
| Mpraa | | təbuə/tubuə | mabawəʔ | təʔo:h | taŋka:ʔ | pa: | kacan |
| Long Naah | | | | məgan | | | kasən |
| Data Dian | pəhəran | | mafuk | məgeəŋ | tagaʔ | pahaʔ | kasən |
| Balui Liko | | | mavok | | tagaʔ | pahaʔ | |
| Busang | ŋəne | tuvuŋ | mavuk | | tagaʔ | | kasal |
| Bahau | ŋənam | tufuŋ | mafuk | məga:ŋ | | paga:ʔ | |
| Long Gelat | pəkəney | tuəŋ | muək | kəhuəŋ | | | kəsoəŋ |
| Modang | nəham | təwo ^s ŋ | awok | kəhuəŋ | | pəhaʔ | kəsa: ^d n |
| Gaai | nham | kuəwŋ | məwk | khuaŋ | lidəw kas | | kəʔək/kʔək |
| Kelai | pətham | məhbəŋ | nuok | mhuəŋ | khuaŋ | phaʔ | khət |

| English | durian | eagle | ear | earthworm | easy | eat | edge |
|------------|----------------------|--------|-----------|-----------|--------|--------|---------------|
| PKAY | *dahian | *ñahu | *təliŋa-n | *saləŋ | *luhay | *kuman | |
| Ngorek | | ñau | tələŋaʔ | aləŋ | lohe | koman | |
| Mpraa | yăə | ñau | tiŋiḻ | haləŋ | lua:ə | hmū:ḻ | lireyñ |
| Long Naah | | nihoʔ | iliŋ | aləŋ | məlay | kuman | |
| Data Dian | dian | ñiho:ʔ | iliəŋ | haləŋ | məllay | kuman | bəhŋe:ʔ/lirin |
| Balui Liko | dian | ñahoʔ | apəŋ | haləŋ | | | balan |
| Busang | dian | ñihoʔ | apaŋ | haləŋ | məle | kuman | |
| Bahau | dia:n | yo:ʔ | kəliŋa:n | hala:ŋ | gampan | kuma:n | lirin |
| Long Gelat | lahjūn | ñaha: | səkəñün | sələəŋ | luhuy | mūn | wəh/wəh |
| Modang | lahji ^d n | ñəhăə | kəñm | sələŋ | luhuy | muəŋ | weyh |
| Gaai | lahjiəŋ | ənhaw | gubal | sləŋ | alhuy | muəŋ | skeəŋ |
| Kelai | lahjin | nhaw | gubal | kəlgæ:t | ləhuy | muəŋ | skm |

| English | egg | egret | eight | elbow | empty | enough | estuary | evening |
|------------|--------|-----------|--------|-----------------------|----------|--------|-----------|-------------|
| PKAY | *təluh | *kucu | *saya | *siku-n | | | *luŋ | *ləbiʔ |
| Ngorek | | pontan | sayaʔ | ikoʔ | bəlawəŋ | | loŋ | təroʔ ləbiʔ |
| Mpraa | klawh | kocowʔ | sayaʔ | kiwʔ | blawaŋ | ntaŋ | lawə | |
| Long Naah | | kəlabaway | sayaʔ | hikoʔ | halah | | loŋ | daw ləvi |
| Data Dian | təloh | kuso:ʔ | sayaʔ | hikun | halah | sukup | luŋ | ləfiʔ daw |
| Balui Liko | təloh | kawawe | sayaʔ | hikoʔ | | | loŋ | |
| Busang | təloh | kusoʔ | sayaʔ | hikun | halah | sukup | baʔ luŋ | |
| Bahau | təloh | | sayaʔ | hiku:ʔ | | sukup | loŋ | ləfi:ʔ |
| Long Gelat | təloh | ləkloəŋ | təjawʔ | goəʔ | ŋətleh | | loəŋ | |
| Modang | kəloh | | təjawʔ | pə ^s ŋ gok | kəŋguəŋ | ŋaʔ | loŋ həŋuy | dələwəyʔ |
| Gaai | kləw | nok ləwŋ | joʔ | gək | alhuy | alaŋ | ləwŋ | |
| Kelai | kləh | | jəʔ | pəŋgok | anə: cəʔ | alaŋ | ləŋ | dəlawəʔ |

| English | every | excrement | eye | eye brow | face | fall | far |
|------------|--------|-----------|--------------|------------|--------|---------|---------------|
| PKAY | | *taʔi | *mata-n | | *hinəŋ | *labuʔ | *cuʔ |
| Ngorek | piŋket | taʔe | mataʔ | leko | | labuʔ | su |
| Mpraa | hŋkiəʔ | taʔayʔ | matãǰ | | naŋ | tabau | cau |
| Long Naah | | taʔe | matan | kusap | nəŋ | ləgak | su |
| Data Dian | haʔut | taʔe:ʔ | matán | kusap | hinaŋ | ləgeək | su:ʔ |
| Balui Liko | | | mataʔ | kusap liko | nəŋ | | |
| Busang | putuŋ | teʔeʔ | matan | kusap | naŋ | ləgak | suʔ |
| Bahau | putu:ŋ | taʔe:ʔ | mata:ʔ/matan | kəluŋaw | inaŋ | ləga:k | su:ʔ |
| Long Gelat | səkoəʔ | payʔ | mətiəŋ | | ña:ŋ | təʔi:ək | nəbleyŋ/dələŋ |
| Modang | səkət | payʔ | məteəŋ | lip | ñəŋ | təʔayk | dələoŋ |
| Gaai | jiəŋ | təʔeəŋ | gutən | lip | noŋ | mʔeak | gjah |
| Kelai | jin | | mtæ:n | lip | naŋ | tuat | kjah |

| English | fast | fat | fat (n) | father | father in law | fathom | fell | fern |
|------------|--------|---------|---------|--------|--------------------------|--------|--------------|--------|
| PKAY | | *maduŋ | *aduŋ | *amay | *iban | *dəpa | *təbəŋ/nəbəŋ | *paku |
| Ngorek | lañaʔ | kontan | añeh | amay | eban | ləpaʔ | nəbəŋ | |
| Mpraa | patawh | kadawʔ | ñeyəʔ | maə | bĩǰ | paʔ | baŋ | pakawʔ |
| Long Naah | salət | maduŋ | | amay | tamək divan | | nəvəŋ | |
| Data Dian | salat | buʔat | aduŋ | amay | difan | dəppaʔ | nəfaŋ | pako:ʔ |
| Balui Liko | ipət | madoŋ | adoŋ | | | | | pakoʔ |
| Busang | ipət | maduŋ | | ame | taman divan | dəpaʔ | təvaŋ/nəvaŋ | pakoʔ |
| Bahau | təkah | madu:ŋ | adu:ŋ | taman | tama:n mae | dəpaʔ | nəfaŋ | pako:ʔ |
| Long Gelat | gəseyñ | mədəŋ | ñuəʔ | mey | mey kuūŋ | paʔ | nuweəŋ | pəka |
| Modang | gəsin | ləñeytʰ | mədoŋ | mey | məən kəwɪ ^d n | paʔ | nəwaŋ | pəkaə |
| Gaai | kloy | mak | mak | məəm | | paʔ | waŋ | pkaw |
| Kelai | kbas | mdəŋ | mak | məm | kuym | | waŋ | pkaw |

| English | fever | few | field hut | fill | fin | find | finger |
|------------|-----------------------|----------|-----------|----------|--------|----------|-----------|
| PKAY | *darəm | | *ləpaw | | *kəsih | | *haŋaw |
| Ngorek | larəm | kiyoʔ | ləpo | | ampeŋ | | sələŋ usu |
| Mpraa | | iuəʔ | b(ə)uə | ñamayh | kapayə | tapak | klaŋa:w |
| Long Naah | larəm | kaña | | | | | jahaŋaw |
| Data Dian | larəm | ok | ləpaw | isih | | pəsuk | jahaŋaw |
| Balui Liko | mədam | | | | kapiəŋ | | ikiəŋ |
| Busang | | uk | | ñanjan | kaseh | pihinaʔ | |
| Bahau | daram | | paw | kəsam | | paʔdaʔ | kəmat |
| Long Gelat | pələh həŋa:m | soʔ(dik) | piə | nənūŋ | kayap | pətdawʔ | həŋiə |
| Modang | ley ^s ŋ ak | səkdiʔ | təŋeə | pət noʔ | kəsəyh | pət dawʔ | həŋea |
| Gaai | mbgaəʔ | caʔdit | pəəw | iseyʔ | | ndoʔ | ŋeəw |
| Kelai | ŋəlmay | klis | bəp | hayʔəmai | ñiəŋ | pətdəʔ | caw |

| English | finger nail | finish | fire | firefly | fireplace | firewood | first | fish |
|------------|--------------------|-----------|-------|---------|------------|---------------|----------------------|----------|
| PKAY | *sulun | | *apuy | *tan | *abu/*atan | | *una? | |
| Ngorek | ulok | miyu | api | | | kayo? ento? | ona? | sən |
| Mpraa | hləwŋ ^w | awh | paɿ | | ɓaw? | kayaw? paɿ | laray | can |
| Long Naah | hulun | pəkuh | apuy | | | kayo? tayun | una? | masik |
| Data Dian | hulun | uh | apuy | ada? | afo:? | kayo:? apuy | una? | masiɔk |
| Balui Liko | hulo? | | apüy | ada? | avo? | kayo? tayun | | masiɔk |
| Busang | hulun | au | | tan | | | una? | masik |
| Bahau | | ŋa? | apuy | tan | ata:ŋ | kayo:? apuy | ariŋ | mahe:k |
| Long Gelat | hələn | ŋa?/ləpəh | poɔ | ta:n | atiŋ | kəjoɔ ha:/poɔ | məhəleyŋ | tək/təok |
| Modang | həluəŋ | | | taan | | | həley ^s ŋ | təwk |
| Gaai | sloəŋ | ŋa? | poy | tan | rapey? (L) | gjaw hoəŋ | duno? | təwk |
| Kelai | sloəŋ | ŋa? | əpoy | təntuk | atə:ŋ | kjaw apoy | du?no? | atok |

| English | fishing net | five | flat | flesh | float | flood | floor | fly (v) | fly |
|------------|-------------|-------|--------|-------------------|----------------------|---------|--------|----------------------|--------|
| PKAY | | *lima | *datah | *isin | | | | *ma(n)daŋ | *laŋaw |
| Ngorek | | lema? | latah | ihin | | so | bərat | mantan | laŋo |
| Mpraa | pukat | miɔ? | | hĩ:ñ | ŋlatawk ^w | hōḗ ña? | lamayñ | mənta:yɔ | laŋaɔ |
| Long Naah | | lima? | | sin | | | təgan | madaŋ | laŋaw |
| Data Dian | pukat | lima? | datah | sin | ŋəlatiəŋ | siho:? | tasu:? | madeəŋ | |
| Balui Liko | | lima? | | sin | | ləñəp | tasu | | laŋo |
| Busang | pukat | lima? | datah | sin | ŋəlatiŋ | | | madaŋ | laŋu |
| Bahau | jala? | lima? | | hin | float | layəap | laho:? | mada:ŋ | laŋaw |
| Long Gelat | pəka:t | maɔ? | pələŋ | sain | nəmpəŋ | ləksap | miɔ? | məliəŋ | ləŋiɔ |
| Modang | | maɔ? | | se ^d n | | peḗh | | məloy ^d n | |
| Gaai | dlae? | mo? | rata? | sian | ŋalbuət | phəŋ | meak | mleəŋ | alŋeəw |
| Kelai | glæ:? | mə? | maltəŋ | sən | ŋəlbəŋ | phəŋ | lŋəh | mñəŋ | |

| English | flying lemur | food | forehead | forget | four | friend | frighten |
|------------|---------------------|--------------|-------------|------------|------|-----------|-----------------------|
| PKAY | *kubun | | *likaw | | *pat | | *pə-takut |
| Ngorek | kobon | pəŋuman | umpo leko? | am palulup | pat | bakeh | pəbiŋi |
| Mpraa | | kanan | | laway? | pa:? | heñiɔ? | pətakawk ^w |
| Long Naah | kələbuan adaŋ | | likaw | hadaw | pat | bakeh | |
| Data Dian | kufun | pəŋuman | likaw | hadaw | pa:t | tieəŋ | pətakut |
| Balui Liko | kuvun | | liko | | pat | bakeh | |
| Busang | kuvun | | liko | hado | pat | | pətakut |
| Bahau | aŋuy | kut?ən kuman | likaw | baraw | pa:t | dahe:n | |
| Long Gelat | kəwən | kuət müŋ | dəɔ? la?ain | ləpaɔ? | pi:t | yoh | pətakət |
| Modang | kəwo ^s ŋ | koat muən | dəw? lə?e | ləpaw? | peət | ga:p | |
| Gaai | kaŋkoŋ | koət muən | | lahpo? | pa:t | təman (L) | pa? tkəwt |
| Kelai | kuəwŋ | kətmun | gulasŋan | lahpo? | pə:t | ulek | pətkuət |

| English | frog | from | fruit | fruit bat | fry | full | full, of food | gall |
|------------|-----------|------|-------|------------|---------|-------------|---------------|---------|
| PKAY | *saʔay | | *buaʔ | | | *pənuʔ | *bəsoh | *pəru-n |
| Ngorek | takaŋ | | bua | mawat | ŋaŋkoʔ | aŋan | bohoʔ | pərun |
| Mpraa | ŋoəŋ | ma | ŋgua: | ŋap | ŋaŋkawʔ | hnaʊ/hamayh | məhəwh | prəwŋʷ |
| Long Naah | haʔay | | | hawat | ŋagah | pənu | bəsoh | pəron |
| Data Dian | bunaŋ | man | buaʔ | hawat | ŋagah | ləbaʔ | bəsoh | pərun |
| Balui Liko | haʔe | | bua | hawat | | | bəsoh | pəroʔ |
| Busang | bunaŋ | man | buaʔ | hawat | ŋagah | pənuʔ | bəsoh | pərun |
| Bahau | | mən | bua:n | kələhidu:ʔ | nago:ʔ | pənu:ʔ | buhə:h | pəru:n |
| Long Gelat | bunaŋ | hūŋ | guʔ | ŋuit | ŋəkeh | noʔ/tənuŋ | pəsoh | pəlun |
| Modang | pəgeyk | hŋ | | | ŋəkəh | noʔ | pəsoh | pəloʔ |
| Gaai | səʔa:y | hil | gu:ʔ | ŋuət | nkaəh | nə:ʔ | psəwh | pləŋ |
| Kelai | sʔaə sŋrt | hil | guʔ | aŋut | nkəh | nə:ʔ | psəh | plən |

| English | ghost | gibbon | gills | give | give birth | go | goat |
|------------|---------------|----------|------------|--------|------------|------|---------|
| PKAY | *tu | *kələbət | *ŋad | | *ŋanak | *tay | *kadiŋ |
| Ngorek | toʔ | kələbət | sik | maʔeh | ŋanak | te | mek |
| Mpraa | tawʔ | habat | | maʔayh | ŋanayəʔ | ta:ə | |
| Long Naah | toʔ | avət | | ok | ŋanak | tay | |
| Data Dian | to:ʔ | hàfát | ŋan | məttay | ŋaneək | tay | kadiŋ |
| Balui Liko | toʔ | havət | təŋap/ŋar | | | | |
| Busang | | havat | ŋar | maʔay | ŋanak | te | kadiŋ |
| Bahau | to:ʔ | waʔ-waʔ | ŋa:l | maʔay | ŋana:k | tay | kadi:ŋ |
| Long Gelat | wəŋ/məta: | kənuat | ŋiəŋ | həyʔ | ŋəniək | təy | kədəyŋ |
| Modang | mətoʔ | kənwat | pəley təwʔ | heyʔ | ŋənaek | təy | |
| Gaai | walguəŋ/mataw | kalwat | ŋal | hə:y | | ta:y | kambeyŋ |
| Kelai | wəlgəŋ | kalwat | ŋəl | haytay | pen ənək | taə | kdeŋ |

| English | goiter | gong | good | granary | grandchild | grandfather | grandmother |
|------------|-------------------|-------|--------|---------|--------------------|-------------------|--------------|
| PKAY | | | | *ləpaw | | *buʔ ki | *buʔ duh |
| Ngorek | wəm | | liyah | ləpo | soʔ | pəreʔ piŋkət | pəreʔ piŋkət |
| Mpraa | | gawə | ya: | paə | cawʔ | kukaəʔ | kuraəh |
| Long Naah | ŋoʔ | | sayu | ləpaw | saw | poy | poy |
| Data Dian | kuk | guŋ | sayuʔ | ləpaw | saw | puy | puy |
| Balui Liko | kun | | | ləpo | | | |
| Busang | ŋo:k | aguŋ | sayuʔ | | məson | boʔ keʔ | boʔ doh |
| Bahau | ŋo:k | ago:ŋ | saya:ʔ | paw | məso:n | boʔ keʔ | boʔ yoh |
| Long Gelat | ŋoəʔ | agəŋ | kahbeə | piə | məsəŋ | boʔ | boʔ |
| Modang | məŋok | əgo:ŋ | kah | pəə | məsəŋ ^d | boʔ kaə | boʔ doh |
| Gaai | ŋo ^w k | agəwŋ | kas | wəwŋ | soəŋ | bo ^w ʔ | dəh |
| Kelai | sbok ŋok | aguŋ | kas | wəwŋ | soəŋ | boʔ | boʔ |

| English | grass | grasshopper | grave | greedy | green | gums | hair whorl |
|------------|-------|-------------|---------|------------|---------|-----------------------|------------|
| PKAY | *udu | *pahu | lian | | | | |
| Ngorek | oro? | pau? | lian | batok | ñəmit | maʔoŋ | uhun jumun |
| Mpraa | rəw? | paʊ | tanam | | mayc | | kələkəɔ |
| Long Naah | uro? | paho? | | məliŋ | ñəmit | | ujət kahon |
| Data Dian | uro:ʔ | paho:ʔ | lieɔŋ | ŋəbiʔan | ñəmit | sin ipan | bəlikah |
| Balui Liko | uro? | paho? | | kəsəp | | | bəlikah |
| Busang | uro? | poho? | kubur | jaʔak ba? | ñəmit | sin ipan | bəlikah |
| Bahau | uro:ʔ | | kale:ʔ | bəru:s | kətuyaŋ | awa:ʔ | maya:m |
| Long Gelat | la: | pəha: | tənam | ñətya:n | mənhə:m | sayn ku: | bələleyŋ |
| Modang | ləɔ | pəhaɔ | kəndam | səloay loe | mənham | se ^d n kiu | |
| Gaai | laʊ | phaw | pahʔan | snyal | mahəwm | kiu? | buŋ bleŋ |
| Kelai | law | phaʊ/cə:p | guŋ kət | mamuən | ŋalhəm | poʔon kiw | poʔon wok |

| English | half | hammer | hand | handspan | hang | happy |
|------------|-------------|--------------------|-------|-----------|---------|--------------------------|
| PKAY | | *tukul | | *puhak-an | | |
| Ngorek | bəluan | | usu | puak | | mañi |
| Mpraa | klehiəh | tukun ^w | cəw | puak | tidiwə | mblaʊ/ŋunuk ^w |
| Long Naah | | | usu | | | məlu |
| Data Dian | jiʔeəŋ | tukun | usu:ʔ | puhak | nak yoŋ | sənaŋ |
| Balui Liko | | tukol/nukol (v) | usu | | | sayu kənəp |
| Busang | daŋ bəlua? | | usu? | puhak | təkayun | hajoh |
| Bahau | bagidua? | | usu:ʔ | kilan | naʔto:ŋ | hajoh |
| Long Gelat | oyñ gu? | haŋin/təŋweə? | gui | pahaka:n | ŋəhoəŋ | hajoh |
| Modang | dəŋ wəŋguə? | | guy | pahkan | ŋohon | gəluəh |
| Gaai | stəŋa? | toŋ plean | guy | pahkan | ŋhəwŋ | msəh |
| Kelai | wəlgə? | toŋ plən | aguy | pahkan | nhəŋ | kəlʔən |

| English | hard | harvest | hat | have | he/she | head | head hair |
|------------|--------|----------------------|--------|-------------------|--------|------------|-----------|
| PKAY | *mahin | | *labun | | *sia | *kahun | *buk |
| Ngorek | mayəŋ | ala | tapon | am añan | iha? | taŋah | bok |
| Mpraa | | ŋabayə/ŋabayə | labawə | ñāɔ | hiɔ | taŋah | ɓawə? |
| Long Naah | mahin | ŋəlunaw | lavon | te? | iha? | kahon | bok |
| Data Dian | məheəŋ | ŋəlunaw | lafun | hipun | iha? | kahun | buk |
| Balui Liko | | | | | hia? | kuhon | bok |
| Busang | hulun | ŋəluno | tupi? | te? | hia? | kuhun | buk |
| Bahau | | | lafu:ŋ | hipun | ihoh | ku:ŋ | bu:k |
| Long Gelat | məhayñ | ŋəleyñ | tupi? | peyñ | seh | dəɔ? | woə? |
| Modang | məheŋ | ŋəley ^d n | təpaɔ | pe ^d n | seyh | dəw? | wok |
| Gaai | kakəw? | tam | sbap | peəŋ | o? | takhon | wok |
| Kelai | ŋəlheŋ | tam | lbuəŋ | pen | se? | takhəŋ/do? | wok |

| English | headhunting | headwaters | heart | heavy | heel | helmeted hornbill |
|------------|---------------|-------------|--------|--------|-----------|-------------------|
| *PKAY | *ŋayaw/*kayaw | *ud | *pusu? | *bahat | *tumid | *tukuŋ |
| Ngorek | lakin kayo | a?un | puso? | ləmən | tumit (L) | təbun |
| Mpraa | ŋaya:ɔ/kaya:ɔ | | poho:w | man | | tolow? |
| Long Naah | ŋayaw | un | pusu | bahat | tumin | bato? ulo? |
| Data Dian | ŋayaw | | pusu? | bahat | tumm | bato? ulo? |
| Balui Liko | | | pusu | | tumer | bato? ulo? |
| Busang | ŋayaw | ur huŋe | pusu? | bahat | tumir | tukuŋ |
| Bahau | ŋayaw | | puhu:? | baat | tugay | |
| Long Gelat | ŋəñ:u | uəŋ həŋuy | pəsəɔ? | bəhit | təgəɛ | təkəŋ |
| Modang | ŋəñiə | oə'n həŋuy | pəsəw? | bəheət | təgəɛ | təkəoʳŋ |
| Gaai | ŋñeəw | kam dek ŋuy | psəw? | bahat | paŋ tŋel | kəwŋ |
| Kelai | nñiw | | psəw? | bəhæ:t | | kəwŋ |

| English | help | here | heron | hiccup | hide | his/hers | hoarse | hold |
|------------|------------|---------|----------|----------|--------------|------------|--------|---------------------|
| PKAY | *mahap | *təni | *kucu | | *suk | *anun na | | *gəm |
| Ngorek | mahin | tene? | kujū (L) | i?o? | ñook | anuna | | |
| Mpraa | ma: | kaney? | naha:n | daw? | muhu:ə? | nuhiə? | kalah | ləhma: |
| Long Naah | mahap | hinih | kuso? | sin ka? | | | | |
| Data Dian | toləŋ | hinih | kuso:? | sənka? | mahuk | anun na? | pahaw | gəm |
| Balui Liko | | | kuso? | sənəkən | | anun na? | paho | |
| Busang | tuluŋ | ha? ini | kuso? | | hiuk | anumna? | paraw | mə-kam |
| Bahau | pa? maap | hinih | | fəŋgu:k | hiuk | anun noh | kafah | kam |
| Long Gelat | pət ha:p | ləno | | səndak | ənsəp/ənsəwp | nən?ah | pəhiə | kaam |
| Modang | məha:p | tənðe | | həp luat | ənsəwk | | | əŋka ^b m |
| Gaai | tuləwŋ (L) | anay | jae? | sandok | səwk | na?o? | khep | gam |
| Kelai | lə? | anah | je:? | jəʔan | en suk | kət en na? | khæ:p | kam |

| English | hole | hook | horn | hot | house |
|------------|-----------|--------------|-------|---------------------------|------------|
| PKAY | *lubəŋ | | *uhəŋ | *lasu?/*panas | *uma/*amin |
| Ngorek | lobəŋ | | | puso? | oma |
| Mpraa | loboyə | cukuyɔ/tuwo: | ŋ:uəŋ | panah/hənaɔc (as the sun) | muə |
| Long Naah | | | | lasu | uma |
| Data Dian | lufəŋ | pəse:? | uhəŋ | panah | amin |
| Balui Liko | luvaŋ | pəse? | hwəŋ | | uma |
| Busang | | | | lasu? | |
| Bahau | lufa:ŋ | kawit | uaŋ | hanah | amin |
| Long Gelat | guəŋ | kueyt | ŋiəŋ | ləsəɔ?/pənih | məsəɔ |
| Modang | kuən guəŋ | kəwit | | pəneəh | məsə: |
| Gaai | guəŋ | dget/dgit | hoŋ | pnas | maseəŋ |
| Kelai | guəŋ | liəŋ smæ:t | hoŋ | pnæ:s | pəw |

| English | house post | how | how many | hundred | hungry | hunt w/ dog | husk | I |
|------------|------------|-----------|------------|---------|--------|-----------------------|---------|--------|
| PKAY | *jihi | | *kuri | *m-atus | *laʔu | *ŋasu | | *aku-i |
| Ngorek | ji | bəgənoʔ | kuri mənta | atoh | laʔoʔ | | ulək | akoʔ |
| Mpraa | ñɛ:y | nawʔ | kuruy | tawh | laʔawʔ | pəh ^h tiəh | payə | kawʔ |
| Long Naah | jiheʔ | nunoʔ toʔ | kuri | atuʔ | laʔoʔ | | ulək | akoy |
| Data Dian | jahe:ʔ | nuno:ʔ | kuri:ʔ | jiatuh | laʔo:ʔ | ŋaso:ʔ | upəh | akuy |
| Balui Liko | jiheʔ | | | ji atu | laʔo | | | aküy |
| Busang | | nunuk | kuriʔ | matu | loʔoʔ | ŋasoʔ | ulak | akuy |
| Bahau | jin | naaʔ no:ʔ | kuri:ʔ | matoh | laʔo:ʔ | ŋaho:ʔ | bulak | aki:ʔ |
| Long Gelat | jəhoə | ət ma | kəluʔ | mətoyh | laʔa | ñuiəŋ | bəla: | koə |
| Modang | jəhoə | it maə | kəluəʔ | mətoyh | ləʔaə | ñəwayn | | koə |
| Gaa | skoəl | nmaw | kuʔ | mtos | alʔaw | ŋsaw | | koy |
| Kelai | skoəl | siʔ ʔa | un kuʔ | | laʔaw | ti:bbs | laʔluas | kuy |

| English | if | in front | insect bat | inside | insult | intestinal worms |
|------------|-------|----------------|------------|-----------|------------|------------------|
| PKAY | | | *pəndan | *aləm | | *ləkahən |
| Ngorek | | kai onan | pəntan | teʔ aləm | | kañewaʔ |
| Mpraa | bey | ka nuəʔ | kəntāə | kalam | pəñaʔ ayəʔ | kuña:ʔ |
| Long Naah | awi | haʔunan | pədan | haləm | | |
| Data Dian | daw | hoʔ unjan | pəda:n | hoʔ aləm | pəjiʔak | ləkhan |
| Balui Liko | | | pədan | | | lakahən |
| Busang | amun | haʔ nəŋ | pədan | haʔ aləm | pəjaʔaʔ | lakhan |
| Bahau | | huʔ inaŋ | kələhidu:ʔ | huʔ halam | | ŋiwaʔ |
| Long Gelat | | ləñaŋ | pədin | ləmey | pənʔeəʔ | kahagaəʔ |
| Modang | awʔ | ləñaŋ | | ləme: | nəaʔ əwat | |
| Gaa | dah | kam noŋ | bdan | kam luaŋ | | maʔkahgoʔ |
| Kelai | dəsih | a nəŋŋ/kəmnəŋŋ | pəda:n | a may | pətʔæk | kəhgoʔ |

| English | intestines | ironwood | island | itchy | jealous | jump |
|------------|-------------|---------------------|--------|--------|-------------|-------------------|
| PKAY | *tənaʔi | | *liuʔ | *katəl | *ŋəbahu | *nəpəjuk/*nəpujuk |
| Ngorek | tanaʔeʔ | bəŋian | liu | katən | ŋəbawu | nəpəjok |
| Mpraa | | kaceyʔ | yaʔ | katan | ŋamaʔ | ləʔfawəʔ |
| Long Naah | bureh | tahaʔ | busaŋ | gatən | ŋəbahoʔ | nəpujok |
| Data Dian | tənʔe:ʔ | ulin | buseəŋ | katən | pərah kənap | napjuk |
| Balui Liko | tənaʔeʔ | taha | busaŋ | katəl | ŋəvəhoʔ | |
| Busang | tanʔin | bəlian | liuʔ | katal | ŋəbohoʔ | nəpujoʔ |
| Bahau | siʔin | təbəliʔan | liu:ʔ | katal | ŋəfo:ʔ | nəpusuk |
| Long Gelat | təŋʔain | üŋŋəəŋ | jəəʔ | kəta:n | ŋohəə | bəŋpiəŋ |
| Modang | | wəna ^d n | jəwʔ | kətan | ŋəhə | əmpəəŋ |
| Gaa | takʔeaŋ | waʔləəŋ | jəʔ | ktal | ŋhəw | pə ^w p |
| Kelai | liəŋ təʔeəŋ | wəlʔəŋ | jəʔ | ktal | pakhaw | napcəh |

| English | kick | kill | kingfisher | kiss | knee | land | last |
|------------|--------------|--------------------------|-----------------------------|--------|------------|--------|----------|
| PKAY | | *ləmatay | | | | *tana? | *kələpas |
| Ngorek | sipak | nəmate | təbuŋaŋ kasa? | marət | bukun | tana | baya |
| Mpraa | cipak | mata:ə ləwŋ ^w | manawə? rowə | mpaw? | | tana: | miəŋ |
| Long Naah | sipak | ləmatay | tiŋaŋ asa | marek | | tana | baya |
| Data Dian | tanteəŋ | ləmatay | tiŋeəŋ asa? | kəbu:? | bukun | tana:? | |
| Balui Liko | | | kuso? asa | | bukon | tana | |
| Busang | sipak | ləmate | tiŋaŋ asa? | kəbu? | bukun | tana? | kələpah |
| Bahau | sipa? | pəpataə | | | | tana:? | |
| Long Gelat | sipak (L) | ləmətey | mənək aŋe? | məneyh | dəo? bəkən | təne? | kələpeh |
| Modang | təkəəh | | təgu ^d n gəsəpə? | əməw? | dəw? tap | təneə? | banwah |
| Gaai | təndaŋan (L) | lamas | mtes | | kuloəŋ | tnae? | |
| Kelai | nahjæ:l | pələmas | mnok awæ:? | mə? | ka?ləəŋ | tnæ:? | ganpəs |

| English | laugh | lazy | leaf | leak | learn | leave | leech |
|------------|----------|-------------|---------------------|---------|----------|-----------|-----------------|
| PKAY | | | *da?un | *turu? | *pəkalay | | *ləmatək/*hatək |
| Ngorek | | maŋkiŋ | la?un | turu | pakale | napa | atək |
| Mpraa | kihi:ə | ŋ:awh | la?awŋ ^w | torow | pəkalaə | takaə | |
| Long Naah | kəsiŋ | ləkoh | da?un | | | ləka? | hatək |
| Data Dian | kəsiəŋ | duyah | da?un | turu | pakalay | hawəəŋ | hatək |
| Balui Liko | | duya | da?un | | | | hatək |
| Busang | kəsiŋ | muya | | kəbaŋ | pəkale | musəŋ | hatək |
| Bahau | kihi:ŋ | tikap/nikap | da?o:n | bətəuət | pəkalay | məpoh | pacat |
| Long Gelat | ənlə? | ayeh | hətəyn | tələw? | pətley | halaə? | ləntəək |
| Modang | ənlə? | | hətə ^d n | boəh | pət liə? | | ləmtək |
| Gaai | lə? | alsən | cəwŋ | bloət | blajar | kluar (L) | lam taə |
| Kelai | ləw? ŋan | mhit/mhiət | cəwŋ | bloəŋ | pəklaə | tləəŋ | ləmtæ:ʔ/slam |

| English | left | leg | leopard | lie down | lift, carry | light weight |
|------------|----------------|---------------|---------|----------------------|-------------|--------------|
| PKAY | *hulay | *pa?ə-n | *kulih | | | *ni?an |
| Ngorek | ole | pa?ə? | koleh | obeh | mənju | ni?an |
| Mpraa | lə | pajawə | kluyh | bi:ə | ncəu/laiŋ | ni?i:ə |
| Long Naah | dahulay | kələway kuda? | kuleh | miri | mətəŋ | ni?an |
| Data Dian | ulay/iban | pa?án | kuleh | miri? | məjju:? | ni?an |
| Balui Liko | | tudək | kuleh | | | |
| Busang | ule | | kuleh | miri? | ju? | ni'an |
| Bahau | bulay | paju:ŋ | kuleh | ŋəpə:ŋ | ju:ʔ/ga:ŋ | ni?an |
| Long Gelat | həlu | taəh | kələh | ŋəpayŋ | əmbəo? | ŋən?uiŋ |
| Modang | lah luy/menluy | tes | kəlih | ŋəpey ^s ŋ | ŋgawh | ŋənin |
| Gaai | manlis | koəl | kleh | nakklaəh | goh | n?an |
| Kelai | manlis | kol | kleh | nəkle ^v h | gəh/læ:? | n?ən |

| English | light/bright | lightening | like | lime | lips | listen, hear | liver |
|------------|--------------|------------|--------------------|-------|---------------|------------------------|-------|
| PKAY | | | | *apuh | *sibih | | *atay |
| Ngorek | mana | bəkilət | ani | apu | ebeh | kəloŋ | ate |
| Mpraa | hmneyə | tətlap | ŋuluk ^w | pawh | rəbeyh | klawə | ta:ɛ |
| Long Naah | alah | bəkilət | | apoh | siveh | kəloŋ | atay |
| Data Dian | neəŋ | bakilat | uba? | puh | sifeh | kəloŋ hi:? | atay |
| Balui Liko | | bəkilət | | apoh | hivēh | | ate |
| Busang | malah | bəkilat | ŋənap | kəpuh | hiwēh | kəriŋ | ate |
| Bahau | malah | dale:? | ŋədap | | sifeh | kəri:ŋ/ŋəri:ŋ | atay |
| Long Gelat | təliəŋ/luh | təla:p | kən?iəŋ | kəpoh | suwaəh/suwaēh | ŋahajeyŋ | təy |
| Modang | | təla:p | | | səwayh | ŋah jey ^s ŋ | tey |
| Gaai | lih | klap | msaŋ | | | ŋahjeyŋ | ta:y |
| Kelai | alih | kləp | msaŋ | puh | suweh | siŋ?ahjin | ataɛ |

| English | log | loincloth | long | long-tailed macaque | loose | loud |
|------------|--------------|-----------|-------|---------------------|----------|--------|
| PKAY | | | *aru? | *kuyad | | |
| Ngorek | | bah | aru | | | aya? |
| Mpraa | matayə | ḡah | rau | kuyāḡ | luwah | pəba:n |
| Long Naah | | bah | aru | | | ŋaŋoh |
| Data Dian | bateəŋ kayo? | bah | aru? | | dakaya? | |
| Balui Liko | | (b)bah | | bərok ikoh | | |
| Busang | batan kayo? | bah | aru? | | muhak | ŋawan |
| Bahau | | ba:h | aru:? | | | |
| Long Gelat | utiəŋ kəjoə | kətweyn | kəjah | | həm guh | ŋawan |
| Modang | | kəwiŋ | kəjah | | həŋuəh | |
| Gaai | dəwŋ gjaw | geŋ | gjah | mkiat | alkoh | nawaɛ? |
| Kelai | doŋ kjaw | agiəŋ | kjah | bahŋal | anat gam | nawə? |

| English | louse | make | man | mantis | many | marry |
|------------|---------------------------|------|--------|--------------|--------------|---------------------|
| PKAY | *kutu | na? | laki | *pahbu paray | | *ŋəsawa |
| Ngorek | koto? | na | lake? | pau? pare | məntah | ŋawa? |
| Mpraa | kotow?/kutuy ^w | | lakay? | paŋ ŋuəŋ | məŋaŋ | pamāḡ |
| Long Naah | kuto? | na? | lake? | paho? hugun | kahum | |
| Data Dian | kuto:? | na:? | lake:? | hugun | ŋahom | pəji:? |
| Balui Liko | kuto? | | lake? | hugol | | |
| Busang | kuto? | na? | lake? | hugul | ara? | ŋəhawa?/pəhawa? |
| Bahau | kuto:? | nəa? | lake:? | səŋkalap | məra:n | ŋahawa? |
| Long Gelat | toə | ne? | ləkaɛ | | məgoəŋ/məjim | ŋəhūŋ |
| Modang | | nəə? | ləkaɛ | pəhaə pəley | mahjiəŋ | kəwɪ ^d n |
| Gaai | taw | maɛ? | maŋkay | ŋol | ja:? | ŋasgo? |
| Kelai | ptaw | nə:? | maŋkaj | linoh | təmboəŋ | |

| English | mat | measure | meet | millipede | mine | mix |
|------------|----------------------------|---------------------------------|---------|--------------|------------|------------|
| PKAY | | *nukad | | | *anuk | *pakələt |
| Ngorek | ləkai | ən ñokat | | kələ muhən | anok | pakələt |
| Mpraa | mpra:ʔ | nukuən | tapak | | nawəʔ | na: pətlat |
| Long Naah | bərat lapit | | | dəlipan apoy | | |
| Data Dian | bəra:t | nukan | kapsuk | paʔan ipuy | anuk | paklat |
| Balui Liko | bərat | | | lalo ipüy | anok | |
| Busang | | nukar | | tudak araʔ | anuk | kəlugu |
| Bahau | bəra:t | | | | anok | |
| Long Gelat | piən | nəkoən | pətdəʔ | ləbguyh | nət | pətsa:n |
| Modang | məsəw tənjo ^s ŋ | nək ^v d ⁿ | | | | pətsəyh |
| Gaai | | pəwŋ | paddəwʔ | blaəh | nakoy | campur (L) |
| Kelai | pə:n | sukə:t | pətdəʔ | kəlgus | kət ən koy | paklat |

| English | monitor | moon | morning | mortar (large) | mosquito | moss | mother |
|------------|----------------------|----------------------|----------|-------------------|----------|---------------------|----------|
| PKAY | *paraŋ | *bulan | | *ləsuŋ | *ñamuk | *lumut | *inay |
| Ngorek | paraŋ | bulan | taʔup | lohəŋ | | alaŋ atuh | nay |
| Mpraa | kəbawəʔ | mblũə | mava:ʔ | ləhu:ə | ñamawəʔ | luməwk ^w | ne:y |
| Long Naah | kavoʔ | bulan | jihima | soŋ | təlukoʔ | | inay |
| Data Dian | pareəŋ | bulan | jihima:ʔ | s ^v uŋ | hamuk | lumut | inay |
| Balui Liko | kavuk /paraŋ | | | soŋ | tərukok | lumut | |
| Busang | para:ŋ | bula:n | mavaʔ | | hamuk | | ine |
| Bahau | para:ŋ | bulan | mafa:ʔ | hu:ŋ | lamuk | lumut | inay |
| Long Gelat | pəliəŋ | ulũŋ | buʔ | soaŋ | ñəmək | ləmət | naə |
| Modang | pəlay ^d ñ | wəluə ^d n | təñəbuəʔ | so ^s ŋ | | ləmoət | bəyʔ/dəə |
| Gaai | pleəŋ | uluəŋ | mabuʔ | alaw | añəŋ | almoət | iay |
| Kelai | mahŋu:ʔ | uluəŋ | mabuʔ | səŋ | añəŋ | lmut | neəʔ |

| English | mother in law | mountain | mouse deer | mouth | mud | mushroom |
|------------|-------------------------------------|----------------------|------------|----------|---------|----------|
| PKAY | *iban | | *pəlanuk | *baʔ | | kulat |
| Ngorek | eban | ŋkun | pəlanok | ba | | kolat |
| Mpraa | biə | tuka ^v əʔ | planawəʔ | ba: | tidiəʔ | kluəʔ |
| Long Naah | tamək divan | ŋalaŋ | | baʔ | | kulat |
| Data Dian | difan | ŋaleəŋ | pəlanuk | ba:ʔ | ilot | kulat |
| Balui Liko | | ŋalaŋ | bilun | ba | kəritək | kulat |
| Busang | hinan divan | ŋalaŋ | pəlanuk | ba:ʔ | sirak | kulat |
| Bahau | hina:n nae | be:h | pəlanuk | ba:ʔ | sirak | kulat |
| Long Gelat | naə kuũŋ | sən | pənnək | guəŋ weʔ | sələəʔ | kəlũt |
| Modang | ñin kəw ^v d ⁿ | kəw ^s ŋ | pən:əwk | guəŋ waʔ | | kəlut |
| Gaai | | boət | palnok | guaeʔ | alpeək | kluət |
| Kelai | kuyin | jiw | palnok | guleŋ | əlbok | kluət |

| English | mute | myna | naked | name | nape | narrow | navel |
|------------|--------|-------------|------------------------|----------------------|-----------|---------------------|--------------------|
| PKAY | aməŋ | *tiuŋ/*kiuŋ | | *ŋaran | *təkuk | | *pusəd |
| Ngorek | aməŋ | | | | təkok | pəkateh | pohən |
| Mpraa | | kiawə | tawai | rãḡ | kəkawə? | | puhuəŋ |
| Long Naah | maməŋ | | | | təkok | pəkəp | ubut |
| Data Dian | maməŋ | kiuŋ | ugay | aran | təkúk | | ubut |
| Balui Liko | aməŋ | tioŋ | ŋaweh | aran/ara-k/ara-m | təkok | | ubut |
| Busang | | tiuŋ | ŋətaweh | | təkuk | hilat | ubut |
| Bahau | | | maweh | ara:n | tufak | u:k | puhal |
| Long Gelat | pəley? | tiəŋ | ləmkuh | ŋəliəŋ | təkək | kəntep | ba:ŋ |
| Modang | | | lə ^b m kuəh | ŋələə ^d n | guəŋok | pəka ^s ŋ | baw ^s ŋ |
| Gaai | bisəw? | kiəwŋ | lamkuh | ŋlan | patok (L) | mdat | gubəw? |
| Kelai | lbuy | kjəŋ | ləmku/ləmpku | ŋñəŋ | patok | guŋ cə? | gubo? |

| English | near | neck | necklace | nest | new | next to | niece; nephew | night |
|------------|-------|--------|----------|--------|----------|-----------|--------------------------|------------|
| PKAY | | | | *salah | *məhariŋ | | | *maləm |
| Ngorek | jələŋ | kəra? | inu | alah | mareŋ | pəjələŋ | pəmanak | |
| Mpraa | liəŋ | krãḡ | məŋa:n | hala:h | marayə | ka takayə | | ŋuntiəŋ |
| Long Naah | | kəran | təba?əŋ | halah | marieŋ | beh | anak harik | maləm |
| Data Dian | jələŋ | kəra:n | səbaŋan | halah | marieŋ | takheəŋ | | maləm |
| Balui Liko | | kəra? | təva?əŋ | halah | | | | |
| Busang | jələŋ | kəra:n | təba?əŋ | halah | marieŋ | ha? beh | anak harin | maləm |
| Bahau | siləŋ | kəra:? | sihan | halah | marie:ŋ | hu? bi?ah | | malam/to:p |
| Long Gelat | ja?an | ŋuə | luiaŋ | sələh | mahələyñ | lansaə? | niək uleyñ | ñəha:p |
| Modang | ja?an | ŋok | | sələh | | səah | naək wəli ^d n | təñəha:p |
| Gaai | dla? | gulaəŋ | alweəŋ | sləh | mahleyŋ | kam skiəŋ | | madəwm |
| Kelai | dala? | ŋahləŋ | liə:ŋ | sləh | məlhiəŋ | a skin | nək uym | midam |

| English | nine | noon | nose | now | ocean | old (people) | old (things) |
|------------|----------|--------------|----------|-----------|--------|--------------|--------------|
| PKAY | *jəpitan | | *uruŋ | | | | |
| Ngorek | pitan | bəluan təro? | oroŋ | | baŋət | muku | pu?un |
| Mpraa | jə?tiḡ | raə buhiə? | ruə | kra:ə | laut | muko:w | taraə |
| Long Naah | pitan | ŋə? daw | uroŋ | | baŋət | muku | lumay |
| Data Dian | pitan | bəlua? daw | uruŋ | kəray | laut | muku? | lara:? |
| Balui Liko | pitan | | uroŋ | | | | |
| Busang | pitan | bəlua? do | uruŋ | kəre ni | laut | muku:? | una? |
| Bahau | pita:n | bəlua? raw | uru:ŋ | je:? inih | | dara:? | tamaə |
| Long Gelat | səptiŋ | wüŋ gu? diə | guəŋ ləŋ | su? no | | səkaə? | mənaə? |
| Modang | səptin | təñədəə | ləwŋ | | lewoət | səkaw? | |
| Gaai | jəptin | mədəəw | guləwŋ | kat nay | lawət | maja? | mlaw |
| Kelai | jəptin | mi dəw | yuj | | | maja? | manə? |

| English | on top | one | open | otter | overflow | owl |
|------------|----------|-------------|--------|--------|--------------|--------------|
| PKAY | | *ŋji?/*icah | *buka | *dəŋən | | *wək |
| Ngorek | tuhun | nci | | | | wək |
| Mpraa | ka mpa:ɔ | ncey | ŋaʔa:ʔ | ŋan | pa: | manawəʔ tawʔ |
| Long Naah | hujon | jiʔ | | | | wək |
| Data Dian | hoʔ baw | ji:ʔ | bukaʔ | dəŋən | ləbaʔ | manuk wək |
| Balui Liko | | ji | | dəŋən | | manok oʔk |
| Busang | | jiʔ | bukaʔ | dəŋən | ñuiʔ | manuk wək |
| Bahau | hun | ji:ʔ | | | pənu:ʔ | |
| Long Gelat | | suh | təneŋ | dəŋən | ənləʔ/mətʔiŋ | mənək mətə |
| Modang | ləbeya | siəh | | ləŋən | ləpeyk | |
| Gaai | | cih | boʔ | alŋən | ŋlak | əwk |
| Kelai | a tutbæw | cih | boʔ | lŋən | lŋæm | mkon |

| English | paddle | painful | palate | palm | pangolin | parang |
|------------|-----------|-----------|-----------------|------------|----------|--------|
| PKAY | *bəsay | *pərah | | *palad | *ahəm | |
| Ngorek | bahe | pərah | ŋam | palan | am | paʔeh |
| Mpraa | maha:ɛ | prah | | | ŋaɔ | ŋkuən |
| Long Naah | | pərah | | kamah | həm | malat |
| Data Dian | bəsay | naʔ pərah | jaʔam | kamah | sian | malat |
| Balui Liko | bəse | | sələŋit | kamah | həm | malat |
| Busang | bəse | pərah | | kamah usuʔ | ham | |
| Bahau | kayoh | | silaʔ laŋit | kamah | aam | hafit |
| Long Gelat | pəsey | | ləŋayt guəŋ weʔ | mey pəliŋ | ha:m | kəɔʔ |
| Modang | pəse: | pələh | ləŋet tələbaʔ | pəliŋ | ha:m | kəwʔ |
| Gaai | psa:y | liʔak | | plal | ham | gay |
| Kelai | psaɛ/msaɛ | ak leŋ | lŋeʔt wa:ʔ | mipləl | ham | agai |

| English | parang handle | peak/top | peel fruit | person | pestle (large) | pile |
|------------|---------------------|-------------|------------|-------------------|----------------|----------|
| PKAY | *saʔup | | | *ulun | *alu | |
| Ngorek | aʔup | uñok | məŋit | ulun | lu | |
| Mpraa | haʔawk ^w | | ŋaʔa:ʔ | ləwŋ ^w | lawʔ | ku:ɔ |
| Long Naah | | ujət | ŋayan | kəlunan | aloʔ | |
| Data Dian | haʔup | ujot | | kəlunan | alo:ʔ | kələhun |
| Balui Liko | haʔup malat | husun ŋalan | | kəlunan | aloʔ | məpəŋ |
| Busang | | husun | ŋərip | kəlunan | | |
| Bahau | | ujat | | | alo:ʔ | bələfo:h |
| Long Gelat | saʔap kəɔʔ | apa: | un kayt | səhuin | ala: | san |
| Modang | saʔap | | | səhun | ələɔ | məʔəwk |
| Gaai | saʔəwp gay | soən | ləp | thuən/luən | səwŋ | pasʔəwŋ |
| Kelai | səʔop | cəhədæ:n | puʔ | loən/tsuən | alaw | təmbiəwŋ |

| English | pig tailed mac. | pimple | pinch | pinky | place | plant |
|------------|-----------------|------------|---------------|--------|-------------------|-------------|
| PKAY | *bərək/*duk | | | *ikiŋ | | *tubu/*nubu |
| Ngorek | dok | səmua? | | | | toŋkan |
| Mpraa | dawə? | | kitiən/ŋitiən | ki:ə | lawŋ ^w | lobowh |
| Long Naah | bərok | səmua? | nitən | ikiŋ | | nugan |
| Data Dian | bərək | səmwa? | ŋipen | | aya:n | tufuh |
| Balui Liko | uməŋ | səmua? | | ok | avan | |
| Busang | bruk | səmua? | ŋital | ikiŋ | | nuvu |
| Bahau | hio:k | hamua? | ŋitil | | kayəa:n | nufo:h |
| Long Gelat | yoak (toən) | həŋaə? | | uŋgu? | añüŋ | nuəyh |
| Modang | yok | | ŋətəwh | səkiəŋ | guəŋ əñm | ñə?uəŋ |
| Gaai | gjiəl | sŋo? | təwh | tiŋget | gulan | woəs |
| Kelai | yok | pləwm ptiw | təwh | kəŋgt | læ:n | wu:s |

| English | plateau | point | porcupine | pregnant | primary forest | print (foot) |
|------------|-----------|---------|-----------------|----------|----------------|--------------|
| PKAY | *apaw | *tuju | *kətun/*təhutun | *mali? | *tu?an | |
| Ngorek | apaw | nojo? | kətoŋ | nəmali | to?an | oban |
| Mpraa | | lonjəw? | tawə | malaj | ləhoyə | lawŋ pancawə |
| Long Naah | apaw | nujo? | kətoŋ | mali? | tu?an | |
| Data Dian | apaw | nujo? | kətun | mali:? | tu?an | ayan pa?a:n |
| Balui Liko | apo | | kətoŋ | | tuan | ina |
| Busang | ŋ-apo | tujo? | kətun | mali? | aləm uro? | |
| Bahau | apaw/apo | nujo:? | | mali:? | tu?a:n | aga:n |
| Long Gelat | apa: | ənsəw? | toaŋ | mahameyñ | mey təne? | |
| Modang | əpaə | | | mah mɪn | tənpə? nəŋ | guəŋ siə? |
| Gaai | soən boət | ceəw? | tahtəwŋ | mahmeəŋ | las | gulan koəl |
| Kelai | suəŋ | cəw | təhtəŋ | məhmin | mias | læ:n kol |

| English | pull | punch | pus | push | put down | put together | python |
|------------|----------------------------|-----------------|--------|---------------------|----------------------|--------------|----------|
| PKAY | | | *lana? | | | | *pəŋanən |
| Ngorek | məŋjat | mukut | | ñontoŋ | mohe? | | pəŋanən |
| Mpraa | tayə | ñintəw?/cintəw? | ŋlana: | pu?ow? | mohoy? | ku:ə | pəŋanan |
| Long Naah | məjat | mukut | lana | araŋ | | | pəŋanən |
| Data Dian | məja:t | ñagun | lana:? | harah | məlak | məppaŋ | pəŋanan |
| Balui Liko | | | lana | | | | pəŋanən |
| Busang | katiŋ/ŋatiŋ | jagur | lana? | haru | lak | məpaŋ | |
| Bahau | me:l | jagul | lanan | uka:ŋ | | pəsipan | pəŋanan |
| Long Gelat | mənhayñ | nəpa:n/təpa:n | ləne? | (əŋ)sən | (əŋ)peə? | ənsa:n | pənnan |
| Modang | məhen | nəpa:n | | əŋjo ^d n | ŋəpey ^s ŋ | | pən:an |
| Gaai | gat | npal | alnaə? | guət | plaŋ | əwŋ | salnom |
| Kelai | gat/hi ^v əl/ñoŋ | npal | lnæ:? | guət | ləwŋ | mə?əoŋ | pe? ŋan |

| English | quiet | raft | rafter | rain | rainbow | rambutan | rapids | rat |
|------------|-------------|-------|--------|-------|-------------|----------|------------|--------|
| PKAY | | *akit | *kasaw | *ucan | | *bələti? | *giham | *labaw |
| Ngorek | ayən ləŋkoh | | kaho | usan | san to? | | | labo |
| Mpraa | pətla:m | kayc | | cũə | ñalãḡ taw? | mataj | ŋkah | labaḡ |
| Long Naah | | | kasaw | usan | rəŋ atu | | gah | lavaw |
| Data Dian | pakta? | akit | kasaw | usan | ileḡŋ atu? | bələti:? | giham | lafaw |
| Balui Liko | | akit | kasaw | usan | ləŋatu | bəl(ə)ti | giham | lavo |
| Busang | ŋərəm | akit | | usan | bahalan | | giham | lavo |
| Bahau | | akit | | usan | pələŋi:? | kəlgo:ŋ | giam | lafaw |
| Long Gelat | ŋərəm | sətəŋ | kəsiə | sũŋ | bian dəluŋ | bələtəy? | giyim | əwiə |
| Modang | ŋədələŋ | sətəŋ | kəsəə | si:˦n | dayñ dəlu˦n | bələtəy? | liə/gəyeəm | əwea |
| Gaai | gəwŋ | stəwŋ | kseəw | ciəŋ | baŋ deaŋ | kuyeak | klaŋ ŋuy | aweəw |
| Kelai | goŋ | stoŋ | ksəw | ciəŋ | buliəŋ | bəlti? | giəm | awəw |

| English | rattan | rattan backpack | rattan backpack | rattan backpack | raw | receive |
|------------|--------|-----------------|-----------------|-----------------|--------|------------|
| PKAY | *wəay | *kaləŋ | *iŋən | *anjat | *ata? | *ala? |
| Ngorek | we | kaləŋ | iŋən | ancat | ata | tərema? |
| Mpraa | ŋoə | kalaŋ | ŋiəŋ | hanca:? | ta: | la:/pam |
| Long Naah | | kaləŋ | iŋən | ajat | ata | ala |
| Data Dian | way | kaləŋ | iŋən | aja:t | ata:? | tərimah |
| Balui Liko | we | kiaŋ | iŋən | ajat | | |
| Busang | we | | | | ata? | ala?/api? |
| Bahau | way | kiaŋ | | | mata:? | |
| Long Gelat | guy | kiiəŋ | ñəəŋ | ləbit | mətə? | le? |
| Modang | guy | kələŋ bəkoyñ | ñəəŋ pəə | | mətba? | læ? |
| Gaai | guy | gba? | ñəəŋ | tuəŋ | mta? | trima? (L) |
| Kelai | guy | kba? | ñan | tuəŋ | mtæ? | si? en læ? |

| English | red | red-leaf monkey | remember | rest | return | rhinoceros |
|------------|---------|-----------------|-----------|---------------------|--------------|------------|
| PKAY | *bəla? | *kələsi | | | *uli? | *təmədoh |
| Ngorek | bəla | kələsi | palulup | | ne uli | |
| Mpraa | mbla: | kuyãḡ mbla: | hna:ŋ | nuhowŋ ^w | luy | |
| Long Naah | bala | | pəhitok | | nəpulət | |
| Data Dian | bəla:? | | ñituk | ŋələrah | nəkulah | tamdoh |
| Balui Liko | | | | | | təmədoh |
| Busang | bəla? | hase? | iŋat | ŋələrah | nəkulah | |
| Bahau | bəla:? | | daŋ baraw | hŋa:n | ləpat | |
| Long Gelat | mənhiəŋ | kənsay | | ne?seəŋ | nəploəh | |
| Modang | mənhayñ | yok saek | kəñawŋ | na? layəŋ | ənləy | bədəe? |
| Gaai | maseək | kalsay | iŋat (L) | nahuə | kmbaley? (L) | bdeak |
| Kelai | masə:k | kəlsai | si pətmu? | si na huə | hay lah tay | bdə:k |

| English | rhinoceros hornbill | rice | rice grain | right | ripe | river | river bank |
|------------|---------------------|--------|------------|--------|--------|--------|--------------|
| PKAY | *təkuaŋ | *paray | *bahas | *taʔu | *masak | *suŋay | |
| Ngorek | təbunəŋ | pare | baah | taʔoʔ | | uŋe | |
| Mpraa | təkuaǣ | paraɛ | mah | taʔawʔ | hayəʔ | hōǣ | liriŋ hōǣ |
| Long Naah | tiŋəŋ | paray | bahah | taʔoʔ | | huŋay | |
| Data Dian | tiŋeəŋ | paray | bahah | taʔo:ʔ | seək | huŋay | bəŋheʔ huŋay |
| Balui Liko | tiŋəŋ | pare | baha | | | huŋe | baheʔ huŋe |
| Busang | tiŋəŋ | pare | baha | toʔoʔ | milah | huŋe | baŋheʔ |
| Bahau | tukuŋ | paraɛ | fa:h | taʔo:ʔ | maha:k | huŋay | lirin huŋay |
| Long Gelat | təhuin | pəley | hi:h | ŋaʔa: | siəʔ | haŋuy | weh həŋuy |
| Modang | təgu ^d n | pəley | heəh | mənaɔ | saək | loŋ | weyh həŋuy |
| Gaaï | tabguəŋ | plɔ:y | uhas | manʔaw | seək | ŋuy | skeəŋ ŋuy |
| Kelai | təkguəŋ | pləɛ | wuhæ:s | manʔaw | sək | ŋuy | skɪn ŋuy |

| English | road | roll | roof | room | roots | rope | rotten | rough |
|------------|--------------------|---------------------|--------|---------------------|--------------|--------|--------|----------------------|
| PKAY | *jalan | *lulun | *sapaw | *amin | *akah/*pakat | *tali | *maram | |
| Ngorek | jalan | | apo | amin | pakat | taleʔ | maram | boten |
| Mpraa | ŋalǣ | ləwŋ ^w | hapa:ɔ | kliəwə | kah | talayʔ | marǣ | |
| Long Naah | | | hapaw | | pakat | taleʔ | | |
| Data Dian | alan | lulun | hapaw | kaman | pakat | tale:ʔ | buuʔ | itey haʔ lanih |
| Balui Liko | alan | | hapo | amin | pakat | taleʔ | | |
| Busang | | lulun | | | pakat | | butuŋ | kihi |
| Bahau | ala:n | malun | hapaw | | akah | tale:ʔ | buto:ʔ | |
| Long Gelat | liəŋ | ən:ən | səpiə | deyŋ təban | ukit | tələɛ | | ŋədəhin |
| Modang | leə ^d n | ənwe ^d n | səpeə | təba ^d n | | | mələəm | səliə ^d n |
| Gaaï | gulan | guləwŋ | speəw | | ukaəh | tlay | mleəŋ | kasar (L) |
| Kelai | gulən | loəŋ | spəw | | ukæt | tlaɪ | mŋəm | maglan |

| English | rub | run | sago | sago flour | saliva | sand | sand fly |
|------------|------------|----------|------------|--------------------|------------|-------|-----------|
| PKAY | | | *balaw | *buluŋ | *ibah | | |
| Ngorek | | nəpuroŋ | balo | | ebah | ait | jamok |
| Mpraa | mohow | lə-pru:ɔ | | mbluə | kətaʔ biəh | iiəʔ | kluku:ɔʔ |
| Long Naah | | təpuroŋ | balaw | | ivah | hit | hamoʔoʔ |
| Data Dian | asaʔ/mupuh | nəpuruŋ | naŋaʔ | buluŋ | ataʔ luran | hit | hamuk uk |
| Balui Liko | | | balo | buluŋ | lura | hait | hamok |
| Busang | ŋahir | nəpuruŋ | | buluŋ | iwah | hit | |
| Bahau | maha:ʔ | nəpuru:ŋ | rumbia | sago:ʔ | ura:ʔ | asil | kilap tap |
| Long Gelat | mpayŋ | lip | ŋəŋaʔ | bələŋ | wuh | anay | ŋəmək |
| Modang | ŋəsəət | jiəh | | bələo ^ŋ | wiəh | əney | |
| Gaaï | | nampal | sagəwʔ (L) | | tappluʔ | ana:y | pkat |
| Kelai | ntuət | nəmpəl | | bləwŋ | wih | kiət | pkæt |

| English | sap | sape | say | scabbard | scale | scar | scold |
|------------|--------------------|---------|------------|---------------------|-------|------------|---------|
| PKAY | *pulut | | | | | | |
| Ngorek | | sampe? | məka | | lah | pako | |
| Mpraa | pləwk ^w | capay? | kayə? | kūə | kua:? | hoa:? | mənaw? |
| Long Naah | | sape? | kuma? | bokan | bulun | | |
| Data Dian | pulut | sape? | kuma? | bukan | | ga? kət | buŋət |
| Balui Liko | | | | bukar | bulun | ulat | |
| Busang | pulut | sape? | pəduan | | | ulat | kəto? |
| Bahau | pulut | sape:? | pəsutay | kunpaŋ | | alit | kəto:? |
| Long Gelat | pələt | səmpəə? | nue? | | blən | u:ʔ iən | kəto? |
| Modang | pələet | səmpəy? | uwa? kəhea | səgu ^d n | | pət koət | kəto? |
| Gaai | pləət | sampo? | | sgo? gay | leəp | gulan u?an | |
| Kelai | plut | spe? | siw wə? | sago? | nup | wu?æ:n | mŋat en |

| English | scorpion | scratch | secondary jungle | see | seed | sell | send |
|------------|---------------------------|---------|------------------|--------|-------------------|-----------|---------|
| PKAY | | *ŋatəl | *talun | | | | *ŋatu |
| Ngorek | təlipan kətip | | jəko | miło | luaŋ | juan | ŋato? |
| Mpraa | kəlipiŋ ^q tayc | ŋama:n | ləmalah | kəhnaŋ | po?ow? | pəmblyay? | ŋataw? |
| Long Naah | dəlipan kətip | ŋatən | kaharah | ŋinəŋ | uaŋ | juwən | kato? |
| Data Dian | jəlipan kətip | nəkayaw | kaharah | ŋinəŋ | bəni:? | kələbe:? | kato:? |
| Balui Liko | dəripan kətip | ŋamit | talun | | ipəŋ | | |
| Busang | dəripan kətip | ŋatal | talun | inəŋ | | ble? | ŋato? |
| Bahau | | nəko:l | | ninaŋ | bini:? | pəbəle:? | ŋato:? |
| Long Gelat | toaŋ a? | ŋəta:n | | ŋələy? | | əŋkuh | ŋəta: |
| Modang | | | həkeət | ŋələy? | pə ^d n | əŋkuəh | ŋətəə |
| Gaai | tutep | ŋtal | | leyŋ | dəw? | kuh | ŋtaw |
| Kelai | təŋga?əp | ŋjiw | luət | tan | səldəŋ | ku:h | hay tay |

| English | seven | sew | shade | shadow | shallow | sharp | sharpen | shield |
|------------|--------|--------------------|----------------|--------|---------|----------------------|---------|----------|
| PKAY | *tucu? | | | | | *ŋa?at | *masa? | |
| Ngorek | tusu | məbum | teŋoh | leŋe | ŋebo | ŋa?at | | kələmpit |
| Mpraa | tosow | ŋamaw ^w | ŋəŋoə? | hadāə | ləbeə | ŋa?a:t | maha: | kəmpayc |
| Long Naah | tusu | ŋəpat | hiŋaw | liŋay | | ni?at | | kələbit |
| Data Dian | tusu? | ŋəpat | ayan ta? ŋiŋaw | liŋay | ŋifaw | ŋi?at | masa:? | kələbit |
| Balui Liko | tusu | | ŋiŋo | liŋe | | | | kələbit |
| Busang | tusu? | ŋəpat | | | ŋivo | ŋiət | p-asa? | |
| Bahau | tusu:? | ŋəjo:t | kayan niŋaw | hnda:ŋ | lifaw | | ha:? | tələfa:ŋ |
| Long Gelat | səə? | ŋəpət | həŋiə | luh | ənla? | ŋa?at | məsey? | tup |
| Modang | səw? | ŋəhot | | dəə? | ən:la? | mənli ^d n | məsəə? | |
| Gaai | tcəw? | nhoət | gulan ŋeəw | lih | dla? | mliŋ | msəə? | kliəl |
| Kelai | cu? | nhoət | gunaw | səldaw | | malin | msə:? | kleəl |

| English | shoot blowpipe | short (length) | short (height) | shoulder | shout | shrimp |
|------------|-------------------|----------------|----------------|----------|---------------------|-----------|
| PKAY | *ñəput/*ñiput | | *liba | *laʔip | | *uraŋ |
| Ngorek | məmpoh | baʔek | ləba | laʔip | ŋəlaʔaŋ | |
| Mpraa | piwk ^w | maʔayəʔ | biə | laʔayc | məkhi:əʔ | royə/royə |
| Long Naah | ñəput | bəkək | liʋaʔ | laʔip | mədəŋ | uraŋ |
| Data Dian | ñiput | baʔiək | lifa:ʔ | laʔip | mədəəŋ | ureəŋ |
| Balui Liko | | | | ligan | | uraŋ |
| Busang | ñəput | biʔik | | liʔip | nəreʔ | uraŋ |
| Bahau | | baʔe:k | baʔe:k | laʔe:p | mədə:ŋ | uraŋ |
| Long Gelat | əmpuət | əŋwuʔ | ləwuʔ | leʔep | mənʔoə | luəŋ |
| Modang | əmpoət | əmiəʔ | əmiəʔ | ləʔip | ŋəwayt ^v | |
| Gaai | | gabak | gabak | alʔep | ŋweək | yuəŋ |
| Kelai | poət | guiʔ | kəmjiʔ | ləʔep | ŋlɪw | yuəŋ |

| English | shy | siblings | sick | silver leaf monkey | six | skin | skin (v) |
|------------|--------|---------------------|-----------|--------------------|------|-----------|------------------|
| PKAY | *saʔih | | *pərah | *buis | *nəm | *anit/las | |
| Ngorek | aʔeh | | pərah | | nəm | kəlatəŋ | |
| Mpraa | haʔayh | | mtāḡ | ñāḡ kayc | nam | nayc | blanayc |
| Long Naah | | | joŋoʔiŋ | | nəm | anit | manit |
| Data Dian | haʔeh | hariək | pərah | | nam | anit | nəmat anit/ñanit |
| Balui Liko | haʔeh | | | bui | nəm | anit | |
| Busang | heʔeh | harin | jaʔak liŋ | bui | nam | la: | ŋəlanit |
| Bahau | haʔe:h | harin | pərah | | nam | lah | |
| Long Gelat | səʔaəh | | pələh | uhəh | na:m | lih | əñ:eyt |
| Modang | səʔəyh | wələ ^d n | leŋak | | na:m | liəh | |
| Gaai | sʔaəh | uleəŋ | liʔak | | nam | la:s | mñet |
| Kelai | səʔeh | uym | ak | | nam | læ:s | mñit |

| English | skinny | skirt | sky | slap | sleep | sleep walk |
|------------|--------------|--------|--------|----------------|---------------|------------|
| PKAY | *ñiwaŋ | *taʔah | *laŋit | *nəbip | *tiduh/tunduʔ | *larap |
| Ngorek | ñewaŋ | taʔah | laŋit | nəpap | teroh | |
| Mpraa | kəcca: | taʔa:h | laŋayc | ləppa:ʔ | terewh | ŋlara:ʔ |
| Long Naah | ñuaŋ | taʔah | laŋit | nəbip | tudu | |
| Data Dian | ñiweəŋ | taʔah | laŋit | patbip | tudu:ʔ | ŋəlarap |
| Balui Liko | ñiwaŋ | taʔah | laŋit | | | |
| Busang | kaŋəŋ | taʔah | laŋit | təmpeləŋ/ŋapek | | ŋəlarap |
| Bahau | niwa:ŋ | taʔa:h | laŋit | təmpiləŋ | tiroh | |
| Long Gelat | haŋuəŋ | tahah | ləŋayt | nəbep | ndəwʔ | kəlip |
| Modang | məŋuəŋ | tahah | ləŋet | nəbep | əndəwʔ | |
| Gaai | ghəwŋ/gəhəwŋ | khas | alŋeət | | dəwʔ | kələp |
| Kelai | məŋuŋ | khas | lŋeət | bep | dəwʔ | təŋ cal |

| English | slice | slip | slow | slow loris | small | smell | smile |
|------------|---------------|----------------------|---------|-----------------------|-------------------|--------|-------------------|
| *PKAY | *mirih | | | | | *mbu | |
| Ngorek | ñereh | ŋalaha? | mampa? | dok talun | e?ok | ŋəmpu | |
| Mpraa | məreɣh/pereɣh | ñəplawk ^w | lampaj | | awə? | | ŋucup |
| Long Naah | mirih | | | bərok alun | da?ok | ŋəbu? | |
| Data Dian | mutun | ləgeək | dəna? | bəruk alun | dəkuk | | kəsiŋ |
| Balui Liko | | | pələdah | bərok alun | | | |
| Busang | miri | tərsa?/lisaŋ | pəlehe | hukaŋ | uk | | ŋəmi:? |
| Bahau | mireh | durak | | | u:k | | ŋi?am |
| Long Gelat | əndaɛ?/mpəh | bənkɪh | pələhaɛ | səŋgəŋ | so? | ŋəbaɔ? | ŋəmi? |
| Modang | ŋəha:t | nəbəkeəh | təmeət | so ^ɛ ŋ noŋ | əmək | bəw? | lɔ? məm |
| Gaai | seəw | alsoy | duay | saŋ nəwŋ | cɔ ^w ? | mo? | lɔ ^w ? |
| Kelai | de? | ləkpəs | təmnaj | cannəwŋ | cɔ? | | lɔ? |

| English | snail | snake | snap | sneeze | snore | snot | soft | some |
|------------|--------|------------|---------------------|---------------------|---------|-------|--------|----------|
| PKAY | *isi? | *ñipa | | | | *irək | *ləma? | |
| Ngorek | ihi | ñepa? | məroŋ | asin | ŋəro? | inat | ləma | bale? |
| Mpraa | hey | piə? | pə-mprəwə | hmpɪəŋ | ŋkrawə? | riək | ləma: | |
| Long Naah | | ñipa? | məroŋ | sibən | | irək | ləma | balay |
| Data Dian | si | ñipa? | muneŋ | sibən | ŋurok | irək | ləma:? | kuri:? |
| Balui Liko | si | ñipa? | | sibən | nərahak | irək | | |
| Busang | si:? | ñipa? | məruŋ | sibən | narhak | irak | ləma? | kuri? |
| Bahau | kihi:? | ulal/lipa? | məru:ŋ/bəru:ŋ | siban | niŋo:l | irak | ləma:? | kuri? |
| Long Gelat | səɛ? | paw? | mətən/pətən | seəm | əŋgu:n | la:t | meə? | |
| Modang | | paw? | mətə ^d n | ənsə ^b m | ŋguəŋ | lauk | ma:? | |
| Gaai | səɛ? | po? | pa? ptoəl | seəm | gol | lok | | |
| Kelai | seə? | pə? | si?en toəl | seəm | gəhol | wu?əŋ | ləmə? | un ku əŋ |

| English | song/sing | sour | speak | spicy | spider | spider hunter |
|------------|-------------|--------|----------|--------|--------------------|---------------|
| PKAY | | *məsəm | | *saŋit | *kə-tələwa? | *sisit |
| Ngorek | kəbuyan | ahəm | | | tələwa? | |
| Mpraa | ŋanta:ɔ | ham | ŋahayh | hənaɣc | kələwa: | cayc |
| Long Naah | nək na? | səm | | | tələwa? | |
| Data Dian | na?luŋ | səm | bətira:? | hanit | tələwa? | hisit |
| Balui Liko | | | | | tələwa? | hisit |
| Busang | ñañi | məsəm | pe-duan | hanit | tələwa? | hisit |
| Bahau | bəlagu | maham | pəsutay | haŋit | kətələwa:? | pihit |
| Long Gelat | lagu? (L) | məsə:m | nue? | həñeyt | jijət | seyt |
| Modang | wa? kəni:əh | məsə:m | pət hea | həñit | jəjuət | sit |
| Gaai | lagəw? | msam | (pa)seəw | sŋeət | g ^h əɛ? | set |
| Kelai | najiək | msam | pəsiw | sŋit | agə? | sit |

| English | spit | split | spouse | squeeze | squirrel | stab | stairs/ladder |
|------------|-----------------|-------------|---------|---------|----------|--------|---------------|
| PKAY | *ləmuraʔ/*luraʔ | | *sawa-n | | *təlis | *nəbək | *can/*hican |
| Ngorek | nəmoraʔ | meʔaŋ | awaʔ | məntək | tələh | nəbək | san/can |
| Mpraa | ləmpruə | miʔi:ə | hawayəʔ | hmtak | klayh | ʔak | cãḡ |
| Long Naah | ləmura | nəba | hawan | misət | təlih | nəvək | |
| Data Dian | ləmura:ʔ | miʔeəŋ | hawan | məsət | təlih | nusuk | san |
| Balui Liko | ləmura | | | | təli | | san |
| Busang | luraʔ | mianʔ/bianʔ | hawan | masat | təli | nusuk | |
| Bahau | ŋələra:ʔ | mila:ʔ | hawa:ʔ | pa:ŋ | tələ:h | nujak | sa:n |
| Long Gelat | ənlʊʔ | ənteʔ/ləteʔ | səgũŋ | ŋəñam | tələəh | ntoh | həsũŋ |
| Modang | ənlʊəʔ | əntaeʔ | səguəʔn | məsət | təlayh | əntoh | həsiʔn |
| Gaai | nappluʔ | kak | sguəŋ | mtaw | lianʔ | tpak | ciəŋ |
| Kelai | mñuʔ | tə:ʔ | | msit | liəŋ ŋan | ləws | alə:ŋ |

| English | stand | star | stay; lodge | steal | sticky | stomach | stone | stop |
|------------|---------|----------|-------------|--------|------------|---------|--------|-----------|
| PKAY | | *kələwiŋ | | *nakaw | | *butit | *batu | |
| Ngorek | nəkərəŋ | kalawəŋ | | nakoʔ | | butit | batoʔ | |
| Mpraa | nəkrayə | klaweyə | ho:y | mblayə | ŋgla:ʔ ayc | tayc | matawʔ | pakaha:ə |
| Long Naah | nəkəriŋ | kələwiŋ | | nakaw | | butit | | |
| Data Dian | biti:ʔ | kələwiəŋ | mələk | nakaw | ŋədipe:t | butit | batoʔ | ŋətaʔ |
| Balui Liko | | kərəwiəŋ | | | | butit | batoʔ | |
| Busang | nakriŋ | kərəwiŋ | mələk | nako | kəliʔit | butit | batoʔ | ŋələrah |
| Bahau | nəlgah | kələwi:ŋ | lak/mələk | nakaw | ləkat | buti:t | bato:ʔ | ŋaʔ ariŋ |
| Long Gelat | nətjeəŋ | kərəwiŋ | təpeəʔ | ŋkiə | ŋka:t | soh | uta: | pələdeəŋ |
| Modang | nətjan | ləlayʔn | təpak | əŋkea | | soh | wətaə | nək leyʔŋ |
| Gaai | nakjan | talʔoəŋ | tuat | nkeəw | bdet | soh | utaə | |
| Kelai | nəkjeʔŋ | təlʔan | tawat | nkəw | pdit | soh | sutaw | gəəŋ |

| English | story | straight | stranger | strong | stump | sugarcane | sun hat |
|------------|-------------|----------|---------------|----------|--------|-----------|-----------|
| PKAY | kənaʔ | | | | *tuŋul | *təbu | *ahun |
| Ngorek | səreta | laho | | makaʔ | obaŋ | təboʔ | ahon |
| Mpraa | kənaʔ/ŋənaʔ | kuʔuəŋ | ləwŋ caə | tuʔuaʔ | tuŋun | təbawʔ | ha:wə |
| Long Naah | | | | tuʔa | | təvoʔ | hon |
| Data Dian | ditut | tutaw | kəlunan ulun | naje:ʔ | tuŋun | təfo:ʔ | hon |
| Balui Liko | lon | | kəlunan səlap | najeʔ/le | tuŋol | təvoʔ | haon |
| Busang | | tuto | | gisin | tuŋul | təvoʔ | hun |
| Bahau | kisah | tutaw | | me:ŋ | | təfo:ʔ | hon |
| Long Gelat | kəhiə/kisah | tətu | səkey | muhuit | təŋən | uŋey | siəŋ |
| Modang | tətnaʔ | məndaŋ | | məŋpyh | | wəŋe: | haeŋ haiñ |
| Gaai | | maldəŋ | | lamhuəʔ | paŋ | kuaw | heəŋ |
| Kelai | taknaʔ | məldaŋ | awəʔ | ləmhuəʔ | pəʔoəŋ | kuaw | hə:ŋ |

| English | sunrise | sunset | supernatural storm | surprised | swallow |
|------------|-------------------|------------------|--------------------|-----------|-------------|
| PKAY | | | *kənəlɪt | *təkəjət | *ñəlu/*ñilu |
| Ngorek | roʔ bitɪ | | | mələk | ñəlu |
| Mpraa | matãḡ raʊ mərəʔ | matãḡ raʊ ʔay | mayaw tlayʔ | ʃat | ñəliw |
| Long Naah | ariŋ daw ɲiran | daw hirəp | | təkəjət | ñəlu |
| Data Dian | daw museəŋ | daw tay ɲəsam | usan batoʔ | nəkjət | həlu:ʔ |
| Balui Liko | | | uvən | təkəjət | |
| Busang | matan do murip | matan do mate | puvan/kənɪt | təkjət | ñəluʔ |
| Bahau | matan raw tubu:ʔ | | | təkja:t | nilu:ʔ |
| Long Gelat | mətiəŋ diḡ bəla:m | mətiəŋ diḡ ənsap | uhaḡ kənlaḡt | təkja:t | ən:an |
| Modang | məteəŋ deḡ həbeḡ | məteəŋ deḡ ənsap | wəheḡ liu | pəgaʔ | ən:an |
| Gaai | | malwaeʔ | kanleat | təkjoḡt | nal |
| Kelai | dəw adaw | dəw ciʔ | kəlhaw/kənət | hawan | nal |

| English | sweat | sweep | sweet | swim | swollen | tail | take | tall |
|------------|-------|--------|-----------|--------|---------|-------|------------|--------|
| PKAY | | | *həmis | | | *ikuh | *alaʔ | *mbaw |
| Ngorek | ɲaboh | | meh | ñatonḡ | | ekoh | | mpu |
| Mpraa | hanah | pah | hməyḡ | ñatawḡ | tawḡ | kiwh | la:/dapat | mpa:ḡ |
| Long Naah | umah | | mih | ñatonḡ | bətonḡ | ikoh | | baw |
| Data Dian | mumah | məppah | mih | ñatuḡ | bəttuḡ | ikoh | alaʔ | baw |
| Balui Liko | | | | | | ikoh | | |
| Busang | mumah | məpa | mi | ñatuḡ | bətuḡ | ikoh | apiʔ | bo: |
| Bahau | mumah | mayik | me:h | natu:ŋ | bətuḡ | ikoh | ala:ʔ | baw |
| Long Gelat | ɲu:h | məñeyt | maḡh | ɲjoʔ | pələŋ | keh | leʔ | ləbiḡ |
| Modang | ɲuəḡ | məñeyk | meyḡ | əŋjo:ʔ | pələwəŋ | | ləḡ? | ləbea |
| Gaai | ksok | mñeyk | meəs/miəs | jɔʔ | pələwŋ | kih | ləḡ? | gjah |
| Kelai | lsəḡk | mñeyk | mes | jɔʔ | pələwŋ | kih | siʔ ɛn ləʔ | kəmbəw |

| English | tamp earth | tasteless | tattoo | tear | tell | ten | that, far |
|------------|------------|-------------|-----------|-------------|---------------|--------|-----------|
| PKAY | | *bəlih | *tədək | | | *puluʔ | |
| Ngorek | | amalu pahaʔ | bətek | | | pulu | ñemah |
| Mpraa | pətədə:t | | kaləwḡ | pəmprayḡ? | təntayḡ? | pələw | tu:y |
| Long Naah | | bələh | tədək | | baraʔ | pulu | inan |
| Data Dian | nəah | | tədək | jəm miʔak | ɲədɪtut/baraʔ | puluʔ | ana:n |
| Balui Liko | | | tədək | | | pulu | |
| Busang | nədəh | | | mirak/birak | kisah/təŋaran | puluʔ | |
| Bahau | | bələh | tədək | | ɲisah | pulu:ʔ | itih |
| Long Gelat | nədəḡ | bələḡh | jaḡk/ja:k | ñuiḡ?/suiḡ? | ɲihiḡ/kihiḡ | sueəŋ | |
| Modang | | bələyḡ | jaḡk | | ɲənkuḡ? | səwəŋ | |
| Gaai | paʔ bdat | | dak | jiḡt | (pa)seəw | suaŋ | tuy |
| Kelai | pñat | bleh | dak | jit | siʔ ɛn buəŋ | suaŋ | tuy |

| English | that, near | there, far | there, near | they | thick | thigh | thin |
|------------|------------|------------|-------------|-------|--------|----------------|--------|
| PKAY | | | | | *kapal | *sapi | *ñipis |
| Ngorek | nan | tenan | tete | tenan | kapan | bəlaton | ñepəh |
| Mpraa | nĩḡ | katuy | kaniḡ | hlaw? | kapãḡ | bəlatawḡ | lepəyh |
| Long Naah | iti? | hinan | hiti? | daha? | kapan | bukon | ñipi |
| Data Dian | atih | hina:n | hitih | dalo? | kapan | hapi? | ñipih |
| Balui Liko | | | | daha? | | hapi | |
| Busang | ati? | ha? ina | ha? iti? | daha? | kapal | hapi? | ñipi |
| Bahau | inah | | | dahoh | kapal | hatu:ŋ | nipih |
| Long Gelat | tu: | lətoḡ | ləsəḡ? | səka: | təmeŋ | səpəy? | pəh |
| Modang | səw? | tətuy | tənõḡ | səkaḡ | təmaŋ | səpəy?/bəntəuŋ | pəyh |
| Gaaï | cəw? | atuy | acəw? | sa? | tmaŋ | spey? | peys |
| Kelai | cu? | atoy/atuy | acu? | sa? | tməŋ | pciək | pis |

| English | think | this | thorn | thousand | three | throw | thunder | tickle |
|------------|---------------------|---------|--------------------|--------------|-------|----------------------|---------------|----------------------|
| PKAY | | *(i)ni | *uləŋ | | *təlu | *maləŋ | *bəlalɪ | |
| Ngorek | palulup | ne? | | ibu | təlo? | maləŋ | bəlalə? | |
| Mpraa | pluluk ^w | ney? | luəŋ | mələḡ | klaw? | mbluyḡ | blalay? | ŋəreyh |
| Long Naah | pələmana? | inih | | libu? | təlo? | ñəparit | dahon balarek | |
| Data Dian | pikn | anih | uləŋ | jilibu | təlo? | muluh | bəlare? | mireək |
| Balui Liko | | | uləŋ | ji ribu | təlo? | | bəlare? | |
| Busang | pak nap | ani? | kulaŋ | ji? ribu? | təlo? | nəbalaŋ | bərəre? | səkirəh |
| Bahau | mikil | inih | uraŋ | libu:? | təlo? | nəfalaŋ | dale:? | tələkiəan |
| Long Gelat | bəkəñəŋ | ni? noḡ | alaŋ | suh jəmin | ətla: | nəbleəŋ | dəlay | ənsəḡ? |
| Modang | nəm:uək | noḡ | əla ^s ŋ | siəh jəmliən | ətlaḡ | məla: ^s ŋ | dəlay | lət yan |
| Gaaï | patmuak | nay | aloŋ | cih jamlan | klaw | tablek | ndlay | pa? lakmat |
| Kelai | pətmuk | nəh | loŋ | | aklaw | ci:əl | dlaɪ | ŋəndə ^w k |

| English | tie | tight | tired | to clean | to dry | to fish |
|------------|--------------------|-----------|----------------|----------|----------|--------------|
| PKAY | *ŋaput | | *kayuh | | | *məsi |
| Ngorek | ŋəpah | | sarah | ŋamahun | | |
| Mpraa | ŋapaw ^w | hliət | yah | pətəmaḡ | pətə?əwh | ñukuyc |
| Long Naah | ŋaton | | la?ay | | | |
| Data Dian | ŋaput | | la?ay | məŋ?eəŋ | kələdaw | məse:? |
| Balui Liko | | | la?e | | | |
| Busang | ŋaput | tədah | kayuh | mahit | pakgaŋ | məse? |
| Bahau | ŋaput | | kayoh | nihay | pa? ga:ŋ | ŋawit/mihe:? |
| Long Gelat | ŋəpət | tədoḡh | kioh | nəm?iəŋ | pəkəhuəŋ | məsəḡ |
| Modang | ŋəpoət | əmbe: | ləŋəyḡh/kəyəwh | ənyəw? | ŋən huəŋ | məsəe |
| Gaaï | joət | kətat | huət | | pa? kuaŋ | nmat |
| Kelai | nəkcat | liwat gam | huət | pətkas | pəkkuəŋ | nmə:t |

| English | to lean | to lie | sting | to taste | to whistle | to wrap | toad |
|------------|---------------------|----------|----------|---------------------|------------|---------|------------|
| PKAY | | | *niŋət | | | | *jaʔuy |
| Ngorek | | ŋusit | | | kətəpɛp | | |
| Mpraa | mtɛyh | mamawh | tuyñ | ŋanayʔ/kanayʔ | ñopow | lapa:ɛ | noəŋ krayc |
| Long Naah | | | | | | | |
| Data Dian | ŋəhəŋɛh | pamoh | ñiŋət | | ñakuaw | ŋəppən | jaʔuy |
| Balui Liko | | | | | | | jaʔüy |
| Busang | | pamoh | mədah | nə-sak | ñəpho | ŋəpal | juʔuy |
| Bahau | nide:h | mamoh | gaʔ utin | tahak | | ŋəla:l | bunaŋ |
| Long Gelat | sədaɛh | neʔ puəʔ | əndoəʔ | əmpa:ŋ/məda:t | mənkaɛ | məʔaytʰ | |
| Modang | əndi ^d n | naʔ leyk | əndoəʔ | əntɛ ^b m | nəwaʔ wet | məʔek | jaʔoɛ |
| Gaai | diəŋ | alban | dəʔt | | pluyt | əwk | |
| Kelai | cəhədiəŋ | ləmbə:n | ŋat | mtao leəŋ | məŋkew | uk | lʔæ:k |

| English | today | tomorrow | tongue | tooth | touch | tourtise | tree |
|------------|-------------|---------------------|--------|------------|-------------|------------|--------|
| PKAY | | | *jəlaʔ | *ipən | | | *kayu |
| Ngorek | | roʔ neʔ | jəla | ñepən | kəm | | kayoʔ |
| Mpraa | raq neyʔ | ŋuʔawk ^w | liə | toŋko:w | ləhma: | hñãǰ | kayawʔ |
| Long Naah | | jimaʔ | jilan | ipən | | | kayoʔ |
| Data Dian | daw anih | jima:ʔ | jəlan | ipən | gəm | | kayoʔ |
| Balui Liko | | | jəla | ipaʔ | | sʷiʔan | kayoʔ |
| Busang | do aniʔ | jihimaʔ | jəlaʔ | ipən | patdat | sian | kayoʔ |
| Bahau | raw inih | jiʔrah | silaʔ | ipa:ʔ/ipan | ka:m | buku:ʔ | kayo:ʔ |
| Long Gelat | diə no/dino | ñəbuʔ | tələʔ | ku: | da:t/ənda:t | siyin | həjüŋ |
| Modang | deə noe | ñəmeəh | tələəʔ | kiu | ŋəmɪt | | kəjo |
| Gaai | deəw nay | nmas | kləəʔ | | bdəwʔ | klaw | gjaw |
| Kelai | dəw neh | nmas | klə:ʔ | kiw/kiu | | klaw səjin | kjaw |

| English | true/correct | try | turn | turtle | twins | two |
|------------|--------------|----------------------|---------------|----------------------|----------------------|--------|
| PKAY | *maruŋ | | | *kələb | *apid | *dua |
| Ngorek | lan | | | kələp | pit (L) | luaʔ |
| Mpraa | lãǰ | hɛyǰ | təmbɫəŋ | klap | kapayñ | waʔ |
| Long Naah | lan | bəsək | | | papin | duaʔ |
| Data Dian | la:n | nəsak | ŋəliliəŋ | lafə:ʔ (soft)/kələm | papin | duaʔ |
| Balui Liko | | | | kələv/kəraɤəŋ (soft) | | duaʔ |
| Busang | maruŋ | cobaʔ | pahayaŋ/ñayaŋ | biuku | pərapit | duaʔ |
| Bahau | hiu:ʔ/təŋan | tahak | ŋələwe:t | kələpa:ŋ | anak ape:t | dua:ʔ |
| Long Gelat | məliəŋ/oǰ | əmpa:ŋ | ŋənleyk | ləweʔ | pətpe ⁿ | əŋgaəʔ |
| Modang | mələwŋ | əmpaw ^ə ŋ | ŋəndoʔ | kələw | pətpe ^d n | ŋgaəʔ |
| Gaai | tahnaŋ | mtaw | bilok (L) | klaw | payaŋ | agoʔ |
| Kelai | ŋənŋan | mtəw | təmpoʔ | klaw | pəkpił | agoʔ |

| English | uncle | under | understand | tart | untrue | upriver |
|------------|----------------|-------------|-----------------------|---------------|--------|---------------------|
| PKAY | | *ida? | | *kəpa?/*kəpat | *sala? | *undik/*ud |
| Ngorek | amay/taman | tintah | tutoh | kapət | | |
| Mpraa | tamãḡ hakan | ka bi:ḡ | ḡana? | kla?at | hala: | uay?/nti:ḡ? (to go) |
| Long Naah | amay | hida | jam | kəpa | | |
| Data Dian | hamay | ho? ida:? | jam | kəpa? | hala:? | hudiḡk |
| Balui Liko | | | | | | hudiḡk/ |
| Busang | maya?/mu?uk | ha? ida | jam | kəpa? | hala? | hudik |
| Bahau | taman aya?/u:k | hida:? | jam | | hala:? | hudik |
| Long Gelat | məy sok/pün | lədu?/tədu? | üḡn | kəpa:t | səle? | lədeyk |
| Modang | me sok | diḡ? | i ^d n daw? | | | lədeyk |
| Gaai | | kam di? | iḡn | | sləḡ? | kamdek |
| Kelai | məm uyn | a tu ci? | pteḡḡ | pla? | slə? | nl/diḡk (go) |

| English | urinate | valley | vein | village | vine | visitor |
|------------|----------|----------------|------------|--|---------------------|--------------|
| PKAY | *səḡit | *a(m)bək | *uhat | *ukuḡ | *akah | sakay |
| Ngorek | | abək | wat | oma | | |
| Mpraa | təta? | | | tuku:ḡ | ḡakah | haka:ḡ |
| Long Naah | | abək | uhat | | | |
| Data Dian | ḡəti?a:n | hiloh | uhat | ukuḡ | akah | hakay |
| Balui Liko | səḡit | abək | hwat | | | hake |
| Busang | səḡit | | huat | | | |
| Bahau | niḡit | abak | wat ra:? | uku:ḡ | akah | |
| Long Gelat | əḡayt | abeḡ? | hüḡt | akəḡ | | səh:uḡn teḡḡ |
| Modang | əḡñet | dəw? həlo? loḡ | ləw? ləha? | me: ^d n/əkəw ^s ḡ | wək ^r əh | |
| Gaai | ḡeḡt | | hut | almeḡn | | pəwḡḡəwḡ |
| Kelai | ḡeḡt | ə boḡ | hut/huḡt | l ^m n | ukə:h | məḡkaḡ |

| English | voice | vomit | waist | wait | wake up | walk | wall |
|------------|----------------|---------|----------------------|-----------|---------------------|--------------|-------------------|
| PKAY | | *n-uta? | *kəñuḡ | *mitah | *ma?ud | *panaw | *lindiḡ |
| Ngorek | | nuta | yoḡ a?eḡ | nəḡo | ma?un | pano | lentiḡ |
| Mpraa | lãḡ | toa | ñawḡ | ḡa:w/ḡa:ḡ | ma?awḡ ^w | pana:ḡ | rinti:ḡ |
| Long Naah | dahun | nuta | | pidah | məḡoh | panaw | lidiḡ |
| Data Dian | dəhun/dəhuḡn | nuta? | hu:n | pidah | kiniḡḡ | panaw | liduḡ |
| Balui Liko | daho? | nuta | kəñoḡ | | | | lidiḡḡ |
| Busang | duhun | nuta? | kəñuḡ | kave | mu?ur | pano | |
| Bahau | ro:~/ro:n/hnoh | muta:? | kiu:ḡ | mitah | miga? | panaw | |
| Long Gelat | we? | əntu? | kəñəḡ | mətuh | mu?uḡn | pəniḡ/təleyk | deyḡ |
| Modang | uwa? | əntuḡ? | o ^d n eyḡ | mətiəh | mə?oḡn | pəneə | de ^s ḡ |
| Gaai | wəḡ? | tu? | puḡn aḡḡ | | vḡl | pneḡw | deyḡ |
| Kelai | səw | tu? | yoḡn eḡ | dah | m?vḡl | pnəw | diḡḡ |

| English | want | water | waterfall | we ex | we in | weak | weave |
|------------|------------|------------|-------------|---------|----------|--------|---------|
| PKAY | | *sunay | | *kami | *itam | *ləmaʔ | *mañam |
| Ngorek | mulup | | oʔon | kameʔ | | ləma | mañam |
| Mpraa | reʔ | kataʔ | m̃jah | kləwʔ | paʔ | ləma: | mayãǰ |
| Long Naah | ŋənə | ataʔ | bihah | kaloʔ | itam lim | əmtuʔa | mañam |
| Data Dian | ubaʔ | ata:ʔ | bihah | kəm loʔ | təloʔ | ləma:ʔ | aña:m |
| Balui Liko | | ataʔ | bəluhoŋ | kaloʔ | itam | ləma | |
| Busang | ŋənap | ataʔ | təliʔ | kameʔ | itaʔ | ləmaʔ | m-añam |
| Bahau | ŋədap/ma:ʔ | ata:ʔ | təli:ʔ | kamih | itah | ləma:ʔ | ŋaya:m |
| Long Gelat | ŋənsəŋ | haŋuy/haũy | haũy nəboəʔ | məka: | lən | meəʔ | əñ:un |
| Modang | kəneən | həŋuy | | məkaə | kaə | ma:k | nəmnueŋ |
| Gaai | msaŋ | ŋuy | ŋuy tərjuŋ | tem | tlaw | almaeʔ | piən |
| Kelai | msaŋ/thiəŋ | ŋuy | kiaŋ | mai | tlaw | ləmæ:ʔ | piən |

| English | western tarsier | wet | what | when | where | which | white |
|------------|-----------------|--------|-------------------|---------|----------|-----------|---------|
| PKAY | *kəd | *basaʔ | *nun | | *amuh | | *putiʔ |
| Ngorek | kət | ləmən | un | meran | tenoʔ | nenoʔ | puti |
| Mpraa | | maha: | nəwŋ ^v | bəhrĩǰ | kaniwʔ | nu niwʔ | tuy |
| Long Naah | | basaʔ | nun | hiran | hinoʔ | aləŋ anoʔ | puti |
| Data Dian | hikaw | basa:ʔ | nun | hiran | hoʔ inoʔ | alaŋ anoʔ | puti:ʔ |
| Balui Liko | | | kənun | hiran | hinoʔ | anoʔ hiaʔ | |
| Busang | kaŋ kawat | basa:ʔ | nun | hira | haʔ inoʔ | alaŋ anoʔ | putiʔ |
| Bahau | | baha:ʔ | nuh | jiʔ nuh | hamuh | alaŋ amuh | puti:ʔ |
| Long Gelat | bənʔu: | useʔ | nu:n | ñəma: | ləma: | niʔ ma: | sumhoəŋ |
| Modang | bəni:ə | ŋəpsit | noən | ñəmaə | təmaə | | səmhōŋ |
| Gaai | balʔiw | usəʔ | moəŋ | damaw | amaw | namaw | masliə |
| Kelai | bəlʔiw | usə:ʔ | non | dəw moh | a: moh | ni: moh | maslet |

| English | who | why | widow | widower | wild sago | wind | wing |
|------------|----------|-----------|------------|-----------|-------------|---------|--------|
| PKAY | *ahiʔ | *naʔ nun | *balu | *aban | *naŋaʔ | *bahiw | *kapit |
| Ngorek | ahi | oban nun | balu (L) | aban | naŋaʔ | bayu | kapit |
| Mpraa | hãyʔ | mpæ | malawʔ | | | kəʔbayh | kapayc |
| Long Naah | hiʔ | aviŋ nun | baloʔ | avan | naŋaʔ | | kapit |
| Data Dian | hiʔ | nunoʔ diʔ | balo:ʔ | afat | | dih | kapit |
| Balui Liko | hi | naʔ nun | | | talaŋ/naŋaʔ | (d)di | kapit |
| Busang | hiʔ | naʔ nun | baloʔ | uyuŋ | | di: | kapit |
| Bahau | hi:ʔ | naʔ nuh | balo:ʔ | | hadap | kəfe:h | kapit |
| Long Gelat | hãəʔ | neʔ nu:n | bəloʔ | | | woəh | kəpeyt |
| Modang | haeʔ hĩʔ | naʔ noən | sui | sui | naŋaʔ | wayh | kəpit |
| Gaai | haeʔ | naeʔ noəŋ | jandaʔ (L) | dudaʔ (L) | | | kpet |
| Kelai | heʔ | si nanon | suy/sui | suy/sui | lŋæʔ | kes | kpit |

| English | wipe | woman | wood pecker | worm | wring | yawn | year |
|------------|---------------------|----------|-------------|-----------|----------|--------|----------------------|
| PKAY | *lap | *(də)duh | *bəlatuk | *uləd | | *uhab | *taʔun |
| Ngorek | muhut | roh | bətəleʔ | ulən | | nuap | loman |
| Mpraa | pəʔpayh | rawh | | luən | plaʔbayñ | | lumũḡ |
| Long Naah | | doh | manok tægə | ulən | | muham | duman |
| Data Dian | lap | doh | bəlatok | ulən | jələfin | ŋuha:m | duman |
| Balui Liko | | (d)doh | bəlatok | ulər | | muhawv | |
| Busang | lap | doh | bəlatuk | ular | kəlvir | muhauv | duman |
| Bahau | | ro:h | səbəlatuk | ulat/ulal | pa:ŋ | muŋa:p | duma:n |
| Long Gelat | mpayñ | lədoh | bələtək | loən | məseyh | əŋu: | təʔuən |
| Modang | əmpɛ ^d n | lədoh | | | ŋələe | ləway | təʔoḡ ^d n |
| Gaa | lap | madoh | baltok | lol | ŋanlay | kawŋ | təʔoən |
| Kelai | kɛʔ | madoh | baltok | lal | msit | ŋiw | tʔoən |

| English | yellow black snake | yesterday | you | you pl | young | yours |
|------------|---------------------------|-----------|------|-----------|----------------|------------|
| PKAY | *jəliban | *dahələm | *ika | *ikam | *ñəmaki | *anum |
| Ngorek | sələban buləŋ | laləm re | ikaʔ | kələʔ | ñam | anum |
| Mpraa | piḡʔ kutuŋ latəŋ | halam | kiḡʔ | klawʔ | nayʔ hnaoʔ | nam |
| Long Naah | jəlivan kaməŋ | dahələm | ikaʔ | kələʔ | ñəmakeʔ | |
| Data Dian | jəlifan | dahələm | ikaʔ | kələʔ | ñam | anum |
| Balui Liko | jəlivan kaməŋ | | ikaʔ | lim kələʔ | | anum |
| Busang | takap daʔan | dahalam | ikaʔ | pələʔ | muda | anum |
| Bahau | | dahlam | ikaʔ | ikah | | anum |
| Long Gelat | ñəŋ wiñ təkleən | dahalam | kəy | kəka: | ñəmkaḡ soʔ | nəm |
| Modang | ñən windəw ^s ŋ | dahlam | kəyʔ | kəkaḡ | | |
| Gaa | nalwin | dahlam | keyʔ | kim | mamkay | nakeʔ |
| Kelai | nəlwin | dahlam | keʔ | kim | təkluən/nahləʔ | kət ɛn keʔ |

APPENDIX 2

MELANAU AND KAJANG

| English | above | adopt | aflame | afraid | after | age | alive | all | already |
|---------|------------|-------|--------|--------|--------|------|-------|--------|---------|
| Dalat | baw | | məgəw? | mədud | beh | umoy | mudip | səmuah | ŋa? |
| Kanowit | amaw | mirəw | sidəp | bu?ut | uneh | umul | mudip | səmuah | mohot |
| Sekapan | azaw libaw | mamuə | putuə | bu?ut | toveə? | umun | murip | ivu | pəŋŋa: |
| Kejaman | tə?baw | amun | sirəp | bo?ot | pəŋah | umun | murip | ivu | pəŋŋah |
| Lahanan | an təbaw | | sirəp | bu?ut | | umon | murip | jəw | pəŋah |

| English | animal | answer | ant | argus pheasant | arm | armpit | arrive | ash |
|---------|-----------|----------|--------|---------------------|-------|------------|--------|-------|
| Dalat | binataŋ | məñaut | ŋəd | | ləŋən | iba? kapəy | labi? | dabəw |
| Kanowit | | ajap | ma?ən | ruay | agəm | kələpa? | labi? | abəw |
| Sekapan | ui | mənjawap | be?eə | kəg ^w ay | ləŋən | keta? | | avəw |
| Kejaman | cəy /səy/ | jawap | bi?iəŋ | kəŋ ^w ay | ləŋən | keta? | lusan | avəw |
| Lahanan | səy | mutay | bi?əŋ | kəŋ ^w ay | | kitak | lusan | avəw |

| English | ask | aunt | back | bad | bait | bald | bamboo | banana | banyan |
|---------|---------|---------|-------|-------|------|-------------|--------|--------|--------|
| Dalat | mələbaw | tua? | buta: | ja?ət | | lala? | bulu? | balak | |
| Kanowit | nələbaw | tua? | likut | je?e? | pan | lala?/tabəw | bulo? | balak | nunuk |
| Sekapan | malavaw | kəmina | likut | ja?at | upan | | bo?əw? | potəy | lunuə? |
| Kejaman | ŋələvaw | kəminah | likut | ja?at | upah | ubun | bu?əw? | ba?at | lunuək |
| Lahanan | nələvaw | kəminah | likut | ja?at | upət | kolo? | bu?u? | ba?at | lunuək |

| English | barking deer | bathe | bear | because | become | bee | before | behind |
|---------|--------------|--------|----------------------|------------|------------|--------|---------|-------------|
| Dalat | | təmu:? | bəyuaŋ | buya? | ñadin | añey | | buta: |
| Kanowit | puyh | mu:? | buaŋ | buya? | buya? iduh | siŋət | mudəy | to? likut |
| Sekapan | tələ?u | məw | bəg ^w eə | muza? | jadəy | səvut | oya ma | azəw? likut |
| Kejaman | tələ?u | məw | bəg ^w eəŋ | buza? | jadəy | səbuət | uah mah | bi?a? likut |
| Lahanan | tələ?u | məw | bəg ^w aŋ | tavit siah | jadi | səbut | | an likut |

| English | believe | bent | betel nut | between | big | binturong | bird |
|---------|---------|---------|-----------|-----------|-------|-----------|------------|
| Dalat | pəsaya? | pəttəwd | pinaŋ | bah ntaya | ayaŋ | | mako? |
| Kanowit | pəsaya? | pikoə? | pinaŋ | bəbak | ayoə? | musəŋ | manuək |
| Sekapan | arəp | pəkəw? | way | azəw? e:ə | ada:? | mətuəŋ | na?aran |
| Kejaman | arəp | ikəw? | way | azəw? eəŋ | ada? | mətuəŋ | aneək uran |
| Lahanan | məŋə?an | piku? | gaat | an aəŋ | bəkən | mətun | |

| English | bite | bitter | black | blader | blind | blood | blowpipe | blue |
|---------|-------------|--------|-------|--------------|-------------|-------|----------|-------|
| Dalat | sibut/subut | paʔit | biləm | | mapak/butaʔ | daaʔ | səput | biruʔ |
| Kanowit | gəgət | piʔit | biləm | salay pəroək | mutup | daraʔ | səput | biru |
| Sekapan | matəp | paʔit | ocəŋ | lanʔitan | pəciəʔ | daaʔ | səpput | gaduə |
| Kejaman | mətəp/məñaʔ | paʔit | usəŋ | inʔay nənʔit | pəcaʔ | daaʔ | səput | biruʔ |
| Lahanan | məkəp | paʔit | usəŋ | səŋitan | pəcək | laaʔ | səput | biruʔ |

| English | boar | body | body hair | boil | bone | bored | bracelette | brain |
|---------|-----------|--------------------|-----------|----------|---------|--------|------------|-------|
| Dalat | baboy | badan | buləw | kələpisa | tuli | | gələŋ | utək |
| Kanowit | babuy tan | biah | buləw | matuŋ | tulaŋ | lilah | sərat | utək |
| Sekapan | bavuy | nəwa | boʔəw | bazu | təʔʔeə | səbəwʔ | gaʔeə | otaʔ |
| Kejaman | bavuy | lag ^w a | boʔəw | liman | tuʔʔeəŋ | səbəwʔ | gaʔeəŋ | utək |
| Lahanan | bavuy | batəwŋ | buləw | | tuʔʔaŋ | səbuʔ | gələŋ | utək |

| English | branch | brave | breast | breast feed | breathe | bridge | broom |
|---------|---------|---------------|--------|-------------|-----------|--------|---------------|
| Dalat | daʔan | bəyani | susəw | mənūsəw | pəbu:(ə)t | | sələpəw |
| Kanowit | daʔan | bərani (L) | soaʔ | məsoaʔ | pəbuhut | titay | sələpəw |
| Sekapan | səlakaʔ | məggi | etəyʔ | pəcəwʔ | palaçət | kitay | capəw /sapəw/ |
| Kejaman | daʔan | məʔgi | itəyʔ | mitəyʔ | jət səŋah | titay | pəʔa |
| Lahanan | laʔan | bəlaniʔ/makaŋ | itiʔ | pitiʔ | məjak iək | titay | pəʔa |

| English | burn | burry | but | butterfly | buy | call | can | canoe | capsize |
|---------|--------------|---------|--------|-----------|-------|---------|-------|-------|---------|
| Dalat | məninəw | | | bələbi | məley | mənibah | kənah | saluy | kaam |
| Kanowit | ŋərəəʔ | ninəm | | səbabəŋ | mələy | tibah | nalaʔ | saluy | karəm |
| Sekapan | mənutuə | mənanəm | tapəyʔ | kəmabeə | məʔəy | jaʔəy | bulih | saʔuy | kaam |
| Kejaman | nutuəŋ/nirəp | nanəm | tapəyʔ | kəbabeəŋ | məʔəy | jaʔəy | bulih | aruək | kaam |
| Lahanan | mənirəp | nanəm | tapiʔ | kəbabəŋ | maʔəy | putay | dəŋ | saʔuy | kaam |

| English | carry on back | carry by handle | carry on shoulder | cat | catch | cave |
|---------|---------------|-----------------|-------------------|------|----------|--------------|
| Dalat | məbin | makat | mənūʔun | ŋaw | kukəp | gua |
| Kanowit | məbəəʔ | gəm | nūʔun | ŋeəw | nakəp | gua |
| Sekapan | bəyʔ | kibiəʔ | nūʔun | ŋaw | mənəʔʔut | loveə |
| Kejaman | bəyʔ | | nūʔun | ŋaw | mapiəŋ | luveəŋ batəw |
| Lahanan | biʔ | mañak | nūʔun | ŋaw | mivit | luvaŋ batəw |

| English | centipede | cheek | chest | chew | chicken | chief | child | child in law | chin |
|---------|-----------|-------|-------|---------|---------|-------------|-------|--------------|-------|
| Dalat | pəlipan | pipəy | usok | gugət | siaw | | anak | bənatəw | gaʔam |
| Kanowit | təpipan | tapaʔ | usuək | ŋənəñaʔ | siaw | tayoəʔ | anak | | jaʔa |
| Sekapan | səpipan | piŋa | ucuəʔ | mənəñaʔ | diəʔ | tua ləvəwʔ | aneəʔ | aneəʔ ivan | jaʔa |
| Kejaman | kukut | piŋa | ucuək | mənəñaʔ | diək | laja ləvəwʔ | aneək | aneək ivan | jaʔah |
| Lahanan | kukut | piŋa | usuək | ŋənəñaʔ | manok | laja | anak | anak ivan | jaʔah |

| English | choose | chop as meat | cicada | cigarette | clean | climb | cloud |
|---------|--------|--------------|---------|-----------|-------------|---------------------|-------|
| Dalat | pili? | məmun/tutək | kəyɪnit | sigaret | bəyəsi | tikəd | awan |
| Kanowit | pile? | mata? | iñit | luko? | bərsi | tikət (tree)/jaka? | jaway |
| Sekapan | məʒəy? | mutuən | ɲet | loko? | bələci | bag ^w ay | aput |
| Kejaman | miʒəy? | mutun | ɲet | luko? | bərəsi: (L) | bag ^w ay | aput |
| Lahanan | miʒi? | mutun | ɲet | | bəʒaw | moŋjan | aput |

| English | cockroach | coconut | coffin | cold | collapse | come | cook |
|---------|-----------|---------|---------------------|--------------|----------|-------|---------|
| Dalat | bəyətut | biñuəh | luŋun | siŋoɣ | yuyuh | labi? | misi? |
| Kanowit | təpipeh | ñoh | luŋun/barus | səniəm/dadəm | runtoh | labe? | mida? |
| Sekapan | aviə? | ñu | big ^w an | bayu | məppaa | lucan | ceə? |
| Kejaman | aviək | ñu | big ^w an | bəjiək | paa | lusan | məcuən |
| Lahanan | aviək | ñu | luŋun | səŋim | paa | lusan | mi? kun |

| English | cooked rice | corpse | coucal | cough | count | cousin | crab | crazy |
|---------|-------------|---------------------|--------|---------|---------|------------|-------|--------|
| Dalat | nasi? | buki: | bubut | pəyikəd | məŋitoŋ | jipo jane? | | lale? |
| Kanowit | nase? | kəbəsan | bubut | ɲikət | miap | ʒənipəw | təke: | baŋən |
| Sekapan | kuən | bələg ^{wa} | but | | məzəp | sucut | yojəw | səguə? |
| Kejaman | kun | patay | buət | nekət | məñap | taʒat | ait | səguək |
| Lahanan | kun | patay | but | | pəñap | taʒat | ait | səgok |

| English | crocodile | cry | dance | dark | dart | day | deaf | deep | deer |
|---------|-----------|---------|---------|---------|--------|-----|---------|-------------|-------|
| Dalat | baya: | mənaŋih | bətada? | padəm | adi: | law | təŋi? | təbən | payaw |
| Kanowit | baya | naŋih | ɲaraŋ | ʒəkəlum | damək | law | nibut | təbən | payaw |
| Sekapan | baza | naŋi | ɲojat | ddəm | puruə | ʒaw | bələŋən | laʒu təbbəŋ | pazaw |
| Kejaman | baʒazah | naŋi | ɲajat | dəm | taat | ʒaw | bələŋən | təbbəŋ | pazaw |
| Lahanan | bazah | naŋi | ɲajat | lərəm | piɲiəŋ | ʒaw | bələŋən | təbəŋ | pazaw |

| English | derris root | die | different | dig | dirty | divide | divorce |
|---------|-------------|--------|------------|---------|-------|----------|---------|
| Dalat | tuba | matay | dəbəy sama | kukut | mama? | məmagi | bəcəyay |
| Kanowit | tuba | kəbeh | adəp | ɲəkut | mama? | ka? adəp | pəka? |
| Sekapan | tuva | gətəw? | pakarəp | məŋəkut | lo:a? | bagi | kaʒarəp |
| Kejaman | tuvah | gətəw? | ɲarəp | ɲəkuət | lua? | bagi | saray |
| Lahanan | tuvah | gətu? | karəp | ɲale? | lua? | | məñigaw |

| English | dizzy | dog | dom. Pig | door | downriver |
|---------|------------|------|--------------|----------|-----------------|
| Dalat | ayəwŋ uləw | asəw | | bənawi: | aba?/kaba? (go) |
| Kanowit | ñəŋon | asəw | babuy ləbo? | bəsukət | aba? |
| Sekapan | kaʒut | | bavuy ləvəw? | ba? avap | ɲava? |
| Kejaman | pibuət | acəw | | ba? avap | nava? |
| Lahanan | kələsah | asəw | bavuy lavu? | bətıləw | nava? |

| English | dragonfly | dream | drink | drop | drown | drum | drunk | dry |
|---------|-----------|---------|-------|----------|---------|--------------|--------|--------|
| Dalat | tatin | mənupəy | tutəŋ | məjatəʔ | ləñət | ɣəbana | maboʔ | tuʔoh |
| Kanowit | cawel | nupəy | ñərut | laboʔ | luñət | gənaŋ | mabuk | bahaŋ |
| Sekapan | | nopay | doʔoŋ | məmavəwʔ | bələñət | kutaw/pəggaŋ | mavuəʔ | geʔeə |
| Kejaman | kərut | nupəy | duʔən | mavəwʔ | məñət | bəgadeəŋ | mavuək | gaʔeəŋ |
| Lahanan | | ñupəy | ruʔ | mavuʔ | məñit | | mavuək | mapuʔ |

| English | dull | durian | dust | eagle | ear | easy | eat | egg |
|---------|---------|--------|------|-------------------|---------|-----------|--------|----------|
| Dalat | ñəl | dian | | | liŋa: | sənəŋ | kəman | təl(ə)oh |
| Kanowit | kədun | duyan | abəw | kəñiw/ñahəw (lrg) | təliŋan | lumaʔ | kəmuəʔ | təluy |
| Sekapan | ukun | dəʔzan | pup | ñələŋit | tiu | lomeəʔ | kəmman | təʔu |
| Kejaman | kaʔajən | peək | pup | ñau laŋit | səviəŋ | mudah (L) | kəmman | təʔu |
| Lahanan | ubəm | ləjan | pup | ñau | bəriəŋ | məle | kuman | təʔu |

| English | egret | eight | elbow | empty | enter | evening | every | excrement | eye |
|---------|-------|-------|-------|-----------|-------|-----------|-------|-----------|-------|
| Dalat | cok | ayan | sikəw | kosəŋ | masok | bah abey | tiap | taʔay | mata |
| Kanowit | suək | ayan | sikun | kosəŋ (L) | masok | ləmay | tiap | təʔeŋ | matan |
| Sekapan | acan | azan | sikəw | kaŋuə | dəmay | nəzaw | akan | taʔeʔ | mata |
| Kejaman | acan | azan | sikəw | kəʔaŋuəŋ | dəmay | nəñaw | maat | taʔəy | matah |
| Lahanan | asan | azan | sikəw | kəŋuŋ | ləmay | ʔaw ləmaʔ | avun | taʔəy | matah |

| English | eye brow | face | fall | far | fast | fat |
|---------|----------|--------|----------|-----------|--------------|-------------|
| Dalat | likaw | jaway | jatoʔ | jaoʔ/jauʔ | laju | məsey |
| Kanowit | likaw | jaway | laboʔ | məjuʔ | səliʔ | piʔuŋ |
| Sekapan | likaw | baʔəwʔ | bəlavəwʔ | məjjəwʔ | jəmmat/kariə | piʔiuə |
| Kejaman | likaw | baʔəwʔ | bəlavəwʔ | məʔjəwʔ | səʔəyʔ | piʔuəŋ |
| Lahanan | likaw | baʔuʔ | bəlavuʔ | məjuʔ | gəman | baʔok/piʔəŋ |

| English | fat (n) | father | parent in law | fathom | feeling | fell | fern | fever | few |
|---------|---------|--------|---------------|--------|---------|----------|-------|-------|--------|
| Dalat | ñiʔ | tama: | mətua | dəpaʔ | | tubəŋ | kuʔut | payən | jumit |
| Kanowit | ñak | amaʔ | | dəpa | ñam | tubəŋ | pakəw | mədām | mariʔ |
| Sekapan | ñeəʔ | amaʔ | ivan | dəpa | pikin | mənəb:əŋ | pakəw | məram | marəyʔ |
| Kejaman | ñeək | amaʔ | ivan | dəpah | səŋah | nəb:əŋ | pakəw | məram | marəyʔ |
| Lahanan | məñak | amaʔ | ivan | | kənəp | bəŋ | pakəw | məram | umiʔ |

| English | field hut | fight | fin | find | finger nail | finish | fire | fireplace |
|---------|-----------|---------|-------|----------|-------------|-----------|------|-----------|
| Dalat | ləpaw | bəlawən | pidin | piñi | siləw | baʔ kajih | apuy | dapoy |
| Kanowit | ləpaw | kədāləw | isiəŋ | kinoh | siləw | pə-gələh | apuy | daput |
| Sekapan | ləpaw | subuə | iciə | mənəbeə | celəw | tupu | apuy | puzan |
| Kejaman | ləpaw | pəlaʔəw | kivap | mənəbeəŋ | siləw | pəŋah | apuy | bənun |
| Lahanan | ləpaw | pukəm | asiəŋ | pətəbaŋ | siləw | pəŋah | apuy | bənun |

| English | firewood | drying rack | first | fish | five | fix | flat | flesh | float |
|---------|------------|-------------|-----------|------|-------|---------|-------|-------|---------|
| Dalat | kayəw apuy | payah | mula-mula | ikan | limah | məŋatoy | | səy | ləsut |
| Kanowit | kayəw apuy | para? | | jən | limah | piaw | rata | sin | ləkatup |
| Sekapan | kazəw tin | | toveə? | jən | lima | pəjia | datah | cəy | |
| Kejaman | kazəw tin | paah | tuveək | jən | limah | minaw | lata | cəy | |
| Lahanan | kazəw rok | | tari? | jən | limah | minaw | lata | səy | səkatur |

| English | flood | floor | fly | flying lemur | food | forehead | forget | four | friend |
|---------|---------|----------|--------|--------------|-------|----------|-----------------------|------|--------|
| Dalat | tapuə? | latay | tili | | kanən | bəli: | lilu? | pat | sakay |
| Kanowit | tinəp | bat | tilip | kubuŋ | kun | lanjan | lilo? | pat | gageh |
| Sekapan | maʔaʔəp | acəw? | nitie? | kuvuə | kun | likaw | kələg ^w a | pat | tuzan |
| Kejaman | ləpuət | taʔacəw? | niʔip | kuvuəŋ | kun | likaw | ŋələŋ ^w ah | pa:t | tuzəŋ |
| Lahanan | | asu? | niʔip | kuvuəŋ | kun | likaw | ŋaliŋuŋ | pat | tuzan |

| English | frighten | frog | from | fruit | fruit bat | fruit bud | fry | full |
|---------|----------|---------|-------|---------------------|-----------------------|-----------|---------|--------|
| Dalat | kəmañəy | təkuyə? | kəman | bua? | səməwə? | buŋa | gəmuŋeŋ | pənəw? |
| Kanowit | ñəbu?ut | saʔay | kəman | bua? | səməwə? | bəda? | ñagah | pəno? |
| Sekapan | ñəbu?ut | kərotək | təw? | bəg ^w a? | | bəreə? | məñaga? | pənəw? |
| Kejaman | muʔuət | kəriək | təw? | bəg ^w a? | səmaŋ ^w a? | bəreək | ñaga | pənəw? |
| Lahanan | pəbu?ut | saʔay | | bəg ^w a? | səmaŋa? | | ñaga | pənu? |

| English | full, of food | gall | gather things | gecko | ghost | gibbon | gills | give |
|---------|---------------|-------|---------------|---------|-------------|---------|-------|-------|
| Dalat | bəsuh (əu) | pədəw | | pəŋaʔad | təw/pəŋaməw | | asi | tujuh |
| Kanowit | bəsoh | pədəw | kaʔ ñəgələw | koʔgoə | təw | | asaŋ | pube? |
| Sekapan | bəcu | pərəw | mənukuə | | təw | | aceə | makan |
| Kejaman | bəsu | pərəw | təkkuəŋ | ŋako | təw | kələvət | jiŋap | makan |
| Lahanan | bəsu | pərəw | | gekʔo: | | kələvət | asaŋ | məcok |

| English | give birth | go | goiter | good | granary | grandchild | grandfather | grandmother |
|---------|------------|-------|--------|-------|---------|------------|-------------|-------------|
| Dalat | pane? | tabuy | bəŋok | daʔəw | | səw | tipəw lay | tipəw məyew |
| Kanowit | panak | | niŋuək | jia? | təkabəy | səw | ake | ake |
| Sekapan | ŋaneə? | tay | iŋəw? | jia? | ləpaw | cəw | aʔup | ake? |
| Kejaman | məŋaneək | iŋay | ŋəw? | jia? | livuəŋ | cəw | ake? lay | ake? lah |
| Lahanan | ŋanak | naʔay | ŋu? | jia? | ləpaw | cəw | aki? | pu? |

| English | grass | grasshopper | grave | greedy | green | grow (plant) | gums |
|---------|-------|-------------|-------------|---------|-------------|---------------|-------------|
| Dalat | sək | | luŋun | təg | gadoŋ | tubuʔ/toboʔ | ñip |
| Kanowit | udəw | sakat | tinəm/bakut | asa? | gadoŋ/pədəw | mudip | lasit/lasit |
| Sekapan | urəw | təkarəy | tanəm | maʔaca? | aveə | ŋələciə | |
| Kejaman | urəw | kələrəy | tanəm | | aveəŋ | murip/ŋələzəy | daʔit |
| Lahanan | urəw | pao? | biʔa | | ŋavaŋ | murip | lagit |

| English | hair whirl | half | hammer | hand/arm | handspan | hang | happy | hard |
|---------|------------|---------|-----------|----------|----------|---------|-------|--------|
| Dalat | pudəw | sətəŋah | tukul | ñagəm | s-taʔii: | gəmatəŋ | sənəŋ | saʔeʰh |
| Kanowit | kələpudəw | stəŋah | tuəŋ | pəŋ | təʔaŋ | təbirit | agen | mũʔũh |
| Sekapan | kəporəw | sətəŋah | pəpuəʔ | ləŋən | teʔeə | niviə | sənəŋ | dəʔən |
| Kejaman | kəporəw | bələʔan | kəmətəwəŋ | ləŋən | teʔeəŋ | kibiəŋ | sənəŋ | maʔiəŋ |
| Lahanan | | paləŋ | pəpuək | tujuʔ | | nibiəŋ | tuduʔ | maʔaw |

| English | harvest | hat | have | he/she | head | head hair | headhunting | heart | heavy |
|---------|---------|-------|--------|--------|------|-----------|-------------|--------|-------|
| Dalat | mupoy | tapəw | bəy | ñin/i | uləw | bək | | | baat |
| Kanowit | ñəkuay | pəw | bin | ña | uləw | buək | malaʔ uləw | | bərat |
| Sekapan | nugan | tapəw | puʔuən | iça | uʔəw | buəʔ | ŋazaw | pocəwʔ | baat |
| Kejaman | məttəm | tupi | puʔun | ica | oʔəw | buək | ŋaňaw | pucəw | baat |
| Lahanan | nugan | tapəw | puʔun | siah | ko:ŋ | buək | ŋaňaw | pusu:ʔ | baat |

| English | heel | helmeted hornbill | help | here | heron | hiccup | hide | hold |
|---------|-------|-------------------|---------|-------|--------|--------|---------|-----------|
| Dalat | tigaʔ | | mənuloŋ | giʔih | cok | | pəlim | mənaban |
| Kanowit | tigaʔ | təjakəw | nuloŋ | hai | suək | ñadok | bəsihuh | məgəm |
| Sekapan | tumit | təjakəw | nuʔuə | | çuəʔ | sərauʔ | mənapaʔ | (mə)mivit |
| Kejaman | tumit | təjakəw | nuʔuəŋ | anəy | cuək | cətauʔ | məʔjin | mapieŋ |
| Lahanan | tumit | tijəkəw | nuʔuŋ | anəy | bagʷaŋ | | | |

| English | hole | hook | horn | hot | house | house post | how | how many |
|---------|--------|---------------|--------|--------|--------|------------|-------------|----------|
| Dalat | lubi: | pəsəy | tanoʔ | lasəuʔ | | diey | kəjiji | kədəkay |
| Kanowit | lubəŋ | sin pəsəy | tandok | lasuʔ | ləboʔ | dirəy | wah han | jinəw |
| Sekapan | luveə | kagwit | o:a | blu:ʔ | ləwəwʔ | dee | kopaʔ tuəʔ | kura |
| Kejaman | luveəŋ | pəcəy /pəsəy/ | wəŋ | pana | ləwəwʔ | liay | kupah tuək | kurah |
| Lahanan | luvaŋ | pəsəy | wəŋ | pana | ləvuʔ | livəy | kətuk məsəm | kurah |

| English | hundred | hungry | hunt w/ dog | I | if | in front | insect bat | inside |
|---------|----------|--------|-------------|------|-------|-------------|------------|----------|
| Dalat | jəyatus | lukoh | məŋasəw | kəw | kalaw | | kəlit | dagən |
| Kanowit | jaratuyh | jələʔ | bəkinoh | akoʔ | kuma | toʔ jaway | kəkəlit | suəŋ |
| Sekapan | jaatu | bitin | panaw | akəw | kopah | azəwʔ juma | | naʔəm |
| Kejaman | jaato | bitiəŋ | ŋacəw | akəw | kupah | biʔaʔ junah | kəlutuəŋ | naʔəm |
| Lahanan | jah atu | bitin | ŋasəw | akəw | kaʔən | an jumah | kəputuəŋ | an luvaŋ |

| English | intestinal worms | intestines | ironwood | island | itchy | jealous | jump | kick |
|---------|------------------|-------------|----------|--------|--------|---------|----------|---------|
| Dalat | | paʔit | tayh | pulaw | lanət | məjaʔut | məlupeət | məñipək |
| Kanowit | kəliwa | banah nəʔeŋ | tahah | sa: | gatən | nəbiəw | ŋajuk | ñipək |
| Sekapan | kəʔgʷah | tənaʔai | taa | apun | səʔzi: | ŋabau | uduəʔ | ñepeəʔ |
| Kejaman | kəʔgʷah | kəliat buri | taa | pulaw | səʔzi | nabau | uduək | nadeəŋ |
| Lahanan | upah | kəliat buri | taa | ca | suvut | təbau | uduk | ñipək |

| English | kill | kingfisher | kiss | knee | land | landslide | fly | laugh |
|---------|-------------|------------|-------|---------|-------|-------------|-------|-----------------------|
| Dalat | muno? | | məmuɣ | təŋaləb | tana? | tana? təba? | laŋaw | kətawa: |
| Kanowit | ŋəbeh/kubeh | suək | | bukup | tana? | tana? ləla? | laŋaw | pəgələm |
| Sekapan | pagətəw? | kətivay | marə? | bukuə | tana? | təñəw? | kətəp | meŋa? |
| Kejaman | gətəw? | kətivay | marək | bukuəŋ | tana? | təñəw? | laŋaw | tə?ag ^w ah |
| Lahanan | pəgətu? | asa? | marək | bukuəŋ | tana? | tana? təñu? | laŋaw | miŋak |

| English | lazy | leaf | leaf (betel) | learn | leave | leech | left |
|---------|------------|--------|--------------|-----------------------|---------------------|-----------|-------------|
| Dalat | məŋakəl | daun | | bələjay | puli? | sələmatək | layan bulay |
| Kanowit | je?e? urat | da?un | səpa?/səde? | bələjəl/tujəw (teach) | lua? | səmatək | bulay |
| Sekapan | jat awat | da?uəŋ | ba?an | pətəva? | ləg ^w a? | təŋeə | buŋay |
| Kejaman | ja?at uat | da?un | ba?an | bələjan (L) | ləg ^w a? | kəmatək | buŋay |
| Lahanan | kaku? | la?un | ayəp | pəta?u | ləg ^w a? | kəmatək | muŋay |

| English | leg | lend | leopard | lid | lie down | lie prone | lift, carry | light weight |
|---------|--------------|---------|---------|-----|----------|-----------|--------------|--------------|
| Dalat | budo?/bətəyh | məñua? | | | bəsilad | pəpat | makat/masuy | yiŋan/ lii? |
| Kanowit | pa?an | pə-sua? | kuli | | midi? | təlu?up | pigi? | pəhiŋ |
| Sekapan | bəti | miŋay | kuŋi | kəp | merəy? | nəkkəp | makat | kə?zeə |
| Kejaman | takiəŋ | pijam | kuŋi | kəp | mirəy? | nəkkəp | makat/miteəŋ | kə?zeəŋ |
| Lahanan | bəti | ŋələsu? | kuŋi | kəp | miri? | nəkkəp | makat | kəzaŋ |

| English | light | lightening | like | lime | lips | listen | liver | lizard | loincloth |
|---------|--------|------------|----------|--------|--------|---------|-------|---------|-----------|
| Dalat | təyaŋ | kilat | suka | biñəw | mujun | pəta?ah | atay | | bay |
| Kanowit | tahaŋ | səkəlit | loa?/lok | bəñəw | musuəŋ | kinam | atay | go?ajah | bay |
| Sekapan | ma?a:? | kəŋat | maza? | bəñ:əw | biviə | məŋərəp | atay | çu?uə | bay |
| Kejaman | ma?a? | kəŋat | iŋa? | bə?ñəw | biviəŋ | ŋərəp | atay | takeəŋ | bay |
| Lahanan | m-aa? | kəta:? | iŋa? | apoh | bivi | ŋəniəŋ | atay | takaŋ | bay |

| English | long | long tail macaque | long time ago | loose | lost | loud | louse |
|---------|-------|-------------------|---------------|----------------------|-------|-------------|-------|
| Dalat | lələw | kuyad | | mayoɣ | miaw | sibok | kutəw |
| Kanowit | lələw | kuyat | alin may | giroh | nihaw | ayoə? səraw | kutəw |
| Sekapan | darəw | | siiə | goroə | aŋa? | mu?u: | |
| Kejaman | darəw | kuzat | bitəw | sə?g ^w ah | aŋa? | | gutəw |
| Lahanan | larun | kuzat | | muak | aŋah | maaw | kutəw |

| English | make | man | mantis | many | married | mat | measure | meet | millipede |
|---------|---------|--------|--------|--------|-----------------------|-------|---------|----------|------------|
| Dalat | məna? | a lay | | dida? | ba?kawin | jale? | məñukət | bəjupa: | |
| Kanowit | miu? | aleə? | kio | buna? | bəsawa | jale? | ñukət | bətuipo? | səsula? |
| Sekapan | məminaw | dəŋay | oŋət | buna:? | pəcag ^w a | li:ya | nukat | pətəbbeə | səriə |
| Kejaman | məy? | də?ŋay | uŋət | bu.na? | pəla | pan | sukat | tə?beəŋ | asəw uŋa |
| Lahanan | mi:? | ləŋay | jap | buna? | pəsag ^w ah | layəŋ | ñukat | pətəbaŋ | asun bulan |

| English | mix | monitor | moon | morning | mortar (large) | mosquito | moss |
|---------|-------------|---------------|--------|---------------------|----------------|-------------|-------|
| Dalat | məñampoy | aləw (lrg) | bulan | su: | juli: | ñamok/ kieh | lumut |
| Kanowit | kəlan/ miu? | məjarat/ aləw | bulan | maso? | ləsuŋ | ñamuk | lumut |
| Sekapan | cəbaza? | | bułzan | ŋəvun | ləcua | ñamu? | lumut |
| Kejaman | ŋələtay | kavuək | bułzan | nuvuən | ləsuəŋ | jamuək | lumut |
| Lahanan | səkəłzan | məŋa? | bułzan | səg ^w ip | ləsuŋ | ñamok | lumut |

| English | mother | mountain | mouse deer | mouth | mud | mushroom | mute | myna |
|---------|-----------|----------|------------|-------|-----------|----------|-------------|--------|
| Dalat | tina | gunoŋ | pəlanok | mujun | | kulat | mabəl | tioŋ |
| Kanowit | ina? | təga? | pəlanuək | bəba? | tana? pek | kulat | nubəl/ ubəl | yuy |
| Sekapan | ina? | atəw | pəlanu? | ba:? | ŋalete? | kułzat | obən | təzu? |
| Kejaman | ina?/ ma? | atəw | pəlanuək | ba? | luəp | kułzat | ubən | təzuəŋ |
| Lahanan | ina? | atəw | pəlanok | ba:? | litək | kułzat | uvən | kioŋ |

| English | naked | name | nape | narrow | navel | near | neck | nest | new |
|---------|---------|-------|--------|--------|-------|--------|-------|------------------------|-------|
| Dalat | pətilol | ŋadan | təkkəŋ | mayət | pusəd | sʷiga? | təŋu? | pu? | ba?aw |
| Kanowit | bajaw | ŋadan | təkəŋ | | pusət | səga? | təŋo? | salay/ ñalay (to nest) | ubah |
| Sekapan | bajaw | ŋara | təgu? | ce?ət | pocət | dəkkin | ŋo?a | sałzah | ba?əw |
| Kejaman | bajaw | arah | boŋən | | pusət | dəkkin | ŋo?ah | sałzah | ba?əw |
| Lahanan | bajaw | aran | təgok | si?ət | pusət | ləkin | | sałza | bau |

| English | next to | niece; nephew | night | nine | noon | nose | not true | now |
|---------|----------|---------------|--------|--------|---------------|-------|----------|-----------|
| Dalat | bah inan | nakən | maləm | ulan | beh təŋah law | udəw | sala? | lian in |
| Kanowit | jəta? | nakən | maləm | ulan | | uduŋ | sala? | lian duh |
| Sekapan | səbaza? | tałzat | małzəm | jułzan | kaw ław | uru? | çałza? | |
| Kejaman | pati | aneək nakan | małzəm | jułzan | bəlu?ən ław | uruəŋ | sałza? | kan kinəy |
| Lahanan | an liŋit | anak nakən | małzəm | jułzan | ław puriəŋ | uroŋ | sałza? | |

| English | ocean | old | old | older siblings | on top | one | onion | only | open |
|---------|-------|--------|--------|----------------|-------------|-----|---------------------|-------|---------|
| Dalat | daat | lakəy | dana: | | baw | ja | | siŋən | məmuka? |
| Kanowit | sabəŋ | lakəy | pu?uən | | amaw | jah | bawəŋ | ma? | uka? |
| Sekapan | baŋət | to?a: | cii? | ika | azəw? libaw | ja | bawaŋ | ica: | məka? |
| Kejaman | baŋət | təbusu | siəŋ | ikah | tə?baw | jah | | saja? | mukap |
| Lahanan | baŋət | dəbusu | liat | tukah | an təbaw | jah | bag ^w aŋ | | məka? |

| English | or | otter | overflow | owl | paddle | painful | palate | palm | pangolin |
|---------|------|-------|----------|---------------------|--------|---------------------|--------|--------------|----------|
| Dalat | ataw | jeŋeo | lupəw | ok | pəla: | pədə ^y h | təŋap | dagən ñagəm | aam |
| Kanowit | ka | dəŋən | bəjulet | uək | pəla | pədəh | təŋap | təbəla? | ayəm |
| Sekapan | ataw | dəŋən | nupu? | biŋap | pəłza | məmərəh | təŋap | atay ləŋən | aam |
| Kejaman | ataw | dəŋən | ma?aw | uək | pəłzah | mərəh | təŋap | da?ap ləŋən | aam |
| Lahanan | alək | dəŋən | ŋələra? | təg ^w əp | məłzah | | təŋap | kələsa tuhu? | aam |

| English | parang | peak/top | peel fruit | person | pestle (large) | pig tailed mac. |
|---------|--------|------------|------------|---------------|----------------|-----------------|
| Dalat | paraŋ | baw ataŋ | | liin | tu-tug | səbubu/bədok |
| Kanowit | luga? | kəlapudəw | ŋulit | tənawan/(tət) | təpa | bəduək |
| Sekapan | eļəm | atəw məbaw | mupa? | leʷnaw | təpa | kuyat |
| Kejaman | iļeəŋ | uvəŋ atəw | mupa? | linaw | uļin | bəruək |
| Lahanan | iļaŋ | kəloʔoŋ | ŋəlupa? | linaw | uļin | bəruk uməŋ |

| English | pigmy squirrel | pile | pimple | pinch | pinky | pit viper | place (n) |
|---------|----------------|----------|-------------|---------|--------------|-------------|-----------|
| Dalat | | tugoŋ | | məyukib | tuju? umit | dipa ulah | kədaw |
| Kanowit | kələpukan | tugoəŋ | təluŋ burih | gitin | bəraŋaw iŋik | | agəŋ |
| Sekapan | ukəy? | lokuə | ma?gʷa? | ŋetəy | ŋiw | ŋipa acay | noa |
| Kejaman | ukəy? | təkuəŋ | mə?ŋʷah | mitəy | ŋiw | ŋipah asay | nuah |
| Lahanan | uki? | pətukuəŋ | səmuə? | ŋitəy | ŋew | ŋipah ŋavaŋ | nuah |

| English | plant | plateau | plain | pluck | point | pond | porcupine | pot gong |
|---------|---------|-------------|-------|--------|---------|--------|-----------|----------|
| Dalat | mənadu? | | ɣata | dudut | mənijo? | | | tawak |
| Kanowit | matun | datah təga? | | ŋubit | təlijo? | pəgoŋ | tutuŋ | tawək |
| Sekapan | muļa | | datah | mutəwp | nojəw? | pəg:uə | tə?tuə | tagʷa? |
| Kejaman | muļah | tana? məbaw | datah | məttəm | nujəw? | pəguəŋ | tə?tuəŋ | tawək |
| Lahanan | muļah | tana? məbaw | lata | ŋujut | nuju? | pəgoŋ | tətoŋ | tagʷək |

| English | pour | pregnant | primary jungle | print (foot) | promise | pull | punch | pus |
|---------|-------|----------|----------------|--------------|-----------|--------|---------|-------|
| Dalat | məbəŋ | pətai? | gu:əŋ | tap | bəjaji | məyut | mukut | nana? |
| Kanowit | məboh | bətehe? | ipuŋ | bah | arəp | jahat | mukut | nana? |
| Sekapan | mə?u | tii? | ipuə | nəŋak takiə | bə-jajəy? | məjjat | nekəm | nana? |
| Kejaman | məju | tai? | ipuəŋ | lusa? | bəjaji? | məj:at | kəbukut | dana? |
| Lahanan | məju | pətai? | ipəŋ | ba bəti | bəjaji? | məjat | bukut | lana? |

| English | push | put down | put together | python | quiet | raft | rafter | rain |
|---------|-------------|----------|--------------|----------------|-------------|------|--------|-------|
| Dalat | mənuli? | | mədun | dipa kələtəbəw | diəm | akit | kasaw | basa? |
| Kanowit | tuju?/tulət | ka? iba? | | tabun | gəp səlawən | akit | kasaw | ujan |
| Sekapan | ŋoʷeə | minaw | mənukuə | kəmanən | jiŋut | akit | kacaw | ujan |
| Kejaman | ŋuʷeəŋ | piva? | təkuəŋ | kəmanən | | akit | kacaw | ujan |
| Lahanan | ŋuʷaŋ | | təkuəŋ | ŋipah kəmanən | ŋərəm | akit | kasaw | ujan |

| English | rainbow | rambutan | rapids | rat | rattan | rattan backpack | rattan backpack |
|---------|-----------|------------|--------|---------|--------|-----------------|-----------------|
| Dalat | | rambutan | | bələbaw | way | bin | bəlukuy |
| Kanowit | jəjiliəŋ | k(ə)əmati? | huəŋ | bələbaw | way | sələdap | uyut |
| Sekapan | jiļjiə | kəmatəy? | geam | bələvaw | gʷay | kəzeə | aļat |
| Kejaman | ji:liəŋ | kəmatəy? | giam | bələvaw | gʷay | bəlikan | aļat |
| Lahanan | kəjiljiəŋ | kəmati? | giam | bələvaw | gʷay | kaļəŋ | aļat |

| English | rattan backpack | raw | red | remember | rest | return |
|---------|-----------------|------|---------|---------------|---------|---------------------|
| Dalat | bəlukuy | ta? | sii? | iŋat | bəyehat | pule? |
| Kanowit | | ta:? | sak | | ləpət | mulek (turn around) |
| Sekapan | biuə | ta:? | jəŋziə? | ñəraŋ | pu?ucut | moŋzəy? |
| Kejaman | bioəŋ | ta:? | jəŋziək | pədəŋ/pu?utuə | pə?usut | muŋzəy? |
| Lahanan | biuŋ | ta:? | jəŋziək | putuŋ | ŋələrah | baŋzi? |

| English | return home | rhinoceros | rhinoceros hornbill | rice | rice grain | rice wine | right |
|---------|-------------|------------|---------------------|-------|------------|-----------|-------|
| Dalat | pule? kubəw | | kəñalaŋ | paday | bəyeh | | ta?əw |
| Kanowit | mule? | badak | təjalaŋ | paday | bahah | joho? | ta?əw |
| Sekapan | moŋzəy? | təməru | təjaŋzə | paray | baa | | ta?əw |
| Kejaman | muŋzəy? | təməru | tiŋan | paray | baa | bureək | ta?əw |
| Lahanan | muŋzi? | təməru | tiŋaŋ | paray | baa | burak | ta?əw |

| English | ripe | river | river bank | river mouth | road | roll | roof | room |
|---------|------------|-------|-----------------|-------------|-------|----------|-------|--------|
| Dalat | sii? | suŋay | baə/təbəy suŋay | kuala | ayoh | gəmuləŋ | sapaw | bili? |
| Kanowit | sak | suŋay | liŋit təy | abah | sawa? | bəgələŋ | sapaw | biliək |
| Sekapan | ge?eə/ceə? | suŋay | biviə | ba? | jaŋan | ŋuŋun | sapaw | yoo |
| Kejaman | matuəŋ | suŋay | biviəŋ suŋay | ba:? | jiŋu | ŋəŋuŋuəŋ | sapaw | juaw |
| Lahanan | sak | suŋay | piŋit tupək | ŋəŋ | jiŋu | ŋəlulun | sapaw | tiŋəŋ |

| English | roots | rope | rotten (meat) | rough | rub | run | sago | sago flour |
|---------|-------|--------|---------------|-----------|---------|---------|----------|------------|
| Dalat | akah | taley | madam | kasay | məma?id | pəbiəh | balaw | səy |
| Kanowit | akay | taləy | | kasəl (L) | ŋusoə? | pəlibəw | balaw | la? |
| Sekapan | makat | taŋzəy | bu?u? | kacən (L) | məŋae? | təkərəw | ta?alzeə | |
| Kejaman | amut | taŋzəy | ba?əw? aram | aduəŋ | ŋələuku | təkərəw | baŋzaw | ŋa? |
| Lahanan | | taŋzəy | maram | | mugut | təkərəw | baŋzaw | ŋa? |

| English | saliva | salty | same; similar | sand | sap | sape | say | scabbard |
|---------|--------|-------------|---------------|-----------|---------|----------|--------|--------------|
| Dalat | le:y | masin | sama | naə | ju:(ə)? | | | saroŋ |
| Kanowit | liəŋ | pədi? | samah | pasil (L) | pulut | | puba? | tipa? |
| Sekapan | ŋiə | macin/patəŋ | sama (L) | kərəy | puŋzət | sapəy? | pəoba? | tepeə? eŋəm |
| Kejaman | ŋiəŋ | patəŋ | sama? (L) | kərəy | puŋzət | sape? | puba? | saŋgah iŋzəŋ |
| Lahanan | liəŋ | masim | sama? | təkərəy | puŋzət | kəlatian | | saŋza iŋaŋ |

| English | scale | scar | scold | scorpion | scratch | sea turtle | secondary forest |
|---------|-------|-----------|---------|-----------|---------------|------------|------------------|
| Dalat | nap | kəlipat | | səŋələtip | gəmayut | pəñu? | kənuwəw |
| Kanowit | nap | bah tawan | lohoy | kəjabah | gayut | | be?e? |
| Sekapan | nap | opeə? | bəlazəw | atip | ŋazaw | lavəy | bi?i? |
| Kejaman | nap | upeək | dazəw | atip | maruəŋt/mañaw | lavəy | |
| Lahanan | nap | upak | | katip | ŋañaw | lavəy | |

| English | see | seed | seed rice | sell | send | seven | sew |
|---------|---------------------|--------|-----------|----------|---------------|-------|---------------------|
| Dalat | pilaʔ | bəyeh | | jəməja | məmitey | tujuʔ | jəməʔit |
| Kanowit | ŋipoaʔ | bahah | bənih | pə-jajah | pəjuoʔ | tujuʔ | pilit |
| Sekapan | mirap | | upan | məba:y | məŋatəw/katəw | tujuʔ | mətəw |
| Kejaman | miraʔ/ŋiʔi/ŋalaʔzah | puʔzah | | bədagəŋ | katəw | tujuʔ | ŋaŋ ^w ay |
| Lahanan | numaw/irap | bəniʔ | bəniʔ | pəbəley | | tujuʔ | ŋuʔzat |

| English | shade | shadow | sharp | sharpen | shield | shin | shirt | shoot blowpipe |
|---------|---------|---------|--------|---------|----------|---------|-------|----------------|
| Dalat | pəduəh | bəlaŋaw | mañit | masaʔ | utap | | bajəw | suput |
| Kanowit | ləŋəp | ayəŋ | mañit | pasaʔ | tərabəŋ | gəruŋuŋ | bajəw | ñəput |
| Sekapan | ñeʔəŋap | aməŋ | məñ:at | nuñiəʔ | səlaveə | luʔut | | ñəpput |
| Kejaman | | | məʔñat | pəʔñat | səlaveəŋ | luʔut | ikeəŋ | ñəp:ut |
| Lahanan | | | ñait | mərip | kələbit | luʔut | ikaŋ | ñəput |

| English | short | short | shoulder | shout | shrimp | shy | siblings | sick |
|---------|--------|---------|----------|---------|--------------------|-------|----------|-------------------|
| Dalat | dadit | dibaʔ | kapəy | | utud/padak (large) | miaʔ | jan(ə)iʔ | pədə ^h |
| Kanowit | kadiʔ | mənibaʔ | pəjun | papaʔ | padək/səneʔ | miaʔ | tadin | pədəh |
| Sekapan | karəwʔ | mivaʔ | pəjəw | naʔapaʔ | oreə | məzaʔ | | pərah |
| Kejaman | karəwʔ | miʔivaʔ | pəjəw | naʔapaʔ | ureəŋ | məñaʔ | | pərah |
| Lahanan | kavuʔ | kavuʔ | ligan | napaʔ | urəŋ | məñaʔ | | pərah |

| English | silver leaf monkey | sit | six | skin | skin (v) | skink | skinny |
|---------|--------------------|-------------|-----|-------|----------|---------------|----------------------|
| Dalat | | muŋuʔ | nam | kulit | məŋulit | bəkayəŋ | maəh |
| Kanowit | | kuduʔ/kədaw | nəm | kulit | ñəlilak | bəkəruəŋ | məge |
| Sekapan | bəg ^w i | oŋəwʔ | nəm | karəw | matiə | | ñeg ^w eə |
| Kejaman | bəg ^w i | uŋəwʔ | nəm | karəw | ŋuʔit | kabacan tanaʔ | ñiŋ ^w eəŋ |
| Lahanan | bəg ^w i | uŋuʔ | nəm | kulit | ŋələtiəŋ | suguluvuʔ | ñiŋan |

| English | skirt | sky | slap | sleep | sleep talk | slice | slip |
|---------|--------|-------|-----------|--------|------------|--------------------|---------|
| Dalat | kəttip | laŋit | mənəpəy | tuduy | makaw muaw | məñiyih | səlasuy |
| Kanowit | kətip | laŋit | napəl | məlut | kələŋap | mipeʔ/mətaʔ (wood) | tələsoy |
| Sekapan | libun | laŋit | manəpən | məʔut | darap | mənəpəyʔ | tapeəʔ |
| Kejaman | kətip | laŋit | napən | məʔuət | ŋədarap | ñərət | kələsit |
| Lahanan | kətip | laŋit | (mə)nəpap | məʔut | | ñərəy | tələsit |

| English | slow | slow loris | small | smart | smell | smile | smooth | snail |
|---------|--------|---------------|-------|-------|--------|---------|--------------|-------------|
| Dalat | paut | | umit | tukəŋ | | səñum | aluyh | siput/seyyʔ |
| Kanowit | iloak | kələbət | isit | | | pəgələm | aluyh | seʔ |
| Sekapan | ləda: | | zu:ʔ | pətən | buʔəwʔ | meʔzaʔ | lani | cəyʔ |
| Kejaman | - | bəruək taʔuəŋ | zu:ʔ | pitən | baʔəwʔ | gəzəm | səʔjiʔ/jəmət | cəyʔ |
| Lahanan | pələda | bərok bən | kiiʔ | bitin | baʔuʔ | gəzəm | | si:ʔ |

| English | snake | snap | sneeze | snot | soft | son in law | song/sing | sour | speak |
|---------|---------|---------|---------|--------|--------|------------|-----------|-------|-------|
| Dalat | dipa | lupəŋ | təʔəsɪm | usəŋ | lukoʔ | bənatəw | bəlagu | məsəm | pubaʔ |
| Kanowit | pəŋənən | mələk | ŋasɪm | luŋoəʔ | ləmiʔ | | bəlaguʔ | məsəm | pubaʔ |
| Sekapan | ŋipa | mələʔət | nacim | mu: | ləma:ʔ | aneəʔ ivan | moʔa | cəm | |
| Kejaman | ŋipah | mələʔət | nacim | mu: | ləmaʔ | aneək ivan | lagu/muʔa | cəm | |
| Lahanan | ŋipah | mələʔət | nasim | mu: | ləmaʔ | anak ivan | bəlagu | səm | |

| English | spicy | spider | spider hunter | spit | splash | split | spouse | squeeze |
|---------|-------|-----------|---------------|----------|------------|-------|---------------------|---------|
| Dalat | lasoʔ | bəlagey | | puput | | mubah | sawa: | məsɪt |
| Kanowit | saŋəŋ | bələkawaʔ | sip | pələujaʔ | musay/usay | məpak | sawan | nameh |
| Sekapan | piti | təpageʔ | cit | pələujaʔ | ŋapaw | mitaʔ | sag ^w a | məmmah |
| Kejaman | piti | kəbageək | cit | pələojaʔ | mima | miʔaʔ | sag ^w ah | məm:ah |
| Lahanan | sanit | tələwaʔ | pit | nujaʔ | lima | miʔa | sag ^w ah | mamah |

| English | squirrel | stab | stab from below | stairs | stand | star | stay; lodge |
|---------|----------|---------|-----------------|--------|----------|----------|-------------|
| Dalat | | tubək | | tagaʔ | pəkədəŋ | biti: | diəm |
| Kanowit | bap | tijok | tugoh | tagaʔ | kədəŋ | bətuʔən | luʔet |
| Sekapan | poʔan | nəruəʔ | məduəʔ | jan | jut | kətuQʔən | ŋəttaw |
| Kejaman | puʔan | nəruək | muduək | jan | jut | kətuʔən | nəttaw |
| Lahanan | puʔan | mənərok | | jan | təkəriəŋ | kətuʔən | nəva |

| English | steal | sticky | stomach | stone | stop | straight | stranger |
|---------|---------|---------|-----------------------|-------|---------|----------|-------------|
| Dalat | mənikaw | mələkət | naʔay/pətuka: (organ) | batəw | bərənti | tigah | keʔ |
| Kanowit | nikaw | dəkət | nəʔeŋ | batəw | ləpət | tigah | |
| Sekapan | məŋikaw | bələkup | huri | batəw | ŋətaw | pəʔju | linaw bəkən |
| Kejaman | ŋikaw | | huri | batəw | ŋətaw | təʔju | linaw səʔap |
| Lahanan | ŋikaw | | huri | batəw | ŋətaʔ | tuto | linaw səʔap |

| English | strong | stump | stupid | sugar cane | sun hat | sunrise |
|---------|-------------|---------------|--------|------------|---------|-------------------------------|
| Dalat | məjəd | | paluy | təbəw | səyaʔu: | |
| Kanowit | sagəm/lagah | puruʔ | suoək | təbəw | lip | mata law jakaʔ |
| Sekapan | məggəm | parəwʔ | budu | təbəw | siʔuə | mata ʔaw bəkkeə |
| Kejaman | məggəm | pələʔuəŋ | səguək | təbəw | siʔuəŋ | matən ʔaw ləg ^w aʔ |
| Lahanan | məggəm | pəluʔuŋ kazəw | budu | təbəw | siʔoŋ | matən ʔaw ləg ^w aʔ |

| English | sunset | supernatural storm | surprised | swallow | swamp | sweat |
|---------|-----------------|--------------------|-----------|-----------|-----------|-------|
| Dalat | | | kələjət | mələwʔ uy | latiʔ | sinək |
| Kanowit | mata law uleʔ | kəbaliw | təkəjət | nilən | gurun | sinək |
| Sekapan | mata ʔaw ŋəcəm | | təkajut | nəʔən | payaʔ (L) | ŋonah |
| Kejaman | matən ʔaw liŋəp | baʔah | təkajuət | nəʔən | | ŋunah |
| Lahanan | matən ʔaw ŋəcəm | uvən | təkəjət | nəʔən | pəkaʔ | ŋunah |

| English | sweep | sweet | sweet potato | swift (bird) | swim | swollen | table | tail |
|---------|-----------|--------|--------------|--------------|---------|---------|------------|------|
| Dalat | məñəlapəw | təmeʰ | ubəy | kələpisan | tuun | upat | | ikuy |
| Kanowit | ñəlapəw | ñaliəŋ | ubəy | kələpisan | pəlaŋuy | supat | mija/pehek | ikuy |
| Sekapan | məñəlapəw | mi | kəʒe | peceə | bəlaŋuy | bəkeə | mija/laduə | ikuy |
| Kejaman | məʒa | mi | kəʒe | pəceəŋ | bəlaŋuy | bətuəŋ | mejah (L) | ikuy |
| Lahanan | məʒa | mi | kəley | təpacəŋ | satoŋ | baaʔ | mija (L) | ikuy |

| English | take | talk | tall | tamp earth | tarap fruit | tasteless | tattoo | tear |
|---------|-------|-------|--------|--------------|-------------|-----------|--------|--------|
| Dalat | pigiʔ | | dəbaw | dəmədət | | məñəm | | subit |
| Kanowit | apən | | rəgaw | dədət | | mohoəʔ | ulay | ñirat |
| Sekapan | manap | pobaʔ | bəbbaw | məddah/məjəŋ | bəgʷaʔ taap | depən | uʒay | ñereəʔ |
| Kejaman | manap | pubaʔ | məʔbaw | nəddah | bəgʷaʔ taap | bəleh | uʒay | ñireək |
| Lahanan | manap | pubaʔ | məbaw | nədah | bəgʷaʔ taap | bəleh | tədək | ñirak |

| English | ten | that, far | that, near | there, far | there, near | they | thick | thigh |
|---------|----------------|-----------|------------|------------|-------------|-------|-------|---------|
| Dalat | pələwʔ ən | | iin | | inan | liŋ | kapan | |
| Kanowit | pləʔon/pələʔon | | iduh | inay | aduh | da | kapan | bətəre |
| Sekapan | pələwʔ ən | | eray | | kenay | sira | kapan | təpaʔa |
| Kejaman | pləwʔ ən | irəy | inan | azəwʔ arəy | anan | sirah | kapan | təpaʔah |
| Lahanan | pələwʔ ən | anti | inan | anti | anan | sirah | kapan | təpaʔah |

| English | thin | think | thirsty | this | thorn | thousand | three | throw |
|---------|-------|---------|------------|------|-------|----------|--------------|-------------|
| Dalat | dipih | bəpikey | aus | ih | duəy | jəyibu | tələw (tləw) | məyəŋ |
| Kanowit | dipih | ŋiŋət | lase | hi | durəy | jaribu | tələw | barəŋ/marəŋ |
| Sekapan | lipi | bəkeraʔ | bəluʔ gueə | enəy | duəy | jalibu | təʒəw | mitu: |
| Kejaman | lipi | pəʔdəŋ | pana gueəŋ | inəy | duəy | jaribu | təʒəw | mitu |
| Lahanan | ñipi | pəkənəp | mapuk gwaŋ | ini | luəy | jah libu | təʒəw | mətoŋ |

| English | thunder | tickle | tie | tight | tired | to clean | to dry | to fish |
|---------|---------|---------------|-------|--------|-------------|----------|----------|---------|
| Dalat | duduh | mitək | məbəd | təyit | ləlah | | muay | məməsəy |
| Kanowit | tətahaʔ | ñitək/ŋəñitək | məkeh | marət | lələk/lisoh | | | masəy |
| Sekapan | jəru | pəjaʔat | məkət | ceʔəət | bələw kaʔ | məmoʔaw | ñeay | məccəy |
| Kejaman | dəru | nujək | mikət | siʔət | bəlukah | musəwʔ | pəgəʔeəŋ | məc:əy |
| Lahanan | ləru | səkiak | mikət | ciʔət | laʔi | məʒaw | mapok | məcəy |

| English | to lean | to lie | to sting | to whistle | to wrap | toad | today |
|---------|---------|---------------|----------|------------|-----------------|---------|----------|
| Dalat | bəsaday | pəmədəy | pənəpəy | sebaut | mələpiʔ (piəʔ) | | law ih |
| Kanowit | səkədəh | ñəbeəʔ/səbeəʔ | matak | nakukoyh | bukuyh/məməkuyh | kup | law hi |
| Sekapan | maŋazaʔ | pəcəguəʔ | səut | kuŋiəʔ | miʔuəʔ | saʔay | ʒaw inəy |
| Kejaman | maraʔ | pəjəʒap | məñəbuət | kuŋiək | miʔuək | saʔay | ʒaw inəy |
| Lahanan | | pəñəʒap/səʒap | ñəbut | səpuit | miʔok | kəlutək | ʒaw inəy |

| English | tomorrow | tongue | tooth | touch | tourtise | tree | tree shrew |
|---------|--------------|--------|-------|---------|----------|-------|------------|
| Dalat | law sunih/su | jəlaʔ | ñipən | məñagam | diʔa: | kayəw | bap |
| Kanowit | masoʔ? | jəla:ʔ | ñipən | məgam | siʔan | kayəw | bap |
| Sekapan | ηəvun onay | jiʔaʔ | ñipən | ñagam | kəʔəp | kazəw | poʔan |
| Kejaman | avun unay | jəʔa:ʔ | ñipən | pəʔki | səʔzan | kazəw | puʔan |
| Lahanan | səpunay | jəʔaʔ | ñipən | mivit | kəʔəp | kazəw | puʔan |

| English | true | try | turn | turn | turtle | twins | two |
|---------|-------|---------|---------|---------------------|--------------------|------------|---------------------|
| Dalat | bətul | məncuba | bəpuseŋ | | bələbay | papid | duah |
| Kanowit | səno | suba | pələəw | əkələh (body)/mulək | kələp/labəy (soft) | sapit | duah |
| Sekapan | ʔan | ηava | madət | | çiʔan | apit | dəg ^w a |
| Kejaman | ʔan | ηələva | piibuət | ηələsah | kəʔəp | aneək apit | dəg ^w ah |
| Lahanan | ʔan | nəsək | kələsah | ñiʔeʔ | kakoŋ | apit | ləg ^w ah |

| English | uncle | under | understand | unripe | tart | upriver | urinate | urine |
|---------|---------|----------|--------------|--------|-------|---------------|---------|-------------|
| Dalat | tuaʔ | bah ibaʔ | baʔ taʔəw | | | ud/kajoʔ (go) | bəsiniʔ | siniʔ |
| Kanowit | | dibaʔ | taʔaw | ta:ʔ | pərət | ut /ajoʔ (qo) | məroək | pəroək |
| Sekapan | kəmama | nivaʔ | mələti/mətti | ta:ʔ | sariə | ηajəwʔ | ñəŋit | danum səŋit |
| Kejaman | kəmamah | tivaʔ | mələti | ta:ʔ | səʔiʔ | uruəŋ/najuʔ | ñəŋit | səŋit |
| Lahanan | kəmamah | an tivaʔ | paam | ta:ʔ | | ηajuʔ/uroŋ | ñəŋit | lanum səŋit |

| English | valley | vein | veranda | village | visitor | voice | vomit | waist |
|---------|--------|------|--------------|--------------|-------------|-------|---------|---------|
| Dalat | | wat | | kapo(ə)ŋ | tətaməw | ləŋan | p-utaʔ | pəkawi |
| Kanowit | abək | urat | təguah | kapoŋ (L) | təŋuay | səraw | ηutaʔ | bəkawəŋ |
| Sekapan | iruʔ? | uat | ləvəwʔ | luvəwʔ | jadəy-jadəy | ləʔəy | nuʔutaʔ | iran |
| Kejaman | iruək | wat | goeəŋ ləvəwʔ | ləvəwʔ daraw | | laʔəy | notaʔ | ayəŋ |
| Lahanan | abək | wat | | ləvuʔ larun | linaw səʔap | laʔəy | nutaʔ | ayəŋ |

| English | wait | wake up | walk | wall | want | wash clothes | water | waterfall |
|---------|-------------|---------|---------|-------------|---------|--------------|-------|------------|
| Dalat | luləw | sadəy | makaw | didi | loʔ | musuʔ | anum | |
| Kanowit | migaʔ/pigaʔ | pigah | lakaw | liŋit kəlit | loʔ/baʔ | pusok | anum | huŋ |
| Sekapan | məŋaʔ | muʔuət | bələkaw | dəriə | maʔaʔ | moʔaw | danum | ləcay |
| Kejaman | məŋaʔ | maʔuət | bələkaw | dəriəŋ | iʔaʔ | musəwʔ | danum | guəŋ/ləsay |
| Lahanan | pəŋaʔ | maut | bələkaw | ləriəŋ | iʔaʔ | muʔaw | lanum | ləcay |

| English | we ex | we in | weak | weave | western tarsier | wet | what | when | where |
|---------|-------|-------|-------|-------|-----------------|-------|------|------------|---------|
| Dalat | kaməy | tələq | ləmah | mañam | ukəd | basaʔ | unəw | paya | gaan |
| Kanowit | kamiʔ | ta | daneʔ | mañam | ukət | basaʔ | nəw | pidan/pida | toʔ han |
| Sekapan | kaməy | kita | əmaʔ | mañam | kət | bacaʔ | nəw | | abah |
| Kejaman | kaməy | kitah | ləmaʔ | mañam | kət | basaʔ | nəw | kurah | abah |
| Lahanan | kaməy | kitah | ləmaʔ | mañam | kət | basaʔ | nəw | kurah | an bah |

| English | white | who | why | wide | widow | widower | wind | wing | wipe |
|---------|--------|-----|-----------|-------|-------|---------|-----------|---------|-------|
| Dalat | puteʔ | say | buyaʔ naw | ayaŋ | baləw | | paŋay | kələpai | maʔid |
| Kanowit | putiʔ | hay | | | baləw | baləw | bariw | kələpaʔ | məpit |
| Sekapan | putəyʔ | say | uʔ naw | adaʔ | baʔəw | avan | bayu | ʔat | mucu |
| Kejaman | putəyʔ | cay | kopah | ada:ʔ | baʔəw | avan | bayu | ʔat | miʔit |
| Lahanan | putiʔ | cay | mənaw | kapan | baʔəw | avan | bawi/bauy | ʔat | məʔit |

| English | with | woman | wood pecker | word | worm | wring | yawn | year |
|---------|-------|---------|-------------|-------|--------|----------|----------------------|-------|
| Dalat | jəgəm | a məyəw | | ubaʔ | uləd | mə-məsit | tuab | |
| Kanowit | dəŋah | mərəw | təguk | ubaʔ | ulət | kəpuheʔ | ŋuap | tuʔun |
| Sekapan | jan | ləʔra | təgaʔi | leʔəy | uʔət | maŋəʔaʔ | mag ^w ap | taʔun |
| Kejaman | daan | dəʔrah | təgaʔi | ubaʔ | tiʔʔah | ŋəʔah | nəʔŋ ^w ap | taʔun |
| Lahanan | jan | lərah | təjaʔi | ubaʔ | ulət | ŋəʔah | nəŋap | |

| English | yellow/black snake | you | you plural |
|---------|--------------------|-------|------------|
| Dalat | | kaʔaw | kələw |
| Kanowit | atak | ika | ikam |
| Sekapan | paguʔ | ikaw | ivu |
| Kejaman | ŋipah paguʔŋ | ikaw | ivu tah |
| Lahanan | ŋipah paguŋ | ikaw | kəpat |

APPENDIX 3

PUNAN

| English | above | adult | afame | afraid | after | afternoon | age |
|-------------|-------------|-------------|--------|--------|--------------|-----------|----------|
| PPUN | | | *tutuŋ | *buʔut | | | |
| Punan Tuvu' | aun | | tutuŋ | uʔut | anoʔ (later) | | umur |
| Punan Bah | livuow | linuow ayoʔ | putuəŋ | buʔut | | | umun |
| Beketan | toʔ avow | kataturip | tutuŋ | maut | kəbalum | lamey | urip |
| Punan Lisum | nə pupuŋ | kakat urip | tutuŋ | but | kəbaʎumin | saho | urip |
| Punan Aput | soʔ pupuŋ | laʔ kəlovi | tutuŋ | avut | kəjaut | tesin | urip |
| Ukit | hai lələŋ | ŋaŋut | tutuŋ | takut | tipəʔ | nəha alo | umur |
| Buket | nahai lələŋ | kəlavi tala | tutuŋ | but | sətəla (L) | lame | umur (L) |

| English | agree | alive | alone | already | also | always | angry | animal |
|-------------|---------|---------|-------|------------|------|---------|-----------------|----------------------|
| PPUN | | *m-urip | | | | | | *lahaut |
| Punan Tuvu' | | morip | rop | tubit | paʔ | kefiʔ | moʔon | kaʔ |
| Punan Bah | sətuju | morip | | tupu | vey | pəgiəŋ | busiʔ | oi |
| Beketan | luʔ | morip | amat | baʎum | pai | pəjajaw | lohoy | lahut |
| Punan Lisum | | urip | | baʎum | pəʔ | pəjajaw | lohoy | lau ⁽ⁿ⁾ t |
| Punan Aput | pəkəŋaʔ | urip | orop | balum | | pəsulo | lohoy | laut |
| Ukit | ŋagup | murip | naŋun | arəy | ineʔ | doriʔ | parəsəŋama | lahaut |
| Buket | təʔəʔ | murip | naŋən | arəyi/arəy | o | səlalu | pətənaŋay/busin | huriʔ/hələut |

| English | answer | ant | argue | argus pheasant | arm | armpit | arrive |
|-------------|-----------|---------|---------|----------------|--------------|-------------|--------|
| PPUN | *putay | *ula | | *uay | *ləŋan/*ləŋə | *apiʔ | *labiʔ |
| Punan Tuvu' | | ula | | owey | ləŋan | ləlaʔ piʔ | |
| Punan Bah | miŋay | iow | pakuyu | owey | | leleəʔ opiʔ | momoəʔ |
| Beketan | putey | uʎa | mələwen | mobow | ləŋan | apiʔ | labiʔ |
| Punan Lisum | putey | ula | mələwen | mobow | | bituŋ | maviʔ |
| Punan Aput | mutey | ula | mələwen | oi | lapa | bituŋ | lamok |
| Ukit | mute | jəvirəŋ | ŋəhaʔəŋ | ovəy | | sapiʔ | laviʔ |
| Buket | jawab (L) | jəvirəŋ | aʔah | ovəy | ləŋə | sapiʔ | suŋ |

| English | ash | ask | aunt | baby | baby carrier | back | bad |
|-------------|------|---------|--------|---------------------|--------------|-------------|-------|
| PPUN | *abu | | *ipu-i | | *avet | | *jiət |
| Punan Tuvu' | afuh | | ipun | kələfih uyūŋ | kibaʔ | pənuk/balan | jet |
| Punan Bah | avu | malavaw | ipun | bəŋeʔ (f)/lavit (m) | avet/abet | bolet | jet |
| Beketan | | ŋərəŋo | mineʔ | baŋeʔ | pavi | lavoʔ | jiot |
| Punan Lisum | avu | ŋərəŋo | mineʔ | baŋeʔ | avet | lavoʔ | jiət |
| Punan Aput | avu | pəkulow | mineʔ | bikop | avet | bolet | jiət |
| Ukit | avu | pamat | ipuy | icet/aŋut | avet | bələkaruŋ | jiət |
| Buket | avu | pamat | ipuy | arik isiʔ | pənavian | lapit | jiət |

| English | bail water | bait | bald | bamboo | banana | banyan | bark |
|-------------|-------------|------------|----------|--------|--------|----------|------------|
| PPUN | *lima | *ipan | | *bulu? | *puti? | *lunuk | *upa? |
| Punan Tuvu' | | upət | kulu? | bulu? | puti? | lalow | upa? |
| Punan Bah | palima/lima | upan | ŋalaseəŋ | bulu? | baliyo | nunuə? | lowit |
| Beketan | akup | ipan/ippan | bəlulow | bu u? | ba at | pu lunuk | kulit kaju |
| Punan Lisum | lima? | ipan | bəlulow | bu u? | pute? | lunuk | anit kiow |
| Punan Aput | nima | ipot | ku ok | bulu? | pute? | lunuk | upa? |
| Ukit | | ipan | lahəŋ | bulu? | balat | lunuk | upa? |
| Buket | rima | ipan | lahəŋ | bulu? | puti? | lunuk | anit |

| English | barking deer | bathe | bear | bee | beetle | before | begin |
|-------------|---------------|-------|-------|--------|---------|--------------|------------|
| PPUN | *tələhu? | *namu | *boəŋ | *siŋot | *buhəŋ | | |
| Punan Tuvu' | təlau?/təlao? | mom | boəŋ | wa?aŋi | | aŋməlay | ariŋ |
| Punan Bah | təlou? | mo:m | boeəŋ | siŋot | buəŋ | | ta? tiriəŋ |
| Beketan | tələhu? | nomu | makup | siŋot | səbaboŋ | dipo? | gaŋ |
| Punan Lisum | tələhu? | namu | boep | siŋot | səgagoŋ | ŋa?an əy pə? | gaŋ |
| Punan Aput | təlau? | nomu | boep | siŋot | barak | bi?ko | pətiriŋ |
| Ukit | tələhu? | namu | boəŋ | siŋot | buhəŋ | ŋampə? | me? mənə |
| Buket | tələhu? | ŋamū | boəŋ | | | səbəlum (L) | mulay (L) |

| English | behind | bent | betel chew | betel nut | between | big | binturong |
|-------------|--------------|--------|---------------|-----------|----------------|-------|-----------|
| PPUN | | | *sipa? | *pa?an | | *ayo? | *ketan |
| Punan Tuvu' | an pənuh | | banji?/banjit | pa?an | an taŋ | ayo? | ketan |
| Punan Bah | ba? bolet | piko? | | uay | ba? ewan | ayo? | ketan |
| Beketan | to? lavo? | koit | sipa? | gehet | to? gat | uŋay | ketan |
| Punan Lisum | nə lavo? | ke?oŋ | sipa? | gehet | nə gat | ajo? | ketan |
| Punan Aput | so? bolet | bəkoit | sipa? | gəhat | so? poŋat | ayo? | ketan |
| Ukit | hai lapət | keloŋ | | pinaŋ | hai kənuən | ajo? | ketan |
| Buket | na hai lapət | | sipa? | pa?an | na hai səvatu? | | ketan |

| English | bird | bite | bitter | black | can; able | capsize | careful | blader |
|-------------|--------|-------|--------|---------|-----------|---------|------------|--------------|
| PPUN | | | *pa?it | | | *bakam | *jian-jian | *əsij |
| Punan Tuvu' | janey | məkep | pa?it | puñuh | ŋom | ŋərəkop | jan-jan | bənu?an niŋ |
| Punan Bah | janiey | mo?ot | pe?it | maŋurom | | mekam | | saruəŋ esiəŋ |
| Beketan | puret | ŋilet | pa?i? | hurom | latu | makam | jan-jan | atay asin |
| Punan Lisum | puret | ŋokom | pa?i? | hurom | | makam | jan-jan | atay asin |
| Punan Aput | manuk | ŋokom | pa?i? | rom | ben | makam | jian-jian | nuaŋ siŋ |
| Ukit | puret | nirok | kahaŋ | hinu | agəp | bakam | jan ə | bəsija |
| Buket | puret | ŋirok | pa?i? | hinu | to | bākam | | popa |

| English | blind | blink | blood | blow nose | blow | blow, w/ mouth | blowpipe |
|-------------|--------|-------------|-------|--------------|------------|----------------|----------|
| PPUN | | | *da? | *kasəŋ liŋo? | | *ŋisuk | *supit |
| Punan Tuvu' | pəcok | məkiop-kiop | da? | mucuy uken | | ñofu | upit |
| Punan Bah | pəsəŋ? | kakədop | da? | | | | upit |
| Beketan | pusok | kərəkurip | da? | matiŋ luŋo? | muhuk | məŋuhuk | supit |
| Punan Lisum | pusək | unjip | da? | ŋasən luŋo? | səmaran | ŋisuk | supit |
| Punan Aput | pasok | kərəkurip | da? | masit uson | tətulip | ŋisuk | upit |
| Ukit | buta? | nəkocip | da? | | ŋisuk | ŋisuk | supit |
| Buket | pasik | ŋəvocip | da? | kasin luŋo? | salit/isuk | | supit |

| English | blue | boar | body | body hair | bone | brain | branch | brave |
|-------------|-----------|--------|-------|-----------|--------|-------|------------|-------------|
| PPUN | | *bavuy | | *bulu-n | *tolan | *utək | *da?an | |
| Punan Tuvu' | mbu? | bafuy | kuŋan | bulun | tolan | | aŋat/da?an | təbah |
| Punan Bah | biru? | bavuy | oma | bulu | toleŋ | ba? | da?an | makeŋ |
| Beketan | biru | bauy | ahi | bullu | tolan | tutup | dan | bañi |
| Punan Lisum | laŋo-laŋo | bavuy | asin | bulu-n | tolan | tutup | dan | lihəm |
| Punan Aput | səŋelim | bavuy | hin | bulun | tolan | tutup | saŋa? | mase?en |
| Ukit | gadun | bavuy | kariŋ | bulu | tolan | utək | dan | lihəm/təvən |
| Buket | ata? | bavuy | kariŋ | bulun | tolan | utik | saŋa? | təvən |

| English | breast | br. feed | breathe | bridge | broom | burn | burp | burry |
|-------------|--------|----------|----------|--------|--------|------------|---------|------------|
| PPUN | *susu | *-su? | *ŋəhiŋat | | *pəpa | *(mə)nutuŋ | | *(mə)namən |
| Punan Tuvu' | otah | pəpuh | ŋəlunoh | palan | pah | nutuŋ | | |
| Punan Bah | ota | pa? so? | pa? iŋat | | sapuow | manutuŋ | manoro? | mananom |
| Beketan | uhu | puhu | nihinat | latow | | nutuŋ | ne?əp | namen |
| Punan Lisum | iso? | pisow | ŋəhiŋat | patow | papa | nutuŋ | ne?əp | namen |
| Punan Aput | isow | pisow | ñəlenat | jait | papa | nutuŋ | ne?op | nanom |
| Ukit | tusu | pəpasu | ŋəhiŋat | patow | popa | | nuəp | nanəm |
| Buket | tusun | miso? | ŋəhiŋat | | | nutuŋ | nuəp | kubur (L) |

| English | but | butterfly | buy | calf | call | carry on back |
|-------------|-----------|-------------|--------|------------|-----------|---------------|
| PPUN | | *kələ-bavaŋ | *məli | *bəti-n | *siva | *ŋ-abin/*bi? |
| Punan Tuvu' | añan/igam | me a pe? | məniu? | bətin | miŋak | məbi? |
| Punan Bah | | tabegop | meliey | buru? beti | pa? utey | be? |
| Beketan | kupa | kərəbavaŋ | moli | hureŋ | tiba | abin |
| Punan Lisum | tapi? | kərəbawaŋ | mo i | asin bati | niva(h) | bə? |
| Punan Aput | tapi? | tələbavaŋ | mo i | hin bətin | ñiva/siva | ovin |
| Ukit | tapi | kələvavaŋ | mali | | niva | ŋavin |
| Buket | | kələvavaŋ | mali | asin bati | niva | ŋavin |

| English | carry by handle | carry on shoulder | carry under arm | cast | cataract |
|-------------|-----------------|-------------------|-----------------|----------|----------|
| PPUN | *biaŋ | *suʔun/*ñuʔun | | | |
| Punan Tuvu' | | məju: | | məmbet | |
| Punan Bah | bieəŋ | suʔun | mateəŋ | jaloʔ | ŋabutaʔ |
| Beketan | ŋəbiaŋ | mesan | ñəkitoŋ | nakaŋ | tupan |
| Punan Lisum | ŋəbiaŋ | məsan | ñəkitoŋ | nakaŋ | bulaw |
| Punan Aput | ñəgitop | ñun | ñəkatiŋ | ŋəbalat | bulaw |
| Ukit | ŋitaŋ | ñauŋ | maviaŋ | toŋtoroŋ | buro |
| Buket | ñalaʔ | ñauŋ | ñəlapin | | |

| English | catch | cave | centipede | cheek | chest | chew | chicken | child |
|-------------|---------|-------------------|-----------|--------|-------|---------|---------|--------|
| PPUN | *-gəm | *liaŋ/*luvaŋ batu | *jə-lipan | *papah | *usuk | *kuñaʔ | *siau | *anak |
| Punan Tuvu' | | | təlipan | tuŋum | bəruŋ | ŋoñaʔ | yow | nak |
| Punan Bah | meguom | luveəŋ batu | lipan | piŋa | oreəŋ | makuñaʔ | iow | |
| Beketan | menom | luvaŋ ala | jəlipan | pappa | oraŋ | mañaʔ | dek | anak |
| Punan Lisum | nagəm | luvaŋ | lipan | piʔem | oraŋ | nəkuñaʔ | dek | anak |
| Punan Aput | pagom | luvaŋ ovoŋ | jəlipan | biŋem | ohuk | nəkuñaʔ | dek | nak |
| Ukit | ŋətapan | luvaŋ batu | jəlipan | papa | usuk | nəkuñaʔ | sio | kəlavɪ |
| Buket | makop | liaŋ | jəlipan | papa | usuk | nəkuñaʔ | siut | anak |

| English | child in law | chin | choke | choose | chop | cicada |
|-------------|--------------|---------|-----------|------------|-------------------|-----------|
| PPUN | *boson | *jaʔə-n | | *(ma)miliʔ | *atək | |
| Punan Tuvu' | ribakuku | jaʔan | kak | | məŋətoŋ | nətnət |
| Punan Bah | ivan | jaʔo | kedan | mamiliʔ | mañaŋtoŋʔ/gəmetoŋ | suʔuəŋ |
| Beketan | boson | ja | təjolon | miʔiʔ | matok | nanet |
| Punan Lisum | boson | jən | təsinaŋ | miʔiʔ | matək | nanet/ŋan |
| Punan Aput | boson | jan | kəlanen | miliʔ | natok | ñətñət |
| Ukit | ŋarak | jiə | kətəsanap | miliʔ | ñapaʔ | tələŋihin |
| Buket | lavet | jiən | kəlanən | miliʔ | mulək | tələŋihin |

| English | cigarette | clean | climb | cloud | cockroach | coconut |
|-------------|-----------|------------|--------------------|----------|---------------|---------|
| PPUN | | | *ñikət | *(b)abun | *kəlipə | *ñu |
| Punan Tuvu' | cigup | bəlaʔ | | abun | cəmawaŋ | ñuh |
| Punan Bah | lukoʔ | bələsi (L) | jakaʔ/miket (tree) | aput | aveəʔ | ño |
| Beketan | lukoʔ | bərese | ñiket | boun | kəriŋo | təporu |
| Punan Lisum | luoʔ | bərsih (L) | ñiket | bovun | kəriŋə/kəliŋo | añu |
| Punan Aput | lukoʔ | bərese | ñiket | bəlavun | kəliŋo | ño |
| Ukit | rukoʔ | bərsi (L) | | bovun | kəliŋə | oña |
| Buket | lukok | bərse | ñikət | bovun | kəliŋi | oña |

| English | coffin | cold | collapse | come | cook | cooked rice |
|-------------|-------------|---------------|----------|--------|-------------------|-------------|
| PPUN | *luŋun | *darəm | | *labiʔ | *ma-sak/*pəkə-sak | *kanən/*kun |
| Punan Tuvu' | patiʔ kəfoh | darom | | tey | ak | kun |
| Punan Bah | luŋun | bələjjiʔ | mapopa | tuwey | menaʔ kun | parey |
| Beketan | | darom | sokop | labiʔ | pəkahak | kanen |
| Punan Lisum | luŋun | darəm | sokop | maviʔ | pəkahak | kanen |
| Punan Aput | luŋun | larom | | lamok | pə-pahak | kanen |
| Ukit | luŋun | bajik | movoʔ | suŋ | meʔ raku | asiʔ |
| Buket | luŋun | bajik/bərarəm | hava | suŋ | masak | aku |

| English | corpse | coucal | cough | count | cousin | crab | crack | crazy |
|-------------|--------|---------|---------------|--------------------|---------|--------|-------------|---------|
| PPUN | *kavən | *butbut | *tusəŋ/*nusəŋ | *-iap | | *kevaŋ | | *baŋən |
| Punan Tuvu' | butuŋ | butbut | mərok | mənɟapən | ipah | tuyuʔ | | aŋən |
| Punan Bah | patay | but | mənukən | miap | bəʔuɟəŋ | kaluyu | | baŋən |
| Beketan | kavo | butbut | maso | niap | lipow | kevaŋ | bakeʔ | kasi |
| Punan Lisum | kavə | butbut | tusəŋ | ɟia ^m p | lipow | kevaŋ | satan | baŋən |
| Punan Aput | kavon | butbut | nukən | niap | lipow | kevaŋ | bakeʔ/lalat | bəlanon |
| Ukit | | buvut | nusəŋ | ɟiap | pari | kevaŋ | bataʔ | baŋən |
| Buket | kavən | buvut | nusiŋ | niap | arik | kevaŋ | galok | baŋən |

| English | crocodile | crush | cry | dance | dark | dart | dart case | day |
|-------------|-----------|--------|----------|---------|-------|--------|-----------|-------|
| PPUN | *buay | *ɟumək | *mə-naŋi | *ɟaraŋ | | *tagay | | *alaw |
| Punan Tuvu' | boay | | naŋih | narik | fəlop | laŋaʔ | təloʔ | low |
| Punan Bah | buay | | manaŋi | mənariʔ | belop | aat | teloʔ | eluow |
| Beketan | buay | | naŋi | ɟajat | baŋip | lagi | | a ow |
| Punan Lisum | buay | ɟumək | naŋi | ɟaraŋ | heəm | lagi | | a o |
| Punan Aput | buay | pasi | naŋi | najet | ɛom | tage | taloʔ | low |
| Ukit | buay | ɟumək | naŋi | ɟaraŋ | liŋəm | tage | | alo |
| Buket | buay | mavək | naŋi | ɟaraŋ | liŋəm | tage | | alo |

| English | day after tomorrow | day before yesterday | dead tree | deaf | deep |
|-------------|--------------------|----------------------|-----------|----------------|---------|
| PPUN | | | | *m-abuʔ/*butək | *laləm |
| Punan Tuvu' | ləmon | low idəh | tuŋun | mərəŋoŋ | luaŋ |
| Punan Bah | | eluow jiʔ | | ɟabutoʔ | malalom |
| Beketan | a ow joŋ | kalow a ow joŋ | puruʔ | mabuʔ | lolom |
| Punan Lisum | alo itup | kalə alo itup | puruʔ | mabuʔ | ñəkono |
| Punan Aput | low jiʔ | kalow low alom | puruʔ | mabuʔ | lalom |
| Ukit | alo tupay | alo tup ma | pəruŋuy | bəriŋən | laləm |
| Buket | alo itup | alo lima ma | | abuʔ | luaŋ |

| English | deer | derris root | diarrhea | die | difficult | dig | dirty |
|-------------|--------|-------------|----------|--------|------------|-----------|-------|
| PPUN | *payaw | *tubə | *katit | *kəbə | | *(mə)ŋali | |
| Punan Tuvu' | payow | tufoh | bərəciŋ | kəfoh | məron | ŋalih | tuno |
| Punan Bah | payuow | tuvo | maniut | makovo | susah/maan | məŋali | luo? |
| Beketan | payow | tuvo | ŋatit | kavo | matap | ŋali | meko |
| Punan Lisum | payow | tuvo | ŋatit | kavə | tuap | ŋali | meko |
| Punan Aput | payow | tuvo | ŋatit | kavo | tusa | ŋali | meko |
| Ukit | peyow | tuvə | pəkatiit | kavə | tusa | ŋali | kotor |
| Buket | peow | tuvi | pəkatiit | kavi | jiət me? | ŋali | jiət |

| English | divide | divorce | dizzy | dog | dom. pig | door | downriver |
|-------------|-------------|----------|------------|------|----------|------------|-----------------|
| PPUN | *pə-tulat | *pubaw | *liuŋ | *asu | *ukot | *usit | *liba? |
| Punan Tuvu' | | | lioŋ | auh | | təban | lifa? |
| Punan Bah | pe?erop | pətara | ŋaŋon | au | utiəŋ | bova? lame | ləva?/me?u (go) |
| Beketan | paruŋ | pilow | jaŋon | ahu | | akop buko? | ava? |
| Punan Lisum | pətulət | puvo | jaŋon | asu | | usit | hivay |
| Punan Aput | pə-tulat | pətulaŋ | səlio | ahu | | usit | seva? |
| Ukit | pətulat | puvo | saŋ liuŋ | asu | ukot | usit | aluŋ suŋe |
| Buket | bagi/pəvagi | pəkətivo | pəcaŋ liuŋ | asu | ukot | usit | aluŋ |

| English | dragon | dragonfly | dream | drink | drop | drown | drum | drunk |
|-------------|----------|-------------|--------|-------|----------|----------|--------|---------|
| PPUN | *ubi? | | *nupi | | *ləmabu? | *pəkatoŋ | *tubuŋ | *m-abuk |
| Punan Tuvu' | tuktuluy | capuk təlaŋ | nupih | bo? | mələruh | mələñet | | m-afuk |
| Punan Bah | naga | ta?atin | panupi | du? | ləmavu? | ketoŋ | tuvuəŋ | mavuə? |
| Beketan | uvi? | lialisik | nupi | mihup | pəkatek | ŋatoŋ | tuvuŋ | |
| Punan Lisum | uvi? | lialisik | nupi | misu? | pəkatek | pəkatoŋ | tuvuŋ | mavuk |
| Punan Aput | ivi? | lisey | nupi | misu? | pəlaru | pəkatoŋ | tuvuŋ | mavuk |
| Ukit | uvi? | səpatuŋ | nupi | nuru? | pəkatek | pəkatoŋ | tuvuŋ | mavuk |
| Buket | uvi? | lañiŋ | nupi | nuru? | pəkatek | pətətən | tuvuŋ | mavuk |

| English | dry | dry season | drying rack | dull | durian | dust | eagle |
|-------------|-------|------------|-------------|-------------|--------|----------|--------------|
| PPUN | | *ta?un | *paha? | | *luyan | *abu | *koñiw/*ñahu |
| Punan Tuvu' | ñopuh | ta?un | paan | bala? | docouh | afuh | ñaw |
| Punan Bah | mueəŋ | tə?un | paa? | yaŋ mañe?it | jos'ow | avu | eñaw |
| Beketan | agaŋ | taun | poho? | karun | lujan | avu | pəlaki |
| Punan Lisum | pahaŋ | boho? | poho? | karun | luyan | dəbu | ñōhō |
| Punan Aput | bahaß | boho? | poho? | karun | luyan | savu/avu | ñōhō |
| Ukit | magaŋ | taun | para? | tasay | rujan | avu | koña |
| Buket | pahaŋ | oriŋ | para? | mukun/sipoŋ | catu | avu | koñu |

| English | ear | early | earthworm | easy | eat | edge | egg | egret |
|-------------|--------|-----------|------------|--------|---------------|-------|-------|-------|
| PPUN | | | *jalaw | *lumak | *kuman/*kəman | | *təlu | *suk |
| Punan Tuvu' | tuniŋ | | jələh alu? | ruay | kəman | lirin | təlu | kuju? |
| Punan Bah | tuniəŋ | | jeluow | lumeə? | koman | | telu | asan |
| Beketan | abu? | pegaŋ | jalow | lumak | kamo? | liŋit | ta u? | suk |
| Punan Lisum | abu? | gaŋ | jalo | lumak | kamo? | bəvəy | ta oŋ | suk |
| Punan Aput | beŋ | pətiriŋ | jalow | lumak | kaman | bavey | talun | suk |
| Ukit | bakip | sariŋ suŋ | jalo | sənaŋ | kuman | avəŋ | talo | kucu |
| Buket | bakip | mula | jalo | | kuman | avəŋ | talo | |

| English | eight | elbow | ember | empty | enough | enter | estuary | every |
|-------------|---------|---------|--------|--------|--------|--------|----------|--------|
| PPUN | *ayan | *siku-n | *baha? | *buaŋ | | *masək | *aluŋ | *karən |
| Punan Tuvu' | yan | ikun | ba? | | ŋo:m | mumboh | lo?o | iġet |
| Punan Bah | eyan | iku | | kaŋwan | sukup | masoa? | lo?o uŋe | karen |
| Beketan | kəna?ay | sikun | aba? | buaŋ | tahak | jamo | laput | sat |
| Punan Lisum | kəna?ay | sikun | ba? | buaŋ | tahak | məjo | sulə? | karən |
| Punan Aput | ean | sikun | baha? | luaŋ | bən | muhok | laput | koren |
| Ukit | ai | siku | | buaŋ | sukup | masək | aluŋ | karən |
| Buket | aen | siku-k | | buaŋ | arəyi | masək | aluŋ | karən |

| English | excrement | eye | eye brow | face | fall | false |
|-------------|-----------|--------------|--------------|--------------|-----------------|--------|
| PPUN | *ta?i | *matə/*matan | *bulun likaw | *irap/*jaway | *matek/*bəlabu? | *sala? |
| Punan Tuvu' | ta?ih | mətan | | jawey | bam | jo: |
| Punan Bah | ta?i | mato | likuow | sʷiluəŋ | balavu? | sala? |
| Beketan | tai | mata | bulu lokow | baha? | matek | mela? |
| Punan Lisum | tai | matan | bulun likow | irap | matek | sa a? |
| Punan Aput | | matan | bulun likow | irap | laru | sala? |
| Ukit | tai | matə | bulun liko | irap | mətek | sala? |
| Buket | tai | mati | bulun iko | irap | matek | sala? |

| English | far | fast | fat | fat (n) | father | fathom | feeling | fell |
|-------------|--------|---------------|--------|---------|-----------|--------|-----------|--------|
| PPUN | *muju? | *mə-sariŋ | *mañak | *əñak | *ama? | *dəpə | | *nəbəŋ |
| Punan Tuvu' | lait | l-acet/ajen | pe?uŋ | ñak | me? | rəpa? | pərun | nəfoŋ |
| Punan Bah | məsu? | masariəŋ (do) | lobu? | eña? | oman | dopo | rasa/iŋat | tovoəŋ |
| Beketan | moju? | sariŋ | peuŋ | añak | ama | lopo | iŋat | taboŋ |
| Punan Lisum | maju? | məsariŋ | mañak | añak | ama?/amən | lopo | | navəŋ |
| Punan Aput | moju? | sariŋ | mañak | ñak | ma? | lopo | loŋan | motet |
| Ukit | muju? | ligaŋ | mañak | añak | ama? | rapə | saŋa | navəŋ |
| Buket | muju? | kahan | mumok | mañak | ama? | dapi | aliŋ | navəŋ |

| English | fern | fever | few | field hut | fight | fill | fin | find |
|-------------|-------|---------|-----------|------------|-----------|----------|---------|-------------|
| PPUN | *paku | *miram | *mari? | *ləpaw | *pəkəkəbə | *pəsuaŋ | *anap | *saba? |
| Punan Tuvu' | hujaw | miram | icit/ilam | ləfu? | pəcinduk | | | |
| Punan Bah | paku | meko | mamari? | lopuow | pakuyu | mañanjan | | opeaŋ/oñoaŋ |
| Beketan | paku | ga: | mari? | pura | pəkavo | puaŋ | anap | saba? |
| Punan Lisum | paku | miram | mari? | lapo barak | pəkavə | pəsuaŋ | anap | saba? |
| Punan Aput | paku | miram | i am | lapow | pəkavo | puaŋ | | suron |
| Ukit | paku | miram | ñanarə? | lapo | pəkəkavə | pəsuaŋ | bəvelap | saba? |
| Buket | paku | pərerən | isi? | lapoy/lapo | pətənañay | pəsuaŋ | belap | saba? |

| English | finger | finger nail | finish | fire | firefly | fireplace | firewood |
|-------------|-------------|-------------|--------|-------|-----------|-----------|------------|
| PPUN | *bua? laŋən | *silu-n | *balum | *apuy | | *abu | *kayu apuy |
| Punan Tuvu' | caŋaw | ilun | | apuy | cobon | ataŋ | kayuh puy |
| Punan Bah | kusu? | ilu | təmu | opuy | | avu | kayu itin |
| Beketan | bua? tuju? | i u | ba um | apuy | manut | avu | kaju apuy |
| Punan Lisum | bua? laŋən | silun | ba um | apuy | seŋon | avu | kiow apuy |
| Punan Aput | bua? lapa | si un | balum | puy | ləpəpet | avu | kayu puy |
| Ukit | bua? laŋə | silu | balum | apuy | kəñipət | avu | kiow apuy |
| Buket | bua? gamit | silu | balum | apuy | silun ubo | avu | kio apuy |

| English | first | fish | five | fix | flat | flesh | float | flood |
|-------------|-------|--------|-------|----------------|------------|--------|---------|--------|
| PPUN | | *ajən | *limə | *pena? | *data/lata | *asi-n | | *iba? |
| Punan Tuvu' | | bacow | limoh | | | ain | | pambat |
| Punan Bah | sumuy | basuow | limo | minaw/pasegoat | lata? | eyn | lakatup | malop |
| Beketan | tiriŋ | bajow | limo | pena? | lata | ahi | ŋəlubat | iva? |
| Punan Lisum | tiriŋ | ajən | limə | pena? | lata | asin | ŋərubat | iva? |
| Punan Aput | tiriŋ | jən | limo? | pena? | lata/lata | hin | nəlutuy | sivu |
| Ukit | tui? | ajən | limə | pena? | rata (L) | asin | pəlutaŋ | iva? |
| Buket | | ajən | limi | pəkijan | data | asin | | iva? |

| English | floor | flower | fly | fly (insect) | flying lemur | fontanelle | food |
|-------------|---------|--------|---------|--------------|--------------|------------|----------------|
| PPUN | *t-asu? | | | *laŋaw | *kubuŋ | | *akun/*pəŋuman |
| Punan Tuvu' | | lafun | ñərəbiŋ | laŋow | kufuŋ | | kun |
| Punan Bah | asu? | bunja | ñalereŋ | laŋuow | kuvuŋ | bəbuom | (ua?) kun |
| Beketan | tahu? | barayk | nu ip | laŋow | kuvuŋ | buok | aku |
| Punan Lisum | tahu? | bara | səmarəŋ | laŋo | kuvuŋ | buok | |
| Punan Aput | tahu? | barak | nulip | luŋow | kuvuŋ | buok | aŋkun |
| Ukit | tasu? | barak | səmarəŋ | laŋo | ku?ap | buək | ro? aku |
| Buket | tasu? | | səmarəŋ | ñamok | kuvuŋ | buik | pəŋuman/akun |

| English | forehead | forget | four | friend | frighten | frog |
|-------------|----------|-----------------------------|-------|-------------------|----------|-------|
| PPUN | *likaw | | *əpat | | *səbuʔut | |
| Punan Tuvu' | | kəlawin | pat | añen | ñəfuʔut | bəciʔ |
| Punan Bah | tukuəŋ | ŋalipat/kalipat (forgotten) | pat | bake | ñabuʔut | saʔay |
| Beketan | likow | di mikun | apat | sakay (L) | pəsaut | jaʔuy |
| Punan Lisum | likow | kəliun | apat | sakay (L) | pəsəbut | bunaŋ |
| Punan Aput | likow | təluow | pat | bake (m)/ayu (fm) | pəsavut | saʔay |
| Ukit | tukoŋ | kəlaliun | apat | sakay (L) | pəsəbut | bujaʔ |
| Buket | liko | lupa (L) | apat | sakay (L) | pəsəbut | bujaʔ |

| English | from | fruit | fruit bat | fruit bud | fry | full | full, food | gall | ghost |
|-------------|-------|-------|-----------|-----------|--------|--------|------------|--------|-------|
| PPUN | | *buaʔ | *əmuəʔ | | *ñagoʔ | *pənuʔ | *bəsu | *pərun | *otu |
| Punan Tuvu' | tareh | buaʔ | moaʔ | lorəŋ | | pənuʔ | bou/bau | pərun | otuh |
| Punan Bah | | buaʔ | bəŋawat | bereəʔ | mañage | penuʔ | bou | laporu | otu |
| Beketan | tama | buaʔ | amoʔ | buvuŋ | ñagoʔ | lupət | baŋaʔ | parun | otu |
| Punan Lisum | tət | buaʔ | moaʔ | durun | ñagoʔ | panuʔ | baŋŋaʔ | parun | otem/ |
| Punan Aput | juŋat | buaʔ | moaʔ | ɔluŋ | ñagoʔ | panuʔ | bahu | parun | otu |
| Ukit | tat | buaʔ | amuaʔ | balaʔ | ñagoʔ | panuʔ | baŋaʔ | parun | ubo |
| Buket | | buaʔ | amuaʔ | | goreŋ | panuʔ | baŋaʔ | parun | ubo |

| English | gibbon | gills | ginger | give | give birth | go | goiter |
|-------------|----------|--------------------|------------|-----------|------------|---------|-----------|
| PPUN | *kəlabət | | *liaʔ | *m-akan | *məŋanak | *de | *aŋuʔ |
| Punan Tuvu' | kəlafət | acaŋ | liaʔ | | məŋanak | kəreh | |
| Punan Bah | kalavət | siŋap | | mekan | kəbiaw | de | uŋuʔ |
| Beketan | kəravət | abuʔ/taŋap (inner) | liaʔ | akan | məñanak | aney | aŋuʔ |
| Punan Lisum | kəlavət | abuʔ | liaʔ sanit | akan/akan | mənanak | de | matu aŋoʔ |
| Punan Aput | kuyu | kare | liaʔ | kan | məŋanak | de | mətuy duʔ |
| Ukit | kəlavut | jopiʔ | liaʔ | kan | ŋaŋut | bui/pai | aŋuʔ |
| Buket | kəlavət | ñariŋ | diʔo | kan | | buy | |

| English | good | granary | grandchild | grandfather | grandmother | grass | grasshopper |
|-------------|-------|-------------|------------|-------------|-------------|--------|-------------|
| PPUN | *jian | ləpaw | *-sun | *akeʔ | *akeʔ | *uru | *kap |
| Punan Tuvu' | jan | bəlikuŋ/dan | adu jaun | aduʔ | aduʔ | uruʔ | pou |
| Punan Bah | jiaʔ | livun | ewu | akeʔ | akeʔ | uru | takare |
| Beketan | jan | tivoŋ | | akeʔ | akeʔ | tavow | təkajaŋ |
| Punan Lisum | jan | lapo | ñahun | akeʔ | akeʔ | tavow | təkajaŋ |
| Punan Aput | jian | luvuŋ parey | ñahun | keʔ | keʔ | tavow | pau |
| Ukit | jan | ləpo | | akeʔ | uku | bəlada | kap |
| Buket | jan | loit/ivukŋ | usun/usuəŋ | akeʔ | akeʔ | uru | kap |

| English | grave | green | hair whorl | half | hammer | hand | handspan |
|-------------|---------|-------|------------|----------------|---------|-------|---------------|
| PPUN | *tanəm | | *puru-n | *pəluhaŋ | | | *taʔaŋ |
| Punan Tuvu' | tanom | ñəmu | juman | bəluaʔ/baley | bañin | kucuʔ | məlowah |
| Punan Bah | | gaduŋ | səlaviuŋ | satəŋa (L) | tukun | opiʔ | teʔeŋ/pateʔeŋ |
| Beketan | luŋun | ijaw | təpuru | teŋono | tukun | tujuʔ | taŋ |
| Punan Lisum | tamen | hijaw | təpuru | pəluhaŋ | tukul | laŋən | taŋ |
| Punan Aput | tanom | hijaw | lepurun | bəluaʔ/pəluhaŋ | tukun | lapa | taŋ |
| Ukit | tamin | gadun | titik | pəluhaŋ | kələsua | laŋə | taŋ |
| Buket | kuburan | ataʔ | tələpurun | pəluhaŋ | oŋan | gamit | loa |

| English | hang | harvest | hat | have (own) | have (exist) | he/she/it | head | head hair |
|-------------|-----------|----------|-------|------------|--------------|-----------|-------|------------|
| PPUN | *təbirəŋ | *ŋərunaw | | *pun | *ana | *hen | *utək | *ibuk |
| Punan Tuvu' | | | labuŋ | | nah | hen; rin | utok | ifuk |
| Punan Bah | tabiroŋ | getom | | ñaʔan | | en | utuəʔ | ivuəʔ |
| Beketan | nəbiron | ŋərunow | taŋop | laket | ane | hen | utok | bullu utok |
| Punan Lisum | nəbiron | ŋərunow | taŋop | pun | | en | utok | ivuk |
| Punan Aput | nəbujut | ŋəlunow | taŋop | nuan | | en | | ivuk |
| Ukit | ŋələviroŋ | ŋəluno | | pun | | en | utok | ivuk |
| Buket | nəvirəŋ | alaʔ | tafuʔ | pun | | en | utok | ivuk |

| English | headhunting | heart | heavy | heel | helmeted hornbill | help |
|-------------|-------------------|----------|--------|--------|-------------------|------------|
| PPUN | *(mə)ŋaŋaw/*kayaw | *pusuʔ | *məbat | | *təjaku | *(mə)nuluŋ |
| Punan Tuvu' | ŋaŋow | ləpuʔan | məfat | tumbin | pəcakuh | |
| Punan Bah | (mə)ŋaŋuow/kayuow | pusuʔ | movat | puŋi | tajaku | manuluŋ |
| Beketan | maŋow | puo | mavat | jakuʔ | sukurom | saup |
| Punan Lisum | səberək | puo | mavat | jakuʔ | | saup |
| Punan Aput | məŋaŋow | bəsuan | mavat | jakuʔ | | sekap |
| Ukit | mulək utok/mupun | | mavat | koŋ | təjaku | nuluŋ |
| Buket | ñəvule | buaʔ daʔ | mavat | koŋ | təjaku | tuluŋ |

| English | here | heron | hide | his/hers | hoarse | hold | hole |
|-------------|----------------|-------|---------|----------------|---------|--------|--------|
| PPUN | niʔ | *suk | *kulim | | *səmare | *məgəm | *lubaŋ |
| Punan Tuvu' | an nih | kujuʔ | ñəkulim | ayuʔ rin | uret | mədon | lufaŋ |
| Punan Bah | eni | suŋʔ | pasiuŋʔ | | ŋapaeʔ | məgom | |
| Beketan | detu | suk | ñinup | ehen | səmare | menom | luvaŋ |
| Punan Lisum | nə hiniʔ | suk | ŋulim | | səmare | nəgəm | luvaŋ |
| Punan Aput | soʔ oni/soʔ ñi | suk | mulim | ñuʔ en/youʔ en | pahiʔ | magom | luluŋ |
| Ukit | hiniʔ | kucu | ŋulim | inəŋ en | səmare | ñalaʔ | |
| Buket | eni | kucu | ŋulim | inəŋ en | səmare | ñalaʔ | luvaŋ |

| English | hook | horn | hot | house | house post | how | how many |
|-------------|---------------|-------|--------|--------|------------|-----------|----------|
| PPUN | | *uhəŋ | | *ləvu? | *dii | | *pirə |
| Punan Tuvu' | cəkuit (fish) | wəŋ | mələw? | ləfu? | ji: | jaʔay | piroh |
| Punan Bah | poi | uaŋ | bəlow? | lovu? | dii | nu me na? | piro |
| Beketan | mata pahi | uoŋ | lahu? | lapow | patun | kupa ko | satpa |
| Punan Lisum | posoy | wəŋ | kati? | lapow | jihe? (L) | kanu kə | pirə |
| Punan Aput | matan posoy | uhəŋ | lahu? | lapow | jihe? (L) | kenuko | gahanu |
| Ukit | pasi | wəŋ | kañay | lavu? | jai | yaʔ manə | pirə |
| Buket | kait/ŋait | uəŋ | kañay | lapo | kəhəkən | biaʔ ama | pirə |

| English | hundred | hungry | hunt w/dog | husk | I | if | in front |
|-------------|-----------|--------|---------------------|-----------|-----------|-------------|-------------|
| PPUN | *jiʔ atu | | *(mə)ŋasu | | *jək/*hək | | *irap |
| Punan Tuvu' | jiʔ ratus | mocop | | pin parey | hök; ku | baraŋ/barəŋ | an timan |
| Punan Bah | jiʔ atu | pali | məŋau | bereəŋ | oaʔ | maʔ din | baʔ timo |
| Beketan | juatu | mojop | ŋahu | kata? | hök | kalow/ñan | toʔ baha? |
| Punan Lisum | aiʔ atu | mojop | ŋanu ^m p | baraŋ | jək | ajə | soʔ irap |
| Punan Aput | jiʔ atu | mojop | naga? | uñet | ok | bey | nə irap |
| Ukit | aiʔ atu | biti | ŋanup | ugo? | jək | ajə | hai rap |
| Buket | aiʔ atu | biti | ŋanup | baraŋ | jik | aji | na hai irap |

| English | insect bat | inside | intestinal worms | intestines | ironwood | island |
|-------------|-------------|-------------|------------------|------------|----------|---------|
| PPUN | *kəlit | *luaŋ | *kaə | *bətukən | *taa | |
| Punan Tuvu' | pəran/pəroʔ | an luaŋ | jələh | | kaciʔ | |
| Punan Bah | kakelit | lalom | kowo | bana taʔi | taa | pulaw |
| Beketan | paran | toʔ waŋ | tigo | lavapait | pu: ta: | payuʔ |
| Punan Lisum | paran | siʔ lalom | kao | lawa tain | ta/ta | payuʔ |
| Punan Aput | paran | nə suaŋ | kao | pait | pun taa | pəbuhəŋ |
| Ukit | kolet | hai suaŋ | jalo | lava tai | ta: | bukuŋ |
| Buket | kolet | na hai luaŋ | lokoŋ | bətukən | taa | liuʔ |

| English | itchy | jealous | jump | kick | kill | kingfisher | kiss |
|-------------|-----------|---------|----------|-----------|-----------|------------|--------|
| PPUN | | | *əjuk | | *(mə)ŋəvə | | *mərək |
| Punan Tuvu' | gəren | | nəkəjuk | məñipeʔ | | təkuan ha | mərok |
| Punan Bah | bəgəren | mañono | takujeəŋ | məñipeəʔ | maŋovo | mati | meduəʔ |
| Beketan | mayow | məñono | majuk | ñagan | ŋavo/kabo | tiŋəŋ ogoŋ | ŋarok |
| Punan Aput | kai/majow | nivow | majuk | ñagan | ŋavə | tiŋəŋ asaʔ | marək |
| Punan Lisum | gəren | nəboho | nəpaki | mapom | ŋavo | tiŋəŋ asaʔ | marok |
| Ukit | pəkamət | livow | masəŋ | | ŋavə | bəvano | cuʔ |
| Buket | pəkamət | pətivow | mañok | sepak (L) | munuʔ | mati | duʔ |

| English | knee | land | landslide | last | laugh | lazy |
|-------------|-------------|--------|------------------|-----------|--------|--------------|
| PPUN | *ləp/*bukup | *tanə? | | | *moħaŋ | |
| Punan Tuvu' | luow | tano? | tano? təñu | ka?en rin | məŋ | məŋuh |
| Punan Bah | luow | tano? | mətoño? | muri | moaŋ | ñalupo |
| Beketan | bukup | tano? | tano? mukuvu | kətumaŋ | mōhōŋ | jowat |
| Punan Lisum | bukup | tano? | tano? pənuran | kətumaŋ | mōhōŋ | jowat |
| Punan Aput | lop | tano? | tano? kove | kəjaut | mohəŋ | balo |
| Ukit | bukup | tana? | kəru kan | kətərən | pusan | ŋəluħap |
| Buket | bukup | tana? | tana? tove/tuhan | kənəvalum | pusan | məlo?o/malas |

| English | leaf | leak | learn | leave | leech | left | leg | lend |
|-------------|--------|-------|-----------|----------|---------------|--------|---------|--------|
| PPUN | *da?un | | | *pusit | *tilaŋ/*matə? | *bulay | *bəti-n | *milay |
| Punan Tuvu' | da?un | | | muit | ilom | buley | ukut | ŋua |
| Punan Bah | də?un | muit | pəkale | de/juŋat | tileəŋ | buley | beti | lomey |
| Beketan | laun | turu? | pəkaley | muhit | | puley | bati | miley |
| Punan Lisum | laun | matu | pəkale | pusit | jalow jikit | bule | batin | mile |
| Punan Aput | laun | turu? | pəkaley | musit | səmato? | buley | bətin | milyey |
| Ukit | daun | ñarak | pətəvara? | pusit | sələmato? | bule | bati | mile |
| Buket | daun | katu | təvara? | pusit | tilaŋ | bule | bati | |

| English | leopard | lid | lie down | lie prone | lift, carry | light weight |
|-------------|---------|------------|----------|---------------|-------------|--------------|
| PPUN | *kuli | *akəp | *miri? | *kamaŋ/*ŋamaŋ | | *ligaŋ |
| Punan Tuvu' | kuli | alen/pekop | miri? | | ju: | məki?aŋ |
| Punan Bah | kuli | | idi? | taŋu?up | iget | makiyaŋ |
| Beketan | ku j | ñiput | meri? | ŋamaŋ | pəkakat | me aŋ |
| Punan Lisum | ku j | akəp | miri? | kamaŋ/ŋamaŋ | pəbuat/itət | ligaŋ |
| Punan Aput | ku j | pakop | meri? | ŋamaŋ | muat/gam | ligaŋ |
| Ukit | kuli | | miri? | təkamaŋ | ŋitaŋ | ligaŋ |
| Buket | kuli | nakəp | | | kitan/iten | ligaŋ |

| English | light/bright | lightening | like | lime | lips | listen | liver | log |
|-------------|--------------|------------|-------|--------|-------|----------------|-------|--------|
| PPUN | | | | | | *kəliŋo/ŋəriŋo | *atay | |
| Punan Tuvu' | fəŋa/bərawah | | təkop | apuh | ibih | kəluŋ | tey | |
| Punan Bah | bəŋa | kəkəlat | miap | bəñowp | musu? | ŋaləŋo | etey | keriəŋ |
| Beketan | liŋo? | jərapen | lu? | keppu | mumuy | kəriŋo | attoy | |
| Punan Lisum | ləŋoa? | jərapen | lu:? | kepu | mumuy | kəriŋo | atəy | pun |
| Punan Aput | ləŋōā? | gəlapen | ŋāā? | kepu | mujun | kəlaŋo | tey | pun |
| Ukit | molaŋ | ilat alo | biəŋ | kapu? | buju | kəliŋo | atəy | batəŋ |
| Buket | molaŋ/silu? | ilat alo | biəŋ | | bəvəy | kəliŋo | atəy | pun |

| English | loincloth | long | long-tailed macaque | long time ago | longhouse | loose |
|-------------|-----------|-------|---------------------|---------------|------------|--------|
| PPUN | *ibay | *aru | *kuyat/*kiat | *hamoy | | *səlua |
| Punan Tuvu' | ifey | aru | | atih/uron | | |
| Punan Bah | ivey | ovuow | kuyat | (maŋo) male | | salua |
| Beketan | ivey/bay | ijey | | udi | baɭay | sərua |
| Punan Lisum | ive | loeŋ | | hamoy | | səlua |
| Punan Aput | ivey | ovow | kuyat | | lapow adet | səlua |
| Ukit | ive | loiŋ | kiat | amoy ma | lavu? loiŋ | luhow |
| Buket | piso | loeŋ | kiat | amo ima | | ŋəloko |

| English | loud | louse | make | man | many | marry | mat | measure | meet |
|-------------|-----------|-------|------|--------|-------|-------------|--------|---------|-----------|
| PPUN | | *kutu | *me? | alay | *arə? | *pəsawə | *jali? | | |
| Punan Tuvu' | məŋguh | gutuh | | ley | fi? | aho/təluluŋ | bərat | | pəlök |
| Punan Bah | mao | gutu | | eliy | oa | pa? awo | u:? | padopo | pa?loə? |
| Beketan | məŋgit | kutun | me? | aley | uŋat | poro | jali? | pako | pəsaba? |
| Punan Lisum | məŋit | kutu | me? | dələle | arə? | peso | jaɭi? | ŋako | pəsaba? |
| Punan Aput | kare | kutu | me? | ley | aro? | pəluluŋ | uhu? | nipoŋ | pəsuroŋ |
| Ukit | mə-sovan | kutu | me? | lole | arə? | pəso | jali? | ŋukat | pətusuŋ |
| Buket | nae sovan | kutu | me? | lole | arə? | pəso | jali? | | pəkətusuŋ |

| English | millipede | mine | mix | molars | monitor | moon | morning |
|-------------|-------------|--------------|---------|--------|----------------|--------|---------|
| PPUN | *kələ-sariŋ | *i-jək/*ihək | | *baŋam | *kabuk | *bulan | |
| Punan Tuvu' | səleriŋ | aye? | | ŋa?am | paraŋ/aluh | bulan | a?up |
| Punan Bah | saseriŋ | | məñapun | ga?am | pareŋ (L Kay) | bulan | məŋovun |
| Beketan | opuŋ takarŋ | eyak | pətulow | baŋam | belarŋ | juŋat | so? |
| Punan Lisum | opuŋ takarŋ | ijək | pətu ow | baŋam | belarŋ/bəŋarat | bu an | so?so? |
| Punan Aput | ləsariŋ | ñu? yak | pəsaloŋ | baŋam | katit | ləŋane | ñau? |
| Ukit | kələsariŋ | i-jək | pəsanəp | | kavuk | bulan | ñau? |
| Buket | kələsariŋ | ijik | pəkalet | baŋam | kavuk/məŋarət | bulan | ñau? |

| English | mortar (large) | mosquito | moss | mother | mountain | mouse deer | mouth |
|-------------|----------------|----------|--------|--------|----------|------------|--------|
| PPUN | *ləsuŋ | *ñamuk | *lumut | *ina? | | *pəlanuk | *baba? |
| Punan Tuvu' | luŋ | tərükuk | | ine? | tukuk | pəlanuk | fa? |
| Punan Bah | lowəŋ | iuaŋ | lumut | inan | tuguəŋ | pəlanuə? | bova? |
| Beketan | lahuŋ | agaw | lumut | ina? | tuŋ | pəranuk | bava? |
| Punan Lisum | lahuŋ | agaw | lumut | inna? | uñuk | pəlanuk | bava? |
| Punan Aput | suŋ | ñamuk | lumut | ina? | tup | pəlanuk | bava? |
| Ukit | lasuŋ | haŋow | lumut | ina? | tohen | pəlanuk | bava? |
| Buket | lasuŋ | bələtumu | lumut | ina? | unyuk | pəlanuk | bava? |

| English | mud | mushroom | mute | myna | naked | name | navel | near |
|-------------|---------|-------------|-------|---------|------------|---------|--------|-------|
| PPUN | | *kulat | | *(k)iuŋ | *limu/lumu | *ŋara-n | *puset | |
| Punan Tuvu' | kudek | kulat/barok | mabap | kiow | umuh | ŋəran | puet | dəkin |
| Punan Bah | tupuəʔ | kulat | uben | iuəŋ | lumu | ŋaro | puet | dekin |
| Beketan | pekpek | kulat | amaŋ | kiuŋ | limu | ŋara | puhet | siru |
| Punan Lisum | səkutiʔ | kuʎat | amaŋ | kiuŋ | limu | | puset | higet |
| Punan Aput | səkutiʔ | kulat | amaŋ | kiuŋ | limu | ŋaran | puset | iget |
| Ukit | bələtaʔ | kulat | | ioŋ | limu | aran | | higət |
| Buket | kotek | kulat | pawan | ioŋ | limu | aran | puset | higət |

| English | neck | nest | new | next to | niece; nephew | night | nine |
|-------------|--------|----------|------|-------------|---------------|--------|---------|
| PPUN | | *sala | *uba | | *akən | *maləm | *julən |
| Punan Tuvu' | luʔ | la | ufah | an lirin | nakən | malom | julən |
| Punan Bah | təroəʔ | ela | uva | (pəka)dekin | | malom | julən |
| Beketan | luhuʔ | aʎa/alla | uva | toʔ liŋit | nakən | malom | kənulan |
| Punan Lisum | duʔ | sala | uva | nə bəvəy | nakən | maʎəm | kənulan |
| Punan Aput | duʔ | sala | | soʔ bavey | nakən | malom | julən |
| Ukit | kok | sala | uva | pəhigət | akən | maləm | ulan |
| Buket | saŋa | sala | uva | hai avəŋ | akək | malim | kənulan |

| English | noon | nose | now | old (person) | old (thing) | on top | one |
|-------------|----------------|-------|-----------|--------------|-------------|-------------|----------|
| PPUN | | *uruŋ | | *tokan | | | *jiʔ/*jə |
| Punan Tuvu' | bəluaʔ low | uruŋ | benih | tokan | laliʔ | aun | jiʔ |
| Punan Bah | bəluwaʔ eluow | uruəŋ | ataʔ kena | tokan | moŋo | ta pupuəŋ | jiʔ |
| Beketan | aʎow ŋəpuru | uruŋ | mana | tokeʔ | moŋo | toʔ avow | jaʔ |
| Punan Lisum | alo ŋəpuru | uruŋ | bina | tokeʔ | moŋo | nə pupuŋ | itup |
| Punan Aput | bəluaʔ low | uruŋ | bey ŋa | tokeʔ | puko | soʔ pupuŋ | jiʔ |
| Ukit | pəmarun ho alo | uruŋ | ona | tokan | lamo | hai lələŋ | jə |
| Buket | luhaŋ alo | uruŋ | ona | tokan | amoy | nahai lələŋ | ji |

| English | onion | open | or | orangutan | otter | outside | overflow |
|-------------|---------|---------------|-----------|-----------|--------|----------|----------|
| PPUN | | *bukaʔ | | | *dəŋən | | |
| Punan Tuvu' | bawaŋ | | | | dəŋən | an owa | |
| Punan Bah | | mukaʔ/nəbaŋap | | | dəŋən | ləpaa | lumip |
| Beketan | səkunoʔ | mukaʔ/ŋukaʔ | kupa | koju | iʎik | | lupet |
| Punan Lisum | bawaŋ | mukəʔ | ataw | koju | iʎik | | panuʔ |
| Punan Aput | səkunoʔ | mũiʔ | ataw/nuko | | laŋən | soʔ luka | moək |
| Ukit | bawaŋ | ŋoke | bak | mekaʔ | dəŋən | | ləmueʔ |
| Buket | bawaŋ | bukaʔi/ŋukaʔ | aji/atəw | mekaʔ | dəŋən | | ŋuti |

| English | owl | paddle | painful | palate | palm | pangolin | parang |
|-------------|------------|-----------|---------|-------------|-------|----------|--------|
| PPUN | | *polo | *parə | | | *ayam | *malat |
| Punan Tuvu' | tuok | kəbay | | təŋap | palan | am | ugen |
| Punan Bah | jane otu | besay | pero | təŋap | tobap | am | ileəŋ |
| Beketan | maŋap | polo | ŋəparo | taŋap | ata | buku | malat |
| Punan Lisum | puret otem | mo o | nəparə | taŋap | ata | ayam | malat |
| Punan Aput | savut | polo/molo | ŋəparo | taŋap | ata | buku | burup |
| Ukit | ukuŋ ate? | polo | parə | tanoŋ | taŋa | ayam | malat |
| Buket | uək | bosi | miram | tanoŋ bava? | taŋa | eam | malət |

| English | par. handle | parent in law | parrot | peak/top | peel fruit | person | pestle (large) |
|-------------|-------------|---------------|----------|--------------|------------|--------|----------------|
| PPUN | *saup | *boson/*iban | *kikiŋ | | *nopa? | *linaw | *su?an |
| Punan Tuvu' | pəna?un | | sərindit | | | a? | alu? |
| Punan Bah | utuə? ileəŋ | ivan | kikiəŋ | | ŋaleleə? | linuow | luow |
| Beketan | saup malat | boson | kikiŋ | toiŋ tuŋ | nopa? | linow | su?an |
| Punan Lisum | | boson/bosok | | lujuŋ (tree) | nopa? | linow | su?an |
| Punan Aput | saup burup | bosok | kikiŋ | uñuk | məŋanit | linow | su?an |
| Ukit | saup | boson | | pupun | ŋojat | lino | su?an |
| Buket | saup | | | amap | | dino | su?an |

| English | pig tailed mac. | pigeon | pigmy squirrel | pile | pinch | pineapple | pinky |
|-------------|-----------------|---------|-------------------------|---------|---------|-----------|-----------|
| PPUN | *bərək | | | *tukuŋ | *ñubit | | *ikiŋ |
| Punan Tuvu' | bərək | | uki? bəliŋ | | məñufit | | ikiŋ |
| Punan Bah | beruə? | tabuan | uki?/sukuow | tukuəŋ | mañuvit | uru usan | ikiəŋ |
| Beketan | baruk | punay | təlikup | | ñuvit | uro? san | ikiŋ |
| Punan Lisum | baruk | punay | təliku ^(m) p | pətukuŋ | ñuwit | uro? san | kəlisin |
| Punan Aput | baruk | pənukon | puu | tukuŋ | ñuvit | uro? san | kəpin |
| Ukit | baruk | | təlikən | təpuñuŋ | ñupi | isan | kələkiciŋ |
| Buket | baruk/barok | kokom | təlikən | təpkuŋ | ñupi | isan | |

| English | pit viper | place, noun | plant | plain | pluck | point | porcupine |
|-------------|----------------|-------------|--------|-------|-------|------------|-----------|
| PPUN | | *nuan | *tubu | *data | | *(mə)nuju? | *tutuŋ |
| Punan Tuvu' | baluh | lun | nufuh | lau? | | | totuŋ |
| Punan Bah | esay eta? | nuan | manuvu | data | movut | manusu? | tə?tuəŋ |
| Beketan | asay laun | lakket | ñimun | lata | mati? | nuju? | mulu |
| Punan Lisum | asay bua? | nuən | nuvu | lata | mati? | nuju? | totuŋ |
| Punan Aput | təvun laun | nuan | nuvu | lata | mati? | nuju? | totuŋ |
| Ukit | asai bua? | nian | ŋimun | lahu | mutuy | pətuju? | tutuŋ |
| Buket | asay unat ata? | nean | ñimun | data | ŋalok | pətuju? | tutuŋ |

| English | pour | pregnant | primary forest | print (foot) | pull | punch |
|-------------|------------|----------|----------------|--------------|---------|---------|
| PPUN | *ŋuti | *bətəiʔ | *tuʔan | *iba | | |
| Punan Tuvu' | məñɛnduk | bətəyʔ | lunaŋ | kələkəŋ | məjat | |
| Punan Bah | məju:/mowa | bətəyʔ | ipuəŋ | uvan | jesʔat | mabukut |
| Beketan | nitik | buteʔ | tuʔan | iva | nijat | jagun |
| Punan Lisum | ŋoŋa | buteʔ | ojut | iva | ŋijat | jagur |
| Punan Aput | pogi | bətəiʔ | tuʔan | iva | ŋəsarut | jagun |
| Ukit | ŋuti | buteʔ | tuʔan | iva | maruk | mukut |
| Buket | ŋuti | buteʔ | tuʔan | iva | marok | ŋucu |

| English | pus | push | put down | put together | python | quiet | raft |
|-------------|--------------|---------|----------|--------------|----------|----------|--------|
| PPUN | *lanaʔ/nanaʔ | | | *tukuŋ | *pəŋanən | | *hakit |
| Punan Tuvu' | lana | | | mənəkəŋ | pəŋanen | kucuŋ | akit |
| Punan Bah | nenaʔ | juʔeəŋ | | | pəŋanən | bəbəñuəʔ | akit |
| Beketan | lanaʔ | mu aŋ | mi ow | pətukuŋ | asay tot | kirom | akit |
| Punan Lisum | buruʔ | mikeŋ | pəliva | pətukuŋ | pəŋanən | banut | akit |
| Punan Aput | burut | pəjika | puvaʔ | pətukuŋ | pəŋanen | kirom | akit |
| Ukit | ranaʔ | ŋəluluy | pəliva | pətukuŋ | pəŋanən | hənuŋ | hakit |
| Buket | ŋiranaʔ | ŋəhuluy | inəʔ | pətukuŋ | pəŋanən | | hakit |

| English | rafter | rain | rainbow | rambutan | rapids | rat | rattan |
|-------------|-----------|-------|----------|----------------|----------|---------|--------|
| PPUN | *kasaw | *ujan | | *ləmatiʔ | *giham | *musiŋ | *uay |
| Punan Tuvu' | rəŋ | ucan | | ləmati | kəlikat | labaw | wey |
| Punan Bah | kaau | usan | jajiliəŋ | kamatiʔ | giam/gaa | balavaw | uey |
| Beketan | raŋka | lojot | jilew | kəromatiʔ | giham | bərəbut | wey |
| Punan Lisum | koho | lojət | jiləu | kərəmatiʔ | giham | musiŋ | uey |
| Punan Aput | kohow | ujan | jilew | bəlutiʔ | giham | musiŋ | wey |
| Ukit | koho | amut | ive ubo | ləmatiʔ | giam | musiŋ | we |
| Buket | kərəvunjo | amut | ive ubo | bəlitiʔ/ləŋaja | giam | musiŋ | ue |

| English | rattan backpack | rattan backpack | rattan backpack | raw | receive | red |
|-------------|-----------------|-----------------|-----------------|---------|---------|-------|
| PPUN | *kiaŋ | *iŋən | *ajat | *m-ataʔ | *alaʔ | |
| Punan Tuvu' | kaləŋ | iŋen | ajat | taʔ | | məŋan |
| Punan Bah | kiaəŋ | alat | uyut | etaʔ | nalimaʔ | məŋan |
| Beketan | kiaŋ | iŋen | pisow | ataʔ | a aʔ | araŋ |
| Punan Lisum | kiaŋ | iñen | | | a aʔ | beheŋ |
| Punan Aput | kiaŋ | iŋen | ajat | hom | laʔ | oraŋ |
| Ukit | kevo | teat | iut | m-ataʔ | tərimaʔ | beheŋ |
| Buket | kevo | teat | piso | ataʔ | alaʔ | beheŋ |

| English | red-leaf monkey | rest | return | rhinoceros | rhinoceros beetle |
|-------------|-----------------------|----------|------------|------------|-------------------|
| PPUN | *məpulan | | *uli? | *təməru | *-gagaŋ |
| Punan Tuvu' | aci? | nun | | | |
| Punan Bah | kəlalasey | lopet | uli? bali? | kalio | buəŋ uaŋ |
| Beketan | maput | paŋo? | pələset | təmaru | təgagaŋ |
| Punan Lisum | mapu ^(m) t | paŋo? | mu ət | təmaro | səgagaŋ |
| Punan Aput | kumon | la? wat | mulet | təmaru | təgagaŋ |
| Ukit | məpulan | ala? uat | pələkot | təmaru | sələgogon |
| Buket | məpulan | ala? uat | tivuy | təmaru | səgogon |

| English | rhinoceros hornbill | rice | rice grain | ridge | right | ripe |
|-------------|---------------------|--------|------------|------------|-------|--------------------|
| PPUN | | *paray | | | *ta?u | *asak |
| Punan Tuvu' | təkuan | parey | bah | | ta?uh | ak |
| Punan Bah | baleŋyaŋ | parey | baa | | ta?u | esey |
| Beketan | təjaku | parey | baha | təbili | tau | ahak |
| Punan Lisum | təjaku | parey | baha/baha | bənuran | tau | aha ⁿ k |
| Punan Aput | təjaku | parey | baha | larun oven | ta?u | hāk |
| Ukit | takwan | pare | baha | kəkavəŋ | tau | asak |
| Buket | takwan | pare | luaŋ pare | amap | tau | ñua asak |

| English | river | river bank | road | roast | roll | roof | room |
|-------------|------------------|-------------|--------------|----------|------------|--------|--------|
| PPUN | *suŋay | | *taduŋ | *nutuŋ | *lulun | *siŋaw | *tiluŋ |
| Punan Tuvu' | uŋey | apun/lirin | nuan | nutuŋ | | | tiluŋ |
| Punan Bah | uŋey | buəŋ bai | (bə)ta? nuan | makereəŋ | gamalineəŋ | lelap | tiluəŋ |
| Beketan | bi a? | liŋit bi a? | taduŋ | nutuŋ | ñələlun | iŋow | ti uŋ |
| Punan Lisum | suŋe | bavəy | taduŋ | nutuŋ | ñələ u un | siŋow | ti uŋ |
| Punan Aput | uŋey | bavey | keap | nutuŋ | lulun | iŋow | paruŋ |
| Ukit | suŋe/ranum (lrg) | | taduŋ | nutuŋ | manun | siŋo | kajan |
| Buket | suŋe | kovaŋ suŋe | anan | | guluŋi (L) | kopaŋ | uñon |

| English | roots | rope | rotten | rub | run | sad | sago flour |
|-------------|-------|----------------|--------|--------|----------|-----------|------------|
| PPUN | | *tali | *maram | | *təkajuŋ | | *alo? |
| Punan Tuvu' | pakat | talih | məram | | tərkan | mai? | lo? |
| Punan Bah | amut | ta?luow/kakulu | meram | makusa | takajuəŋ | takei? | elo? |
| Beketan | | tale? (L) | maram | ŋələtu | tərakan | mahi arop | o? |
| Punan Lisum | lalit | tale? (L) | maram | ŋələne | nəkajuŋ | sədih (L) | alo? |
| Punan Aput | oka | tali | maram | ŋələne | nəkajuŋ | bagoŋ | lo? |
| Ukit | lalit | tulu | lovup | ŋərutu | nəkajon | tusa saŋa | alo? |
| Buket | | tali | maram | ŋusu? | muvo | mikun | |

| English | saliva | salty | same | sand | sand fly | sap | sape | say |
|-------------|--------|-----------|---------|-------|------------|--------|-------|---------|
| PPUN | iliŋ | *masin | | *bara | *ñamuk | *pulut | | |
| Punan Tuvu' | iliŋ | paʔit yoh | piah | nait | ñamuk | pulut | | |
| Punan Bah | iliŋ | masin | samaʔ | art | ñamuəʔ | pulut | sapeʔ | maraʔ |
| Beketan | ulŋ | paʔiʔ | jupokuʔ | bara | ñamuk | pu ut | sapeʔ | kətunan |
| Punan Lisum | onoŋ | | pəkuoʔ | bara | ñamuk | pu ut | sapeʔ | lai |
| Punan Aput | onoŋ | kaham | pəkuoʔ | bara | | pulut | sapeʔ | pi ow |
| Ukit | leyəp | masen | ama (L) | bara | ñamuk | | sapeʔ | |
| Buket | leəp | paʔiʔ | | bara | ñamok bara | | sapeʔ | pətavat |

| English | scabbard | scale | scar | scorpion | scratch | secondary forest | see |
|-------------|-------------|-------|--------|---------------|----------|------------------|-------|
| PPUN | | *anap | *aba-n | | *gayaw | | |
| Punan Tuvu' | ofuŋ ugen | kuʔap | fa:n | katip beʔew | | balah | gəno |
| Punan Bah | tipeəʔ | enap | sulaʔ | tabeʔew | gamayuow | pəŋərəŋ | mare |
| Beketan | sope malat | | avo | tapow | məŋayow | kara | lamot |
| Punan Lisum | sope malat | | toan | anoʔ | ŋaməʔt | kara | ipəʔ |
| Punan Aput | sopey burup | nap | ovan | səkatip beʔew | gayow | kara | maran |
| Ukit | suvuŋ | anap | ilaŋ | səkatip beʔaw | ŋamət | səpitan | ipəʔ |
| Buket | | anap | | səkatip beʔoŋ | ŋamət | ivut | ipəʔ |

| English | seed | sell | send | seven | sew | shade | shadow |
|-------------|-------|---------|---------|---------------|-------------|---------|------------|
| PPUN | | *pəbəli | *katu | *kilit/*tujuʔ | *ñapit | *siŋaw | *bəŋaw |
| Punan Tuvu' | bəni | | | tucuʔ | ñulat | ñiŋow | adaʔ/balop |
| Punan Bah | baa | | pakatu | tusuʔ | jamaʔit | lopuow | babaŋuow |
| Beketan | beniʔ | pəboli | nijat | kidit | ñaut | ñəriŋow | səbəŋow |
| Punan Lisum | beniʔ | pəbo i | pəkatu | kidit | ñapit | ñəriŋow | sebəŋow |
| Punan Aput | beniʔ | pəboli | pəkatu | tujuʔ | ñikot | səliŋow | səbaŋow |
| Ukit | luaŋ | pəragan | katu | li:t | ñapit/ŋumaŋ | səliŋot | sələveŋon |
| Buket | jaŋe | pəvali | kiriman | kilit | ñapit | ñəliŋo | bayaŋan |

| English | shallow | sharp | sharpen | shield | shin | shoot blowpipe |
|-------------|---------|---------|--------------|----------|----------|----------------|
| PPUN | | *ñaʔit | *ŋ-asaʔ | *təlavaŋ | *urəŋ | *ñupit |
| Punan Tuvu' | kəlaʔ | ñaʔit | məŋaʔ | | | ñupit |
| Punan Bah | mageəŋ | mañeʔit | məŋaaʔ | taloveəŋ | buruəŋ | mupit |
| Beketan | lehek | ñait | ŋahaʔ | kameŋ | ahi bati | ñupit |
| Punan Lisum | lagiʔ | ñait | ŋahaʔ (whet) | təlavaŋ | hureŋ | ñupit |
| Punan Aput | lagiʔ | ñait | mahaʔ | təlavaŋ | ureŋ | mupit |
| Ukit | takaŋ | ñait | ŋasaʔ/pəñait | təlavaŋ | hureŋ | ŋəhaput/ñupit |
| Buket | takaŋ | ñait | pəñait | kəlavaŋ | hureŋ | ñupit |

| English | short (length) | short (height) | shoulder | shout | shrimp | shy |
|-------------|----------------|----------------|--------------|-------------|---------|----------------|
| PPUN | *ibu? | *iba? | *bəbaŋ | | *uraŋ | *kaba? |
| Punan Tuvu' | ifu? | ifu? | bəlikot (L?) | ŋətawey | uraŋ | məña? |
| Punan Bah | kivu? | ma?iva? | boveəŋ | manoveəŋ | ureəŋ | meña?/me'ña? |
| Beketan | ivu? | live? | bavaŋ | povaŋ | uraŋ | təkea?/səkava? |
| Punan Lisum | | hava? | bavaŋ | povaŋ | uraŋ | ŋava? |
| Punan Aput | ivu? | iva? | pajun | povaŋ/movaŋ | səluhot | səkava? |
| Ukit | ivu? | hava? | bavaŋ | maŋap | uraŋ | məkava? |
| Buket | ivu? | | bavaŋ | ŋovaŋ | uraŋ | ŋava? |

| English | sick | silver leaf monkey | sit | six | skin | skin (v) |
|-------------|-------------|--------------------|--------|-------|---------------|------------|
| PPUN | *pərə-n | *bui | *muruk | *ənəm | *anit | *(mə)ŋanit |
| Punan Tuvu' | pəroh/miram | oih/ecew | muruk | nom | nit | |
| Punan Bah | məram | bui | muruaŋ | nom | kəlatuaŋ/enit | ŋalataw |
| Beketan | ga | meka? | moruk | anom | kuļit | məŋanit |
| Punan Lisum | parə | boŋat | muruk | anəm | anit | məŋanit |
| Punan Aput | paro | meka | muruk | nom | nit | nopa |
| Ukit | pərərən | bui | muruk | anəm | anit | ŋonit |
| Buket | pərərən | bui | | anim | anit | ŋonit |

| English | skink | skinny | skirt | sky | slap | sleep | sleep talk |
|-------------|--------|--------|---------------|---------------|----------|---------|------------|
| PPUN | *beləŋ | *mahi | *katip | *laŋit/*babun | *peleŋ | *turuy | |
| Punan Tuvu' | beləŋ | acot | ipin | laŋit | | turuy | ŋəlaraw |
| Punan Bah | beleəŋ | mae | ipin səpileə? | laŋit | manapən | maturuy | ŋəlerap |
| Beketan | | mehe | katip | boun | nepeləŋ | turuy | nədarap |
| Punan Lisum | | məñuaŋ | katip | bovun | nepeləŋ | turuy | ŋədarap |
| Punan Aput | bele? | ñuaŋ | katip | laŋit | napi | turuy | ŋəlarap |
| Ukit | beləŋ | mahi | katip | avun | nateŋ | turuy | ŋərarow |
| Buket | | mahi: | katip havon | avun | təmpeləŋ | turuy | |

| English | slice | slip | slow | slow loris | small | smart |
|-------------|---------|-----------|--------------------------------|---------------|-------|--------|
| PPUN | | *təlesat | | | *isi? | |
| Punan Tuvu' | | | lambi | bəkiki | icit | p-aday |
| Punan Bah | mañesap | talaset | məgunut (doing)/pələda (going) | kəlavet talun | isut | pitiəŋ |
| Beketan | miñu | təhesat | miłok | bəkiki | isi? | pintar |
| Punan Lisum | ñirip | təlesat | milok | iket | isi? | tivo? |
| Punan Aput | ñirip | təlesat | məliŋun | bəkiki | isi? | tigop |
| Ukit | masip | kələlesat | haja? | ikət | isi? | pitat |
| Buket | mipi | təvələsat | lambat/a?an kahan | təkorek koŋ | | to: |

| English | smell, noun | smile | smoke (n) | smooth | snail | snake | snap |
|-------------|-------------|---------|-----------|------------|--------------|-------|-----------------|
| PPUN | *(ə)bun | | *tugun | | *usi? | *acay | *gəlu? |
| Punan Tuvu' | bun | | tugun | | hī | cai | məŋulu? |
| Punan Bah | ɔvun | kakəñom | | aluy | kəlaʔap/sʔi? | esay | gameluʔ/bageluʔ |
| Beketan | bo | mohoŋ | tuun | | usi? | asay | ŋa u? |
| Punan Lisum | avu? | mohoŋ | tugun | isiʔ-sisiʔ | usi? | asay | ŋa u? |
| Punan Aput | ovun | | tugun | bare | sali? | təvun | ŋalo? |
| Ukit | marək | gəgumiŋ | | bəlaʔo | usi? | sawe | ŋanok |
| Buket | abu? | ŋomeŋ | | lañop | usi? | sawe | ŋalok |

| English | sneeze | snore | snot | soft | some | song/sing | sour |
|-------------|---------|------------|--------|-------------------|--------|---------------|---------|
| PPUN | *tasim | *(mə)ŋərok | *luŋo? | *ləmət | | | *masəm |
| Punan Tuvu' | acih | | uken | | baley | məŋələdu? | mom |
| Punan Bah | məŋasim | maŋeroʔ? | | lomat | | muʔa/bəlagu? | mom/məm |
| Beketan | simen | ŋorok | luŋo? | lukow | sat pa | pəsəŋen | masom |
| Punan Lisum | tasim | ŋorok | luŋo? | lumə ^t | pirə | pəsəŋen/ñəŋen | masəm |
| Punan Aput | tasim | maŋarok | uson | lumok | gahanu | ñəŋen | mohom |
| Ukit | nasim | ŋorok | | lamət | | bəlagu | masəm |
| Buket | nasim | ŋorok | luŋo? | lamət | tətalu | musuy (chant) | masəm |

| English | speak | spicy | spider | spider hunter | spit | splash | split |
|-------------|-------------|-------------------|------------|---------------|--------|---------|--------------|
| PPUN | *pəkə-tabat | *sanit | *-lawa? | *tisit | *monoŋ | | *mata? |
| Punan Tuvu' | pəkəlah | anit | | ticit | ñiliŋ | bəci | bəri/məri |
| Punan Bah | paʔuba? | maga | bageʔ? | sit | jula? | nalusup | meta? |
| Beketan | tavat | sanit | ulalawa? | tisit | ñula? | təkaray | mataʔ/matta? |
| Punan Lisum | pətawat | sani ^t | ulalawa? | tisit | monoŋ | nitik | matta? |
| Punan Aput | pətavat | sanit | jaloʔ loa? | tisit | monoŋ | nabay | misi? |
| Ukit | pubaʔ/tavat | sanit | sələpoa? | tisit | | ŋəsai | mata? |
| Buket | pəkətavət | sanit | sələpoa? | tisit | monoŋ | ŋəsai | mata? |

| English | spotted | spouse | squeeze | squirrel | stab | stairs/ladder | stand |
|-------------|---------|----------|---------|----------|----------|---------------|---------|
| PPUN | | *sawan | *məpik | *uki? | | *ojan | *kəriŋ |
| Punan Tuvu' | mana | | | uki? fap | məcak | ocan | nəkəriŋ |
| Punan Bah | | owan | mopiʔ? | puʔan | manəboʔ? | san | nakeriʔ |
| Beketan | molaŋ | | nopik | baket | nəpalu | ojan | ñəkəriŋ |
| Punan Lisum | ləŋoʔ? | son/suəŋ | nopik | baket | nəsurup | ojan | nəkəriŋ |
| Punan Aput | təleaŋ | | ŋəluə? | mamek | ŋəsuruk | oga? | nəkəriŋ |
| Ukit | | som | mapiu? | uki? | ñulu | ojan | nəkəriŋ |
| Buket | huri? | son | nomek | uki? | | ojan | naŋən |

| English | star | stay; lodge | steal | sticky | stomach | stone | stop |
|-------------|-------------------|-------------|------------|---------|--------------|-------|--------|
| PPUN | *bātu?ən/*kātu?ən | | *(mə)ñikaw | *nakət | | *batu | |
| Punan Tuvu' | | məlu? | ñikow | ŋələdit | luaŋ/bətukoh | batuh | |
| Punan Bah | batu?ən | | mañikuow | ŋaliket | bure/batuko | batu | |
| Beketan | kātu?ən | mi ow | ñikow | lakat | ovoŋ | batu | noko |
| Punan Lisum | kātu?ən | pəliwa | ñiko | natət | tora? | batu | pəjaut |
| Punan Aput | kātu?ən | lu?ət | ñikow | nakot | luaŋ | batu | pəjaut |
| Ukit | kəjavu? | livan | ñiko | nakət | | batu | pəliwa |
| Buket | kəjavu? | hae? | ñiko | nakət | tora? | batu | kəhə? |

| English | straight | stranger | strong | stump | stupid | sugar cane |
|-------------|-----------------------|-------------|--------|----------|-----------|------------|
| PPUN | | | | | | *təbu |
| Punan Tuvu' | bəluh/lau | a? aji? | | tuŋun | | tofuh |
| Punan Bah | pa?ju/tigo (and long) | | mat | tapuget | suuə? | tovu |
| Beketan | tijak | linow kajut | ayu? | juŋun | bodoh | tovu |
| Punan Lisum | tijak | tamuy | siro? | pun | bodoh (L) | tovu |
| Punan Aput | tijak | linow lehi? | maat | pun kayu | kandun | tovu |
| Ukit | təhuruk | uva lavi? | kehe? | təpuru? | budu | tovu |
| Buket | toriŋ | dəvule? | kehe? | təpuru? | bodok | tovu |

| English | sun hat | sunrise | sunset | supernatural storm | surprised |
|-------------|---------|--------------------|------------------|--------------------|-----------|
| PPUN | *cahuŋ | *matən alaw pusit | | *huvən | |
| Punan Tuvu' | kərawi | | | | təkəcet |
| Punan Bah | sa?uəŋ | mato eluow ma?akat | mato eluow peta? | sʷelit | təkujat |
| Beketan | siŋaw | mata a ow muhit | mata a ow katoŋ | təba u | təkajut |
| Punan Lisum | siŋaw | | | huvən | təki?ot |
| Punan Aput | sahuŋ | matan low musit | matan low majop | huvən | təkujet |
| Ukit | cahuŋ | kusit matən alo | matən alo pajəp | huvun | təvəruan |
| Buket | cahuŋ | matən alo pusit | matən alo kavi | jiət | əvəruan |

| English | swallow | swamp | sweat | sweep | sweet | sweet potato | swim |
|-------------|---------|---------|--------|----------|--------|--------------|---------|
| | *nalən | | | *məpa | *kañiŋ | | |
| Punan Tuvu' | | | buŋah | məpah | mih | | ñatuŋ |
| Punan Bah | mañelu? | kəray | ləlien | mañapuow | ŋatomi | kasila? | palaŋuy |
| Beketan | nalen | səputi? | pəlohi | | kañiŋ | sukay | nu uŋ |
| Punan Lisum | na ən | səkuti? | lasən | mapa | kañiŋ | sukay | təmuluŋ |
| Punan Aput | ñalu? | səkuti? | lien | mapa | kañiŋ | sukay | mənaw |
| Ukit | nalən | poka? | lasən | mopa | kañiŋ | uvi | navum |
| Buket | nalən | kotek | lasən | mopa | kañiŋ | uvi | navum |

| English | swollen | tail | take | tall | tamp earth | tart |
|-------------|---------|-------|-----------|---------------|-------------|-----------------|
| PPUN | *bətuj | *ukuy | *ala? | *maju?/*mabaw | | |
| Punan Tuvu' | bətuj | ukuy | | fow | | kapet |
| Punan Bah | məmutup | bōki | ela?/pien | ma?baw | mənəda: | kopa? |
| Beketan | matuj | tukuy | a a? | mavow | neda | səpale? |
| Punan Lisum | matuj | ukuy | a a? | | naset | səpa e? |
| Punan Aput | matuj | ukuy | la? | maju? | naset | səparun/səpale? |
| Ukit | ηatuj | uke | ala? | haju? | nasai | |
| Buket | ηatuj | uke | ala? | haju? | navun/padət | səpalət |

| English | tattoo | tear | tell | ten | termite | that, far |
|-------------|-------------|---------------|---------------|-----------|-----------|-----------|
| PPUN | *ulay | *ñirat | | *pulu? | | *di |
| Punan Tuvu' | batik/matik | bərik/ηəbərik | | ji? pulu? | kəraton | inah |
| Punan Bah | uliey | mañireə? | takuran/mara? | palu? en | ula? anay | iri |
| Beketan | tato? | sirat | kətunan | ai? pulu? | kərutuk | |
| Punan Lisum | ule | ñirat | tavatin | ai? pulu? | kərutup | ari |
| Punan Aput | kaluj | ηəsirat | tikun/pətavat | pu u? | kəlutuk | di |
| Ukit | ule karij | ñeret | pətəηunan | pulu? | kəlusuj | ena? epay |
| Buket | patak | mita | bəkəsah | pulu? | ilat | |

| English | that, near | there, far | there, near | they | thick | thigh | thin |
|-------------|------------|------------|-------------|-------|---------|---------------|----------|
| PPUN | *ina(?) | | | *i-də | *kapan | *pa?a-n | *liriη |
| Punan Tuvu' | ireh | an dreh | an ireh | iro | məkəpan | pa?an/bəlatuj | |
| Punan Bah | ina | eri | ena | do | makopan | pa?o | maliriηj |
| Beketan | uri | | deri | ro | kapan | paa | diriη |
| Punan Lisum | ana | nə hiri? | nə hina? | də | kapan | pa?o? | diriη |
| Punan Aput | ña | so? di | so? ña | do | kapan | pən | liriη |
| Ukit | ena? | | hina? | rə | kapan | tasa | diriη |
| Buket | ena? | nahana? | nahina? | ri | kapan | tasa | diriη |

| English | thirsty | this | thorn | thousand | three | throw | thunder | tickle |
|-------------|-------------|------|-------|-----------|-------|---------|--------------|----------|
| PPUN | | *ini | *dui | | *təlu | | *duru | |
| Punan Tuvu' | ñopulu? | inih | dui | ji? malan | toluh | bəniη | bəlare?/duru | ηewək |
| Punan Bah | moeəη teηap | ini | sua? | ji? libu | təlu | mesiw | duru | ñakileə? |
| Beketan | ηohaη | utu | dui | səribu | tolu | | duru | |
| Punan Lisum | ηohaη | ani | dui | səratus | talū | ñekəret | duru | |
| Punan Aput | ηohaη | ñi | dui | ji? ribu | təlu | ηəbalat | duru | ñite? |
| Ukit | ηaha? | eni | dui | ai? ribu | talū | ηəvahut | duru | nəkerek |
| Buket | ηaha? | eni | dui | ai? ribu | talū | ηəvahut | duru | nəkelek |

| English | tie | tiger leech | tight | tired | to dry |
|-------------|-------------|-------------|----------------|-------------|------------------------|
| PPUN | *boto/moto | *tilaŋ | | | |
| Punan Tuvu' | mæcət | tilaŋ | bəŋaŋ | bəŋen/laʔuy | |
| Punan Bah | mejoʔt | tileəŋ | maʔəŋeʔt/tədda | upen | paʔueəŋ/maŋeluow (sun) |
| Beketan | | tamit | katiŋ | siyuʔ | pagaŋ/paggaŋ |
| Punan Lisum | moto | tilaŋ | taŋat | lahe | mahaŋ |
| Punan Aput | moto | tilaŋ | təŋaŋat | supəʔ | pəbahaŋ |
| Ukit | moto | tilaŋ | təheŋet | mōhōʔ | ŋalo |
| Buket | boton/moton | | təŋaŋat | ŋan keheʔ | ŋalo/pahaŋ |

| English | to fish | to lean | to lie | to sting | to whistle | to wrap | toad |
|-------------|---------|-----------------|---------|----------|------------|---------|---------|
| PPUN | | *səkari/*ŋəkari | | *ŋiŋət | | | *jaʔi |
| Punan Tuvu' | ŋəkuit | | cəluŋ | | ŋələŋow | | jaʔuy |
| Punan Bah | mamoi | sakadat | pəjələp | maŋovut | maʔoŋeəʔ | muʔuəʔ | kalakup |
| Beketan | mohi | ŋəkari | məsakeʔ | ŋiŋot | ŋəŋoek | mou | bujaʔ |
| Punan Lisum | mosoy | ŋəkari | ŋəpuʔa | ŋiŋot | ŋəŋoek | ŋisum | bujaʔ |
| Punan Aput | mosoy | ŋokon | ŋəpula | ŋiŋot | moŋow | muk | oʔuy |
| Ukit | masi | ŋəkari/səkari | jaraʔ | napi | ŋəŋoŋek | ŋisum | jaʔi |
| Buket | masi | | ŋəjaraʔ | napi | ŋoŋek | nape | jaʔi |

| English | today | tongue | tooth | tortoise | touch | trap | tree | tree shrew |
|-------------|-----------|--------|---------|------------|-------------|-------|-----------|------------|
| PPUN | *alaw ini | *jəlaʔ | *ŋipən | *kələp | | *obet | *kayu | |
| Punan Tuvu' | low inih | jəlaʔ | ŋipen | kələp | | ofet | | iwaw |
| Punan Bah | eluow ini | jelaʔ | ŋipe | gereo | megi | poʔop | kayu | puʔan |
| Beketan | a ow tu | ja aʔ | məŋali | ka əp | tigiʔ/nigiʔ | ovet | kaju | baket |
| Punan Lisum | a o ani | jalaʔ | məŋgali | ka əp | nigiʔ | ovet | kiow | baket |
| Punan Aput | low ŋi | jalaʔ | ŋipon | kaləp | nigiʔ | ovet | | |
| Ukit | alo eni | jalaʔ | bəgali | kaləp sian | karo | ovet | kiəw/kiow | |
| Buket | alo eni | jalaʔ | bəgali | kaləp | pəsigen | | kiəw | |

| English | true/correct | try | turn | turtle | twins | two |
|-------------|--------------|----------|---------------|---------------|----------------|------------|
| PPUN | *tuʔu | | | *kələp | *k-apit | *duə |
| Punan Tuvu' | tuʔuh | | | | apit | duoh |
| Punan Bah | notaŋ/lan | tupat | nalio | keləp | kapit | duo |
| Beketan | puʔuŋ | majow | pələset-laset | kapi | pəkuaʔ/pəkakap | lawaʔ/lugo |
| Punan Lisum | puʔuŋ | matow | pəsəkioŋ | bə avi (soft) | pəkakap | duə |
| Punan Aput | mōŋō/matoʔ | natow | pəsəbulet | kapi | pəkuaʔ/pəkakap | luo |
| Ukit | tətəʔ | pəŋanam | putiʔ | kaləp | pəkakap | duə |
| Buket | tətəʔ | coba (L) | pəsəkili | | kapit | dui |

| English | uncle | under | understand | unripe | upriver | urinate |
|-------------|--------|--------------|------------|--------|----------------------|---------|
| PPUN | *aki-n | *lala? | | *ata? | *ut/*murik (go) | *mæciŋ |
| Punan Tuvu' | akin | an ləla? | | ta? | ricu? | mæciŋ |
| Punan Bah | akin | ta iva? | ña? roŋ | eta? | ləvow/muriŋ? (to go) | mesiŋ |
| Beketan | mame? | to? live? | tivo? | | aju? | asiŋ |
| Punan Lisum | mame? | nə lala? | tivo? | ata? | hivuy | masiŋ |
| Punan Aput | mame? | so? kakop | tigop | hom | seray | masiŋ |
| Ukit | aki | hai lala? | to | | ut sunje/ut ranum | moset |
| Buket | aki | na hai lala? | to: | ata? | ut | moset |

| English | urine | vein | veranda | village | vine | visitor | voice | vomit | waist |
|-------------|------------|------|---------|---------|------------|---------|---------|---------|-------|
| PPUN | *æciŋ | *uat | *soa | *labu? | *oka | | *la?i-n | *nuta? | *akeŋ |
| Punan Tuvu' | ciŋ | uat | | tukuŋ | | akay | ŋguh | nuta? | bolet |
| Punan Bah | esiŋ | uat | owa | | oka | | lo?i | manuta? | tobuŋ |
| Beketan | lanum asiŋ | wat | pele | lau? | oka | tamu | hau | nuta? | akeŋ |
| Punan Lisum | lanum asiŋ | uat | nəluka | lavu? | oka | notey | hau | nuta? | akeŋ |
| Punan Aput | siŋ | uat | soa | lavu? | oka | piŋu | hau | nuta? | keŋ |
| Ukit | aliŋ oset | uat | soa | lavu? | jaret/tavu | hake | lain | | |
| Buket | oset | wat | soa | lavu? | oka | nosow | lai | nuta? | akeŋ |

| English | wait | wake up | walk | wall | want | wash clothes | water |
|-------------|-------|---------|--------|--------|----------|--------------|-------------|
| PPUN | | *tiga | | *diriŋ | | *ŋubi? | *danum |
| Punan Tuvu' | | kat | kah | lidiŋ | ani? | məñut | uŋëy |
| Punan Bah | meŋo? | matiga | makayo | diriŋ | miap | mupu? | danum |
| Beketan | mio? | tia | masap | diriŋ | lu? | puvi? | lanum |
| Punan Lisum | ite | tiga | mekeap | diriŋ | lu? | ŋove? | lanum |
| Punan Aput | nihō? | ŋakat | keap | liriŋ | ŋa? | ŋuvi? | lanum |
| Ukit | niŋəy | tiga | makiap | tətəŋ | biəŋ | ŋapu? | ranum/danum |
| Buket | niŋəy | tiga | makiap | tətəŋ | ñua/biəŋ | ŋove? | danum |

| English | waterfall | we ex | we in | weak | weave | western tarsier | wet | what |
|-------------|-----------|-------|-------|---------|--------|-----------------|---------|-----------|
| PPUN | *oʔuŋ | *kai | *tə | | *mañam | *iket | *baso? | *anu |
| Punan Tuvu' | oʔuŋ | katou | təro | | | iket | udap | anuh/enuh |
| Punan Bah | oʔuŋ | kai | to | gəlawat | məñam | iket | masoʔut | nu |
| Beketan | ouŋ | kai | ta | lukow | mañam | iket | baso? | han |
| Punan Lisum | ouŋ | kai | tə | lamo? | añam | bəkiki | baso? | anu |
| Punan Aput | oven | kai | to | lamo? | mañam | iket | baso? | nu |
| Ukit | teoŋ | kəni | tə | lamət | mañam | təvəkiki | pətavum | ranu |
| Buket | teoŋ | kae | ti | lamət | ñapit | | pətavum | anu |

| English | when | where | which | whirlpool | white | who | why |
|-------------|---------|-----------|---------------|-----------|--------|---------|-----------|
| PPUN | | | | *kakot | *buhak | *hai(?) | *mi? anu |
| Punan Tuvu' | an ʔay | ai/an pay | aʔay | | cərow | a hey | |
| Punan Bah | unay | pai | ji? ai/ai din | kəlalisu | buña? | ei | nu me na? |
| Beketan | lipa | deya | hin nupa | bəkurey | buhak | hēy | mey han |
| Punan Lisum | bi hai | bi hai | | kakot | buhak | he? | me? anu |
| Punan Aput | bey hāi | so? hāy | aŋ hāy | kəlikat | siap | hēy | me? nu |
| Ukit | ona ma | hima? | na? ema | kakot | buhak | he? | ranu pə? |
| Buket | on nama | na hama? | | kiri keoŋ | buhak | he? | anu ki |

| English | wide | widow | widower | wind | wing | wipe | with | woman |
|-------------|------------|-------|---------|-------|-------|--------|----------|---------|
| PPUN | | *balu | *biu? | | *ilat | *melet | | *(d)oro |
| Punan Tuvu' | ayo? | baluh | buyu? | paih | ilat | | unan | oroh |
| Punan Bah | | balu | baluway | powi | | ŋaliat | unan | oro |
| Beketan | mawa | baʎu | biu? | balu | iʎat | mɛʎet | uŋen | oro |
| Punan Lisum | aʝo? | balu | biu? | saʎit | ilat | mɛʎet | pie | doro |
| Punan Aput | māwã/lehi? | balu | avan | bayu | ilat | ŋɛhet | tovey | oro |
| Ukit | məkevak | balu | biu? | salit | ilat | melet | piaŋ | doro |
| Buket | rava | balu | biu? | salit | ilat | pel | piaŋ/ma? | doro |

| English | wood pecker | worm | wring | yawn | year | yellow/black snake |
|-------------|-------------|-------|--------|--------|--------|--------------------|
| PPUN | | *ulət | | *nuap | *taʔun | |
| Punan Tuvu' | bələkariik | ulet | | nowap | luman | butuŋ patoŋ |
| Punan Bah | təkali | ulet | makelo | manoap | təʔun | |
| Beketan | təkali | ulet | nəkili | noŋap | taun | kəlimoto bakuŋ |
| Punan Lisum | təlaʎi | uʎet | nəkili | noŋap | taun | kəlimoto bakuŋ |
| Punan Aput | təkali | ulet | ñəpuy | noŋap | luman | awaŋ |
| Ukit | kuko | ulət | mapiu? | nuap | taun | avuŋ buaŋ |
| Buket | beə? | ulət | ŋopi | | taun | səranum |

| English | yesterday | you | you pl | young | younger siblings | yours |
|-------------|-------------|------|----------|-------------|------------------|------------------|
| PPUN | *alaw maləm | *kou | *kəm | *kələvi | *ari-n | *iko? |
| Punan Tuvu' | maleh | kou | kətu | uyuŋ | arih/are? | ayam |
| Punan Bah | eluw male | kow | kom | kalovi | arin | |
| Beketan | aʎow malom | kow | kom | iuŋ | ari | eyam |
| Punan Lisum | laləm | ko? | kəm | kəlovoy | arin | iko? |
| Punan Aput | low alom | kou | kom | lumak | arin | ñu? yam/you? yam |
| Ukit | alo nima | ko? | kəm talu | aŋut/kəlavi | | i-ko? |
| Buket | alo lima | ko? | kim | muda (L) | | iko? |

APPENDIX 4

MÜLLER-SCHWANER

| English | abandon | above | adam's apple | adult | aflame | afraid | after | age |
|----------|------------|----------|--------------|-------------|--------|--------|----------|------|
| PMÜL | *pokə | *p-uru? | | | *tutuŋ | *tao | *lua | |
| Hovongan | buho | noŋuru | hok saŋan | nilua hiu? | tutuŋ | tao | lua naʔa | umur |
| Kereho | poku/totak | beʔ uru? | | tohoka? | tutuŋ | tao | | umur |
| Seputan | pokə ñaʔan | puru | uhonŋ soŋan | doanŋ boti? | tutuŋ | tao | lua | urip |
| Aoheng | pokə | be puru | ohonŋ soŋan | | tutuŋ | tao | ñaŋi | umur |

| English | alive | all | alone | already | also | and | angry | animal | answer |
|----------|--------|-------|-------|---------|-------|-----------|--------|--------|------------|
| PMÜL | *murip | - | | | | *moʔ/boʔ | | *kanon | |
| Hovongan | murip | səmuə | noŋon | deen | baʔan | mǒʔ | muñat | kanon | ñuʔe/jawap |
| Kereho | murip | səmuə | noŋon | din | ugaʔ | piʔaŋ/boʔ | muñat | kanon | ñaut |
| Seputan | murip | semon | puonŋ | horun | poʔo | | laʔit | kanon | haʔu |
| Aoheng | murip | semon | puonŋ | oru no | poʔo | ñaŋ/moʔ | cəlaʔi | kanon | jawab |

| English | ant | argue | argus pheasant | arrive | ash | ask | aunt | baby |
|----------|----------|---------|----------------|-----------|------|--------|-----------|----------|
| PMÜL | *ñoveraŋ | *lawan | *hoe | | *avu | *cuʔu | *nokan | |
| Hovongan | loúraŋ | ŋolawan | hoe | cǒp | avu | nojo | | oniʔ |
| Kereho | ñoweraŋ | maduʔ | hoe | lawiʔ | avu | bocuʔu | nokan | aŋut |
| Seputan | ñoveraŋ | molaon | hoe | laŋon | avə | coʔu | inon okan | ane okiʔ |
| Aoheng | ñəveraŋ | | hoe | kənəlaŋon | avə | coʔu | inon okan | ane aŋut |

| English | baby carrier | back | bad | bail water | bait | bald | bamboo | banana |
|----------|--------------|--------|--------|------------|-------|-------|--------|--------|
| PMÜL | | *likut | *caʔat | *limah | *upot | | *buluʔ | *putiʔ |
| Hovongan | ohi | taraʔ | caʔat | dima | upot | botak | buu | putiʔ |
| Kereho | kéaŋ | dikut | caʔat | dima/rima | upot | botak | buuʔ | puti |
| Seputan | boniŋ | likut | caʔat | lima | opot | laha | buru | puti |
| Aoheng | ŋeaŋ | likut | caʔat | rima | opot | lahaŋ | buru | puti |

| English | banyan | bark | barking deer | base, origin | bathe | bear | bee | begin |
|----------|----------|-----------|---------------|--------------|-------|--------|---------|-----------|
| PMÜL | *lunuʔ | *upaʔ | *tolaʔu | *puʔun | | *bohaŋ | *siŋot | |
| Hovongan | lunuʔ | upa:ʔ | tole | | nomu | bohaŋ | honapi | mulay |
| Kereho | kayu ara | upaʔ kou | toleséŋ/tá:ʔu | puʔun | nomu | bohaŋ | tosinot | mulay mae |
| Seputan | duno | upa puʔun | toraʔu | puʔun | moru | bohaŋ | siŋot | mulay (L) |
| Aoheng | runo | upa kau | təraʔu | puʔun | moru | bohaŋ | siŋot | ori mənə |

| English | behind | bent | betel chew | betel nut | between | big | binturong |
|----------|------------|---------|------------|-----------|----------------------|--------|-----------|
| PMÜL | *biʔ likut | | | *paʔan | *beʔ ñaʔat/beʔ yaʔat | *hayuʔ | *kitan |
| Hovongan | noŋ taraʔ | keloŋ | sori: | pinəŋ | noŋ botuʔ | hiuʔ | kitan |
| Kereho | beʔ dikut | pekoŋ | siri | jihat | beʔ ñaʔat | hauʔ | kitan |
| Seputan | be likut | təhekoʔ | sipaʔ | paʔan | be yaʔat | hauʔ | kitan |
| Aoheng | be likut | | sipaʔ | paʔan | be hun | hauʔ | kitan |

| English | bird | bite | bitter | black | blader | blind | blink |
|----------|--------|--------|--------|------------|------------------|--------|-----------|
| PMÜL | *manuʔ | *moŋot | *paʔip | *mo(ho)tum | | *morap | *ŋəvocip |
| Hovongan | manuʔ | moŋot | paʔip | mo:tom | | morap | ŋovobocip |
| Kereho | manoʔ | moŋot | peʔip | motum | pəset | morap | ŋokocip |
| Seputan | manoʔ | ŋarot | paʔip | motum | kabot pasin toaŋ | morap | ŋovocip |
| Aoheng | manoʔ | moŋot | paʔip | motum | pasi toaŋ | morap | ŋəvocip |

| English | blood | blow nose | blow | blow, w/ mouth | blowpipe | boar | body |
|----------|--------|------------|-----------|----------------|----------|------------|--------|
| PMÜL | *dahaʔ | | | *isop | *soput | *bavi | |
| Hovongan | daha | poʔo sisoŋ | tonohitup | hitup | soput | bavi | korinŋ |
| Kereho | dahaʔ | poin isoŋ | kototiop | isop | soput | bawi | kó:riŋ |
| Seputan | daha | porin isoŋ | isop | isop ho | soput | bavi | uoŋ |
| Aoheng | daha | porin isoŋ | isop | isop | soput | bavi tuʔan | uoŋ |

| English | body hair | boil | bone | brain | branch | brave | breast | breast feed |
|----------|-----------|------------|----------|-------|--------|-------------|--------|-------------|
| PMÜL | *buun | | *tuʔəlaŋ | *utək | *daʔan | *tovon | *tusun | *mosu |
| Hovongan | buun | buruʔ | tuʔaŋ | utaʔ | daʔan | tovon | tusun | mosu |
| Kereho | buun | buroʔ | toʔaŋ | utok | daʔan | tovon/rihom | tusun | posu |
| Seputan | buun | tunan hoaŋ | torəŋ | utok | daʔan | tovon | tusun | mosu |
| Aoheng | buun | | torəŋ | utok | raʔan | tovon | tusun | mosu |

| English | breathe | broom | burn | burp | burry | but | butterfly | buy |
|----------|----------|-------|--------|---------|-----------|------|------------|----------|
| PMÜL | *ŋəsəŋan | *pəpa | *nutuŋ | | | | *kələbəvaŋ | |
| Hovongan | ŋosaŋan | papa | nutuŋ | | naran | tapi | kolovavaŋ | borion á |
| Kereho | ŋohéŋat | popa | nutuŋ | tuʔop | ŋubur | tapi | kolobowaŋ | borion |
| Seputan | ŋosoŋan | popa | | tohoʔok | icu/pasaʔ | tapi | korovovaŋ | nuka |
| Aoheng | ŋəsovan | popa | nutuŋ | nisoŋ | məŋubur | tapi | kərəvovaŋ | nuka |

| English | calf | call | can; able | capsize | careful | carry on back |
|----------|---------------|-------|-----------|---------|--------------|---------------|
| PMÜL | *bəti/*bonet | *ŋəta | *tuʔu | *kaham | | *niaŋ |
| Hovongan | boti | ŋota: | toon | kaham | doroŋ o | ñiaŋ |
| Kereho | bokokoŋ/bonet | ŋeta | tuʔu | kaham | cian kororoŋ | be:ʔ/ŋeaŋ |
| Seputan | bonet | ŋeta | tuʔu | | cian-cian | ŋeaŋ |
| Aoheng | usin bonet | ŋeta | toʔo | kaham | ciaʔo | ŋeaŋ |

| English | carry by handle | carry on shoulder | carry under arm | cat | cataract |
|----------|-----------------|-------------------|-----------------|-----------|------------|
| PMÜL | *nəhataŋ | *ñoʔon | | *iciŋ | |
| Hovongan | ñahataŋ | ñoʔon | moñek | iciŋ | miʔiso: |
| Kereho | ñohataŋ | ñoʔon | ŋatip | iciŋ [tʰ] | ñian sovɪt |
| Seputan | ñataŋ | ñoʔon | ŋoro hevo | iciŋ | eha |
| Aoheng | ñataŋ | ñoʔon | nəviaŋ | iciŋ | |

| English | catch | cave | centipede | cheek | chest | chew | chicken | child |
|----------|--------|----------------|------------------|---------|-------|---------|---------|-------|
| PMÜL | *ŋokom | *diaŋ | *ñəlipan/ñəripan | | *usuʔ | | *siaw | *aniʔ |
| Hovongan | ŋokom | diaŋ | ñoripan | pɛʔɛm | usuʔ | supa: | sio | oniʔ |
| Kereho | | gua/luvaŋ diaŋ | ñoripan | pɛʔɛm | osoʔ | ŋoheraʔ | sio | aneʔ |
| Seputan | ŋokom | diaŋ | ñolipan | kolopoŋ | oso | ŋarot | siu | ane |
| Aoheng | ara | riaŋ | ñəripan | kəlopoŋ | oso | ŋera | siu | ane |

| English | chin | choke | choose | chop | cicada | cigarette | clean |
|----------|--------|------------|--------|--------|---------|---------------|---------|
| PMÜL | *caʔan | *kəʔəhoʔon | *pili | *muloʔ | | | |
| Hovongan | caʔan | koroʔon | pili | muloʔ | tisiŋ | dukoʔ | bərsih |
| Kereho | caʔan | koroʔon | miri | muloʔ | tisiŋ | ñomot | boresih |
| Seputan | caʔan | | milih | muloʔ | təhiliŋ | lukoʔ/lokoʔuŋ | bərseh |
| Aoheng | caʔan | kəʔəhonan | mili | mosa | tiliŋ | | bərse |

| English | climb | cloud | cockroach | coconut | coffin | cold | collapse |
|----------|----------------------|-------|------------|---------|-------------|--------|-------------|
| PMÜL | *ñikot | *uap | | *oña | *toran | *siŋom | *kaham |
| Hovongan | ñikot | uap | avak bahuŋ | oña | luŋun | sʻiŋom | kaham |
| Kereho | ñikot/tukat (ascend) | uap | bak bahuŋ | oña | toran/luŋun | siŋom | kaham/tohan |
| Seputan | ñikot | uap | bitik | oña | toran | siŋom | lohōp |
| Aoheng | ñaʔit/ñikot | uap | | oña | toran | siŋom | kaham |

| English | come | cook | cooked rice | corpse | coucal | cough | count | cousin |
|----------|--------|--------|-------------|--------|-----------|-------|----------|---------------|
| PMÜL | *laviʔ | *kosiʔ | *okun | *kovon | *buvut | | *-iʔap | *uarin/*harin |
| Hovongan | laaviʔ | kosiʔ | okun | kovon | otuntut | hoton | miʔap | harin |
| Kereho | lawiʔ | kóseʔ | taru | kovon | otun tuun | caten | bilan | duarin |
| Seputan | lanon | komose | okun | kovon | buvut | serot | niʔap | uarin |
| Aoheng | lanon | masak | okun | | buvut | nisoŋ | məŋhituŋ | warin lokin |

| English | crab | crack | crazy | crocodile | crush | cry | dance |
|----------|--------|--------|-------|-----------|----------|-------|------------|
| PMÜL | *kevaŋ | *bəŋat | | *buajo | | *naŋi | *ŋaraŋ |
| Hovongan | kévaŋ | haŋat | baŋon | buajo | ŋorusak | naŋi | ŋaraŋ |
| Kereho | | boŋat | baŋon | buajo | ŋohancur | naŋi | ŋeña/ŋaraŋ |
| Seputan | okaŋ | boŋat | bila | wajo | | naŋi | ŋeñaʔ |
| Aoheng | okaŋ | botan | bila | bəʔəŋahat | | naŋi | ŋaraŋ |

| English | dark | dart | day | day after tomorrow | day before yesterday |
|----------|-----------------|--------|-------|--------------------|----------------------|
| PMÜL | *cokuom/*cokoum | *takay | *əlaw | | |
| Hovongan | cokóm | take | lo: | lola? na | baolo cahálo |
| Kereho | cokuom | take | ou | oi top | leha? na |
| Seputan | cokoum | taki | ou | | ou citop pəlekot |
| Aoheng | cəkoum | taki | ou | ou citop | |

| English | dead tree | deaf | deep | deer | derris root | diarrhea | die | different |
|----------|-----------|--------|-------|--------|-------------|----------|-------|------------|
| PMÜL | | *toneŋ | dahom | *payaw | *tuvo | *ceret | *kovo | *opin |
| Hovongan | uloŋ | toneŋ | dahom | peo | tuvo/nuvo | bokotit | kovo | boso opin |
| Kereho | uloŋ | toneŋ | dahom | peo | tuwo | boceret | kovo | boso noŋon |
| Seputan | opoŋ | toneŋ | hoan | pao | tuvo | ñəheret | kovo | opin-opin |
| Aoheng | | toneŋ | hoan | pao | tuvo | bəceret | kovo | |

| English | difficult | dig | dirty | divide | divorce | dizzy | dog | dm pig | door | downriver |
|----------|-----------|-------|-------|--------|----------|---------|------|--------|-------|-----------|
| PMÜL | *poro? | *kali | | *tuat | *bəka?at | *poro | *asu | *ukot | *usit | *əluŋ |
| Hovongan | poró:? | kari | kotor | bagi: | boka?at | poro?un | asu | ukot | usit | luŋ/nohon |
| Kereho | poro | ŋári | kotor | nuat | bosarak | poro?un | asu | okot | usit | ouŋ/nuhun |
| Seputan | poro | ŋari | unek | botuat | boka?at | poro | asu | okot | asa | oroŋ |
| Aoheng | poro ori | ŋari | unək | bətuat | | pusiŋ | asu | okot | asa | oroŋ |

| English | dragon | dragonfly | dream | drink | drop | drown | drum | drunk |
|----------|----------|-----------|-------|-------|---------|----------|----------------|--------|
| PMÜL | *bi/*ovi | | *nupi | | | *pəloton | | *mavu? |
| Hovongan | bi: | | nupi | humo? | ponuhan | poloton | | mavu? |
| Kereho | bi | tobisey | nupi | humo? | polahə? | poloton | ogan/pogan (v) | mavo? |
| Seputan | ovi | lañiŋ | nupi | nuru? | botohan | poloton | novan | mavo? |
| Aoheng | ovi | lañiŋ | nupi | nuru? | bətohan | pəloton | tuvuŋ | mavo? |

| English | dry | dry season | drying rack | dull | durian | dust | eagle | ear | early |
|----------|--------|------------|-------------|-------|--------|------|-------|--------|----------|
| PMÜL | *pəhaŋ | *b-orin | *paha | | *catu | *avu | *koñu | *kaviŋ | *tuhi? |
| Hovongan | pahaŋ | borin | paha | karun | catu | avu | koñu: | kaveŋ | tuhi? |
| Kereho | pohaŋ | bóriŋ | páha | karuŋ | catu | | koñu | kaweŋ | mae |
| Seputan | pohaŋ | oriŋ | paha | tupu | catu | avu | koñu | kaviŋ | tuhi |
| Aoheng | pohaŋ | oriŋ | paha | pava | catu | avu | koñu | kaveŋ | na: po?o |

| English | earthworm | easy | eat | edge | egg | egret | eight |
|----------|-----------|--------|--------------------|-----------|------|-------------|-------|
| PMÜL | | *hənay | *kuman/*kaon | | *toa | | *hean |
| Hovongan | co: tana | hene | kuman | ive | toa | sioá | hean |
| Kereho | éon | hone | kuman/ kaon (rude) | iwe/saron | toa | siuoa | hean |
| Seputan | opot | honi | kuman | aveŋ | toa | tucu | hean |
| Aoheng | opot | | kuman | aveŋ | toa | bəlaŋaŋuluŋ | hean |

| English | elbow | ember | enough | enter | every | excrement | eye | eye brow | face |
|----------|---------|-------|--------|--------|--------|-----------|--------|------------|-------|
| PMÜL | *siku-n | *baha | | *masa? | *hikot | *ta?i | *maton | | *irap |
| Hovongan | sikun | baha | halop | masa? | stiap | ta?i | maton | bu:n maton | irap |
| Kereho | siku | aroŋ | halop | masa? | hikot | tɛ?i? | maton | | irap |
| Seputan | sikun | bara | horun | masa? | ikot | ta?i | maton | buun bakun | irap |
| Aoheng | sikun | | cukup | | ikot | ta?i | maton | buun bakun | irap |

| English | fall | false | far | fast | fat | fat (n) | father |
|----------|--------|--------|--------|---------------------------|--------|---------|--------|
| PMÜL | *nuhan | *sala? | *mocu? | *kahan | *ñə?uŋ | *əñi? | |
| Hovongan | nuhan | sala? | mooco | cako | ña?uŋ | ñi? | ama? |
| Kereho | lahe? | sala? | | kahan/mosariŋ/lupaŋ (run) | ño?uŋ | oñɛ? | ama? |
| Seputan | nohan | sara? | mocu? | kahan | ño?uŋ | oñe | amu? |
| Aoheng | nohan | sara | mocu | kahan/laju | ño?uŋ | oñe | amu? |

| English | fathom | feeling | fell | fern | fever | few | field hut | fight |
|----------|--------|---------|--------|-------|--------|-------|----------------------|-----------|
| PMÜL | *dopo | | *novon | *paku | *miram | *oki? | *lopaw | |
| Hovongan | ropo | pərasa | novon | cekok | miram | ii? | pa:but/lopo (jungle) | bokucu |
| Kereho | ropo | asa | novon | cekok | miram | oki? | lopo | pohaji |
| Seputan | dopo | oreŋ | novon | paku | miram | oki? | lopu | kola?it |
| Aoheng | ropo | | novon | paku | poco | oki? | lopu | pəkəla?it |

| English | fill | fin | find | finger | finger nail | finish | fire | firefly |
|----------|-----------|-------|-----------|------------|-------------|--------|------|------------|
| PMÜL | | *ilat | | *bua loŋon | *silun | | *api | |
| Hovongan | ŋisi? | ilat | luhu | bua loŋon | silun | lua | api | otun tu?an |
| Kereho | ñuaŋ | silap | | ane? loŋon | silun | lua | api | otun tu?an |
| Seputan | pasa? | elat | poson | bua kucu? | silun | palop | api | silunotə |
| Aoheng | isi/pasa? | belap | pəkəposon | bua kucu | silun | oruno | api | silun otə |

| English | fireplace | firewood | first | fish | five | fix | flat | flesh | float |
|----------|-----------|-----------|--------|-------|-------|----------------|-------|-------|---------|
| PMÜL | | *kayu api | | *əcen | *dimo | | *data | *usin | |
| Hovongan | haŋan | kiu api | moe | ciɛn | dimo | bokocian/piara | rata | usin | nolupat |
| Kereho | atán/avu | kou api | pətama | ocen | dimo | boko cian | rata | usin | ŋolupat |
| Seputan | bokok | kau tutuŋ | nemae | ocen | dimo | bu?o | dahat | usin | lupaŋ |
| Aoheng | ña?am api | kau api | | ocen | dimo | pəkəcian | data | usin | |

| English | flood | floor | flower | fly | fly (insect) | flying lemur | fontanelle |
|----------|-------|-------|-------------|-------|--------------|--------------|------------|
| PMÜL | | *tasu | | | | *kuvuŋ | *bu?on |
| Hovongan | tui: | tasu | buŋa? | nion | dorakaŋ | kuvuŋ | bu?om |
| Kereho | ciput | late | kambaŋ/buŋa | nion | bovurop | ukuŋ | buon |
| Seputan | leap | tasu | buŋa | ñeleŋ | ñamo? kakap | kuvuŋ | buom |
| Aoheng | leap | tasu | buŋa | ñereŋ | | kuvuŋ | upi |

| English | food | forehead | forget | four | friend | frighten | frog | from |
|----------|----------------|----------|--------|-------|------------|----------|--------|------|
| PMÜL | *okun/*pəjuman | *likaw | | *əpat | | *pəkətao | *saʔay | |
| Hovongan | ponokuman | diko | lilu | pat | kawan | bokotao | saʔe | nǎʔ |
| Kereho | okun | diko | lilu | opat | kawan/awak | bokotao | pohu | ñanʔ |
| Seputan | okun | liku | liʔun | opat | avak | ŋotao | saʔi | |
| Aoheng | pəjuman | liku | liʔun | opat | durun | pəkətao | saʔi | |

| English | fruit | fruit bat | fruit bud | fry | full | full, of food | gall | ghost |
|----------|-------|-----------|-----------|-------|--------|---------------|--------|------------|
| PMÜL | *buaʔ | *boŋat | *losiŋ | *ñika | *ponuʔ | *bosa | *porun | *otu/*otun |
| Hovongan | bua | boŋoat | losiŋ | goreŋ | pono | bosa | porun | koronʔoa |
| Kereho | buaʔ | boronʔoat | losiŋ | ñika | ponoʔ | bosa | porun | otun |
| Seputan | bua | boŋat | losiŋ | ñika | ponu | bosa | porun | otu |
| Aoheng | bua | bəgaat | deranʔ | goreŋ | ponu | bosa | porun | otu |

| English | gibbon | gills | ginger | give | give birth | go | goiter | good | grainary |
|----------|---------|--------|-----------|------|------------|-------|--------|-------|-------------|
| PMÜL | kəlavot | *taŋap | *diʔo | *kan | ŋaniʔ | | | *cian | lopaw |
| Hovongan | kaavot | taŋap | diʔo | kan | ŋoniʔ | pano | | cian | |
| Kereho | kolawot | taŋap | diʔo/riʔo | kan | ŋaneʔ | ŋokat | tohok | cian | karaŋ kianʔ |
| Seputan | koravot | ñariŋ | diʔo | kan | ŋane | biʔi | koham | cian | lopu loit |
| Aoheng | kəlavot | ñariŋ | diʔo | kan | ŋane | biʔi | kohom | cian | ivunʔ |

| English | grandchild | grandfather | grandmother | grass | grasshopper | grave |
|----------|------------|-------------|-------------|--------|-------------|-------------|
| PMÜL | *usun | *akeʔ | akeʔ | *uru | *(to)kaap | |
| Hovongan | úsun | akeʔ | akeʔ | bolada | tokap | taran |
| Kereho | ucuʔ | akeʔ | akeʔ | uru | tokaap | kubur |
| Seputan | ane usun | akeʔ | akeʔ | uru | kaap | ñaʔan kovon |
| Aoheng | usun | akeʔ laki | akeʔ dora | uru | kaap | kubur |

| English | green | hair whorl | half | hammer | hand | handspan | hang | harvest |
|----------|-------|------------|------------|--------|--------|----------|----------|---------|
| PMÜL | | *purun | *pəluhanʔ | | | *taʔanʔ | *tovirəŋ | *ŋotom |
| Hovongan | ijo | kolopurun | bagi duo | palu | loŋon | taʔanʔ | tobiroŋ | pénen |
| Kereho | ijow | kolo purun | poluhanʔ | torat | loŋon | taʔanʔ | noviroŋ | ŋotom |
| Seputan | mota | loko purun | hon bətuaʔ | | kucuʔ | taʔan | toverəŋ | ŋotom |
| Aoheng | mota | | alaŋ-alaŋ | | bovanʔ | taʔanʔ | | |

| English | hat | have | exist | he/she/it | head | head hair |
|----------|---------|--------|--------|-----------------------|--------------|------------|
| PMÜL | | *puʔun | *hanaʔ | *añə(h)/*so(h)/*ho(h) | *uun | *buʔ/*ivuʔ |
| Hovongan | təkuluʔ | | hana | añəh/soh/hoh | uun | būʔ |
| Kereho | tokuluk | duhun | hanaʔ | añə/so/ho | uun/tokohonʔ | iwoʔ |
| Seputan | bukin | puʔun | | añin/ho | tokohonʔ | ivo |
| Aoheng | bukin | puʔun | | añə/ho | təkohonʔ | ivo |

| English | headhunting | heart | heavy | heel | helmeted hornbill | help |
|----------|--------------------|----------|--------|-------------|-------------------|--------|
| PMÜL | *ɲayo | | *bəhat | *(koho)koŋ | | *tuluj |
| Hovongan | ɲeo/nome/poŋeo (n) | bosuʔan | bahat | koŋ | tukup | tuluj |
| Kereho | ɲeo/keo | jantuŋ | bohat | bukun catuʔ | tukup | tuluj |
| Seputan | biʔi ɲao | bua daha | bohat | kohokoŋ | tosan | tuluj |
| Aoheng | | bua raha | bohat | kokoŋ | | tuluj |

| English | here | heron | hide | his/hers | hoarse | hold | hole |
|----------|----------|-------|---------|-----------------------|--------|--------|--------|
| PMÜL | *beʔ ni | | | hun aña(h)/*hun so(h) | | *ɲokom | *luvaŋ |
| Hovongan | noŋ hini | kuju | puhurem | hun aña(h)/hun soh | paset | ɲokom | luvaŋ |
| Kereho | beʔ ni | tuju | pohorem | duhun aña/duhun so | paset | ɲokom | luvaŋ |
| Seputan | binih | hakoŋ | coho | hon aña/hon ho | parat | icet | luvaŋ |
| Aoheng | be ni | tucu | coho | hon aña | səmare | icet | luvaŋ |

| English | hook | horn | hot | house | house post | how | how many |
|----------|------------|-------|-------|---------------------|------------|-------------|----------|
| PMÜL | | *uhon | | *baaŋ/*lovuʔ/*lopaw | *cohi | | *kuvuʔ |
| Hovongan | posi | uhon | latot | lovu | cohi: | kamokoa | kuve |
| Kereho | posi | ohon | latot | baaŋlopu/lovu | cohi | keteʔ ono | kuvuʔ |
| Seputan | isin bitan | ohon | lasuʔ | baaŋ | cohi | konuʔ koruʔ | kuvu |
| Aoheng | kait | ohon | lasuʔ | lopu lea/baaŋ | | konuʔ ko | kuvu |

| English | hundred | hungry | hunt w/dog | husk | I | if | in front |
|----------|----------|--------|------------|------------|-----------|-----------|-----------|
| PMÜL | *ci hatu | *boʔot | *ɲanup | | *aʔon/*ku | | *beʔ irap |
| Hovongan | cihatu | bitiʔ | ɲanup | baraŋ pare | ku | kalaw | noŋ irap |
| Kereho | ciʔ hatu | boʔot | ɲanup | boran | aʔon | kalou/joʔ | beʔ irap |
| Seputan | cihatu | boʔot | | uñet | aʔuŋ | kalaw | be irap |
| Aoheng | cihatu | boʔot | ɲanup | | aʔuŋ | kaləw | be irap |

| English | insect bat | inside | intestinal worms | intestines | ironwood | island | itchy |
|----------|------------|-----------|------------------|------------|-----------|--------|-------|
| PMÜL | *kolit | *beʔ luaŋ | | *bətukon | | *liu | *katu |
| Hovongan | kəret | noŋ luaŋ | toɾeco | uhat taʔi | kiu héŋ | | katé |
| Kereho | koret | beʔ luaŋ | kono háko | ola teʔiʔ | toworiʔon | diu | kati |
| Seputan | koret | be hoan | lokoŋ | botukon | ohon | liu | katu |
| Aoheng | koret | be hoan | lokoŋ | bətukon | ohon | | kati |

| English | jealous | jump | kick | kill | kingfisher | kiss | knee | land |
|----------|---------|---------|---------|-----------|------------|--------|----------|--------|
| PMÜL | *ɲəvohu | | | *(pə)ɲovo | | *naraʔ | *bohokup | *tanaʔ |
| Hovongan | ɲovohu | mahakuʔ | sepak | ɲovo | bunje | maraʔ | bookup | tana |
| Kereho | ɲovohu | masan | norajan | ɲovo | manoʔ mati | naraʔ | bohokup | tánaʔ |
| Seputan | ɲovohu | mañok | sepak | poŋovo | tioŋ hakoŋ | nara | bohokup | tana |
| Aoheng | ɲəvohu | mañok | təndaŋ | pəɲovo | | nara | bokup | tana |

| English | landslide | last | laugh | lazy | leaf | leak | learn | leave |
|----------|------------|---------|--------|--------------|--------|-------|----------|--------|
| PMÜL | *tohan | *opot | | *məloʔo | *daʔun | | *təvara | *pusit |
| Hovongan | tana koot | tərahir | kəraho | moloʔo | daʔun | hutoʔ | botovara | pusit |
| Kereho | tohan | opot | koráho | moluhut/kiun | daʔon | ñaraʔ | novono | pusit |
| Seputan | tana tohan | butuŋ | ŋoa | moloʔo | daʔun | hovut | tovara | usit |
| Aoheng | | opot | ŋoa | məloʔo | | hovut | təvara | pusit |

| English | leech | left | leg | lend | leopard | lid | lie down | lie prone |
|----------|----------|--------|---------------|-------|---------|--------|----------|-----------|
| PMÜL | *ñəmataʔ | *buley | | *icam | *kuli | *takop | *miriʔ | |
| Hovongan | lomataʔ | bure | hakot | icam | kuri | takop | miiriʔ | nokokop |
| Kereho | ñomataʔ | bure | hakot | icam | kuri | takop | miriʔ | nolukup |
| Seputan | ñomata | kovuri | kukut/kohukut | icam | kuri | takop | miri | norukup |
| Aoheng | ñəmata | burí | kukut | icam | kuri | nakop | miriʔ | |

| English | lift, carry | light weight | light | lightening | like | lime | lips | listen |
|----------|-------------|--------------|-------------|------------|-------|-------|-------|--------|
| PMÜL | *ŋəkət | *ñiʔun | | | *beoŋ | | *bevo | *cohiŋ |
| Hovongan | ŋakat | ñiʔun | sʷilu/lohaʔ | luvaŋ lo: | beoŋ | ulak | katao | cohin |
| Kereho | ŋokat | ñiʔun | silu/teraŋ | kilat | beoŋ | kapuʔ | bowaʔ | cohiŋ |
| Seputan | ŋokat | ñiʔun | siʔa | kovolip | beoŋ | ulak | bevo | cohin |
| Aoheng | ketan | ñiʔun | niʔa | havun | beoŋ | | bevo | cohiŋ |

| English | liver | log | loincloth | long | long-tailed macaque | long time ago | longhouse |
|----------|-------|-----------|-----------|--------|---------------------|---------------|------------|
| PMÜL | *atay | | *uvi | *daruʔ | *kiat | | |
| Hovongan | até | batan kiu | uvé | daru | kiat | loŋám | lovu petan |
| Kereho | ate | batan kou | ovi | daruʔ | | monin | bətan |
| Seputan | ati | | ovi | daruʔ | kiat | ne mae | |
| Aoheng | ati | baton kau | ovi | daruʔ | kiat | | lopu raruʔ |

| English | loose | loud | louse | lowland plain | make | man | many | marry |
|----------|--------|-------------|-------|---------------|-------|-------|-----------|--------------|
| PMÜL | | | *kutʷ | *data | *uliʔ | *laki | *baʔu | |
| Hovongan | səlua | mokoron | kutu | rata | ureʔ | laki: | baʔu | kawin |
| Kereho | soluaʔ | situp/siʔoŋ | kutu | data/rata | iriʔ | laki | baʔu/luaʔ | kawin/bosaut |
| Seputan | mora | cohon | kʷtʷ | ata (L) | ori | laki | baʔu | bəsa |
| Aoheng | | laʔin hauʔ | kutʷ | data | ori | laki | | bəsa |

| English | mat | measure | meet | millipede | mine | mix | molars |
|----------|--------|---------|-----------|-------------|-------------------|---------|----------|
| PMÜL | *tahiŋ | | | *kələ-soriŋ | *hun ku/*hun aʔuŋ | | *bəhaʔam |
| Hovongan | tahen | ŋororoŋ | boko luhu | kolosoriŋ | hun ku | ñampor | |
| Kereho | tahiŋ | ŋoropoʔ | bokomaan | kolosoriŋ | duhun aʔoŋ | bosop | bohaʔam |
| Seputan | tahiŋ | tukot | povosoŋ | lokosoriŋ | hon aʔuŋ | bəkarot | baʔam |
| Aoheng | tahiŋ | məŋukur | pəkəposoŋ | | hon aʔuŋ | kalek | baʔam |

| English | monitor | moon | morning | mortar (rice) | mosquito | moss |
|----------|------------|------------|---------|---------------|-----------------|--------|
| PMÜL | | *buan | *suap | *losuŋ | *ñamu? | *lumut |
| Hovongan | boroŋahat | arit | ñuap | losuŋ | ñamu? | lumut |
| Kereho | kawo? | amoŋ/karit | ñuap | losuŋ | ñamo? | lumut |
| Seputan | boro ŋahat | buan | soŋuap | losuŋ | ñamo? boro tumu | lumut |
| Aoheng | kavo? | buan | səmuap | losuŋ | ñako? | lumut |

| English | mother | mountain | mouse deer | mouth | mud | mushroom | mute |
|----------|--------------|-------------|------------|--------|------------|----------|-------|
| PMÜL | *hino/*hina? | *uŋam | *pəlanu? | *bava? | *atek | *kuat | |
| Hovongan | hina? | uŋam | paanu? | bava | tek | kuat | bisu? |
| Kereho | ina? | sapat javun | polano? | bowa? | atek/takuŋ | kuat | bisu? |
| Seputan | ino? | uŋam cotan | porano | bova | utop | kuat | pawan |
| Aoheng | ino? | huno? | pərano | bova | atek | kuat | pawan |

| English | myna | naked | name | navel | near | neck | necklace | nest | new |
|----------|-------|----------|-------|--------|--------|-------------|--------------|------|----------|
| PMÜL | *tiuŋ | *pətənea | *aran | *pusot | *lokin | *koran | *inu? | *saa | *təŋanay |
| Hovongan | tiuŋ | botonéa | aran | pusot | lokin | cohoŋ | inu | saa | toŋané |
| Kereho | tioŋ | botonea | aran | pusot | | koran/soŋan | inu? | saa | toŋáne |
| Seputan | tioŋ | potonea | aran | pusot | lokin | kohoran | inuh | saa | toŋani |
| Aoheng | tioŋ | pətənea | aran | pusot | lokin | koran | inu/inu uko? | saa | təŋani |

| English | next to | niece; nephew | night | nine | noon | nose | now |
|----------|--------------------|---------------|-------|--------|------------|-------|---------|
| PMÜL | *be? aviŋ | | *maam | *ti?an | *uhun olaw | *uruŋ | |
| Hovongan | noŋ aveŋ | naakon | maam | ti?an | luhaŋ lo | uruŋ | noŋ nin |
| Kereho | be? sáron/be? áveŋ | ane? nákon | maam | ti?an | uhun ou | uruŋ | hivonin |
| Seputan | be aviŋ | ane usun | maam | ti?an | hun ou | uruŋ | haŋa |
| Aoheng | be evaŋ | | maam | ti?an | hunou | uruŋ | hana |

| English | old | old | on top | one | onion | open | or | orangutan |
|----------|----------|--------|-----------|----------|---------|-------------|------|-----------|
| PMÜL | *təhəkan | *hocu? | *be? uru? | *ci? | | | | *daet |
| Hovongan | tahakan | hoco | noŋ uru | ci? | bawaŋ | buka? | ataw | daet |
| Kereho | tohókan | hocu? | be? uru? | itop/ci? | bawaŋ | mukap | ataw | daet |
| Seputan | tokan | hocu? | puru | itup | sokuno? | mə-mukap | ataw | |
| Aoheng | tokan | hocu? | be puru | ci? | bawaŋ | buka?/muŋap | atəw | |

| English | otter | outside | overflow | owl | paddle | palm | palm civit | pangolin |
|----------|--------|----------|-----------|-----------|--------|---------|------------|----------|
| PMÜL | *doŋon | | | | | | | *aham |
| Hovongan | doŋon | noŋ luar | másut | ukuŋ | polo | tapa | siŋit | ham |
| Kereho | doŋon | be? soa | lolue? | koŋu maam | polo | təlapa? | siŋit | aham |
| Seputan | doŋon | | koponuhan | uok | bosi | tapa | eot maam | aham |
| Aoheng | doŋon | | ponu | | bosi | taa | | aham |

| English | parang | parang handle | parent in law | parrot | peak/top | peel fruit | person |
|----------|--------|---------------|---------------|--------|----------|------------|------------|
| PMÜL | | | *boson | *pikiŋ | | *ŋupa? | *(a)linaw |
| Hovongan | olok | sa?up | boson | pikiŋ | konosaki | ŋopa | arino |
| Kereho | olok | so?up olok | boson | cokuk | uru? | ŋupa? | dino/arino |
| Seputan | olok | atop olok | | pikiŋ | puru | mupe | arinu |
| Aoheng | olok | | amun levan | | amao | manit | arinu |

| English | pestle (rice) | pig tailed mac. | pigmy squirrel | pile | pinch |
|----------|---------------|-----------------|----------------|---------|-----------------------|
| PMÜL | *su?an | *boru? | *ukaŋ | | *ŋitay |
| Hovongan | su?an | bəru? | ukaŋ | nusun | ŋite |
| Kereho | su?an | boro? | ukaŋ | kuhukum | ŋíte/ŋapeŋ (and turn) |
| Seputan | su?an | boro? | ukaŋ | topurun | ŋiti |
| Aoheng | su?an | boro? | | pukuŋ | ŋiti |

| English | pineapple | pinky | place (n) | plant | pluck | point | porcupine |
|----------|------------|----------|-----------|-------|--------|---------------|-----------|
| PMÜL | | | *ña?an | *muo | *ŋitu | *nucu?/*tucu? | *təhotuŋ |
| Hovongan | usan/usʔan | toliciŋ | na?an | muo | ŋitu | tucu: | tohotuŋ |
| Kereho | gonay | kolicicŋ | na?an | muo | ŋohitu | nucu? | tohotuŋ |
| Seputan | usan | kənipicŋ | ña?an | moo | ara | nucu | totuŋ |
| Aoheng | usan | pənipicŋ | ña?an | moo | ŋitu | bətucu | totuŋ |

| English | pour | pregnant | primary forest | print | proud | pull | punch |
|----------|-------|----------|----------------|-------------|--------|-------------|-------------|
| PMÜL | | *bətahi? | *tu?an | | *hajo? | *tulu/*nulu | *kucu/*ŋucu |
| Hovongan | niti? | botehe | tu?an | can hakot | baŋga | nulu | kucu |
| Kereho | nite? | botohi? | hiwa?/tu?an | tokoŋ hakot | hajo? | nulu/tulu | ŋucu |
| Seputan | mua | botohi | tu?an tuvak | caan | hajo? | noʔ | ŋucu |
| Aoheng | | bətahi | tu?an | | hajo? | cu | ŋucu |

| English | pus | push | put down | put together | python | quiet | raft |
|----------|---------|---------|----------|--------------|----------|--------------|--------|
| PMÜL | *rana? | *suruŋ | *pate | *pukuŋ | *pəŋanon | *təkononŋ | *hakit |
| Hovongan | ŋorana? | | | | poŋanon | tokononŋ koh | hakit |
| Kereho | rána? | suruŋ | páte | mohukuŋ | poŋáanon | nokononom | hakit |
| Seputan | ŋorana? | suruŋ | pate | pukuŋ | poŋanon | nokononŋ | hakit |
| Aoheng | ŋərana | bəsuruŋ | pate | pukuŋ | pəŋanon | təkononŋ | hakit |

| English | rafter | rain | rainbow | rambutan | rapids | rat | rattan | rattan backpack |
|----------|---------|-------|-----------|----------|--------|--------|--------|-----------------|
| PMÜL | *kasaw | | *uvı ake? | *boliti? | | *musiŋ | *uay | *kevo |
| Hovongan | kaso: | hama: | pəlaŋi | boliti? | bon | musiŋ | ué | kevo |
| Kereho | kohuvuŋ | homa | ovi ake? | boleti? | bõn | musiŋ | ue/we | ladoŋ/kevo |
| Seputan | kasu | | ovi ake? | bəriti? | keham | musiŋ | ui | kevo |
| Aoheng | | aaŋ | | bua vun | keham | musiŋ | ui | kevo |

| English | rattan backpack | rattan backpack | receive | red | red-leaf monkey | remember |
|----------|-----------------|-----------------|---------|----------|-----------------|----------|
| PMÜL | *teat | | *ala? | *təvoli? | *məpuan | |
| Hovongan | teat | piso | ku?a | tovori | mopuan | iŋat |
| Kereho | ocoŋ/pasu (lrg) | | torima? | tovori? | mopuan | kiŋat |
| Seputan | teat | pisa | ara | tovori? | bəkantan/boŋat | situk |
| Aoheng | teat | pisa | ara | təvori? | məpuan | situk |

| English | rest | return | rhinoceros | rhino. beetle | rhino. hornbill | rice | ridge |
|----------|-----------|----------|------------|---------------|-----------------|--------|-----------|
| PMÜL | | *pəlekot | *təmora | *kusoŋ uhoŋ | *tiŋan | *paray | |
| Hovongan | istirahat | polekot | tomora | kusoŋ uhoŋ | tiŋan | pare | koki iviŋ |
| Kereho | a? ohat | polekot | tomora | kosoŋ ohoŋ | tiŋan | pare | kosi? |
| Seputan | isit | muri | tomora | kosoŋ ohoŋ | tiŋan | pari | aviŋ |
| Aoheng | isit | pəlekot | | kosoŋ ohoŋ | tiŋan | pari | |

| English | right | ripe | river | r. bank | estuary | road | roast | roof | room | roots |
|----------|---------|--------|--------|------------|---------|-------|--------|--------|-------|-------|
| PMÜL | *ta?u | *mosi? | *suŋay | | *əluŋ | *caan | *nutuŋ | *siŋaw | | |
| Hovongan | ta?u | mosi? | suŋe | ive suŋe | təsoʷ | caan | nutuŋ | siŋo: | kamar | larit |
| Kereho | to?u | mose? | suŋé | iwe suŋe | sulo? | caan | nutuŋ | siŋo | uñoŋ | oka |
| Seputan | kota?u? | mose | suŋi | aveŋ suŋi | kuoŋ | caan | nutuŋ | | oñoŋ | darit |
| Aoheng | ta?u | mose | suŋi | kovaŋ suŋi | oroŋ | caan | nutuŋ | kopaŋ | hoŋ | darit |

| English | rope | rotten (meat) | rub | run | sad | sago flour | saliva |
|----------|---------|---------------|--------------|-----------|------------|------------|------------|
| PMÜL | *to?u-n | *maram | | *nəkacuŋ | | *(ə)la? | *iliŋ |
| Hovongan | to?u | maram | məret/kiisa? | nəkacuŋ | sədi | laa | lelo |
| Kereho | toun | maram | ŋa?uŋ/ŋaluŋ | botokacuŋ | sədih | oa? | lelo |
| Seputan | toun | maram | ŋusu | nəkacuŋ | cokot | oa | toaŋ ehop |
| Aoheng | | maram | | nəkacuŋ | poro soŋam | oa | toaŋ reliŋ |

| English | salty | same | sand | sand fly | sap | sape | say | scabbard | scale |
|----------|-----------|------|---------|-------------|-------|-------|-----------|-----------|-------|
| PMÜL | *m-asin | | *bara | | *puut | | | | *ənap |
| Hovongan | masin | sama | lokori? | tocom | puut | sape? | neho | avot olok | nap |
| Kereho | másin | sama | bara | tocom | puut | sapé? | mo?o | sope olok | onap |
| Seputan | oreŋ asin | sama | bara | ñamo? dimit | puut | sape | pokoli?an | | onap |
| Aoheng | | | bara | ñamo? bara | puut | sape? | pəkəli?an | atop | onap |

| English | scar | scorpion | scratch | secondary forest | see | seed |
|----------|-------------|----------------------|----------------|------------------|-------|------|
| PMÜL | | *katip bakuŋ | *ŋati/*ŋəhamot | *ivut | *maañ | |
| Hovongan | bəkas toan | katip be?əq | ŋaté | ivut | mañ | luaŋ |
| Kereho | na?an toan | katip be?ao/k. bakuŋ | ŋati | kohokoŋ | maañ | oŋe |
| Seputan | tunan | katip bakuŋ | ŋahamot | ivut | maañ | jaŋi |
| Aoheng | ña?an tunan | katip bakuŋ | ŋamot | ivut | maañ | jaŋi |

| English | sell | send | seven | sew | shade | shadow | shallow | sharp |
|----------|----------|-------|---------------|--------|---------------|--------|---------|--------|
| PMÜL | | *katu | *ticu?/*tujo? | *ñona? | | | *nə?i? | *ñahit |
| Hovongan | borion | irim | tujo | ñoná | soriŋo | amoŋ | nə?e | ñahit |
| Kereho | povorion | irim | ticu? | ñona? | riŋom | amoŋ | no?é? | ñehit |
| Seputan | bətuka | katu | ticu | ñoa | ña?an ŋoliŋom | koriŋe | no?i? | ñahit |
| Aoheng | nuka | katu | ticu | ŋumaŋ | | | no?i? | ñahit |

| English | sharpen | shield | shin | shoot blowpipe | short (length) |
|----------|-------------------------|---------|-------------|----------------|----------------|
| PMÜL | *masa? | *tavaŋ | | *ñoput | *livu? |
| Hovongan | masa | tavoŋ | | ñoput | divu? |
| Kereho | boko ñehit/masa? (wett) | kolibit | to?aŋ moheŋ | ñoput | diwu? |
| Seputan | masa | toravaŋ | torañ bonet | ñoput | livu? |
| Aoheng | pəñahit | təravaŋ | torañ bonet | | livu? |

| English | short (height) | shoulder | shout | shrimp | shy | sick |
|----------|----------------|-----------|---------|--------|--------|--------------|
| PMÜL | | *bahan | | *uraŋ | *ŋava? | *sakit/*poro |
| Hovongan | dokop | bahan | nahavaŋ | uraŋ | ŋava: | sakit |
| Kereho | dokop/rokop | bahan | nohawaŋ | ore | ŋawa? | pororon |
| Seputan | dapit | bahan | ñoho?i | oraŋ | ŋava? | pocoh |
| Aoheng | rapit | təra?ekep | ño?i | oraŋ | ŋava | miram/poco |

| English | silver leaf monkey | sit | six | skin | skin (v) | skink | skinny | skirt |
|----------|--------------------|--------|-------|-------|-------------|-------|--------|--------|
| PMÜL | *ho?ut | *muŋu? | *ənom | *upa? | | | *mahi | *kotip |
| Hovongan | ho?ut | muŋo | nom | kataw | ŋataw | somat | mahi | |
| Kereho | ho?ut | moŋo? | onom | upa? | ŋupa?/nuvap | sómat | mēhī | |
| Seputan | ho?ut | moŋu | onom | upa | mupe | belañ | mahi | kotip |
| Aoheng | | | onom | upa | manit | belañ | mahi | kotip |

| English | sky | slap | sleep | slice | slip | slow | slow loris | small | smell (n) |
|----------|--------|-----------|-------|-------|-----------|-------|------------|-------|-----------|
| PMÜL | *havun | *təmpeləŋ | *turi | | | | | *əki? | *əvun |
| Hovongan | havun | nampar | turi | ñirip | kotoselat | | bokiki | ii? | bün |
| Kereho | hawun | nompeləŋ | tore | ŋirip | toselat | leon | kukaŋ | oki? | ovun |
| Seputan | havun | ŋucuh | tore | nurak | tokarut | dena? | tokore? | oki? | ovun |
| Aoheng | | təmpeləŋ | tore | ŋipi | saŋelat | dena? | təkore? | oki? | ovun |

| English | smile | smoke (n) | smooth | snail | snake | snap | sneeze | snore | snot |
|----------|---------|-----------|---------|-------|----------|------|---------|---------|-------|
| PMÜL | *ŋomeŋ | | | *osi? | *bətəŋaj | | *tacim | | *isoŋ |
| Hovongan | səñum | tuki: | halus | sari: | boteŋe | mua? | ta:cin | ŋa:ra? | isoŋ |
| Kereho | ŋokomeŋ | tuki | alus | osi? | botoŋe | moot | tokasim | ŋohorok | isoŋ |
| Seputan | ŋohomeŋ | | corehop | osi | botoŋi | moot | tasim | ŋohorok | isoŋ |
| Aoheng | ŋomeŋ | | | osi | bətoŋi | moot | nasim | ŋorot | isoŋ |

| English | soft | some | song/sing | sour | speak | spicy | spider | spider hunter |
|----------|---------|---------|-----------|----------|-----------|--------|---------|---------------|
| PMÜL | *lomit | | | *mə-osum | | *sanit | | *isit |
| Hovongan | le?emət | | ñañi | moosom | neho | sanit | kotola? | sit |
| Kereho | lomit | | məñañon | mosum | botikun | sanit | kotóla? | isit |
| Seputan | lomit | uvikuvı | moñañon | mosum | li?an | sanit | tela? | isit |
| Aoheng | | kokuvı | | mosum | pəkəli?an | sanit | tela? | tisit |

| English | spit | splash | split | spotted | spouse | squeeze | squirrel |
|----------|----------------|--------|----------|----------|--------|---------|----------|
| PMÜL | *nopuca? | | *məkaŋ | | *sawan | | *toli |
| Hovongan | mo:non/mohonon | | makaŋ | tonomaŋ | soon | ni:ʔom | tori |
| Kereho | nópucă? | mopasi | mokaŋ | to?an | saan | ñañkam | ovap |
| Seputan | nopuca | nape | mokaŋ | konomaan | saan | ñapek | tori |
| Aoheng | nəpuca | nape | mokaŋ ho | | san | | tori |

| English | stab | stairs/ladder | stand | star | stay; lodge | steal | sticky | stomach |
|----------|-------|---------------|----------|----------|-------------|--------|---------|---------|
| PMÜL | | *həcan | *nəkojop | | *poku | *ñikaw | | |
| Hovongan | nusup | hacan | nokojop | hojaavu? | ite | ñiko | nocakot | hoaŋ |
| Kereho | nusup | hocan | nokócop | jawu? | poku/totak | ñiko | nocákot | hoaŋ |
| Seputan | munu | hocan | nokocop | koñuhi | poku | ñiku | ñahakot | atuk |
| Aoheng | pasa? | hocan | nəkokop | kəñuhi? | poku | ñiku | | atuk |

| English | stone | stop | straight | stranger | strong | stump | stupid | sugarcane |
|----------|-------|------------------|----------|-------------|--------|--------|--------|-----------|
| PMÜL | *batu | | *təhorıŋ | | | *pu?ot | | *təvu |
| Hovongan | batu | borenti | tohorıŋ | arino luar | siŋo? | pu?ot | budu | təbu (L) |
| Kereho | batu | borenti/bojaŋka? | tohorıŋ | dino bokon | siro? | pu?ot | budu | tovu |
| Seputan | batu | nokonon | təhorıŋ | arino bari? | takon | pu?ot | iu | tavu |
| Aoheng | batu | konoŋ | torıŋ | arinu | takon | pu?ot | bodok | tavu |

| English | sunhat | sunrise | supernatural storm | surprise | swallow | swamp |
|----------|--------|-------------------|--------------------|----------|------------|-------|
| PMÜL | *cahuŋ | *matan alaw pusit | *huvon | | | |
| Hovongan | cahuŋ | kono usit lo | huvon | tovoruan | noon | |
| Kereho | cohuŋ | maton ou ñovit | huvon | tovoruan | noon/coŋo? | takuŋ |
| Seputan | cahuŋ | matan ou pusit | koviho | tokacot | coŋo? | rapak |
| Aoheng | cahuŋ | maton ou ñi?a | huvon | təkacop | coŋo? | |

| English | sweat | sweep | sweet | sweet potato | swim | swollen | tail | take | tall |
|----------|--------|-------|---------|--------------|---------|--------------------|------|-------|--------|
| PMÜL | *lasan | *məpa | *mə-əmi | *upi? | | *matuŋ | *ike | *ala? | *cutaŋ |
| Hovongan | laasan | mapa | mo?omih | | ŋoluha | matuŋ | ike | aa | cutaŋ |
| Kereho | lasin | mopa | momi | upi? | ŋoloha? | matuŋ ^w | oke | aa? | cótaŋ |
| Seputan | lasan | mopa | momi? | upi | ŋohon | | | ara | cotaŋ |
| Aoheng | lasan | mopa | momi? | uvi | ŋohon | matuŋ | oke | ara | cotaŋ |

| English | tamp earth | tart | tasteless | tattoo | tear | tell | ten | termite |
|----------|------------|--------|-----------|--------|--------|----------------|--------|---------------|
| PMÜL | | *palot | *təvela? | | *ñilat | | *pulu? | |
| Hovongan | nusun | palot | tovela: | toti? | ñirat | bətikun | pu:? | lama |
| Kereho | botoci? | palot | tovela? | toti? | ñire? | ŋorime/botikun | puru? | lámá |
| Seputan | tiroh | palot | tovela | totan | ŋirat | kesakan | puru | ñoveraŋ pako? |
| Aoheng | | | təvela | totan | ŋirat | bəkisa | puru | ane ñoveraŋ |

| English | that, far | that, near | there, near | they | thick | thigh | thin | thirsty | this |
|----------|-----------|------------|-------------|--------|-------|---------|-------|---------|-------|
| PMÜL | | *na-n | *bi? na | *hi-do | *kapı | *pa?a-n | *ñipi | *ŋaha? | *ni-n |
| Hovongan | | nan | noŋ hina | hiroh | kape | pa?an | ñipi | ŋaha? | nin |
| Kereho | napaheŋ | nan | be? na | do | kapi | pa?an | ñipi | ŋaha? | nm |
| Seputan | | na/naho | bena | do | kapı | pa?an | ñipi | naha | nih |
| Aoheng | nəpə | na-n | be na | do | kapı | pa?a | ñipi | ŋaha | ni |

| English | thorn | thousand | three | throw | thunder | tickle | tie | tight | tired |
|----------|-------|----------|-------|-------|---------|---------|--------|-------|------------|
| PMÜL | *duhi | | *toʊ | | *duru | | *movot | | |
| Hovongan | duhi | səribu | tou | majuk | duru | cokerek | movot | dohon | ñian halop |
| Kereho | duhi | ci? ribu | tou | majuk | duru | cokerek | movot | silot | lopa |
| Seputan | duhi | ciribu | toʊ | matu | havun | tucik | movot | katoŋ | ñan takon |
| Aoheng | duhi | ciribu | toʊ | matu | havun | kerek | necit | | |

| English | to dry | to fish | to lean | to lie | to sting | to whistle | to wrap | toad |
|----------|-------------|---------|----------|--------|----------|------------|---------|-------|
| PMÜL | *pəkə-pəhaŋ | | | *monaŋ | *ñiŋot | *ñohoŋe | *napay | *jaʔi |
| Hovongan | bokopahaŋ | mosi | botosuki | mañũ | tonápi | ñohoŋe | nape | jaʔi |
| Kereho | bokolatot | mósi | botosuki | monaŋ | ñiŋot | ñohoŋe | nape | jaʔi |
| Seputan | kopohaŋ | mitan | bosera | monaŋ | ñiŋot | ñoŋe | napi | jaʔi |
| Aoheng | pəkəpohaŋ | mitan | | monaŋ | | ñoŋe | napi | saʔi |

| English | today | tongue | tooth | touch | tortoise | tree | tree shrew | true/correct |
|----------|----------|--------|-------|-------|-------------|------|------------|--------------|
| PMÜL | *law niʔ | *cəlaʔ | *tuku | | *koop siʔan | kayu | *toli | *təpuʔu-n |
| Hovongan | lo niʔ | caaʔ | tuko | tukin | koop seʔan | kiu | tori | topuʔun |
| Kereho | ou nin | cəlaʔ | tuku | tikin | koop siʔan | kou | ovap | topuʔu |
| Seputan | ou ni | cəlaʔ | tuku | icet | hoop seʔan | kaʊ | tori | təpuʔun |
| Aoheng | | cəla | tuku | | koop seʔan | kaʊ | | təpuʔun |

| English | try | turn | turtle | twins | two | uncle | under | understand |
|----------|-------|-------|-----------|---------|------|-------------|-----------|------------|
| PMÜL | | | *koop | *kapit | *duo | *amun nokan | *biʔ iraʔ | *tuʔu |
| Hovongan | cuba | nísan | koop toaŋ | kəmbər | duo | | noŋ ira | toʔo |
| Kereho | cuʔu | ŋelow | koop | bokapit | duo | amun nokan | beʔ iraʔ | tuʔu |
| Seputan | coʔu | nekoʔ | koo ravaŋ | | duo | amun okan | be pira | tuʔu |
| Aoheng | tucuk | | koop | capit | duo | amun okan | be pira | məŋəti |

| English | unripe | upriver | urinate | urine | vein | veranda | village | vine |
|----------|----------|----------------|------------|------------|-------|-----------|---------|-------|
| PMÜL | *mataʔ | uut/muriʔ (go) | *meset | *set | *uhat | | | *aka |
| Hovongan | mataʔ | uut/muriʔ (go) | məset | taaŋ set | uhat | irap lovũ | naʔan | |
| Kereho | motaʔ | uut/moreʔ | məset | ɛset | ohat | | | oka |
| Seputan | ñan mose | ut | məset | paŋiŋ toaŋ | uhat | lamisa | titiŋ | jakah |
| Aoheng | | ut | masiŋ toan | paŋiŋ toan | ohat | ləmisa | | jaka |

| English | visitor | voice | vomit | waist | wait | wake up | walk | wall |
|----------|--------------|---------------|--------|--------|------|---------|---------------|-------|
| PMÜL | | *laʔin | *utaʔ | *kaʔiŋ | | *tika | *panaw | *tuuŋ |
| Hovongan | arino kariat | heo | bokuta | kaʔeŋ | maŋá | tika: | pano | tuuŋ |
| Kereho | supi/tome | cohon/kokoron | ŋótaʔ | kaʔeŋ | iti | tika | panó | tuuŋ |
| Seputan | arino ŋajap | laʔin | nota | | nean | tika | panu | tuuŋ |
| Aoheng | | laʔin/cohon | nota | kaʔeŋ | nean | tika | panu/pəkəpanu | tuuŋ |

| English | want | wash clothes | water | waterfall | we ex | we in | weak | weave |
|----------|-------|--------------|------------|------------|-------|-------|------------|--------|
| PMÜL | *beoŋ | | *təaŋ | | *kai | *to | *lomit | *mañam |
| Hovongan | beoŋ | haca | taaŋ | taaŋ nuhan | kai | toh | ñian siʔoʔ | mañam |
| Kereho | beoŋ | moheʔ | toaŋ | saraiʔ | kei | to | lomit | mañam |
| Seputan | beoŋ | mopuʔ-mopuʔ | toaŋ | losuŋ toaŋ | kai | to | lomit | norean |
| Aoheng | beoŋ | mopu | toaŋ/danum | tereʔ | kai | to | lomit | mañam |

| English | western tarsier | wet | what | when | where | which | whirlpool |
|----------|-----------------|---------|-------|---------|----------|-------------|------------|
| PMÜL | | | *ono | | *bi? mo | | |
| Hovongan | | bopo | honoa | tivovon | noŋ hamo | ni monen | kokeok |
| Kereho | | botavum | ono | hivomo | bɛ? mo | ni mo ne | loleok |
| Seputan | kolikit dora | besa | ono | hamo | bemo | nemon horu? | losuŋ toaŋ |
| Aoheng | təkore? | | ono | hamo | bemo | ne mon hona | kərəkəoŋ |

| English | white | who | why | wide | widow | widower | wind | wing | wipe |
|----------|--------|-------|--------------|--------|-------|---------|--------|-------|---------|
| PMÜL | *puti? | *hi? | | *laveŋ | *bau | *biu? | *sorit | *ilat | |
| Hovongan | pute | he? a | houre honuna | laveŋ | bau | | sorit | ilat | meret |
| Kereho | poti? | hi:? | tiri ono | luha | bou | | tosoŋ | elat | ŋolap |
| Seputan | poti? | hi? | konu? ko | laveŋ | bau | biu | siŋom | elat | mohi |
| Aoheng | poti? | hi? | konu? ko | rava | | | sorit | elat | məŋəpel |

| English | with | woman | wood pecker | worm | wring | yawn | year |
|----------|-------|--------|-------------|------|---------|----------|------------|
| PMÜL | | *dora? | | *uot | | *nu(?)ap | *t(uh)u?an |
| Hovongan | pi?aŋ | do?ora | | uot | ŋoko | nu?ap | tuhu?an |
| Kereh | pi?aŋ | dora? | | uot | ŋulo | nu?ap | toho?an |
| Seputan | ñaŋ | dora | borato | uot | saŋo?uŋ | nuap | to?an |
| Aoheng | ñaŋ | dora | bea | uot | ŋopi | | to?an |

| English | yellow/black snake | yesterday | you | you pl | young | younger siblings | yours |
|----------|--------------------|-----------|---------|--------|-------|------------------|-----------|
| PMÜL | | *nəmiu | *(i)ku? | *kəm | *kovi | *hari-n | *hun ku? |
| Hovongan | avuŋ bu?an | cahalo | ko | kom | ñom | harin ii? | hun ko |
| Kereho | kolimut saran | nomeo | ku? | kam | máŋut | duarin | duhun ku? |
| Seputan | botoŋi da?an | ou citop | iku? | kam | kovi | | hon ku? |
| Aoheng | bətoŋi aram | nəmiu | ku? | kam | kovi | warin aŋut | hon ku? |

APPENDIX 5

LAND DAYAK

| English | above | adult | aflame | afraid | after | age |
|----------------|-----------|----------|-------------------------|--------|-----------|----------|
| PLD | *samaw | | | *taraw | | |
| Benyadu | kasamo | ŋaʔaso | tətinu | buut | ŋalakaʔ | omor |
| Bekati | daʔ samo | | tabakay | buut | ŋalaka: | umuy/muy |
| Hliboi Bidayuh | ka təuh | jjakŋ | luəɗ | tilu | moh | siwaʔ |
| Sungkung | kaʔ tu | bujakŋ | saʊ | talū | mmih | sawaʔ |
| Jangkang | waʔ somu | jəməntuh | toticol | golaiʔ | mosiʔ ñen | umoy |
| Ribun | ntiŋ somu | | puŋko:ʔ/haŋus (burning) | goloʔ | mosiʔ to: | umoh |
| Golik | dəʔ atuh | dəwasa | səu | təru | sajeh | umur |
| Sanggau | saʔ somu | dəwasa | təticoəl | golaʔ | məsiʔ nin | umoyə |

| English | alive | all | alone | already | also | and | angry | animal |
|----------------|--------|--------------------|------------|---------|------|------|--------|-----------|
| PLD | *udip | | | | | *ŋan | | |
| Benyadu | idup | sama:n | adup-adup | aŋa | ugáʔ | dan | bera | laok |
| Bekati | dup | samaan | adup sadi: | laka: | | géʷ | baji | binataŋ |
| Hliboi Bidayuh | dip | sootn | sadit | goəp | agal | ŋa: | hŋuət | natakŋ |
| Sungkung | dip | pilid ⁿ | sadit | mih | muŋ | yəh | bajiʔ | binatakŋ |
| Jangkang | midop | sidiʔ | todop | ijeh | | ŋan | noyuh | bonatakŋ |
| Ribun | midiaʔ | sodo: | todiəʔ | jeh | geh | ŋan | nəhuh | ta:kŋ |
| Golik | mudip | səməua | wəŋodup | jeh | gyiʔ | dan | doruh | binatakʔŋ |
| Sanggau | midop | sidiʔ | todop | jeh | juga | dan | ndoyuh | taŋ |

| English | answer | ant | argue | argus pheasant | arrive | ash | ask |
|----------------|---------|--------|----------|----------------|--------|----------------------|-----------|
| PLD | | *subay | | | | *abu | |
| Benyadu | batimal | sobɛ | malawan | rue | namus | kalaput | mansikatn |
| Bekati | ñaut | subéʷ | ŋalawan | | tuk | kalaput/abu: | ñankeʷ |
| Hliboi Bidayuh | jawab | bbi: | lawatn | uoy | nigad | abuh | |
| Sungkung | jawab | sih | batah | | nēʔəh | ntapi ^x k | siketn |
| Jangkang | ñawap | subi | ŋolawatn | yuay | moniʔ | abuh | niji |
| Ribun | ñawaʔ | subi: | | awi | moniʔ | abuh | bupiséʔ |
| Golik | ñawap | subi: | bantah | | mənət | əbuh | ñusut |
| Sanggau | ñjawab | subi: | mbantah | monuʔ balé: | moniʔ | abúh | bəpise:ʔ |

| English | back | bad | bail water | bait | bamboo | banana | banyan |
|----------------|-----------|---------|--------------|---------|---------|--------|------------------|
| PLD | | *jaʔat | | *upan | *buruʔ | *barak | *nunuk |
| Benyadu | balaqaŋ | jahat | pəŋseok | umpatn | tarekŋ | barak | kayu ara |
| Bekati | bontot | jahéʔ | ŋoyeʔ | mpat | muʔu: | bayak | nunuk |
| Hliboi Bidayuh | ba:t | jaʔat | kaʔat piʔitn | patn | bləuʔ | pisarŋ | nnok |
| Sungkung | kaʔ kanan | samuh | | upatn | taley | balaʔk | puʔutn kayuh nuʔ |
| Jangkang | yutuʔ | balak | timaʔ | umpatn | buʔu | boʔaʔ | |
| Ribun | hutuk | kubiʔak | pənimmo | mpatn | munte | bohoʔ | nunuʔ |
| Golik | konarŋ | bək | nimaʔ | umpatʔn | koyatʔn | borak | put bəriŋin |
| Sanggau | puŋ:oŋ | jahat | timaʔ | umpan | buloh | boʔaʔ | pun bayeŋin |

| English | barking deer | bathe | bear | bee | begin | behind | bent |
|----------------|--------------|-------|--------|---------|--------|--------------|----------|
| PLD | | *mamu | *buaŋ | *siŋət | | | |
| Benyadu | kija:kŋ | mamuʔ | baruán | uñi | mule | ka bontot | beŋkok |
| Bekati | kijak | mamu | bayuaŋ | ñhiʔ | milé | daʔ bontot | maŋkaoʔ |
| Hliboi Bidayuh | | mamuh | baakŋ | suəp | mulay | ka bbat | ndikəok |
| Sungkung | | mamuh | mbuakŋ | ñawan | mulay | kaʔ kanan | kikog |
| Jangkang | kijakŋ | maneʔ | buakŋ | siŋont | mulay | waʔ bələkakŋ | bolihkoʔ |
| Ribun | jaguəkŋ | maneʔ | buakŋ | siŋuaʔ | ntojis | ntiŋ hutuk | liŋkuəʔ |
| Golik | kijakʔŋ | mamuh | kəsuh | pəñiŋət | əsik | də konarŋ | miŋkok |
| Sanggau | məkiyay (?) | maneʔ | boyuaŋ | lebah | mulay | waʔ yutuʔ | biŋkok |

| English | betel chew | betel nut | between | big | binturong | bird | bite |
|----------------|-------------|-----------|---------------|---------|------------|--------|--------------|
| | *baʔid | *uhay | | | | *manuk | *kaʔut |
| Benyadu | dautn uit | ohé | ka tudaʔ-udaʔ | asoʔ | | manuk | ŋigit |
| Bekati | urt | uhéʔ | daʔ dumi | aŋhʔu:ʔ | | manuʔ | ŋoot |
| Hliboi Bidayuh | biʔiəd | baay | baʔat | iʔh | biiʔ baʔuh | manəwk | kaʔuət |
| Sungkung | dawiʔ baʔed | bai | kaʔ ki | aʔ | tu:tn | manuk | kuʔut |
| Jangkang | | pinarŋ | waʔ antaya | dais | | monoʔ | mitat/mittat |
| Ribun | | uay | antaya | dais | muntuhun | mənuʔ | mitaʔ |
| Golik | bəit | pinarŋ | dəʔ antara | bas | bubət | manuk | ŋigit |
| Sanggau | siyeh | pinarŋ | waʔ antayaʔ: | daiʔ | | monuʔ | mi:tat |

| English | bitter | black | blind | blink | blood | blow | blow, w/ mouth |
|----------------|--------|-----------|-------------|-----------|--------|------------|----------------|
| PLD | *paʔit | *sə(ŋ)gət | *bakap | *-dip | *dayaʔ | | |
| Benyadu | peet | itapm | bakap | mesap | daya:ʔ | talayakŋ | ŋampoh |
| Bekati | péet | sunut | buta: | ŋaŋ kidip | daya: | ŋabok | ŋampoh |
| Hliboi Bidayuh | pəʔet | hŋuət | ūdúəl | mbliəp | íaʔ | labakŋ | iup |
| Sungkung | paʔet | siŋit | | belep | dayaʔ | nuhput | |
| Jangkang | mokut | itapm | bokap | midupm | doya | tipaw | totipoh |
| Ribun | poiəʔ | ñabuʔ | bokaʔ/boqaʔ | bukodip | doyo | təsipoh | ñipoh |
| Golik | poit | sigət | bəkəp | ŋədip | doyaʔ | sət ŋumpor | məŋumpor |
| Sanggau | poet | ñaboʔ | bokap | mbilap | doya: | təsipoh | ñipoh |

| English | blowpipe | boar | body | body hair | boil | bone | bored |
|----------------|-----------|--------------|--------------|-------------|-----------|--------|-------|
| PLD | *put | *dahəŋ/*laba | | *buru-n | | *turaŋ | |
| Benyadu | abeh/abeh | labá | uŋan | burutn | panjurit | turakŋ | tukur |
| Bekati | sumpit | dahak | ŋan | buyut | kaduŋit | tuyak | say: |
| Hliboi Bidayuh | puət | aduʔ uəp | akəʔʔ | bləutn | píkis | kləug | malas |
| Sungkung | ñipoət | dodoʔ | ŋanan | bulutn | palahkih | tulakŋ | bosan |
| Jangkang | sumpit | dakŋ | uokŋ | buyuh/boyuh | koyon cus | tuyakŋ | jóluʔ |
| Ribun | supiəʔ | ci:s | siŋolo | buhuh | pohojis | tuhakŋ | bosan |
| Golik | sumpit | labə: | tibuʔ | buruh | pəronkih | turak | bosan |
| Sanggau | sumpit | ci:s | baka:/bakka: | buyuh | bayah | toyaŋ | bosan |

| English | bowl | bracelette | brain | branch | breast | breast feed | breathe |
|----------------|--------|------------|--------------------|--------------|--------|-------------|---------------|
| PLD | | | *utək | *daʔan | *susu | | *ŋ-asəŋ |
| Benyadu | maŋkok | galakŋ | otak | dahatn [ahə] | sosəŋ | ñosəŋ | mansəŋat |
| Bekati | maŋkok | galak | untuʔ | daat | susu: | ñusuʔ | ñiŋat |
| Hliboi Bidayuh | maŋkok | giləwg | itowk ^w | laʔay | səuh | dduəʔ | napas |
| Sungkung | peŋetn | galakŋ | ahtik | daʔatn | susuh | ñusuh | baʔ masakŋ |
| Jangkang | maŋkoʔ | golakŋ | ntoʔ | datn | ŋcuʔ | ntisuʔ | poŋasakŋ |
| Ribun | | golaŋ | nto:ʔ | daatn | tisuk | ntisuk | noheʔ pəŋasaŋ |
| Golik | məŋkuk | golak | otak | daatʔn | icokʔŋ | məñusui | ŋasəkʔŋ |
| Sanggau | maŋkuʔ | golaŋ | otak | daan | tisú: | ñusu | ŋasaŋ |

| English | broom | burn | burp | burry | but | butterfly | buy |
|----------------|----------|---------|------------|--------|-------|--------------|--------|
| PLD | | *tutuŋ | | | | *kələ-bambaŋ | *bəli |
| Benyadu | paŋkimar | ninu? | kasadu? | ŋubur | tapi: | kalabamakŋ | mari |
| Bekati | paŋapu: | ñahũ | sidu | nama? | tapi | saŋčilak | mayi: |
| Hliboi Bidayuh | sapu | tukŋ | ŋaʔəwk | kobol | anin | litiq? | mlm |
| Sungkung | kisig | nuhputn | ba? ŋanin | nalut | tapi | maŋan | bilin |
| Jangkang | sapu | ticol | | ŋubuyə | tapi | | miyis |
| Ribun | puŋapu | nicuə | bato:ʔ | masah | tapi | bohomaŋ | mihis |
| Golik | sapu | | ncəgu? | ŋubur | tapi? | kupu-kupu | mirih |
| Sanggau | pənopás | nicoəɭ | bərsəndawa | ŋuboyə | tapi | kupu-kupu | mbəyih |

| English | calf | call | canoe | capsize | careful | carry on back |
|----------------|--------------------|---------|-------------------|--------------------|-------------|---------------|
| PLD | *bətis | | *arud | *kaəm | | *bi? |
| Benyadu | batis | mabá:ʔ | parau | karapm | hati-ati | ŋumah |
| Bekati | buah batih | natu | pəyaŋ | | taman-taman | mah |
| Hliboi Bidayuh | ddiəs | paŋəl | iluəd | kuəpm | nakit-nakit | ŋábitn |
| Sungkung | otot kaja? | sihketn | alud ⁿ | ŋaipm | nakit-nakit | ŋapəh |
| Jangkang | bitis | ŋampay | oyut | kaŋapm | ati-ati | mi? |
| Ribun | botis | nəsu | ohut | kaŋapm | io? ahitn | ŋabi? |
| Golik | | ŋaba? | ərut | kup ⁿ m | napəh-napəh | ŋenok |
| Sanggau | botis ^y | mpau | poŋahu | koŋam | yo? ayoum | ŋabəh |

| English | carry by handle | carry on shoulder | carry under arm | carry with hands |
|----------------|-----------------|-------------------|-----------------|------------------|
| PLD | | | *-pit | |
| Benyadu | naŋkilek | naŋkoəŋ | ŋépét | nabatn |
| Bekati | nalən/ñinti | naŋkon | ŋitip | minsa? |
| Hliboi Bidayuh | nsakŋ | gləəpm | ñipit eh | |
| Sungkung | tahkat | gəlɪqkŋ | nehpét | tabatn |
| Jangkang | núgatn | jiŋkokŋ/ñiŋkokŋ | ŋopet | |
| Ribun | matn | | ŋapiq? | |
| Golik | jinjin | təŋəɾək | ŋəpit | ŋəbət |
| Sanggau | ŋjiji:ŋ | ŋabəh | ŋipet | niban |

| English | cat | catch | cave | centipede | cheek | chest |
|----------------|-------|---------------|------------|--------------|-----------------|--------------|
| PLD | | | | *təripən | | *usuk/*sadu? |
| Benyadu | uciŋ | naŋkap | goa | saraŋ tipatn | pipi | dada |
| Bekati | mãõ: | caap | gua | santipāt | kuku | sadu: |
| Hliboi Bidayuh | ñəø | tákiəp | gua | papyey | pandiéy/pandikŋ | siduə? |
| Sungkung | mimi? | ñiŋipm | wakŋ batuh | nsipatn | tokopm | sodo? |
| Jangkang | icikŋ | nokop | goa | ɣotipatn | pompi | uso? |
| Ribun | uciŋ | nokiɛ?/nokiə? | guá | tihipatn | pəmpɪ | uso? |
| Golik | siŋaw | nokup | goa | lipət'n | pipi | dada |
| Sanggau | | nəkəp | gua | kələbaŋ | pipi | dada |

| English | chew | chicken | child | child in law | chin | choose | chop |
|----------|--------|------------|------------------------|--------------|---------|---------|--------|
| PLD | *mapa | *siap | *anak | *iban | *rahaŋ | *pili? | |
| Benyadu | ŋuñah | siap | anak/daŋot (unrelated) | ibátŋ | araakŋ | malihɪ | mukakŋ |
| Bekati | mapə: | çiap | ana?/kaŋot (unrelated) | bat | | malihj: | ñanta? |
| Hliboi | kuʔuət | siap/siuək | kuiəh (unrelated)/inak | nantəu | kləwɣ | peleh | nitod |
| Sungkung | nahpa? | siok | anak | damih | sələka? | ntɪɣni | tahpig |
| Jangkang | mópa | siap | ona? | ibatn | dagu? | mileh | ŋopu? |
| Ribun | ŋuda:? | sia? | ono? | ibatn | ha:kŋ | piləh | ŋopuk |
| Golik | ŋumpə? | siop | onak | ibət'n | dagu | piliç | ŋkəpək |
| Sanggau | ŋumay | siap | ona? | mənantu | ɣahaŋ | | ŋopú? |

| English | climb | cloud | cockroach | coconut | coffin | cold |
|----------|------------|---------------------|-----------|---------------|----------------|------------------------|
| PLD | | | | *buntan | | |
| Benyadu | naki? | ramaŋ | lipih | iñoh | raruŋ | calap |
| Bekati | maka? | amput | kasuya | bintat/buntat | aɣok | panut |
| Hliboi | mak/nikəøh | abuətn | papákŋ | ddeŋ | siokŋ kiboəs | midud |
| Sungkung | jahkih | pəpi ^x k | mpapaxkŋ | butatn | pahti | madud ⁿ |
| Jangkang | sima? | | | buntatn | poti oña kobə? | colap |
| Ribun | ncino? | awan | pahapus | buntatn | gohibuəŋ | colap (weather)/nciŋuh |
| Golik | ñəkəh | awət'n | rəpapus | buntót | kərobok'ŋ | suŋah |
| Sanggau | ñima? | awan | mpa?pus | buntan | pəti mati | cələp/siŋuh |

| English | collapse | come | cook | cooked rice | corpse | coucal | cough | count |
|----------------|----------|-------|---------|-------------|---------------------|---------|--------|---------|
| PLD | | | *tanuk | | | *bubut | | |
| Benyadu | ruruh | utukɲ | nanuk | nasi | baŋké | dunutn | batuk | baritɲ |
| Bekati | tayuyut | tuk | ansaʔ | nasiʔ | padaya | bubut | mukut | ɲetɲ |
| Hliboi Bidayuh | patuəb | nsəɔk | tinuk | biʔ | tidakɲ | būt | ɲuək | nñap |
| Sungkung | oloʔ | manig | ɲanəg | tibiʔ | tada ^x ɲ | bibut | ɲəhkən | niŋaʔ |
| Jangkang | ancoyə | moniʔ | nónoʔ | tubiʔ | | | batoʔ | boytokɲ |
| Ribun | hontuh | monik | ɲkoso | tubiʔ | baŋkaɛ | kətoloł | | milakɲ |
| Golik | runtuh | mənək | | suŋkoy | baŋkəy | bubət | məŋkət | ɲitək |
| Sanggau | yuyoh | məniʔ | bətonúʔ | tubiʔ | mayant | bubut | batoʔ | ɲitonɲ |

| English | cow | crab | crack | crocodile | crush | cry | dark | dart |
|----------------|------|---------|---------|-----------|---------|--------------------|---------|---------------|
| PLD | | *kiu | | *buʔay(ə) | | *naŋis | | |
| Benyadu | sapi | karamaʔ | rakah | boro | ɲancur | munseʔ | patakɲ | pelor |
| Bekati | sapi | kiu: | latay | buyó | ɲaluluh | munçé ^y | kalimun | paduyu sumpit |
| Hliboi Bidayuh | sapi | kuʔúh | pues | baʔay | loboh | siʔiətn | gauəʔ | inak puət |
| Sungkung | sapi | naxk | buhtah | buʔay | nuhtuh | siʔetn | kalıəpm | anak sipoət |
| Jangkang | sapi | pyat | poach | buɿ | ɲoyusak | noŋeʔ | bokap | onaʔ sumpit |
| Ribun | sapi | ciuk | hontakɲ | bayo:ʔ | ɲancoh | noŋis | pitu | onoʔ supiaʔ |
| Golik | sapi | kiuh | rətak | buɿi: | ɲancur | muos | pətəʔ | onak sumpit |
| Sanggau | sapi | kotam | yətaʔ | bui: | ɲəyocaʔ | noŋis | putu: | anak sumpit |

| English | dart case | day | day after tomorrow | day before yesterday | deaf |
|----------------|---------------------------|------------------|--------------------|----------------------|--------|
| PLD | | *anaw | | | |
| Benyadu | | ano: | lusa | nuruʔ yú: | culiʔ |
| Bekati | kayapé: ^y | anó ^w | jitit | ɲamé-ɲamé | baŋal |
| Hliboi Bidayuh | simiəkɲ | inoʊ/inəʊ | | mini: ha | ñépukɲ |
| Sungkung | sibog ⁿ sipoət | anu | mateʔ | mate:ʔə | |
| Jangkang | tancikɲ/yuas | onu | onu moŋa | onu saeʔ(e)she | baŋal |
| Ribun | kihipa:y | ənu | mosiʔ pahaji | se:ʔe | baŋa |
| Golik | ponaʔ | ənu | pagise | ñonu pagise | mɿpət |
| Sanggau | asoʔ tabuŋ | ənu: | kəmayin lusa | luas | baŋal |

| English | death | deep | deer | derris root | die | different | difficult |
|----------------|-----------------------|----------|-------|-------------|--------|-----------|-------------|
| PLD | *kabəs | | | *tubə | *kabəs | | |
| Benyadu | | sadatn | añukŋ | tuba? | kabis | balatn | sulit/payah |
| Bekati | kabih | sadat | aŋok | tuba? | kabih | babeda | γumit |
| Hliboi Bidayuh | bob maam | kaakŋ | damay | bbowh | ki:bos | koətn | susah |
| Sungkung | mi ^x kabis | ka? wakŋ | | | kabis | gai samah | |
| Jangkang | kobe? | | poyu | tibuh | kobe? | bobəda | togoh |
| Ribun | kəbis | tohin | joho? | tibuh/nibuh | kəbis | | togoh |
| Golik | kɤbəs | turup | rusa? | tuba? | kɤbəs | bəkət'n | təguh |
| Sanggau | kəbis | alam | poyu | tuba | kəbis | laink | təgoh |

| English | dig | dirty | divide | divorce | dizzy | dog | dom. Pig |
|----------------|---------------|--------|---------|-----------|---------|--------|-------------|
| PLD | *kari | | | | | *kasu | |
| Benyadu | ŋari? | kotór | magi | sarak | ruŋun | kasu? | oé? |
| Bekati | ŋaỹ: | saih | minhñuk | ñatu | γuŋun | kasu: | daye: |
| Hliboi Bidayuh | kalitn | kotol | ntəukŋ | ntigay | minapm | kisúəŋ | |
| Sungkung | ba?bakŋ | sidoə | nihtukŋ | ba? bumis | pusikŋ | kasokŋ | oyokŋ |
| Jangkang | | come? | dúman | saya? | pusikŋ | kuyu? | jane? |
| Ribun | ŋuceh | pahako | magi | caho? | hiŋu | kosuh | jane? |
| Golik | ŋkoric | come? | magyi | cəray | məbək'ŋ | kəsu | poŋan homin |
| Sanggau | məŋgali/ŋuceh | kotoyə | səmagi | coyay | γeŋuba? | kiu? | jani? |

| English | door | downriver | dragonfly | dream | drink |
|----------------|---------------------|-----------------------|-----------|-----------|-------------|
| PLD | | *saba? | | | |
| Benyadu | pintu | saba:? | ansibur | batima | ñocok |
| Bekati | pintu: | saba:/ŋansooh | tayap | pumhə: | man |
| Hliboi Bidayuh | be? | mámay (go down) | tanəuŋ | hmuəŋ | |
| Sungkung | tibatn | ka? tak pi?itn | | ba? pimin | no:k |
| Jangkang | jigutn | sobay/maman (go down) | | mpumu | ñinop/sinop |
| Ribun | gigitn | sobə:/ñobə: (go down) | capuŋ | mpumu: | ñiniə? |
| Golik | ñuga ^o n | sobá?/mamən | rənanəŋ | mpənəh | ñup |
| Sanggau | lawəŋ | soba:/mileyə | capuŋ | bomimpi | ñinop |

| English | drop | drown | drum | drunk | dry |
|----------------|---------------|-------------------|--------------|--------|--------------|
| PLD | | | | *mabuk | *badə |
| Benyadu | matatn | taŋilipm | dumbá:ʔ | mabuk | karikŋ |
| Bekati | ŋajantɥ: | naŋulap | tuma | aboʔ | badɥ: |
| Hliboi Bidayuh | baʔayeh/kaʔat | muθuəpm /t/ > [θ] | ŋginakŋ (to) | mabuk | bidoh |
| Sungkung | buʔatn | iŋid | mbudeɣt | mabuk | badih |
| Jangkang | ñotuh neh | təŋolapm (sink) | bogonakŋ | oboʔ | yaŋkay |
| Ribun | ŋjotuk | ncilit | gonakŋ | oboʔ | haŋkay/bisoh |
| Golik | robuk | nəŋolap'm | gonak'ŋ | obok | badəh |
| Sanggau | ŋəlpɥt | pəŋolam | gondarŋ | oboʔ | yaŋkay |

| English | dry season | drying rack | dull | durian | dusty | eagle | ear |
|----------------|---------------------|-------------|---------|--------|----------|-------------------|---------|
| PLD | | *payə | | *dihan | | | |
| Benyadu | musim parujatn | parapi | sunu | dihatn | badabu | alaŋ | rájak |
| Bekati | kamaɣo ^w | amup | sulɥ: | dihat | badabɥ: | | ɣajaʔ |
| Hliboi Bidayuh | piwəʔ? | piəʔ? | taɣow | liey | poy dibu | biʔuh/biʔiuh | kijit |
| Sungkung | musim palis | payih | | déətn | yiʔ dəbu | baʔuh | kajit |
| Jangkang | soyonuh | pais | | diatn | bodobu | | kopikŋ |
| Ribun | kəmahaw | mpaho: | ŋkuliəh | diatn | budobuh | bauh | kopikŋ |
| Golik | kəmarow | pɣyəh | tumpúl | diət | bədobu | bəup ^h | kəpik'ŋ |
| Sanggau | komaɣaw | | puntol | dian | bədəbu: | monuʔ laŋ | kopin |

| English | earthworm | eat | edge | egg | eight | elbow | ember |
|----------------|--------------|---------|-------|--------|-------|-------------|----------------|
| PLD | | *(u)man | | *turah | *mahi | *siku | |
| Benyadu | umpatn | uman | tapi | turah | mahiʔ | sikuʔ | dautn api |
| Bekati | mol maɣ:ʔ | man | tabik | tuyah | māhī | sikuʔ/ñikuʔ | busik/buhu api |
| Hliboi Bidayuh | litəukŋ/patn | miəʔ | gŋuəŋ | kluəh | mīih | | boon ipoɿ |
| Sungkung | ndimag | mé:ʔ | biŋiʔ | tulah | maĩ | sihkutn | |
| Jangkang | tacikŋ poya | duayʔ | bibeh | tuyo | má:i | cikuh | ayakŋ opih |
| Ribun | tacikŋ | do:ʔ | bibeh | tuhu | mai | cikuh | baho |
| Golik | rontuk rəŋəŋ | ma:n | təpi | ntəɬʔ | moi | sikuh | baraʔ |
| Sanggau | tacin | do:ʔ | təpi | tuyo | may | siku | baya: |

| English | enter | evening | every | excrement | eye | face |
|----------------|--------|----------------------|---------|--------------|---------|--------------|
| PLD | | *-may | | *taki? | *matə-n | *jaway |
| Benyadu | murah | ñalah ano/ɲarame ano | tiap | take:? | matu? | bahas |
| Bekati | maso? | | sətiap | také:? | matu: | bahas/muká:? |
| Hliboi Bidayuh | milut | hɲumi | tiap | tiki:~/tike? | bitotn | ɟiwitn |
| Sungkung | məlit | si? mi | sopm | tahke? | bahtitn | jawitn |
| Jangkang | tama | lamat onu | tiap | toke? | motuh | joɟ |
| Ribun | masuək | mihinu | bahayə? | tike:? | motuh | jowi: |
| Golik | məɾət | lamət onu | sətiap | təki? | bɾtəh | ɟowi: |
| Sanggau | maso? | soye | sətiap | tike? | motih | ɟowi: |

| English | fall | fall over | far | fast | fat | fat (n) |
|----------------|--------|-------------|-------|-------|---------------|---------|
| PLD | *jatu? | | *aju? | | | |
| Benyadu | jantú? | tumákɲ | jauh | capat | gamo? | lamak |
| Bekati | jantu: | tumak/tuméy | jauh | sakat | sawo: | lama? |
| Hliboi Bidayuh | libu? | loboh | ju:ə? | suəpm | gimu:? | likam |
| Sungkung | abu? | sapug | jo? | dah | gamu? | amak |
| Jangkang | jotu? | tumay | oju | copat | gomōɲk | lomo |
| Ribun | jotuk | huboh | ojau | dohah | lomu:/bəsihé? | lomu: |
| Golik | robu? | ruruh | jo? | jagə? | simət'n | lomak |
| Sanggau | lɔput | ɣuboh | jau | lokas | lomu: | loma? |

| English | father | fathom | fell | fern | fever | few | field hut | fill |
|----------------|-----------|-----------|---------|----------|-------------------|--------|-----------|---------|
| PLD | | *dapə | *tabəɲ | *paku | | | | |
| Benyadu | sama? | ɲara dapa | nabukɲ | lamidikɲ | tabitn | ninik | pondok | ñuɲkutn |
| Bekati | samə: | | nabut | paku? | saɲh | nindi? | déó | ɲisi: |
| Hliboi Bidayuh | ma:? | kipoh | nibokɲ | pikəuɲ | hɲuah | siət | ponəok | nsi? |
| Sungkung | mama? | dahpih | tabikɲ | pahkuh | maud ⁿ | nə?sit | bali | ɲisi? |
| Jangkang | opay/omaɲ | | timokɲ | pokuh | moɲoh | icik | daɲaw | ɲisi? |
| Ribun | maɲ | dəpak | timuəkɲ | cokae? | moɲuh | sik | daɲaw | ɲobis |
| Golik | omaɲ | dopa? | roba? | pəkuh | mɲəh | cək | bəri | ɲisi? |
| Sanggau | pa? | sopa? | ntibonɲ | poku? | domam | ciɲk | juɲonɲ | ɲisi? |

| English | fin | find | finger nail | fire | firefly | fireplace | firewood |
|----------------|--------------------|--------|-------------|-------|-------------|------------|--------------|
| PLD | | | *siru-n | *apuy | | *abu | |
| Benyadu | sirip | mamput | siruʔ | api | kalameyo | kalaput | kayuʔ api |
| Bekati | | mput | suʔu | api | saŋkayʔ: | abu: | kayu api |
| Hliboi Bidayuh | liəd | tapoəd | hləʔtn | ipuy | kilup | abuh | hləʔʔ |
| Sungkung | | ñiniək | silitn | ahpoy | ŋkalɪəp | doʔk ahpoy | siluʔ |
| Jangkang | | nomu | siyuh | opi | | dampikŋ | |
| Ribun | sirip | nopaʔ | cihuh | opi | omaŋ | dapoʔ | koyuhopi |
| Golik | potik ^h | noput | siruh | opuy | siruh muot | tuŋkuʔ | uakʔŋ nanək |
| Sanggau | siyip | nəpát | siyaʔ | opi | kunaŋ-kunaŋ | abuh | koyuh bakayə |

| English | fish | five | fix | flat | flesh | float | flood |
|----------------|--------|-------|-----------|--------------|---------|-----------|--------------|
| PLD | *ikan | *rimə | | | *(i)sin | | *abaʔ |
| Benyadu | ka:tn | rima | ŋamaiʔ | rate | insitn | timul | banjir |
| Bekati | ikat | ɣima | ŋalamus | ɣaté | dagin | mampuan | abə: |
| Hliboi Bidayuh | kiətn | məwh | nah | nsamiəh/rata | dagiŋ | mpuakŋ | bañil |
| Sungkung | kiətn | imi | nah | abaʔk | sitn | mpiup | baʔ |
| Jangkang | ikayʔ | ɣimú | ñomagaiʔi | ɣata | dagikŋ | timol | banjiyə/abap |
| Ribun | ikatn | himuh | miké | hato | dagikŋ | tahapuəkŋ | banjir |
| Golik | ikatʔn | rəməh | mpaŋuh | rata | dagikʔŋ | timpək | ampuh |
| Sanggau | ikán | ɣemuh | mbaeʔ | datayə | dagi'n | ŋapoŋ | banjeyə |

| English | floor | fly | flying lemur | food | forehead | forget | four |
|----------------|--------|----------|--------------|-------------|----------|------------|---------|
| PLD | | | *kubuŋ | | | *k(ə)rimət | *(ə)pat |
| Benyadu | lanté | namurup | kubuŋ | paŋkuman | kaniŋ | karimut | ampat |
| Bekati | lantéʔ | tayabak | | paŋkuman | kaniŋ | kayimut | apat |
| Hliboi Bidayuh | lantay | ŋabakŋ | koboy | hmiəʔ | iloʔ | kimoy | pat |
| Sungkung | alih | məliəʔkŋ | jaʔt | jəʔ boʔ məʔ | tahkatn | kamit | pat |
| Jangkang | lantay | ntibuyə | | | daŋkeh | ilap | əmpát |
| Ribun | lantay | bəlayan | kubuŋ | kunaəʔ | tonuaŋ | konomuəʔ | mpaʔ |
| Golik | lantəy | təməbər | kubokʔŋ | pəmakətʔn | doiç | kəmət | mpɣt |
| Sanggau | lantay | təyobaŋ | | pəndoʔ | daŋkeh | kənomot | mpat |

| English | friend | frighten | frog | from | frown | fruit |
|----------------|--------|----------|-----------------------------|---------|----------|-------|
| PLD | | *n-taraw | | | | *bua? |
| Benyadu | | ᵇanduut | samantakᵇ/sampakoᵇ (edible) | umpatn | bakus | buah |
| Bekati | kawan | ᵇabuut | ᵇiga/ᵇigu | bit/bit | masum | buah |
| Hliboi Bidayuh | kawan | ntaləᵇ | kumᵇuəs/katak | sakitn | hmuəᵇt | bua? |
| Sungkung | diᵇan | ntalu | ᵇgalag/bələtak/saᵇum | sohki | ᵇərut | bua? |
| Jangkang | kawatn | ᵇgolai? | togoᵇo? | asi | comeᵇyut | buah |
| Ribun | kawatn | ntahu | kato:ᵇ/bancak | si:? | nohuh | buah |
| Golik | diᵇan | ntaru | təᵇərək | məsu | korut | buah? |
| Sanggau | pi? | ᵇgola? | kata? | si? | ᵇerut | buah |

| English | fruit bat | fruit bud | fry | full | full, of food |
|----------------|-----------|------------------------------|----------|--------|-------------------|
| PLD | | | | *pənu? | *bəsuᵇ |
| Benyadu | kaluakᵇ | sempol | bagorəᵇ | panó? | basoh |
| Bekati | naᵇyup | buᵇa | ᵇayəᵇ | panu: | basoh/kamaᵇaᵇ |
| Hliboi Bidayuh | kadᵇuiəᵇt | mᵇuey | goléᵇᵇ | hnua? | ᵇjuəᵇ |
| Sungkung | kadek | moᵇ | goreᵇ | pino:? | biso |
| Jangkang | joᵇowant | | bogoyekᵇ | bunu? | busoh |
| Ribun | səᵇᵇwā? | sua?:toho?:bəlantən (sprout) | ᵇohəkᵇ | pununt | coᵇo?:busoh/bogoh |
| Golik | jəᵇᵇwəᵇt | tunas | ᵇəronak | puno? | bisə |
| Sanggau | ᵇkaləᵇ | tunas | ᵇgoᵇeᵇ | punu? | busoh |

| English | gall | ghost | gibbon | gills | ginger | give | give birth |
|----------------|----------|----------|-----------|--------|--------|---------|------------|
| PLD | *padu | *amut | *kələbət | | | | *ᵇanak |
| Benyadu | lampadu | amot | kalampio | pokat | riá? | maᵇkan | baranak |
| Bekati | sampadu: | amot | | jaᵇa | ᵇia | maᵇkat | baᵇana? |
| Hliboi Bidayuh | pidutn | diluəᵇtn | badəᵇg | insaᵇ | li?əᵇ | ggiəᵇtn | ᵇinak |
| Sungkung | puutn | kəme? | | saᵇap | a?i | kəli? | ᵇanaᵇk |
| Jangkang | pudo | mūnt | kolabot | insakᵇ | | ᵇulo | boᵇana? |
| Ribun | puduh | munt | kələbuə? | insakᵇ | jahe | ᵇilo: | bohono? |
| Golik | puduh | mūᵇt | mayəs | insaᵇ | ləih | mugot | mələhəkən |
| Sanggau | mpudə | munt | kələmpiaᵇ | insaᵇ | jahe | miᵇó? | ᵇlahəᵇə |

| English | go | good | grainary | grandchild | grandfather | grandmother |
|----------------|-----------------------------------|-------------|-------------|------------|---------------------|---------------------|
| PLD | | | | *suŋku-n | | |
| Benyadu | boho | baik | dio pade | ucú:ʔ | neneŋ | neneŋ |
| Bekati | ano ^w /no ^w | lamus | déo | suŋkut | samba | samba |
| Hliboi Bidayuh | idiʔ | paguh | klit pidey | kutn | mimá | məʔk |
| Sungkung | ji: | manih | bilitn padi | sihkutn | simu ^x k | simu ^x k |
| Jangkang | boyaŋkat | bagaiʔ/baeʔ | juʔokŋ podi | ucoʔ | akeʔ | neʔ |
| Ribun | bohŋkaʔ | bagah | juhuəŋ | ucoʔ | abae | ŋeʔ |
| Golik | əji | paguh | pitaʔ | suŋkuh | babəy | toyŋ |
| Sanggau | poʔgi | bagaiʔ | lumŋ podi | ucoʔ | akeʔ | niʔ |

| English | grass | grasshopper | grave | green | grow, as a plant | hammer |
|----------------|--------|----------------|-------------------------|------------------|------------------|------------|
| PLD | *udu | | | | | |
| Benyadu | uduʔ | buntaq/buntak | kubur | ijo | | tukul/palu |
| Bekati | du:ʔ | baʔlaŋ | tamaʔ | ijo ^w | ŋadup/numbuh | tukol |
| Hliboi Bidayuh | pay | kadis | tim ^b ak | hijaw | dip | mibia |
| Sungkung | uduh | kadih | kat tama ^x k | hijaw | dip | babi |
| Jangkang | yumput | buntaʔ | kubuy | ijaw | timu | tukol |
| Ribun | iduh | bunto:ʔ | puŋahiatn | ijaə | midiaʔ | paluh |
| Golik | uduh | səŋkadis | kubur | ijow | timpoh | tukul |
| Sanggau | yomput | bəlaləŋ/buntaʔ | koboyə | ijaw | midop | paluʔ |

| English | hand/arm | handspan | hang | hard | harvest | hat |
|----------------|-------------|----------------------|-----------------------|--------|---------------|-----------|
| Benyadu | barekŋ | jaŋkal/joŋkoʔ (half) | ŋantukŋ | karoʔ | ŋutúpm (rice) | topi |
| Bekati | bayek | saŋap | ŋantuk | kayy: | ŋutup | samð |
| Hliboi Bidayuh | tí:ŋan | ŋilakŋ | gaθokŋ | bigəuŋ | ŋitoy | kiboək |
| Sungkung | taŋan | ŋalakŋ | | sanəŋ | ŋahtəpm | |
| Jangkang | toŋan | | gantokŋ | koyas | | sampoʔ |
| Ribun | kuhumpuəŋkŋ | kilan | ŋkatikŋ | kohah | manen | suhŋkoʔ |
| Golik | təŋən | təŋorak | gantók ^h ŋ | təgar | manen | topi |
| Sanggau | toŋan | kilan | ŋgantonŋ | togayə | manen | səluŋ koʔ |

| English | have; own | have; exist | he/she | head | head hair | headhunting | heart |
|----------------|-----------|-------------|---------|-------|-----------|-------------------|----------|
| PLD | | *adə | *idə | *abak | *abuk | *ɲayaw | |
| Benyadu | puñaʔ | aduʔ | eneʔ | abak | abok | məɲayaw | jantəŋ |
| Bekati | da | ani | ñam | abaʔ | aboʔ | ɲayó ^w | tamə: |
| Hliboi Bidayuh | agiʔ | | i-dop | bak | boək | hluəh | jantəŋ |
| Sungkung | neʔeh | | iih/yih | baxk | dawiʔ boh | baʔ tɪəhtɪək | jantəŋ |
| Jangkang | mpo | odoh | odopm | baʔ | boyuh baʔ | | jantokŋ |
| Ribun | mpo: | odo | di:aʔ | booʔ | buhu bo:ʔ | ɲayaw | jantuəkŋ |
| Golik | mpuʔ | | dɛ:tʰn | bak | rambut | təriu/nəriu | jantok |
| Sanggau | mpo: | dəh | dom | baʔ | buyuh baʔ | məɲayaw | jantəŋ |

| English | heat (v) | heavy | help | here | heron | hiccup |
|----------------|-------------|-------------|--------------|----------|---------------|----------|
| PLD | | *bəhat | | | | |
| Benyadu | | bahat/botot | noloŋ | kaʔ iah | | padaiʔ |
| Bekati | maŋkayəs | bahat | nolok | daʔ diah | | sakuʔ |
| Hliboi Bidayuh | mpilas | baat | tolokŋ | da tiʔ | baŋaw | nikuk |
| Sungkung | mpalıəs | bait | oɪ | nəg tih | baŋaw | siʔitn |
| Jangkang | ɲolotup neh | boyat | nulokŋ | waʔ ɲoto | | sogo |
| Ribun | | bohaʔ | tuloŋ/tuluəŋ | ntiŋ oto | bəlibis | tujotikŋ |
| Golik | mərəs | bənək | tulukʔŋ | dəʔ otiʔ | baŋaw | kak |
| Sanggau | | boyat | tuloŋ | waʔ ɲoto | manoʔ bəlaŋaʔ | cəkukan |

| English | hide | his/hers | hold | hole | hook | horn | hot |
|----------------|----------|----------|--------------------|--------|---------------|---------|--------|
| PLD | *sukan | | *migəŋ | *rubəŋ | | *tanuk | *paras |
| Benyadu | ñarukatn | dadeneʔ | migakŋ | rubakŋ | matuʔ kail | tanuk | aŋat |
| Bekati | napoʔ | daʔñam | ñénté ^y | yubak | matu: binti: | tanuʔ | payəs |
| Hliboi Bidayuh | jaluəh | nidop | timaʔ | bbakŋ | bitotn pinuək | tanəuək | pilas |
| Sungkung | suhkatn | jeʔe iih | dihkətn | bakŋ | buhtiʔ | tanuh | palis |
| Jangkang | ñimpatn | oñampo | migitn | yubakŋ | motuh kael | tonó:ʔ | lotup |
| Ribun | ñukatn | dia mpoə | niŋa:ʔ/nigiŋ | hubakŋ | motuh kaiyə | tonuəʔ | lotit |
| Golik | ñukat | ñajiña | məgəʔ | rubak | bɪtəh bintiʔ | tanok | pərəs |
| Sanggau | ñukan | dompo | migoŋ | yobaŋ | motih kail | tanoʔ | aŋant |

| English | house | house post | how | how many | hungry | hunt w/ dog |
|----------------|--------------------|------------|-------------|----------|-------------|-------------|
| PLD | *ramin | *tihakŋ | | *kudə | *səbərək | *ŋasu |
| Benyadu | ramin | tihakŋ | uah omé | ña mané | saburuk | ŋasu |
| Bekati | ɣamin | nahi | kanalah | mani: | limas/lumas | ŋasɯ: |
| Hliboi Bidayuh | aloy/baləuħ (tall) | tiákŋ | kit nuət eh | | pla:y | batuəkŋ |
| Sungkung | amin | tiakŋ | muŋaŋi | mini? | biuatn | ba? kaso |
| Jangkang | ɣomiŋ | tiakŋ | mo?onih | kudu | sobiyo? | ŋanamp |
| Ribun | həmiŋ | tiakŋ | muŋkeh | kudu | səbiho? | madaɣ |
| Golik | romin | puŋkak | bəkanih | kudu | səbərək | bəburu |
| Sanggau | ɣomiŋ | tiaŋ | kanih | kudu | sobiyo? | ŋanamp |

| English | husband | husk | I | if | in front | insect bat |
|----------------|---------|----------------------|-------|-------------------|-------------------|------------|
| PLD | *banə-n | *bədaŋ | *aku | | *jaway | |
| Benyadu | banun | sakapm/saqapm | ikin | kalow | ka? adap | kalawar |
| Bekati | saut | badak | kit | kaló ^w | da? tuɣain | na?yup |
| Hliboi Bidayuh | binuəŋ | ddakŋ | iku? | bow | ka juɪtn | kadık |
| Sungkung | banin | kulit padi | ahku? | muŋ ti?ih | ka? jawitn | kadek |
| Jangkang | bonuh | budakŋ (animal feed) | əko | | wa? joɪ | |
| Ribun | bonuh | abo? | oko | misa: | ntiŋ jowi | ñowikŋ |
| Golik | bɯnəh | udək?ŋ | əku? | kalaw | də jowi | ñəyə? |
| Sanggau | bənuh | sokam | ko: | la? | wa? depan/wa? joi | jəmōwāt |

| English | inside | insult | intestinal worms | intestines | ironwood | island | itchy |
|----------------|-----------|---------|--------------------|-------------|----------------------|-------------------|--------|
| PLD | | | | *təna?i-n | *tahas | | *tihi? |
| Benyadu | ka sadatn | ñamula? | caciŋan | paraya | kayu taras | pulo | tehé? |
| Bekati | da? sadat | ŋina: | biay | tanaɪŋ | baliat | pulo ^w | téhé? |
| Hliboi Bidayuh | ka akŋ | ŋína | kuətn | ti?itn | taas | pulaw | tii? |
| Sungkung | ka? wakŋ | tanakŋ | nimag ⁿ | kalita?itn | tais | tañukŋ | ti:? |
| Jangkang | wa? uah | ŋina | tacikŋ toni? | oŋkah toni? | tas | pulaw | moti |
| Ribun | sais | ŋina | naciŋ | toniŋ hé:y? | taah | pulaw | motay |
| Golik | də wak | ŋina | ñacik?ŋ | usus | put ⁿ tas | pulow | ti? |
| Sanggau | wa? alám | ŋina | nacin | usus | ulin | pulaw | mōtí |

| English | jealous | jump | kick | kill | knee |
|----------------|---------|-----------|--------------|----------|-------------|
| PLD | | | | *ŋ-kabəs | |
| Benyadu | camburu | ñantak | ñipak/nandaŋ | ŋamis | abak tukukŋ |
| Bekati | supə: | ñantak | ñepak | ŋamih | tukuk |
| Hliboi Bidayuh | hmiŋuən | ŋopat | tanakŋ | náboəs | bəkiluəb |
| Sungkung | pimise? | nñahkuk | | ŋabis | bikolob |
| Jangkang | ŋomuɣu | ŋo-lompat | sipak | bokobe? | ba? tuot |
| Ribun | cəmuhu: | buluma:? | pəñepak | ŋkomis | bo? tua? |
| Golik | cəmburu | məlumpat | ñipak | pənəbəs | bəkutot |
| Sanggau | cəmbuɣu | ŋəlumpat | ñipak | ŋkəbis | lutut |

| English | knife | land | fly (n) | laugh | leaf | leech | left |
|----------------|---------------------------|--------|---------|--------|--------|---------------|------------|
| PLD | *suna? | *tana? | | *tawə | *daun | | |
| Benyadu | ladiŋ | tana:? | lalat | guluk | dautn | karamatuk | kebá? |
| Bekati | ladiŋ/suna: (traditional) | tana: | jayaŋo | gulu? | daut | kamatu? | saŋkiyi |
| Hliboi Bidayuh | hniə? | tana:? | lalat | tiwəoh | liwo? | muta? | tiət/ti:ət |
| Sungkung | suna? | tana? | tula? | ntawih | dawi? | muhta? | mait |
| Jangkang | sina/siketn (kitchen) | poya | | notaw | dutn | | moet |
| Ribun | sikiətn | poyo: | nahik | notao | dautn | hinto/pacet | moiə? |
| Golik | siket'n | tana? | lalat | notou | dout'n | pacat/lipāt'n | moit |
| Sanggau | siken | poyá | lalat | notau | dauŋ | pacat | kamət |

| English | leg | lend | leopard | lid | lie down | lie prone |
|----------------|--------|--------------|-----------|-----------------|-------------|------------|
| PLD | *kaja? | | | | | *m-u?ub |
| Benyadu | kaja:? | minjam | | tutup | gurikŋ | ŋaramúp |
| Bekati | kaja: | minjam/miya? | ɣimo | tutup | bayik/guyik | muupə |
| Hliboi Bidayuh | tigəug | miñapm | ɣui? | təup | gliey | ŋku?uəb |
| Sungkung | kaja? | piñapm | pisilih | tutu | juŋak | ka? nubukŋ |
| Jangkang | kojo? | miñapm | | titop | ŋgalay | mump |
| Ribun | kojó | ŋiñin | kusui | tihitiə?/titiə? | ŋalaə | mi:nt |
| Golik | kəja? | miñap'm | kəsui | tutu | ŋulek | mubot |
| Sanggau | kojá | ncum | ucin batu | tikup | guyiŋ | ŋəyayap |

| English | lift, carry | light weight | lightening | lime | lips | listen | liver |
|----------------|--------------|--------------|-------------|--------|----------|---------|--------|
| PLD | | | | *buñu | *bibih | *daŋah | *atay |
| Benyadu | nantatn | ñahan | kilát | buñu? | bibir | daŋah | até |
| Bekati | nalən/ŋaŋkap | ñahan | paté kilat | biñu? | bibih | daŋah | atéʸ |
| Hliboi Bidayuh | tabé? eh | jaŋjay | kilat | kapul | bbɪtn | ŋijit | itɪtn |
| Sungkung | tahkat | ñañan | kiji? | kapur | ɛbe? | diŋan | ahtitn |
| Jangkang | ŋoŋkat | lompokŋ | cilat | buñuh | kolomeyə | ŋopikŋ | oti |
| Ribun | noŋka? | ñañan | kila?/paté: | biñuh | slomiəh | kapiŋ | oti: |
| Golik | ŋəŋkət | ñañə? | kikət | biñuh | bibiç | ŋopikʔŋ | ɔti: |
| Sanggau | aŋkat | yiŋan | kilat | kapoyə | bibeyə | kapiŋ | oti: |

| English | loincloth | long | long taile mac. | loose | lost | loud | louse |
|----------------|-----------|--------|-----------------|--------|-----------|--------|--------|
| PLD | | | | | | | *gutu |
| Benyadu | kapoa:? | aŋo | kará? | goroh | sat | mauh | gutu:? |
| Bekati | kato? | aŋhɪ: | ayoh | goyoh | layóʷ/sat | tukuy | gutu? |
| Hliboi Bidayuh | tóop | imʰəu | iukŋ | lawiəh | miəp | | ddutn |
| Sungkung | | kule | | aɿ | māyāp | pimiɿ | |
| Jangkang | soloway | domu? | koɣa? | loŋayə | tosat | yibut | gutis |
| Ribun | tiop | domaoh | kohaɛ? | | moya? | ñago | gutuh |
| Golik | təpəl | ɔmuh | kora? | loŋar | tərsəsət | biséʷŋ | kunap |
| Sanggau | cawat | domau? | | loŋayə | sosat | bisiŋ | gutɪh |

| English | make | man | mantis | many | marry | mat |
|----------------|--------|----------|--------------|---------|-----------|----------------------|
| PLD | | *daray | | | *n-sawə | |
| Benyadu | umas | daʔaré | | badakah | kawén | tikár |
| Bekati | bulah | aɣéʷ | tupaŋ | yaya | pananten | bédé/bidu (sleeping) |
| Hliboi Bidayuh | nah | dali | bəməkŋ | pooy | nsiwowh | tinəʷh |
| Sungkung | nah | dali | nsilɛg | yi | baʔ sawih | liəs |
| Jangkang | məŋki | dayi | bunta? somah | obekŋ | komo | oma? |
| Ribun | məŋki: | dahi: | jiŋkreŋ | obiəŋ | ŋantiətn | omo? |
| Golik | ŋunah | ñən dari | somah | oi | kawetʔn | kəlimətʔn |
| Sanggau | məŋki | dayi: | bunta? | bɛŋ | kawin | tiayə |

| English | measure | messy | mine | mix | monitor |
|----------------|--------------|-------------------|---------------|---------|---------------------|
| PLD | | | | | |
| Benyadu | ɲukur | kaco | dikin | ñampur | pajawak |
| Bekati | ɲukuəɣ/népaʔ | kasó ^w | dakit | ñampoy | bawaʔ |
| Hliboi Bidayuh | ɲukuəl | ampaguh | nikuʔ/ɲkuʔ | sapol | ndaat/biwak |
| Sungkung | dahpɪh | kacaw | ñahkuʔ | campər | balawak |
| Jangkang | nukuɣ | kacaw | okomponeh | campoy | bojoaʔ |
| Ribun | ɲukur | ancoh | ko mpoə /o:ʔ/ | mbancoh | bujowoʔ/banaw (lrg) |
| Golik | ɲukur | kacaw | nkokuʔ | ñampur | biawak/biawaq |
| Sanggau | ɲukoɣə | kacaw | kompo | mbancoh | sayenay |

| English | moon | morning | mortar (large) | mosquito | moss | mother | mountain |
|----------------|--------|-------------|----------------|-----------|--------|--------|----------|
| PLD | *buran | | *lasuɲ | *paruŋgaɲ | *rumut | | |
| Benyadu | buratn | ɲakap | lasukɲ | paruŋakɲ | lumút | sinuʔ | gunuɲ |
| Bekati | buyat | ɲakap | sansuŋan | ñamuʔ | lumut | sinu: | gunuɲ |
| Hliboi Bidayuh | blátn | utn pagɪ | suəɲkɲ | muŋakɲ | mmuəɲ | nəuʔ | dilod |
| Sungkung | bulatn | siŋasetn | sokɲ | pluŋakɲ | | nɛnɛʔ | dalid |
| Jangkang | buyatn | lilupm/maji | ɣosokɲ | poɣuŋakɲ | ɣimont | nay | doɣiʔ |
| Ribun | buhatn | maji | həsuəɲkɲ | puhuŋakɲ | himoəʔ | nok | dohik |
| Golik | buɾot | magʻi | ləsuɲ | pəruŋak | lumut | oyakʻɲ | təruɲuʔ |
| Sanggau | buyan | maji | losuɲ | poɣɲaɲ | lumut | no:ʔ | gunuɲ |

| English | mouse deer | mouth | mushroom | mute | myna | naked | name |
|----------------|------------|--------|----------|-------|------------|----------|-------|
| PLD | *pəranuk | *babaʔ | *kurat | *awaʔ | *kiuɲ | | *adan |
| Benyadu | paranuk | molot | kurat | awa | bayatn | anjoəl | gaatn |
| Bekati | payanuk | babə: | ɣubə: | awə: | kiok | gak | gaat |
| Hliboi Bidayuh | pinəwk | bibiaʔ | klat | | kioəɲkɲ | gaguəl | idotn |
| Sungkung | pəlanuk | babaʔ | kulat | awaʔ | ndawiʔ | sibagoəl | ganan |
| Jangkang | poɣonoʔ | tukoʔ | kuyat | bisuʔ | monoʔ ciaw | polañaw | odatn |
| Ribun | pohonuʔ | tuköʔ | kuha:ʔ | | | kəlañao | odatn |
| Golik | pəronuk | bokaʔ | kurot | bisuʔ | | lontok | gənən |
| Sanggau | pəlanoʔ | tukoʔ | jamoyə | bisuʔ | | kəlañaw | odan |

| English | nape | navel | near | neck | nest | new | next to |
|----------------|---------------------|--------------------|-------|---------|---------|--------------|-------------|
| PL | | *pusət | | | *saray | *baʔəhu | |
| Benyadu | taŋkuk | pusat | jeket | jaŋok | sare | bahu | ka suutn |
| Bekati | | pusut | jeket | laŋu: | saye | bahy: | daʔ ñampiŋ |
| Hliboi Bidayuh | kləwŋ gaguəkŋ | pišoət | hnəwk | gaguəkŋ | siliətn | baʔuh/baʔəuh | sampikŋ |
| Sungkung | tiŋo:ʔ | pasid ⁿ | sinik | | | baʔoh | kaʔ selet |
| Jangkang | puŋo | pusat | somaʔ | yasakŋ | soyi | moya | waʔ sampikŋ |
| Ribun | | pusár | somoʔ | tahasaj | cohi: | baoh | ntiŋ sampiŋ |
| Golik | təŋkuk ^h | pəsit | səsək | lɛhɛɾ | səri | bauh | də pənik |
| Sanggau | tuŋkoʔ | pusayə | somaʔ | yasaj | sayaj | baoh | waʔ sopiak |

| English | niece; nephew | night | nine | noon | nose | not true | now |
|----------------|---------------|-----------|--------|-----------------------|----------|-----------|------------|
| PLD | | *ŋarəm | *piray | | *(ə)nduŋ | *saraʔ | |
| Benyadu | sanakú:tn | ŋarúm | péré | tano anó: | idukŋ | saraʔ | matj:ʔ |
| Bekati | saŋgun | ŋayum | pɛyé | anó ^w tanu | duduk | sayə: | toyah |
| Hliboi Bidayuh | badih | gaʔaʔ | piʔi | taŋah inu | nəyŋ | salah (L) | adin eh |
| Sungkung | anak saboh | siŋalɪəpm | piʔi: | siʔ anu | nukŋ | salah (L) | magitn tih |
| Jangkang | onaʔ toposiʔ | noyupm | piyis | nuyakŋ onu | nokŋ | tosat | nto mobah |
| Ribun | pahanoʔ | ŋohitn | pihi: | tudoʔ onu | tonuəŋ | tosaʔ | ntohu |
| Golik | kəponakan | bəŋarəʔ | puri | ŋurakʔŋ | unuk | sosot | ti:ʔ nəh |
| Sanggau | pənanaʔ | ŋəyum | pɛyih | tudaʔ onu | ndoŋ | tosat | nto: |

| English | ocean | old | old | older siblings | on top | one | onion |
|----------------|-------|---------------------|-------------|----------------|-----------|-------|---------------------|
| PLD | | *amaʔ | | *sakaʔ | *samaw | *asa | |
| Benyadu | laut | amá | lama/ŋatuhi | sakáʔ | kasamo | asaʔ | bawáj |
| Bekati | laut | ŋamə: | tuhj: | sakə: | daʔ samo | asa | bawaj |
| Hliboi Bidayuh | laut | ñam ^{bá} : | tuəy | kiəʔ | ka ijutn | kaʔah | biwakŋ |
| Sungkung | laut | ñami | tu:i | sihkaʔ | kaʔ tu | kaʔah | bawa ^k ŋ |
| Jangkang | laot | muntuh | otay | muʔ | waʔ somu | ñaiʔ | bawakŋ |
| Ribun | laot | muntuh | otay | mbuʔ | ntiŋ somu | goleʔ | bawakŋ |
| Golik | laut | tuh | tuəy | muʔ | dəʔ atuh | niʔ | bawakʔŋ |
| Sanggau | laot | muntuh | tay | muʔ | waʔ somu | kiteʔ | bawaj |

| English | only | open | orangutan | otter | outside | overflow |
|----------------|-------------|--------|-----------|-------------|-----------------------|------------------|
| PLD | | *buka? | | *dəŋən | | |
| Benyadu | dakoh ja | muká:? | unte? | | ka luas | marabeh |
| Bekati | ja? | muká: | | | da? sató ^w | mayadá: |
| Hliboi Bidayuh | saja? | buka? | balá: | bi:əpm | ka lual | ŋglak |
| Sungkung | ahtih | buka? | mali | dinjin | ka? dayih | luap |
| Jangkang | au?/ñen/moh | buka? | | | wa? luay | lobeh |
| Ribun | maeh | buko? | mayah | bəraŋ-bəraŋ | ntiŋ sopo: | mələmpə?/bulobeh |
| Golik | saja? | muka? | boji? | bərakʔŋ | də sopa? | məluap |
| Sanggau | ajá/maih | muka? | oyo? | boñu? | wa? luayə | məluap |

| English | paddle | pangolin | parang | parang handle | peak/top | peel fruit |
|----------------|---------------------|----------|--------------------|-----------------------|--------------|-------------|
| PLD | | *ahəm | *baʔay | *abak baʔay | | *ŋupak |
| Benyadu | | taŋilikŋ | baé | abak bae | onek | ŋosé?/ŋopak |
| Bekati | dayoŋ | taŋilik | baé ^y | aba? baé ^y | bubuk | ŋumpa? |
| Hliboi Bidayuh | nsey | uopm | kuá? | bak kuá? | pusa:k | pak |
| Sungkung | pikaʊ ^{*k} | i:pm | sino ^{*k} | bak sinok | ka? tibukŋ | ŋupas |
| Jangkang | poŋayoh | toŋilikŋ | baɿ | ujokŋ baɿ | somu | kupa?/ŋupa? |
| Ribun | pəŋayuh | tiŋilikŋ | baɿ | bo? baɿ | sə.u: dohik | ŋupo? |
| Golik | pəŋayuh | təŋilik | buko? | bak buko? | puncak | ŋupak |
| Sanggau | pəŋayoh | təŋiliŋ | bai: | ulu bai: | tojo? mənjak | ŋupa? |

| English | person | pestle (large) | pig tailed mac. | pile | pinch | pineapple |
|----------------|--------------|----------------|-----------------|----------|----------|-----------|
| PLD | | *aru | | | *kujit | |
| Benyadu | sook | aru | badak | tumpukan | ŋujit | podaq/k |
| Bekati | kayoʊ | aʔu | goh | tumpok | niŋi: | boŋli |
| Hliboi Bidayuh | dayoʔ/dayəʔ? | aləʊh | kiúey | ŋləʊk | ŋjiəʔ | nanas |
| Sungkung | niŋkŋ | aluh | baluk | usuk | kujet | nanas |
| Jangkang | oña/domaʔa | aʔuh | boyo? | | ŋubət | nanas |
| Ribun | ño: | alu | bohoy? | butumpo? | kubiá? | nanah |
| Golik | ña: | pəŋəmpəh | boruk | tumpukan | məncubit | nanas |
| Sanggau | ña: | alú | koyə: | pənumpo? | ñubət | nanas |

| English | pinky | place (n) | plain | plant | pluck | point |
|----------------|---------------|-----------|---------------|--------|--------------------|--------|
| PLD | *kiŋkiŋ | | | | | *tuju? |
| Benyadu | koekŋ | tampat | lamaokŋ | murá:? | ŋétés/manso/mata:? | ŋojó:? |
| Bekati | tayiñu: nde? | tampat | lampay/lampat | muyá: | nitik | nuyú: |
| Hliboi Bidayuh | hləwñəw? siɣt | aluək | diəh/lapaŋ | pləotn | juət/tuk/mi:t | ŋjəu? |
| Sungkung | anak taŋan | olo*k | abaxk | pulutn | namit | tinih |
| Jangkang | toŋan tincikŋ | badah | sigay/yata | nuyú | ɣuntik | tiju? |
| Ribun | jahi kəlikikŋ | aso? | hampah | nuhuh | motik | |
| Golik | ɔŋkikʔŋ | antətʔn | ribo? | mpuhuh | mukut | niju? |
| Sanggau | jayi: diʔci? | aso? | dataran | nuyuh | səmutik | tijú? |

| English | porcupine | pound rice | pour | pregnant | primary jungle | print |
|----------------|------------|------------|---------|----------|----------------|------------------|
| PLD | | | | *bətahi? | *tuʔan | *ni kaja? |
| Benyadu | biak/bidaq | ŋampá: | ŋaleleh | batahi | udas | ini kaja? |
| Bekati | bida? | nampa | ŋuyé: | batahi: | tuat | aju? |
| Hliboi Bidayuh | ddək | | hli:ətn | nti:? | uop/uop taʔay | aluək paʔ tigəoɣ |
| Sungkung | | pih | sileətn | baʔ ti:? | talutn | ñiik kaja? |
| Jangkang | lana? | timpuh | tuakŋ | mabot | ɣima? | ñi: kojo? |
| Ribun | bido? | ñimpuh | ñohiətn | biti: | himow | ŋis kojo |
| Golik | landak | ŋəmpəh | ŋəlolok | bəti? | tuətʔn | nih koja? |
| Sanggau | landa? | nutó? | ñayən | bitti: | lop | təlapaʔ koja |

| English | proboscis monkey | pull | punch | punnish | pus | push |
|----------------|------------------|---------|---------|---------|---------|--------|
| PLD | | | | | *nana? | |
| Benyadu | | narik | ninju | ŋukum | nanah | ñoroŋ |
| Bekati | | suké | niŋgu | kum | bananah | ñoyoy |
| Hliboi Bidayuh | | matak | mikut | hukupm | nina? | doloŋ |
| Sungkung | tihkah | nətiŋkŋ | nuju | ukupm | nana? | nulatn |
| Jangkang | | tayə? | tiñu | ŋukupm | bo-nona | doɣokŋ |
| Ribun | bontakŋ | nohe? | ninju | ŋukupm | nono: | nodu: |
| Golik | koraʔ tuatʔn | norik | nampar | ŋukupʔm | nana? | noroy |
| Sanggau | pəkantan | noyə? | nampayə | ŋukom | nona: | tudú |

| English | put down | put together | python | quiet | raft | rafter | rain |
|----------------|----------|--------------|-------------------|--------|--------|-------------------|-------|
| PLD | | | *sawa(?)/*pəŋanən | *muku? | | *kasaw | *ujan |
| Benyadu | minis | ŋumpur | dipa? sawa? | mokó? | rakit | kasó | ujatn |
| Bekati | mana: | ŋubu: | dupa? sao | supsup | apuk | kasó ^w | ujat |
| Hliboi Bidayuh | na:? | ŋləwk | ŋanuən | ŋjoəl | latiey | hlakaw | jʷətn |
| Sungkung | mi:s | kubut | ŋŋanən | kama? | atey | | jʷətn |
| Jangkang | toná | ŋoyugo? | ñipuh sawa? | muko? | | kasáw | ujatn |
| Ribun | ŋono: | buhugo? | sawo: | monae | hakit | kasaw | ujatn |
| Golik | mona? | ŋumpul | pəŋanən | ŋəŋy | rakit | kasaw | ujot |
| Sanggau | ŋona: | tənuɡó? | ñipuh sawa? | motiŋ | yakit | kasaw | ujan |

| English | rainbow | rat | rattan | rattan backpack | rattan backpack |
|----------------|-------------------|------------|-----------------|----------------------|------------------------------|
| PLD | | *b(ər)abaw | *uay | | |
| Benyadu | mano raja | babo | oé | rancaŋ | iŋe |
| Bekati | sajé ^y | babó | ué ^y | base? | lavek |
| Hliboi Bidayuh | pəlaŋey | babuy/babu | hŋuən | tan ^d ia? | juiəh |
| Sungkung | bahtakŋ gunat | badikŋ | wai | basek | taŋey |
| Jangkang | | boyobuh | ui | galas | takitn jayay/toyañakŋ (rice) |
| Ribun | pəlaŋi | curut | ui | | jahay/juoh/homakŋ |
| Golik | bəñāyūh | bintuk | ui | loñak?ŋ | jori |
| Sanggau | polaŋi | tikus | ui: | takin | jayay |

| English | raw | receive | red | remember | rest | return |
|----------------|-------------------|----------|-------------|--------------|------------------|-------------|
| PLD | *m-a(n)ta? | | | | | |
| Benyadu | anta? [-a?] | narima | ansak [-aq] | iŋat | moko? | utukŋ/agi? |
| Bekati | anté ^y | pamaŋkat | bajaya: | sanuut | nodos/noos siŋat | mali? |
| Hliboi Bidayuh | ata? | kima? | bleyh | ntitn | batəj | mpalikŋ |
| Sungkung | mahte? | nig | beleh | iŋat | mijog | manig |
| Jangkang | monta | toyima? | miyah | niŋant | monay | bale?/moni? |
| Ribun | monto: | nehimo | ntocak | kiŋa?/khiŋa? | siŋoh | bale? |
| Golik | monta? | nərima? | dədoya? | iŋət | isirahat | mənək |
| Sanggau | monta? | nəyima? | tocak | tiŋant | bələpa: | bəbale? |

| English | return home | rhinoceros hornbill | ribs | rice | rice grain | rice wine |
|----------------|-------------|---------------------|--------------|--------|------------|-----------|
| PLD | *uriʔ | | | *paday | *bahas | |
| Benyadu | oreʔ | manuk alo: | turakŋ gusuk | pade | nahas | tuák |
| Bekati | uyeʔ | alo | | padéʔ | mahas | tuak |
| Hliboi Bidayuh | buey | kuatn | kləwŋ gaatn | pidiey | bilas | aləpm |
| Sungkung | baʔ paliʔ | manok alo | tulakŋ sigaʔ | padi | balis [ɿ] | balapm |
| Jangkang | pulay | monoʔ riéʔ | | podí | boyas | cikaoʔ |
| Ribun | mohi | pəñalaŋ | tuhaŋ husuk | podí | bohah | tuoʔ |
| Golik | məriʔ | əŋákʔŋ | kərosah | podí | bərəs | boropm |
| Sanggau | məyi | əŋgaŋ | | podí | boyas | |

| English | ridge | right | ripe | river | river bank | river mouth | road |
|----------------|---------|---------|-------------|--------|---------------|---------------|---------|
| PLD | | *taʔu | *masak | *suŋay | | *aruŋ | *jaran |
| Benyadu | tabikŋ | santao | masak | suŋé | tapi suŋé | muara | pagalaʔ |
| Bekati | | santay: | ŋaté: ansaʔ | suŋéʔ | tabik suŋéʔ | naŋon | galə: |
| Hliboi Bidayuh | pakŋ | tiʔəwh | masəok | piʔitn | pakŋ piʔitn | niŋuən piʔitn | ilay |
| Sungkung | | ntaʔuh | masiŋk | dauʔ | biŋiʔ piʔitn | naŋun dauʔ | alatn |
| Jangkang | tobikŋ | touh | mosaʔ | aiʔ | tobikŋ aiʔ | | joyatn |
| Ribun | tobikŋ | tauh | mosóʔ | suŋi | bibeh suŋi | ohutn | johan |
| Golik | təbikʔŋ | təuh | mosak | suŋay | bibih pi:ətʔn | muara | jərət |
| Sanggau | tobiŋ | kanan | mosaʔ | suŋi: | təpi suŋi: | muayá | joyan |

| English | roast | roll | roof | room | roots |
|----------------|---------|---------|----------------------------|--------------------------|-----------|
| PLD | | | | | *uhat |
| Benyadu | ninuʔ | marun | atap | samiʔ | uhat |
| Bekati | ñahū | mayon | aɣóʷ (thatch)/siyap (wood) | paya:ʔ | uhat |
| Hliboi Bidayuh | tukŋ | mbiluət | liwəoʔ (thatch)/bbukŋ aloy | kamal/aləok | aat |
| Sungkung | nuhputn | nalut | dawiʔ amin | kamil | wat |
| Jangkang | ticol | golukŋ | yoatn | tuda yomiŋ (guest house) | uat koyuh |
| Ribun | nicua | ŋuluakŋ | bubuəkŋ | kamay | uaʔ |
| Golik | ñəu | ŋulukʔŋ | atap | kamar | akar |
| Sanggau | nicoəl | təŋulŋ | atap | kamayə | akayə |

| English | rope | rotten | rub | run | saliva | salty | sand |
|----------------|--------|--------|-------------|-----------------------|-------------------|--------|----------|
| PLD | *tari | *madam | | | *ayaŋ/*ayəg | *pədə? | *kərasik |
| Benyadu | tari? | madap | ŋosok | bohó | arajakŋ | padé? | karasik |
| Bekati | taɣi: | madam | magetɛ: | bagaga | ɣayak | padɛ: | pasiy |
| Hliboi Bidayuh | | mədəpm | gosok | ŋkidəuŋ | iog | dde? | hmiət |
| Sungkung | talitn | madəpm | nədi? | ba? laduh | ayig ⁹ | pidɛ? | sumat |
| Jangkang | toyis | | bogoyu/ŋoyu | boɣayi | ɣoyakŋ | aya? | koyosɛ? |
| Ribun | tohis | modam | ŋguso:? | ŋkodukŋ/obu (away) | hoyakŋ | asin | kohosɛ? |
| Golik | tərih | | ŋosok | borojuk | pi:t royak | pidɛ? | kərosik |
| Sanggau | toyih | buyo? | ŋgoso? | bogaiyi | piŋ liuyə | aya? | kəyosɛ? |

| English | sand fly | sap | sape | say | scabbard | scale | scar |
|----------------|--------------------|---------------------|--------|--------------|-------------|--------------------|-------------|
| PLD | | *purut | | | | | |
| Benyadu | amu: | gatah | sapɛ? | ŋojó? | sare bae | sisik | lota? |
| Bekati | bihas | gatah | sapɛ? | muji? | dohok | çiçi? | panaga: |
| Hliboi Bidayuh | bies | təup | | əŋuəŋ/ŋaŋuəŋ | bbuy kuə? | nap | ilit |
| Sungkung | | piti ^x k | sape | sani | sibokŋ | | olok tawatn |
| Jangkang | agas | gotah | sapɛ? | ŋado | tancikŋ baj | tise? | |
| Ribun | agas | puhua? | gambus | | tanciŋ baj | tise:? | nih toatn |
| Golik | sirip ^h | karɛt | sapɛ? | mpudat | sarok buko? | sisik ^h | nih təwət |
| Sanggau | agas | puɣot | sapɛ? | piño? ŋkan | sayoŋ bai | siyip | towan |

| English | scorpion | scratch | sea turtle | secondary forest | see | seed | seed rice |
|----------------|------------|-------------------|------------|------------------|--------|------------------|------------------|
| PLD | | *ŋayaw | | *tarun | | | |
| Benyadu | kala: | nayo | apá | pansaŋot | nelé? | bané? | eteŋ pade |
| Bekati | kalə: | ŋayə ^w | apey | gugu | milé | bibit | |
| Hliboi Bidayuh | papiey | gayuət | ddowh | uop bii? | ŋga? | bibit | uakŋ pidiey |
| Sungkung | ŋkala? | gayot | badih | mai? | ntinih | wig ⁹ | wig ⁹ |
| Jangkang | kala | bogayu? | | jamih | ntɛ? | tompakŋ | loka podi |
| Ribun | kalo:? | ŋoyu: | | təhutn | ntile? | bini: | pige? podi |
| Golik | kələ: | ŋoyu | labi-labi: | əmxh | təbək | bənih | hueh |
| Sanggau | kalajenkiŋ | ŋgoyu? | | lop muntuh | lɛ? | bənih | biji? |

| English | sell | send | seven | sew | shade | shadow | shallow | sharp |
|----------------|--------|--------|-------|----------|----------------|--------------|-----------|--------|
| PLD | | *kirim | *iju? | *sahit | | | | *raja? |
| Benyadu | bajual | ɲerim | iju? | basahit | tampat poopm | samombo | dédé | tajapm |
| Bekati | ñual | ɲéyém | iju? | ñait | lamop | amɔŋ | dédé: | ɣuja: |
| Hliboi Bidayuh | niɑ: | kilim | juəy | niʔit | aloək enduəh | miŋi: | bidəuʰ | lija? |
| Sungkung | ñual | kəli? | ju? | ɲkahtikŋ | olo*k awa | saŋi:/saŋ*i: | tilip | aja? |
| Jangkang | ñual | ɲiyipm | ijú | ɲajaik | ayokŋ solinokŋ | | | loji? |
| Ribun | ñua: | ncihin | ju: | nunus | toduh | bayaŋan | kae tohin | hojo |
| Golik | ñua: | ɲirim | iju? | ñiit | anət moduh | səŋkayu? | tibas | roja? |
| Sanggau | ñua:l | ɲeyem | juh | ɲjaet | aso? tadoh | bayaŋan | paŋkal | lujik |

| English | sharpen | shield | shin | shoot a blowpipe | short | short |
|----------------|-----------------------|----------------------|--------------|------------------|-------|-----------|
| PLD | | | | *mput/*ñumpit | | |
| Benyadu | ɲansá:ʔ | guná:pm | lonos | ɲabeh | onok | ñarok |
| Bekati | ɲayuja:/ɲansa: (wett) | sabak | batih | ñumpit | ndo? | ñayok |
| Hliboi Bidayuh | da? lija? | hn ^d əɔpm | | mpuət | bbit | bbuəʔ |
| Sungkung | mahsip | pərisay | tulakŋ kaja? | məñipoət | kidit | ka? tana? |
| Jangkang | ɲonsah | | tuyakŋ bitis | ñumpit | ipuk | yonah |
| Ribun | ɲoso | pərisay | kojo jowi | ñupia? | kidik | kidik |
| Golik | ɲasa? | pərisay | | məñumpit | kədə? | rəbə? |
| Sanggau | ɲəlujik | pəyisay | botis ɣaŋkay | məñumpit | panak | ɣendah |

| English | shoulder | shrimp | shy | sick | silver leaf monkey | sit |
|----------------|----------|----------|----------|----------------|--------------------|--------|
| PLD | *kawi | *u(n)daŋ | *maŋun | *m-andam | | |
| Benyadu | bahu | undaŋ | pa-maŋun | anapm | | muñuŋ |
| Bekati | kawi: | ndaŋ | maŋun | anap | | muñu |
| Hliboi Bidayuh | kiwɪtn | lanjew | miŋuəŋ | minapm/miniəpm | jjyey | gləu? |
| Sungkung | kawitn | naxkŋ | mia? | manapm | jabey | gulu? |
| Jangkang | omuh | aŋo? | moŋun | monapm | | duday? |
| Ribun | omu: | udaŋ | moŋun | monam | bojik | dudo? |
| Golik | bahu | nak | pomoya? | monop | | ɲuru? |
| Sanggau | pono? | aŋo? | pə-məŋun | mənam | | dudó? |

| English | six | skin | skin an animal | skinny | sky | slap | slaves | sleep |
|----------------|-------|--------|----------------|--------|--------|-----------|-----------|--------|
| PLD | *ənəm | *kurit | | | *raŋit | | *ulun | *bəʔəs |
| Benyadu | inum | kurit | ŋukus | kurus | raŋit | nampelen | ulutn | buus |
| Bekati | inum | kuyit | ŋuyit | kuyus | ɣaŋit | nampay | ŋansak | bu:s |
| Hliboi Bidayuh | nom | klit | pak | māyūh | liu | napal | kuli | buʔuəs |
| Sungkung | nim | kulit | kupak | māyūh | daʊ | tapal | budak | bəʔiəs |
| Jangkang | nú:m | kuyet | | kuyikŋ | yoŋent | nampay | | biʔ |
| Ribun | nim | kuhiəʔ | ŋuhiaʔ | kuhiŋ | hoŋiɛʔ | nampah | onok buoh | bi:s |
| Golik | ənum | kurit | ŋkuləs | kulus | roŋit | nəmelekʔŋ | budak | bə:s |
| Sanggau | num | kuyet | ŋkuyet | kuyus | laŋit | nampayə | | bi:s |

| English | sleep talk | sleep walk | slice | slip | slow loris | small |
|----------------|--------------------------|------------|-------------|------------|------------|--------|
| Benyadu | nigu | nigu | ŋiras | talonsokŋ | kukakŋ | inik |
| Bekati | mugy: (yelling in sleep) | ayap-ayap | nadip/tadip | takampas | | nendeʔ |
| Hliboi Bidayuh | hmuəh | hmuəh | ilis | jiləwh | jjəy | sit |
| Sungkung | ŋigaw | ŋigaw | nñali | nñalih | | si:t |
| Jangkang | ŋigaw | ŋigaw | kapuʔ | poliset | ŋkut | icik |
| Ribun | ŋigaw | ŋigaw | ñoiəʔ | gəlinciəh | binhisi: | naiŋk |
| Golik | ŋigow | ŋigow | məŋires | təkəlincɛr | muncak | dicək |
| Sanggau | ŋigaw | ŋigaw | ñɛyaʔ | toliceyə | kukaŋ | ciŋk |

| English | smart | smell (n) | smile | smoke (n) | snail | snake | snap |
|----------------|---------|-----------|---------|-----------|--------------------|------------|----------|
| PLD | | baʔu | | *asəp | *kiuŋ | *ñipə/dipə | *-taʔ |
| Benyadu | pintar | bauʔ | səñum | asup | takuyukŋ/kalamue | | matá:ʔ |
| Bekati | panéy | bau:ʔ | ŋaluméy | asup | kioŋ | dupaʔ | matə: |
| Hliboi Bidayuh | pital | boŋoəs | siñum | asəuh | kiəukŋ | lopóh | ntaʔ |
| Sungkung | pintar | buʔuh | ntawih | puət | | dipih | nahtaʔ |
| Jangkang | pintayə | buh | səñum | ásap | toncokŋ | ñipuh | mota neh |
| Ribun | awah | bu:h | səñum | asaʔ | toncuəŋ (water) | ñipuh | moto: |
| Golik | pintar | sikəh | səñum | asop | cocok ^h | ñəpəh | motaʔ |
| Sanggau | pintayə | buuh | təsəñum | asap | kicoət | ñipuh | mota:ʔ |

| English | sneeze | snore | snot | soft | son in law | song/sing | sour |
|----------------|-----------|---------|------------|------------|------------|-------------|---------|
| PLD | | | *bədək | | *iban | | *masəm |
| Benyadu | barasitn | bakohor | edoh | raŋut | ibátŋ | ñañi | masupm |
| Bekati | paɣakih | ŋoyok | budu? | ɣaŋut | bat | ŋadu: | masuəm |
| Hliboi Bidayuh | pasiəpm | | dəok | mməuk | nantəu | ñañi:/lagiɯ | osopm |
| Sungkung | ŋkasi? | | bidik | | damih | lagu | masiəpm |
| Jangkang | bokaseh | ŋudut | soŋeh/añeh | lopa/lomah | ibatn | balágu | mosupm |
| Ribun | kase/qase | ŋorok | añeh | lomut | ibatn | ñañi | mosin |
| Golik | bərsətʔn | ŋudo:t | iŋus | lɔmut | ibətʔn | ñañi | məsup |
| Sanggau | beyesen | ŋoyok | añeh | ləmbut | mənantu | boñañi | mosum |

| English | speak | spicy | spider | spider hunter | spit | splash | split |
|----------------|--------------------|--------|-----------|---------------|--------------------|---------|---------------------|
| Benyadu | ŋomɔŋ | pades | | laŋkasak | ŋaruja | macek | melá:ʔ |
| Bekati | sayété | padih | aŋga: | | ŋayayak | malapa? | matah |
| Hliboi Bidayuh | hn ^d a: | pilas | tika? | sip | təuh | naʔoy | mliə? |
| Sungkung | miɯ | pahtih | ntahka? | | nayig ⁹ | srat | ni ^x kop |
| Jangkang | ŋomɔŋ | podas | ɣontaka | mono? tosap | ŋoyujah | pancət | momo? |
| Ribun | ŋumuəŋ | podas | mpawo | tosap | hucoh | pancit | mutoh |
| Golik | ŋomɔŋ | ŋəyər | rakoka? | manok jamu? | ŋərucuh | ñiprat | molah |
| Sanggau | bəjantoh | bisá? | laba-laba | kuncət | ŋəlutəh | mancik | ŋəpu? |

| English | squeeze | squirrel | stab | stairs/ladder | stand | star |
|----------------|---------|-------------------|---------------------|---------------|------------------------------|----------|
| PLD | | | *tabək | *a(n)jan | | |
| Benyadu | mecet | tupé | ñusut | jakatn | agutn | bintakŋ |
| Bekati | mojet | tupé ^y | nusu? | taŋa:ʔ | nagé | béntaŋ |
| Hliboi Bidayuh | nciət | pa:s | ggay | taŋa? | njuəg | bintaŋ |
| Sungkung | dihketn | pəsayi | tabə ^x k | taŋga? | mijog | bitaxkŋ |
| Jangkang | | tupaə | ticu? | taŋa? | tokut | bintakŋ |
| Ribun | micu | tupay | nikam | onjan | tokut | bintakŋ |
| Golik | ŋərəməs | tupé | nicuk | taŋa? | micok | bintakʔŋ |
| Sanggau | ŋəyomás | tupay | nicú? | taŋa? | bədiyé ^y /bədiyí: | bintaŋ |

| English | stay; lodge | steal | sticky | stomach | stone | stop |
|----------------|--------------|-----------------------|---------|---------|--------|-------------|
| PLD | | *naŋkaw | | | *batu | |
| Benyadu | mokoʔ | naŋko/paraŋko (thief) | marakat | putukŋ | batuʔ | mokóʔ/məkóʔ |
| Bekati | madj: | naŋko | ñakut | putuk | batu: | madj: |
| Hliboi Bidayuh | dip | nikəu | mpotok | timuəkŋ | batəuh | piəh |
| Sungkung | āwāh | sibut | sahkit | taʔitn | batuh | mijog |
| Jangkang | moyontiʔ | noŋku | polikat | toniʔ | botuh | tunjuʔ gotn |
| Ribun | tapoʔ | noŋku | bəlikaʔ | toniʔ | botuh | togoʔ |
| Golik | ŋənəy/məntək | noŋku | likət | putukʔŋ | batuh | togaʔ |
| Sanggau | monai | noŋkú | likát | toniʔ | bo:tuh | boʔanti |

| English | storm | straight | stranger | strong | stump | sugar cane | sun hat |
|----------------|----------------|----------|-------------|---------------------|--------------------|------------|--------------|
| PLD | | | | | | *tabu | *saʔuŋ |
| Benyadu | | locor | sook | kuat | toŋu | tabu | soŋko: |
| Bekati | putiŋ bəliŋ | tamut | banuan | kuat | tunju | tabu:ʔ | kuduŋ/lima |
| Hliboi Bidayuh | | hŋoətn | dayoʔ koətn | kuat | tóʔod | tibuh | kiboək toŋoy |
| Sungkung | jətn gitn anin | tigitn | | bahti* ^k | tiʔid ⁿ | tabuh | saʔukŋ |
| Jangkang | ntoutn | bujoyə | oña poniʔ | koyas | tut | tobuh | soyukŋ |
| Ribun | buoʔ jodi | bujuək | ño ñahoh | ŋasi: | tunjul | təbuh | tuduəkŋ |
| Golik | badəy | bojok | pənənət | kuat | tunjul | təbuh | topi əji |
| Sanggau | baday | luyus | ñasin | anal | toŋol | tobu | suyonŋ |

| English | sunrise | sunset | supernatural storm |
|----------------|---------------------------------|--------------------------------|------------------------------|
| Benyadu | matuʔ ano idup | matuʔ ano kabis/...ñulutn | poteŋ balium |
| Bekati | bahas anó ^w mənsalaʔ | bahas anó ^w taŋulup | simula jadj: |
| Hliboi Bidayuh | biton inəu nsok | biton inəu ŋgluəpm | inu baluy |
| Sungkung | batitn anu musak | batitn anu mədip | |
| Jangkang | motuh onu timu | motuh onu toŋolapm | tulah (turn to stone) |
| Ribun | motuh onu timua | motuh onu timilit | tulah (turn to stone)/paŋkah |
| Golik | bətəh siruʔ timbokʔŋ | bətəh siruʔ runtup | lobur |
| Sanggau | mata ayi maji: | mata ayi ŋoyom | tulah yaŋkah |

| English | surprised | swallow | swamp | sweat | sweep | sweet |
|----------------|-----------|---------|---------|--------------|-------------|--------|
| PLD | *kəjət | | | *udəs/*adas | | *mamih |
| Benyadu | takajut | nalatn | paya? | bapaluh | ɲimar | manse? |
| Bekati | takajut | nayon | baŋkɛ: | bayadas/adas | ñihas/ñapɥ: | mamih |
| Hliboi Bidayuh | ntagokŋ | kloənt | paya? | nduəs | sapəu sio? | pisiə? |
| Sungkung | ŋkəjət | tələtn | | ba? udi:s | ñapu | sidi? |
| Jangkang | tokojot | nolatn | laba? | biso? | nopaw | manis |
| Ribun | mpojiə? | niŋu? | paya? | biso? | ñapu | nije? |
| Golik | təkəjət | ŋəRət | tawak?ŋ | ɲudas | məñapu | sija? |
| Sanggau | təkote? | nilan | ɣawa | bəkudas | nəpás | jije? |

| English | sweet potato | swim | swollen | table | tail | take | tall |
|----------------|--------------|---------|--------------|-------|---------|-----------|---------|
| PLD | | *naŋuy | | | *(i)kuy | | |
| Benyadu | kuduk | bananaŋ | baŋkak [-aq] | meja | oŋke | naŋkap | tiŋi |
| Bekati | kudu? | sakua? | baŋka? | mejéʷ | eŋké | naŋkap | ñaməʷ |
| Hliboi Bidayuh | ddəuk | ŋamaw | boo? | meje | kuətn | juət/mi:t | imú kod |
| Sungkung | | naŋuy | bi:? | meja | kuy | namɪt | ahtuh |
| Jangkang | kúdo? | kodonaŋ | boŋka? | mija | iku? | miah | tiŋi? |
| Ribun | kupo? | kedonaŋ | boŋko? | meja | kui? | nokiə? | domaoh |
| Golik | kəladi: | bədaŋuy | boŋkak | meja | uŋkɥi: | mukut | datuh |
| Sanggau | kəladi | bəyonaŋ | boŋka? | tato | kui? | miah | tiŋi:? |

| English | tamp earth | tart | tasteless | tear | tell | ten | termite |
|----------------|------------|-------------|-----------|----------|----------|-------------|-----------|
| PLD | | *kalət | | | | *siməŋ | |
| Benyadu | nidit | kalut | | ŋarojek | bakesah | sapuluh | ané |
| Bekati | masa? | ŋamataŋ | taway | ñojət | ñayété | sapuluh | bubu? |
| Hliboi Bidayuh | tapod | likat/tikad | madóy | ñu:s | lete | siməwŋ/məwŋ | lupod |
| Sungkung | sɪsɪt | ba? nakit | madud | nɛjet | sani | simi | |
| Jangkang | podat | kolat | colap | ŋoyinta? | ñoyita | simōŋ | |
| Ribun | pada?/ŋ | boŋoh | modah | ŋuja? | cihito | simuəŋ | anay-anay |
| Golik | madat | kələt | hambar | jotak | niq: | səməŋ | rayəp |
| Sanggau | mpodat | kolat | | ŋkijai? | bocoɣeta | simuŋ | ɣayap |

| English | that, far | that, near | there, far | there, near | they | thick | thigh |
|----------------|-----------|------------|---------------|-------------|---------|--------|--------|
| PLD | | *ni | | | | *kapa | *paʔə |
| Benyadu | datiitn | dakoh | ka tiitn | kaʔ akoh | ayueʔ | kapa | paaʔ |
| Bekati | tit | koh | daʔ tit | daʔ koh | kayu | kapa: | apa: |
| Hliboi Bidayuh | tani: | goʔ ni | ka nih | da nih | naʔwa | badəɔg | pakɲ |
| Sungkung | | ajeh | | nəg jeh | ayo age | kahpe | piʔitn |
| Jangkang | kois | ñen | waʔ ɲoih/ɲois | waʔ ñuh | domanaʔ | tobal | puh |
| Ribun | | han | | ntiɲ ɲuñau | balo | toba: | pu:h |
| Golik | cah | si'n | dəʔ oiç | dəʔ oit'n | kine | tobal | pəh |
| Sanggau | ñauh | ñm | waʔ ɲoih | waʔ ɲoen | bala | tobal | pahaʔ |

| English | thin | think | thirsty | this | thorn | thousand | three | throw |
|----------------|--------|-----------------|---------|-------|--------|----------|-------|--------------|
| PLD | *tipis | | | | | | *taru | |
| Benyadu | mepes | bapikir | aus | diah | únak | səribu | taru | monóʔ |
| Bekati | ɣadéy | bapikiɣy/ñanuut | kayek | diah | na:ʔ | sayibu | tayu | molɔ: |
| Hliboi Bidayuh | hnep | pekel | bidəɔh | ti | lijaʔ | səlibu | taluh | palokɲ/tilay |
| Sungkung | kalih | ɲititn | madih | ahtih | bulutn | səribu | taluh | talatn |
| Jangkang | lipis | bopikeyə | ɲaus | nto | duyé | soyibu | toyúh | nampoh |
| Ribun | hidi | mikiɔh | aus | to: | hojo: | səhibu | tahuh | ñompoh |
| Golik | lideʔ | miker | aus | tiʔ | duriʔ | səribu | taruh | mɔtət'n |
| Sanggau | tipis | bəpikéyə | aus | to | duyi | səyebu | toyuh | ɲopaw/ɲopɔ |

| English | thunder | tickle | tie | tiger leech | tired | to clean |
|----------------|-------------|----------|---------|-------------|--------|----------|
| Benyadu | guntúr | ɲelék | neɲóʔ | | lalah | maraseh |
| Bekati | guntuɣ | ɲagéléʔ | moop | | kokok | ɲəbəysih |
| Hliboi Bidayuh | ddəw | təkəliɔk | mikuɔsʷ | motowk | kapaʔ | ñusi: |
| Sungkung | | ɲəlitik | nisiɔt | məhtək | manapm | kisig |
| Jangkang | pate dinokɲ | ɲkicəʔ | komot | tonciʔ | | moyiseh |
| Ribun | guntuh | ɲucik | ɲisiɔʔ | | lopo | heseh |
| Golik | guntur | ɲəlitik | ɲkəbət | pacat | koñoh | ɲəroseh |
| Sanggau | guntoyə | ɲate: | ɲkobat | | lopá | ɲəyeseh |

| English | to dry | to fish | to lean | to lie | to sting | to wrap |
|----------------|--------------------------|---------|------------|---------|-------------|---------|
| PLD | *badu | | | | *ñiŋət | |
| Benyadu | ŋalampéʔ/ŋanawatn (rice) | ŋail | nan tagútn | baoh | ñuŋut | nuŋkus |
| Bekati | ŋabadu: | mintj: | manjineh | majaʔ | ŋoot | muŋkus |
| Hliboi Bidayuh | bidoəh eh | minduək | ŋjog | ŋakal | ŋkiəʔ niŋat | galuəʔ |
| Sungkung | dawatn | muhtiʔ | puʔatn | bolot | ñiŋit | nalut |
| Jangkang | ŋoyonuh | ŋael | saneh | nolakay | bisa | muŋkus |
| Ribun | hənuh | ŋai:a | busaneh | ñələkah | mintə:ʔ | muŋkus |
| Golik | nowət | mintiʔ | ñanar | mələkəʔ | məñəŋət | muŋkus |
| Sanggau | ŋəyaŋkay | ŋael | | ŋəmulaʔ | ñiŋat | ŋapet |

| English | toad | today | tomorrow | tongue | tooth | toothless |
|----------------|--------------------|-------------------|-----------|----------|---------|-----------|
| PLD | | | | *jəraʔ | *jipə-n | |
| Benyadu | garega | ano diah | jákap | arataʔ | japu | |
| Bekati | saé | toyah | jaŋkap | yaʔa: | japuʔ | yaʔak |
| Hliboi Bidayuh | suʔuh | inəw adin eh | pagiey | glaʔ | bbotn | luəh |
| Sungkung | səlaʔuh (inedible) | anu ahti | siʔsiəʔtn | jila | jipitn | |
| Jangkang | pugaw | onu nto [onun.to] | onu ilupm | jiya | jiputn | yoʔakŋ |
| Ribun | haokŋ | onu nto: | pahaji | jiho | jiputn | |
| Golik | cəuh | onu tiʔ | onu pagi | lidah | jəpəh | robak |
| Sanggau | kataʔ ñaboʔ | onu: to: | kolam | slomeəʔə | jipun | |

| English | touch | tourtise | trap | tree | tree shrew | true |
|----------------|----------|----------|---------------------------|-------------|------------|--------|
| PLD | | | | *kayu | | |
| Benyadu | migakŋ | kakuraʔ | | | tupé sekak | batól |
| Bekati | ñétéʔ | diə: | paʔogot (hole)/ju: (fish) | kayu:(?) | tupéʔ | batol |
| Hliboi Bidayuh | timaʔ | liəʔʔ | | hŋuəŋ/kiuh | pa:s | bəʔəʔl |
| Sungkung | ñiñam | buhkuʔ | | puʔutn | piskekekx | dog |
| Jangkang | | | ijo (fish) | koyuh | | odúʔ |
| Ribun | nipa:ʔ | kuho: | iju: (fish) | kayoʔ/koyuh | tupai jage | əduk |
| Golik | məñəntúh | kuraʔ | jəʔat | pu:tʔn | jəʔəʔ | dok |
| Sanggau | məñəntuh | ŋkuyəʔ | poʔaŋkap | koyuh | | bonayə |

| English | try | turn | turn (over) | turtle | twins | two | under |
|----------------|-------|---------------|-------------|--------------|--------|--------|------------|
| PLD | | | | | *apid | *dua | |
| Benyadu | coba | melok | malik | kakura? | kemerə | dua(?) | ka sarok |
| Bekati | ñobé | babelo?-belo? | mali? | diq: | apit | dua(?) | da? sayo? |
| Hliboi Bidayuh | soba: | mpalikŋ | mpu?uəp | lukú? | lipiəd | uoh | ka bbuə? |
| Sungkung | coba | nəhkis | ba? balik | | kambar | dui | ka? tana? |
| Jangkang | ñoba | bobelok | bale? | biduh (soft) | | dukáh | wa? bawah |
| Ribun | labus | milok | mole? | kuho:/biduh | mapi? | dúkoh | ntiŋ sigan |
| Golik | laba? | miloq | malikʷ | bədəh | kombar | duih | də ribo? |
| Sanggau | libá | bəbilok | mole? | ŋkuyə? | komayə | dukah | wa? sigan |

| English | understand | untie | upriver | urinate | urine | vein |
|----------------|------------|------------|----------------------|---------|--------------|-------|
| PLD | | | *day/*mudik/*ud | | | *uhat |
| Benyadu | ŋarati | | daé | mansikŋ | ansikŋ | uhat |
| Bekati | ŋayatj: | ŋagoyok | daé/mali? | mançik | ançik | uhat |
| Hliboi Bidayuh | ŋati | lawiəh | ud /ndiək (go) | masyéy | asyéy | aát |
| Sungkung | pu?atn | məŋai | naŋin pi?itn/mide*xk | kuset | pi?itn kuset | uát |
| Jangkang | ŋoyiti | goyah | soju/mude? (go up) | kosikŋ | ai? kosikŋ | uat |
| Ribun | tihiti | ŋado loŋah | soju:/ñoju: (go) | kosikŋ | juk kosikŋ | ua? |
| Golik | ŋəroti | | hulu/mudek (go) | ŋkeset | pi:tʰn keset | urat |
| Sanggau | tayəti | ŋəliŋayə | sojú:/mude? (go) | kosin | piŋ kəsin | uyat |

| English | veranda | village | vine | voice | vomit | waist |
|----------------|--------------------------|---------|------------|--------|--------|---------|
| PLD | | | *ukah | | *uta? | *k-apəŋ |
| Benyadu | uhakŋ | kamponŋ | ukah | suara | muta? | apakŋ |
| Bekati | sami: | tumpu? | | sùaya | ɣama | apak |
| Hliboi Bidayuh | awiəh | li?ih | | asəokŋ | ntá? | puey |
| Sungkung | awah | kopo? | uduh bahki | miu | | kihpokŋ |
| Jangkang | sopa/pontatn (uncovered) | ompu? | oŋkah | boba | joluah | kopokŋ |
| Ribun | | əmpu? | | asakŋ | ŋuto: | kopuəkŋ |
| Golik | tumu layətʰn | əmpək | kukah | suara | ŋutɛ? | kopokʰŋ |
| Sanggau | tiyas | ompu? | | yun | ok | piŋaŋ |

| English | wait | wake up | walk | wall | want | wash clothes |
|----------------|-----------|-----------|------------|------------------------|--------|--------------|
| PLD | | *ma(ŋ)kat | *panaw | *dindiŋ | | |
| Benyadu | nuŋgu | kias | bajalatn | dinikŋ | ituh | ñuci |
| Bekati | ŋanti: | makat | bajalat | tidik | tuh | muhu |
| Hliboi Bidayuh | kajoətn | mikat | pinoy | | agal | nuci |
| Sungkung | kajətn | mahkat | panu | tuled ⁿ | sopm | beʔətn |
| Jangkang | nuŋuʔ | məŋkat | dodi/ntiaw | dinow | gulokŋ | moyiseh/ñuci |
| Ribun | taŋi/naŋi | məŋkaʔ | bejalatn | dinikŋ | luəŋ | ñumēʔ |
| Golik | nuŋuʔ | məŋkət | bəjalət | dinikʔŋ/turot (wooden) | εraʔ | ñuci: |
| Sanggau | taŋi | məŋkat | bojalan | diŋin | loŋ | məsoʔ |

| English | water | waterfall | we ex | we in | weak | weave | western tarsier |
|----------------|--------|---------------|-------|-------|-------|---------------------|-----------------|
| PLD | *paʔin | | *kami | *kita | | *ŋañam | *(ə)kəd |
| Benyadu | paitn | paitn tarajun | adup | diri | lamah | ŋañam | imikŋ |
| Bekati | pait | ɣiam | kai | té | ɣaŋot | ŋañam | buak |
| Hliboi Bidayuh | piʔitn | bəlaʔay | kiʔih | | mowh | ŋaduəs ^v | kəɔd |
| Sungkung | piʔitn | muʔat | keʔeh | ahtaʔ | ləmah | nah | əhkəd |
| Jangkang | aiʔ | aiʔ ɣiapm | ome | iah | lomah | bojomət | |
| Ribun | pi:kŋ | hiapm | me: | diəʔ | lomoh | ñimay/omoʔ | necce |
| Golik | pitʔn | pilacur | əmiʔ | kitaʔ | lomah | məŋañam | ŋkət |
| Sanggau | piŋ | piŋ toɣajuŋ | mi | dop | lomah | ŋañám | ŋkayə |

| English | wet | what | when | where | which | white | whittle |
|----------------|--------|-----------|---------|-----------|------------|-------------|---------------|
| PLD | *bəseʔ | | | | | *budaʔ | |
| Benyadu | basaʔ | jaɪ | mináʔ | kaʔ ome | da dome | putih | ŋahit |
| Bekati | basə: | jaɪ | ñina | daʔ mi | dadu mi | ɣaŋak | ŋansuyiʔ |
| Hliboi Bidayuh | jjəwʔ | anin/inin | ŋanieh | dakitn | goʔ koy | ddaʔ | misikŋ/misiey |
| Sungkung | bisiʔ | añi | niʔ añi | nəg ki | daʔ aki | budaʔ | nadus |
| Jangkang | bisah | onih | nan | waʔ ŋokih | dəʔ iŋkih | puteh | bopaet |
| Ribun | | ŋoneh | ŋah | ŋo keh | diʔ ŋo keh | mopau/mopan | musé |
| Golik | bisaʔ | ənih | wanət | də əpih | bakanih | budaʔ | rout |
| Sanggau | bisah | ənih | nan | waʔ ŋokih | diʔ kih | puteh | ɣaot |

| English | who | why | wide | wife | wind | wing | wipe | with |
|----------------|--------|----------|---------|---------|-------|---------|-------|------|
| PLD | *asi | | | *sawə-n | | *(i)ləd | | *ŋan |
| Benyadu | asi | kanjai | asó:ʔ | sautn | ñaru: | seap | ŋalap | gi:ʔ |
| Bekati | asi | kat jaɨ | aŋhɨ: | banun | mahɔ: | sayaʔ | lap | géʷ |
| Hliboi Bidayuh | isiətn | anin bah | iɨh | siwotn | hnəwh | liəd | lap | ŋien |
| Sungkung | asi | koʔ | aɨ | sawitn | aŋin | léd | nədiʔ | gitn |
| Jangkang | osih | leh onih | dais | osaw | buaʔ | iɨat | ŋələp | ŋan |
| Ribun | osəh | ŋoneh | bulamah | osaw | bu:ɔʔ | iha:ʔ | ŋilap | ŋan |
| Golik | osih | məniç | ləbar | osow | rəməu | soyop | ŋələp | ŋən |
| Sanggau | osih | kanih | libayə | osaw | bayat | sayap | ŋilap | ŋan |

| English | woman | wood pecker | word | worm | wring | yawn | year |
|----------------|-----------|---------------|----------------------------|---------|----------|---------|--------|
| PLD | | | | | | | *sawaʔ |
| Benyadu | damahũ | tamagu | kata/bahasa | ulat | məŋkilas | məŋuap | taun |
| Bekati | mahō | manuʔ patoʔ | magaat | ndok | moséet | sahap | sawá: |
| Hliboi Bidayuh | layukŋ | saáy | hŋun ^d a (lang) | tadəuɨh | mloəs | ŋunúʔ | siwaʔ |
| Sungkung | dayukŋ | ŋkalih | naŋ/pimiu (lang) | ntaduh | nəlis | bula:ʔ | sawaʔ |
| Jangkang | dayokŋ | | boba | ulat | ntiyis | mɔpəp | tautn |
| Ribun | nayuakŋ | tuut | bobo | ulat | nakeʔ | ŋanto:ʔ | taun |
| Golik | ñən dayuk | manok pəlatok | kuət ⁿ /bahasa | ulat | mərəs | əŋkuáp | sowaʔ |
| Sanggau | dayoŋ | ŋkiceɣə | kata/bobá: (lang) | ulat | ŋəɣomas | məŋuap | səwa |

| English | yellow | yellow black snake | yesterday | you | you plural | young | younger siblings |
|----------------|----------|-----------------------|-------------------|---------|------------|--------|------------------|
| PLD | | | | *(a)muʔ | | | *sadiʔ |
| Benyadu | kuniŋ | | raméŋ | imuʔ | akum | aŋot | sadeʔ |
| Bekati | maŋkuñit | lantayək | ŋaméʷ | mu | kup | aŋot | sadéʷ |
| Hliboi Bidayuh | kuniŋ | lopoh liʔiəŋ | hmiə | iʔəũ: | iŋay | mudaʔ | ditn |
| Sungkung | nsiaʔ | dipih suksaguʔ | baʔ tin siʔ siətn | mu:ʔ | ii muʔ | mudaʔ | sidity |
| Jangkang | kuniŋ | | onu yinuseh | əmo | diətn | mudaʔ | odəʔ |
| Ribun | ntomu: | | hinus | omo | diətn | məŋunt | odéʔ |
| Golik | məntəs | səriak ^ʔ ŋ | oñuñoñu | əmuʔ | | donak | odiʔ |
| Sanggau | kuniŋ | ñipuh tadoŋ | kəmayin | mu: | dən | məŋint | odəʔ |

APPENDIX 6

BARITO

| English | abandon | above | adam's apple | aflame | afraid | after |
|------------|---------------------|-----------------|--------------|---------------------|--------------------|----------|
| Kadorih | no ^h tah | aŋ isuŋ | bokuk tiŋaŋ | pa ^h puy | mikoh | sihinday |
| Ngaju | ŋalihi? | ŋambu? | boŋkok ogaŋ | bakehu? | mikeh | limbas |
| Kapuas | məlihian | tataw/si hunjun | | əpapuy | mikeh | səlepah |
| Bakumpai | məlihian | sihunjun | | təpapuy | mikeh | səhibas |
| Maanyan | nanan | haŋ ime? | guguruŋan | rakit | pahe?ey | udi? |
| Dusun Witu | nanan | ta? entu | goroŋan | rakit | bakoy maleh | udi? |
| Taboyan | ŋilak | tai mo? | bəntənok | soya | takut | opos/pəs |
| Paser | tənilo? | la? ombol | jakun (L) | tunu? | takut | |
| Benuaq | molak | məmo | | soya | takut | lipas |
| Tunjung | nəlema? | de? mu? | | tutu ^k ŋ | bih ⁱ n | lempus |

| English | afternoon | age | agree | alive | all | alone | already |
|------------|---------------------|---------|---------|---------------------|-----------------------|----------|-------------|
| Kadorih | sohit | umur | io? | borum | urayh | boŋo? | jadi?/umbot |
| Ngaju | halemey | umur | ioh | belum | uras | kabuat | jadi? |
| Kapuas | | tahasəŋ | sətuju? | belum | səməndiah | kəbuat | |
| Bakumpai | | umur | sətuju | belum | səməndeyah | kəbuat | jadi? |
| Maanyan | karive? | umur | satuju? | welu ^b m | katuluh | ra?eray | haut |
| Dusun Witu | saña | umur | hakun | welu ^b m | kaluhan | kareray | haot |
| Taboyan | doyə ^s ŋ | umur | | bolum | kəŋahai? | don-edon | epu? |
| Paser | nayap | | | bolum | səməua (L)/abis | səderai | sundok |
| Benuaq | doya ^k ŋ | umur | sətuju | bolu ^p m | səkore ^k ŋ | edo'n | epu? |
| Tunjung | uhi ^k ŋ | umu:r | ya? agi | bəlu ^p m | daike | | so? |

| English | also | always | ancestors | and | angry | animal | ankle |
|------------|----------|-----------|-------------------|-------|--------------------|---------------------|--------------------------|
| Kadorih | ka? | terus | jereh | dan | rahas | mə ^h tu? | ma ^h ta? paa? |
| Ngaju | kea? | anta? | tatuhian | | basinji? | metu? | lalin |
| Kapuas | | | səjarah | | saŋit | binataŋ | |
| Bakumpai | juga | | ləluhur | dan | saŋit | binataŋ | |
| Maanyan | pada | palupalus | laluhur | neləŋ | saŋit | satua? | |
| Dusun Witu | pada/ley | tatiap | nini datu? | nuhi? | saŋit | | buku lali ^k ŋ |
| Taboyan | | səleloy | jus tuha? məntuə? | | bərəkət | sətua? | bələkiŋ |
| Paser | low | | | | briek | binataŋ (L) | bələŋkasiŋ |
| Benuaq | lai | səlalo | tuha'n | bəroh | sukər | bənataŋ | bələki ^k ŋ |
| Tunjung | jika? | sələpas | pələga'n | bəro | ohē ^k ŋ | bənatəŋ (L) | |

| English | answer | ant | orangutan | argue | arm | armpit | arrive |
|------------|----------|----------------------|--|----------------------|-------|----------|------------|
| Kadorih | ombay | bi ^h itik | kahiu? | ɲaravan | roŋo? | karepa? | pas |
| Ngaju | jawap | bitik | kahiu? | ɲalawan | | kətiak | sampay (L) |
| Kapuas | buhen | bitik | | məŋəranah | | kələtiak | dumah |
| Bakumpai | məŋjawab | bitik | orang hutan | məmbaŋkaŋ | | | dumah |
| Maanyan | ñawap | wisik | keu? | ñan ^h kal | penaŋ | kelek | hampe |
| Dusun Witu | ñawap | wisik | keu? | nulak | penaŋ | kelek | hampe |
| Taboyan | ŋəjawab | bitik | | beaw ɲaku | | kəlopa | mpe |
| Paser | | bitik | | ɲələwan | | səŋkan | keow |
| Benuaq | nuwiŋ | bitik | ura ^k ɲutə ^k ɲ | nopa | | kəlopa | əmpat |
| Tunjung | ñāhūt | witi:k | ura ^k ɲutə ^k ɲ (L) | mələwa'n | | kəlopa | əmpə:? |

| English | ash | ask | aunt | baby | baby carrier | back |
|------------|------------|----------------|---------------------|------------|-----------------------|---|
| Kadorih | kavu? | ɲisok | mina? | niñam | ñaka ^h pu? | likut |
| Ngaju | kavu? | ñisek | mina? | awo?/awaw | entaŋ | |
| Kapuas | | mə?iŋsek/misek | mina? | anak kurik | umahan | likur/kahan |
| Bakumpai | abu | mə?iŋsek | mina? | anak kurik | umahan | likur |
| Maanyan | habu? | nunti? | tutu? | hua | pi?eteh | puŋu ^k ɲ/balu ^k ɲ |
| Dusun Witu | habu? | nane | buja ^h ɲ | awaw | | lutuk |
| Taboyan | bələŋor | ñitup | burok | tia mea? | səmayoŋ | kəsəpaŋ |
| Paser | abu(?) (L) | ɲunti | mena | | | kərunduŋ |
| Benuaq | abu? | pənik/səmpənik | ina? | oa:k | awi? oak | boŋke ^k ɲ |
| Tunjung | ahu?/abu? | əntay | me:? | oak | mi? oak | puŋuŋ/boŋke ^k ɲ (L) |

| English | bad | bait | bald | bamboo | banana | banyan |
|------------|------------|----------|------------|-------------|-----------|-------------|
| Kadorih | caat | opan | borəŋ | poriŋ | puti? | runuk |
| Ngaju | papa? atey | umpan | ha-loŋar | purin | pišaŋ | lunuk |
| Kapuas | papa? | umpap | botak | bulu humbaŋ | pišaŋ | puŋ lunuk |
| Bakumpai | jahat | umpan | botak | humbaŋ | pišaŋ | lunuk |
| Maanyan | murun | upan | loŋor | telaŋ | punsi | nunuk |
| Dusun Witu | jahat | opan | loŋor | pariəŋ | punsi | kakaw nunuk |
| Taboyan | daat | pəkompan | lunaw utək | balo? | jələ? | |
| Paser | jahat (L) | | botak (L) | tolaŋ | pišaŋ (L) | |
| Benuaq | data | ompa'n | lunaw | bane | jələ:? | |
| Tunjung | pəjay | umpa'n | lunaw | lutu? | jələ? | nunu:k |

| English | bark | barking deer | base, origin | bathe | bear | beautiful | because |
|------------|-------------|---------------------|--------------|---------|------------------------|---------------|---------|
| Kadorih | upak kacu? | tarouyh | | monduy | bəhuaŋ | bahinoy | karena |
| Ngaju | upak kayu? | karahaw | upun | manduy | bahuaŋ | bakena? | awi? |
| Kapuas | kulit kayu? | | puun | manduy | bəruaŋ | bahalap tutu? | |
| Bakumpai | kulit pohon | kijaŋ (L) | pun | manduy | bəruaŋ | bahalap | kəkueh |
| Maanyan | upak kayu | paraŋ | kakaw | mandrus | wayuaŋ | mawine | daya? |
| Dusun Witu | upak kayu | para ^k ŋ | kakaw/putut | mandrus | bia ^k ŋ | ma?eh segah | ulah |
| Taboyan | upak kayu | təlawus | bokaŋ | nus | biaŋ | lolaŋ | |
| Paser | | təlaus | | undus | biwaŋ | kəregok | |
| Benuaq | kolit kayu? | təlaus | | nu:s | bia ^k ŋ | pu:’n nunuk | kona? |
| Tunjung | opek kaju? | təlaoh | ləŋan | nuu: | bia ^k ŋ (L) | dara? | kəna? |

| English | become | bee | before | begin | behind | believe | betel nut |
|------------|----------|---------|----------|---------------------|-------------|----------|---------------------|
| Kadorih | jadi? | ravuŋ | sehinday | napara? | aŋ rikut | pərcaya? | kahat |
| Ngaju | jadi? | bajaŋi? | sahelu? | nampara | melay likut | percaya | gehat |
| Kapuas | | ləbah | | | si likut | | pinaŋ |
| Bakumpai | | ləbah | səhinday | mulay | si likur | pərcaya | pinaŋ |
| Maanyan | jari? | wani | sahu?an | ma-mulai? | ha wadiŋ | harap | pinaŋ |
| Dusun Witu | jari? | wani | samete? | mulay | ta helaŋ | harap | pinaŋ |
| Taboyan | | wani? | səmaley | məlai? | tai odi? | | səpo ^d n |
| Paser | | | pian | | la? sori | | pinaŋ |
| Benuaq | mənjadi? | wani? | səmale | mulay | | pərsaya | spo ⁿ |
| Tunjung | mənjadi? | gaŋi:? | səgina? | antə ^k ŋ | de? likut | pərcaya? | pa:’n |

| English | between | big | binturong | bird | bite | bitter | black |
|------------|------------------------|--------|-------------|---------------------|---------------|---------|---------------------|
| Kadorih | aŋ antara | haco? | tukuŋ | ocinaaŋ | mavak | poit | mitom |
| Ngaju | melay helat | hai? | tuhun | buruŋ | ŋirut | pait | bəbiləm |
| Kapuas | si bentuk | hai? | buak | buruŋ | məmaŋkit | bəpait | bəmarem |
| Bakumpai | si bentok | hai? | | buruŋ | məmaŋkit | bəpait | bəmarem |
| Maanyan | he la ^s ŋ | hante? | amunin | wuruŋ | | mapa?it | ma?intem |
| Dusun Witu | ta hadapan | hante? | munin tuyun | wuru ^k ŋ | ŋikit | pa?it | mintem |
| Taboyan | tai ekaŋ | solay | munin | pəmpulu? | nəkət | pait | metəm |
| Paser | la? botuk-botuk | olai | | təmpulu? | ḃokut/kənikit | pait | buyuŋ |
| Benuaq | mo odi? | solay | munin | pəpulu? | ŋikit | pait | metə ^p m |
| Tunjung | de? eka ^k ŋ | haja? | muŋin | əmpulu? | ŋeket | pait | pərama? |

| English | blader | blind | blink | blood | blow nose | blow, as wind |
|------------|---------------|---------------------|--------------|-------|---------------|---------------|
| Kadorih | araŋan kahit | bu ^h te? | picɛp-pɛrɛp | daha? | nusu usot | tapu |
| Ngaju | saraŋan kahit | ba-bute? | birep | daha? | nusuh burek | tariup |
| Kapuas | kanduŋ kahit | bəbute? | bəkijip | daha? | məŋanan iŋusb | hantərawaŋ |
| Bakumpai | kanduŋ kahit | bəbute? | bəkijip | daha? | buah iŋus | tərtiup |
| Maanyan | wawun ni?an | pehe? | ikitung | ira? | ŋiŋuh | pasivuy |
| Dusun Witu | wo ni?ən | pehe? | kakirep | ira? | ŋiŋuh | tasivuy |
| Taboyan | rənukan oni | posa | səpitəp | daya | ŋiŋor | mənsiliŋ |
| Paser | bərnian | posa | kilot/skitot | daya | bəsiŋuy | konosiup |
| Benuaq | topok oni | posa | pəpitəp | daya | nəŋeh | |
| Tunjung | topok ni? | pəsa? | pəpitəp | raha? | təhonan | |

| English | blow w/mouth | blowpipe | blue | boar | body |
|------------|--------------|--------------------------|----------------------------|---------------------|---------------------|
| Kadorih | ŋapusik | so ^h pot | biru? | bavuy | bə ^h ti? |
| Ngaju | mahimun | sipit | biru | bavuy | biti? |
| Kapuas | məniup | sipt | biru | bawuy | kuŋe? |
| Bakumpai | məniup | sipet | biru? | bauy | kuŋe? |
| Maanyan | ŋivuy | petan | biru?/mahuk (bruise color) | wavuy | teŋa? |
| Dusun Witu | ŋivuy | petan | biru | wavuy ŋeray | teŋa? |
| Taboyan | ŋiup | potan | jərow | bawuy | unuk |
| Paser | səniup | | | ɓawi | diri ŋawa? |
| Benuaq | | pota ⁿ /sapat | jəraw ura? | bawi | əmpu ⁿ |
| Tunjung | | səmpu:t | nahuŋ | sapi ^k ŋ | əmpu ⁿ |

| English | body hair | bone | bored | bowl | bracelette | brain | branch |
|------------|-----------|-----------------------|-------|------------|----------------------|----------|-----------------------|
| Kadorih | buru? | turaŋ | pəda? | makuk | galaŋ | utok | daan |
| Ngaju | bulu? | tulaŋ | pəda? | maŋkuk | galaŋ | untek | edan |
| Kapuas | bulun | tulaŋ | pəda? | | luaŋ | otak | cabaŋ |
| Bakumpai | bulu | tulang | bosan | maŋkok | luyaŋ | otək | cabaŋ kayu? |
| Maanyan | wulu | ta?ula ^k ŋ | pəda? | maŋkuk | galaŋ | untek | ra?an |
| Dusun Witu | wulu | tulaŋ | pəda? | maŋkuk | galaŋ | utek | ra?an |
| Taboyan | bulu? | tula ^s ŋ | pəda? | mansi? | ransu ^s ŋ | otak (L) | pakak |
| Paser | bulu | tulaŋ | puas | maŋkok (L) | | otak (L) | cabaŋ (L) |
| Benuaq | bulu? | tula ^k ŋ | leah | manyoy? | gəla ^k ŋ | pua? | da ⁿ kayu? |
| Tunjung | bulu? | lah | leah | məŋo:ŋ | gəla ^k ŋ | | ra ⁿ kaju? |

| English | brave | breast | breast feed | breathe | bridge | bring | broom |
|------------|-------------|--------|-------------|---------------------|---------------|----------|----------------------|
| Kadorih | bahañi? | tusu? | patusu? | nahasəŋ | pataw | | po ^h payh |
| Ngaju | bahañi? | toso? | patoso? | nahasəŋ | jambatan | | papas |
| Kapuas | bəhañi? | tusu? | məmpətusə? | mənəhaŋsəŋ | | | pipis |
| Bakumpai | bahañi? | tusu? | mənusu? | mənəhaŋsəŋ | jəmbatan | məʔimbit | sapu |
| Maanyan | heʔey | umu? | ŋampumu? | mihewuk | pitetey (log) | ŋeney | pipapas |
| Dusun Witu | maleh/heʔey | omo? | ŋampomo? | mahevuk | panetey | nuna? | kakarik |
| Taboyan | jani? | tete | pətete | bəsəŋat | | | sapu? |
| Paser | ronu? | tete? | nete? | kəmesəŋ | jəmbatan | səkoit | pias |
| Benuaq | jani? | susu? | pəsəncu? | ŋasa ^k ŋ | jəmpata'n | oit | sapu |
| Tunjung | hañi? | toso? | noso? | ŋasə ^k ŋ | jəmpata'n | nemek | sapu |

| English | burn | burp | burry | but | butterfly | buy | calf |
|------------|---------------------|-----------|-----------------------|-----------|-------------------------|---------|-------------|
| Kadorih | ma ^h puy | ŋarega? | ŋubur | tətapi? | kupukupu? | mōñi? | botih |
| Ngaju | məŋehu? | ŋarega? | ŋavuk/maŋubur | səmpama | kakupu? | mili? | buntis |
| Kapuas | məmapuy | mərega? | məŋali? | | kəkupu? | məmili? | batis |
| Bakumpai | məmapuy | mərega? | məŋubur | tapi | rama-rama | məmili? | bətis |
| Maanyan | nutu ^k ŋ | | masar/i-pasar | tatapi? | lalu ^k ŋ | midi | wisis |
| Dusun Witu | nutuŋ | pararia? | ŋoga ^s ŋ | tatapi | lalu ^k ŋ | midi | wisis |
| Taboyan | | jora? | ŋulə? | amun/tapi | bələma ^s ŋ | moli? | jakər |
| Paser | | grea? | kənubur | | | səboli? | bonet |
| Benuaq | ñuru | jora? | ŋələbə ^k ŋ | tapi? | kələləma ^k ŋ | moli? | bənte:t |
| Tunjung | nilok | jora? (L) | ŋubu:r | tapi? | kələləma ^k ŋ | məli:? | bənte:t (L) |

| English | call | can; able | canoe | canoe stick | capsize | carry on back | carry by handle |
|------------|----------|-----------|-------|---------------------|---------------------|---------------|-----------------------|
| Kadorih | naah | tou? | arut | to ^h kon | kahom | ŋumah | nata ^h cut |
| Ngaju | tehaw | tau? | jukuŋ | teken | kahem | ŋumah | dayəŋ |
| Kapuas | məŋahaw | | jukuŋ | | kahem | məʔumah | məŋgitiŋ |
| Bakumpai | məŋahaw | kawa? | jukuŋ | | kahem | məŋgendoŋ | məmintiŋ |
| Maanyan | neraw | iuh | jukuŋ | turus/pitañak | kayem | ŋumbe | |
| Dusun Witu | neraw | iuh/taʔu | jukuŋ | teken/tañak | kayem | ŋume | ŋenat/nuna? |
| Taboyan | noop | tau? | jukum | bətəkən | kayəm | mawi? | nəgən |
| Paser | bənomba? | kate | biduk | | kayom | bənaba? | təntəŋ |
| Benuaq | noge:ʔ | tau? | alur | | kara ^p m | ŋəba? | ge:ʔ |
| Tunjung | noge? | toga? | alur | | kara ^p m | | əŋkat |

| English | carry on shoulder | carry under arm | carry with hands | cast | cat |
|------------|----------------------|-----------------|--------------------------|---------------------------------|--------------------|
| Kadorih | ŋo ^h tuŋ | ŋahavon | ŋa ^h taŋ/ŋomi | nasa ^h kah | pusa? |
| Ngaju | ŋetuŋ | mandayoŋ | | manjala? ^h /malunta? | pusa? |
| Kapuas | məmikul | məŋapit | mə?imbit | məŋanan/mənimbay | pusa? |
| Bakumpai | məmikul | məŋgapit | | məmantiŋ | pusa? |
| Maanyan | ŋantu ^s ŋ | ŋeteh | gataŋ | navut/nampi? | |
| Dusun Witu | ŋantu ^k ŋ | ŋeteh | | navut | usi ^s ŋ |
| Taboyan | ŋoson | ñəŋkəpa? | | nurak | usiŋ |
| Paser | | | oit | turak | usiŋ |
| Benuaq | mawi? | ŋəpit | ŋəmpih | nəmpala ^k ŋ | meoŋ |
| Tunjung | tənəmi? | təŋəpi:t | təŋami'n | tənəmpala ^k ŋ | meoŋ |

| English | cataract | catch | cave | centipede | chair | cheek | chest |
|------------|-----------------------|----------|------------|-----------------------|------------------------------|---------------------|-----------|
| Kadorih | babu ^h te? | navan | luaŋ/luvaŋ | jali ^h pan | baku? | tapa? | usuk |
| Ngaju | hawur | nekap | liaŋ | lalipan | baŋku? | pipi | usuk |
| Kapuas | | | goha? | halilipan | | pipi | usuk |
| Bakumpai | | | goha? | halilipan | kursi | pipi | usuk |
| Maanyan | bular | ñama? | guha? | anilipan | baŋku? ^h /karusi? | pahu | dada? |
| Dusun Witu | bolar | ñama? | goha? | lalipan | baŋku? | pahu | dada |
| Taboyan | katarak (L) | | liaŋ | ləlipan | kursi | kuyə ^b m | gəragay |
| Paser | | naŋop | goa (L) | lipan (L)? | kursi (L) | pasi? | dada (L) |
| Benuaq | | ge: oyat | | ləlipa'n | kursi | pasuk | jaba? |
| Tunjung | | naŋkap | | lipa'n | kursi | pipi (L) | dada? (L) |

| English | chew | chicken | child | chin | choke | choose |
|------------|---------|---------|---------------------------|---------------------|-----------|--------------|
| Kadorih | ñita? | manuk | anak | jaam | ñonru? | mitih |
| Ngaju | ŋitək | manuk | anak | ijaŋ | kaselek | manduan/duan |
| Kapuas | | manuk | anak | dagu | kəsadakan | |
| Bakumpai | məŋuñah | manuk | anak | dagu | kəsadakan | məmilih |
| Maanyan | mapa? | manu? | iak | ra? ^a kŋ | wi? oka'n | midi? |
| Dusun Witu | mapa? | manu? | anak/nakia? (toddler) | ra? ^a sŋ | tərahen | pidi? |
| Taboyan | məpa | piak | anak | bea ^b m | səkak | meli |
| Paser | skopa? | piak | pea? | beam | ŋənsirok | pili |
| Benuaq | mopa | pia? | ana:k | bea: ^p m | təpəsirak | meli |
| Tunjung | mopa? | manuk | tuhi? ^h /ana:k | bea: ^p m | təpəsirək | mili? |

| English | chop | cigarette | circle | clean | climb |
|------------|-----------------------|-----------|--------------|--------------|---------------------|
| Kadorih | ŋo ^h tah | ruku? | habereŋ | barasih | nu ^h kat |
| Ngaju | netek/ndirik (a tree) | ruku? | bunter | barasih | mandai? |
| Kapuas | | | | bərsasi | |
| Bakumpai | məmela? | ruku? | liŋkaran | bərsasih | mənadi? |
| Maanyan | netek | udut | biŋkay | barasih | məmay |
| Dusun Witu | naretek | udut | biŋkay | barasih | mamay |
| Taboyan | motək | roko? | bulət | bərsasih (L) | neŋket |
| Paser | tənotok/notok | roko? | liŋkuran (L) | bərseh (L) | |
| Benuaq | motak | roku | bulət | bərseh | eŋket |
| Tunjung | motok | udut | liŋkaran | bərseh | seŋket |

| English | cloud | cockroach | coconut | coffin | cold |
|------------|--------------------------|------------|---------|---------------|-----------------|
| Kadorih | baun ondow | gərinaŋ | oñuh | rauŋ | saroŋin |
| Ngaju | baun andaw | lipas (sm) | eñuh | kaŋkrui/raruŋ | sadiŋen |
| Kapuas | awan | lipas | eñuh | luŋun | sədiŋin |
| Bakumpai | awan | lipas | eñuh | | sədiŋen |
| Maanyan | | lipas | niuy | tabala? | marisak/marikey |
| Dusun Witu | awan/ra?i andraw (storm) | lipas | niuy | | marisak |
| Taboyan | jau ^d n | lipəs | ñui | luŋun/kutak | rəŋin |
| Paser | jaun | | kəlapa | | roni |
| Benuaq | rəməŋ | lipas | ñuy | luŋun | jələp |
| Tunjung | awan/rəmaŋ | | ño: | luŋun | pərəŋin/cələp |

| English | collapse | come | complicated | cook | cooked rice | corpse | coucal |
|------------|----------------------|--------|-----------------------|---------------|-------------|--------------------------|--------|
| Kadorih | baduruh | rombut | bahari? | mūřūh | bari? | bu ^h kaŋ/otu? | bubut |
| Ngaju | baduruh | dumah | bahali? | bamasak | bari? | hantu? | bubut |
| Kapuas | bətehep | dumah | ruet | bəraŋi? | | mayat | |
| Bakumpai | bətehep | dumah | ruet | masak | bari? | mayat | |
| Maanyan | runtun | havi? | ruvet | ŋandru (rice) | nahi? | baŋkay | wuvut |
| Dusun Witu | tumba ^k ŋ | havi? | mahadi ^d n | ŋandru? | nahi? | baŋkay | wuvut |
| Taboyan | rorak | sulet | | bəkənsak | nahi? | baŋkəy | bumute |
| Paser | | odet | poyo? | mulus | bias usak | | |
| Benuaq | roros | | mahar | bəkəncak | nahi? | baŋkay | |
| Tunjung | roros | moot | mahut | bəkəncak | nahi? (L) | baŋkay | |

| English | cough | count | cousin | cow | crab | crack |
|------------|---------|-----------------------|--------------------------|----------|--------------------------|---------------|
| Kadorih | ñokok | bare ^h ken | ico? ta ^h tu? | | | pocah |
| Ngaju | bajemuh | mise? | jetatu? | sapi? | katam | posit/bədarak |
| Kapuas | bəjemu? | məhituŋ (L) | jitatu? | sapi | katam | |
| Bakumpai | bəjemuh | məhituŋ | jitatu? | sapi | kapitiŋ | bəsila? |
| Maanyan | ŋuku? | mahituŋ | sindraʔan | | puya? | raŋat |
| Dusun Witu | ŋuku? | mahituŋ | tawari/sahindra? | sapi | puya? | mareŋat |
| Taboyan | ñikər | ñituŋ (L?) | əpəsinaia | | warə ^s ŋ/puya | malo |
| Paser | teter | | ñinday | sapi (L) | puya | rətak (L) |
| Benuaq | ñikər | mila ^k ŋ | nuar sinay | sapi | puya | bədara? |
| Tunjung | təhəkar | mela ^k ŋ | məray sini? | sapi | puha? | pika? |

| English | crazy insane | crocodile | crush | cry | cup | dance |
|------------|--------------|-----------|-----------------|-------------|---------------------|---------------------|
| Kadorih | bucon | baco? | mamusit/mamocah | naŋih | ca ^h kir | nasay |
| Ngaju | bojon | bajai? | marutek | naŋis | galas | nari |
| Kapuas | gila? | bəjai? | məramuk | mənaŋis | | mənasay |
| Bakumpai | gila | buai? | | mənaŋis | gəlas | mənari?ta |
| Maanyan | rapuy | wuʔah | ŋampi lenuh | nuŋkaw/ŋiak | saŋker | nañak/ñintet |
| Dusun Witu | gila | wuʔah | nampalenuh | naŋis | saŋker | nandrik |
| Taboyan | kuto | buah | | naŋis | saŋkir (L) | nuyə? |
| Paser | kuto | bayo | | naŋis | caŋkir (L) | |
| Benuaq | gila? kuto | biyaya? | ŋərusak | naŋih | saŋkir | ŋara ^k ŋ |
| Tunjung | gila? | bahaya? | təŋərəñuk | naŋi: | saŋkir | ŋara ^k ŋ |

| English | dark | dart | child in law | day | day after tomorrow | day before yesterday |
|------------|---------------------|--------------------------|------------------------|--------|--------------------|-----------------------------|
| Kadorih | pindoŋ | anak so ^h pot | manatuk | ondow | | |
| Ngaju | kaput | anak sipit | manantu? | andaw | limbas jewu? | helu? bəran male? |
| Kapuas | kaput | təbəlaŋa? | | andaw | hajən jewu? | andaw male? |
| Bakumpai | kaput | anak sipet | | andaw | | andaw helu? |
| Maanyan | maʔieŋ | welay | nantu | andraw | karuan | karive bilaw |
| Dusun Witu | mieŋ | welay | nantu | andraw | wadiŋ katuni | andraw dahulu? |
| Taboyan | dənə ^b m | atu ^s ŋ | bənantu ^d n | olo | kəruə? | onən aləŋ |
| Paser | dondom | | | olo | kəruan | des kəruan |
| Benuaq | dəna ^p m | soyar | nantu ⁿ | olo: | kərua? | loŋan əŋkalə ^p m |
| Tunjung | pəta ^k ŋ | soyar | | naw | naw kərega? | saw si? |

| English | deaf | death | deep | deer | derris root |
|------------|-----------------|--------------------------|---------------------------|-----------|-------------|
| Kadorih | badɛŋɛn | urun ma ^h toy | timbon | ucaŋ | tovo? |
| Ngaju | badɛŋɛn | pəmpatey | handalem | bajaŋ | tuwe? |
| Kapuas | bədəŋɛn | mate | handalem | payaw | tuba |
| Bakumpai | bədəŋin | mate | handalem | payaw | tuba |
| Maanyan | mareŋɛn | pəmpatey | (i-)lale ^b m | kawawe? | tuve |
| Dusun Witu | maŋɛren | pəmpatey | lale ^b m | kəvave? | tue/nue |
| Taboyan | roŋɛn | mate | takəy | təkayo | jahuŋ |
| Paser | simpoŋ | mate | dalom | payaw | toa? |
| Benuaq | məroŋan | mate magah | takay/dala ^p m | təkayo | tuwa? |
| Tunjung | kəroŋan/pəroŋan | mate? maga | de? lə ^p m | payaw (L) | tuwa? |

| English | diarrhea | die | different | difficult | dig |
|------------|-------------------------------------|---------------------|--------------------------|-----------------------|----------|
| Kadorih | kosoroŋin | ma ^h toy | hoko bo ^h kon | sulit | ŋāri? |
| Ngaju | nesaw | matey | beken | bahali? | ŋali? |
| Kapuas | məmanimani? | mate/nihaw | bəbeda? | heka? | məŋgali |
| Bakumpai | məmani?an | | | heka? | məŋgali? |
| Maanyan | babañuk/mahanan wutu ^k ŋ | matey | babeda? | mahadi ^d n | ŋadi |
| Dusun Witu | mambocor | matey | | mahadi ^d n | ŋadi |
| Taboyan | bərubusta | mate | səŋkəlain | heka?/poyə? | ŋali? |
| Paser | siet butuŋ | mate | | poyo? | kənali? |
| Benuaq | butu ^k n mərara? | mate | beda | susah | ŋali? |
| Tunjung | pərah nai? | mate? | beda | susah | təŋali? |

| English | dirty | divide | divorce/separate | dizzy | dog | dom. Pig |
|------------|-------------------|------------|------------------|-------------------|------------|-------------|
| Kadorih | ruse? | ñĩrā? | hapisah | cinik | asu? | urak |
| Ngaju | papa? | bagi? | pisah darai | haniŋ | asu? | bavuy levu? |
| Kapuas | rigat | bagi-bagi? | bəpisah | kəpehe? təkuluk | asu? | bawuy |
| Bakumpai | rigat | məmbagi? | bəpisah | | asu? | bauy |
| Maanyan | murun | magi? | bəpisah | mahanan ulu? | antahu? | ivek |
| Dusun Witu | muru ⁿ | magi? | sarak | ŋelaw ulu? | tahu? | ivek |
| Taboyan | | ñəbagi? | səntuar | ləŋolu?/bərəwiliŋ | koko? | buut |
| Paser | mərota? | səbagi | səntuar | pusiŋ (L) | koko?/asu? | ɓawi |
| Benuaq | mərota? | bagi? | məntar | pusaw | koko? | une:k |
| Tunjung | maho:ŋ | təməhagi? | bəray | pusaw | koko? | bole? |

| English | door | downriver | dragonfly | dream | drink | drop |
|------------|---------------------|-----------|----------------|---------------------|--------|------------|
| Kadorih | batukaŋ | booy | sasibur | nu ^h pi? | ŋorih | nahak |
| Ngaju | atep | ŋawa? | sansibur | nupi? | mihup | panjatu? |
| Kapuas | | ŋawa? | səŋkalap jimay | mənupi? | mihup | məmpahewa? |
| Bakumpai | lawəŋ | ŋawa? | capuŋ | nupi? | mihup | məmpələbu? |
| Maanyan | wawa? nawəŋ | hawa? | sansibur | ŋanupi | ŋu?ut | ñanavu? |
| Dusun Witu | manawaŋ | ma?ay | sansibur | nupi | ŋo?ot | ñanavu? |
| Taboyan | jawəŋ | sawa? | kəŋkemot aji | nupi? | isəp | pəjatu |
| Paser | jawoŋ | mandor | kalopenden | bənupi? | misop | pino latu |
| Benuaq | jawə ^k ŋ | imas | | tupi? | p-isəp | pələtu |
| Tunjung | naga ^k ŋ | na? | | tupi? | muru? | tənatuy |

| English | drown | drum | drunk | dry | dull | durian |
|------------|------------------------|---|---------|---------------------|---------------|-----------------------------|
| Kadorih | pa ^o toŋ | katambuŋ | busow | tocah/koriŋ | mañatim | nahucan/pa ^h kon |
| Ngaju | paletəŋ | gandaŋ | busaw | teah | tompol | dahuyan |
| Kapuas | mawi? buseŋ | tambur | mabuk | keyəŋ | tumpul | dəhian |
| Bakumpai | məneser | mbur | mabuk | keyəŋ | tumpul | duhian |
| Maanyan | ñanete ^k ŋ | katamu ^k ŋ | mahamuy | kariŋ | tumpul | ruyan |
| Dusun Witu | ñaneteŋ | katamu ^k ŋ | mahamuy | kariŋ/meaŋ | tompol | ruyan |
| Taboyan | pələntəŋ | tu: ^s ŋ/gə ⁿ driŋ | mauk | meaŋ | kalər | duyan |
| Paser | tinomonsor | | mauk | koreŋ/kəreŋ | ŋaler | duyan |
| Benuaq | pələtə ^k ŋ | gimər | mauk | meaŋ | tampak | kala ^k ŋ |
| Tunjung | təŋkələ ^p m | gimər | mau:k | kehe ^k ŋ | kacar/tampa:? | hoja ⁿ |

| English | eagle | ear | earthworm | easy | eat | edge |
|------------|---------------------------|---------|---------------------|----------------------|--------|---------------------|
| Kadorih | ataŋ [ata ^k ŋ] | taciŋa? | rukun | murah | kuman | saran/timbow |
| Ngaju | antaŋ/pipit/kavu? | pinding | handale petak | murah | kuman | bidin |
| Kapuas | antaŋ | pindiŋ | caciŋ petak | dia? heka? | kuman | |
| Bakumpai | | pindiŋ | | mudah | kuman | saran |
| Maanyan | maŋamet | silu? | sasiŋ | murah | kuman | iriŋ |
| Dusun Witu | tatuat | silu? | sasiŋ | gampa ^s ŋ | kuman | iriŋ |
| Taboyan | bənia? | kəliŋə? | loku ^s ŋ | murah (L) | man | diriŋ |
| Paser | koniw | təliŋo? | caciŋ tana? (L) | mudah (L) | kuman | piŋgir |
| Benuaq | bənia? | kəliŋən | loku ^k ŋ | murah | ma:n | diri ^k ŋ |
| Tunjung | bənia? | neneŋ | haləŋ | murah | kuma:m | keriw |

| English | egg | eight | elbow | empty | enough | enter | every |
|------------|----------|---------------------|--------------------|-----------------------------|--------|-----------|-----------------------|
| Kadorih | katoruh | haña? | si ^h ku | buhaŋ | cukup | ñõõõŋ | inon koro |
| Ngaju | tanteluh | haña? | siku? | buaŋ | pas | tame? | tiap |
| Kapuas | tənteluh | haña? | siku | jatun ti?isi? | sadaŋ | tame? | genep |
| Bakumpai | hanteluh | haña? | siku | kosonŋ | cukup | | sətiap |
| Maanyan | ateluy | walu? | hiku | pa? uwe ^s ŋ/māhī | sukup | masuk | tatiap |
| Dusun Witu | teluy | walu? | hiku | koso ^s ŋ | sukup | suluk | tatiap |
| Taboyan | toluy | walo | siku? | awe atək/awe isi? | sukup | lotəp/sua | dənu? |
| Paser | toli | walu | siku? | kosonŋ (L) | cukup | sumba | |
| Benuaq | toli | walo | siku? | kosonŋ | sukup | | səkore ^k ŋ |
| Tunjung | təlo | kalu ^k ŋ | siku? | hai? usi? | sukup | | sətiap |

| English | excrement | eye | face | fall | far | fast |
|------------|-----------|---------------------|-----------|---------------------------|---------------------|--------------|
| Kadorih | toi? | ma ^h ta? | | batahak | ma ^h cu? | jereŋ/laju? |
| Ngaju | tai? | mata? | bau? | məñjatu?/ barukanŋ (over) | kejau | capat/gulunŋ |
| Kapuas | tai? | mate? | bau? | məñjatu? | kejaw | bərake? |
| Bakumpai | tai? | mate? | bau? | labu?/siup | kejaw | bərake? |
| Maanyan | edeh | mate | uru wawa? | lavu? | lavit | hinaŋ/laju? |
| Dusun Witu | edeh | mate | ra?i mate | lavu? | lawit | hinaŋ |
| Taboyan | tai? | matə? | wae | jatu | oro? | torik/lekah |
| Paser | tai? | mato? | wae | toyak | oro | laju? |
| Benuaq | tae? | mata? | bote'n | lotu | oro:? | golek |
| Tunjung | tai? | we: | we: | tatuy | nco? | gaga? |

| English | fat | fat (n) | father | father in law | fathom | feeling | fell |
|------------|---------|---------------------|--------|---------------|---------------------|-----------------|---------------------|
| Kadorih | moñak | oñak | amay | upu? jo bavi? | do ^h po? | parasa?an | novonŋ |
| Ngaju | baseput | eñak | bapa? | empu? | depe? | paŋkeme? | neweŋ |
| Kapuas | bəseput | | bapam | empu? | ji depe? | | məneweŋ |
| Bakumpai | bəseput | meñak | bapa? | empu? | depe? | | mənetek |
| Maanyan | munuk | tave? | amah | kasian wawey | repe | nanam/paŋarasa? | neve ^s ŋ |
| Dusun Witu | monok | tave? | amah | umpu? | repe | nanam | neveŋ |
| Taboyan | bonok | dawə ^s ŋ | uma? | tupu? | dopə? | ŋənanam | nowəŋ |
| Paser | ḃogol | ləmak | | | | san | |
| Benuaq | bono:? | dawə ^k ŋ | tamam | tupu'n bawe | dopa? | pərasaan | noa:ŋ |
| Tunjung | bonok | loa? | ma? | ewan | rəpa? | rasa'n | noaŋ |

| English | fern | fever | few | field hut | fight | fill |
|------------|---------------------|-----------------------|---------------------|-------------|-----------|---------|
| Kadorih | pa ^h ku? | mondam | is ^y ut | tikap | hirat | ñuaŋ |
| Ngaju | bajey | badarem | isut | pasah | balecak | |
| Kapuas | paku?/kəlakay | | isut | | | məʔisi? |
| Bakumpai | | haban | isut | punduk | bələkahi? | məʔisi? |
| Maanyan | paku | mekum | utit | punduk | babur | nuve? |
| Dusun Witu | paku/pike? (red) | mariŋin | duti ^g ŋ | punuk | palakat | ŋisi? |
| Taboyan | paku | mərekə ^g ŋ | putik | bəlay tuŋap | bulo | məŋisi? |
| Paser | pakis (L) | dəmam (L) | təriŋi? | pondok | ruok | ato? |
| Benuaq | paku? | bəŋkoya'n | kəkədiŋ | duŋap | bulo | təŋisi? |
| Tunjung | paku? | ləgohə'n | nəŋkeli:t | duŋap | kəlahi? | kisi? |

| English | fin | find | finger | finger nail | finish | fire | firefly |
|------------|---------|---------|-----------------|-------------|---------------------|--------------------|--------------------------|
| Kadorih | sisip | sundow | ikiŋ | rukup | jadi? | a ^h puy | patinoŋ |
| Ngaju | birin | sundaw | tunjuk | kasilu? | jadi? | apuy | patiniŋ |
| Kapuas | sirip | supa? | | | | | kənkuaŋ |
| Bakumpai | sirip | supa? | jari | | sələsay | apuy | kunaŋ-kunaŋ |
| Maanyan | kalekep | manalu | | kuku | mintan | apuy | kələmpisi ^k ŋ |
| Dusun Witu | | panalu | kiŋkiŋ | kuku | haut jari | apuy | |
| Taboyan | sereŋ | find | bua kami | siwəy | solu ^g ŋ | apuy | |
| Paser | siget | ŋəruku | təmburu/gərigi? | lilip | sundok | apuy | ləmbilat |
| Benuaq | sirip | ruku | təmpuru | siway | suda? | api | ləncikat |
| Tunjung | | rəmpu'n | | kuku? | | apuy | ləncikat |

| English | fireplace | firewood | drying rack | fish | fishing net | five |
|------------|--------------|--------------------------|--------------------------|---------|-------------|-------|
| Kadorih | tuŋku?/avu? | kacu? a ^h puy | pahe?/pahavat | ocin | rəŋge? | rimo? |
| Ngaju | parapen | kayu? apuy | pahe? | laok | rəŋge? | lime? |
| Kapuas | | | | lauk | lunta? | lime? |
| Bakumpai | bəliku? | kayu apuy | | lauk | lunta? | lime? |
| Maanyan | pərapen | paʔuruŋ | tapapan/lalaya (outside) | kenah | rəŋe? | dime |
| Dusun Witu | parapin | paʔuru ^k ŋ | rapapan | kalewes | rəŋe? | dime |
| Taboyan | bəliku? | jaŋo | təmpanan | ləluaŋ | rəŋe | limə? |
| Paser | pərapian (L) | kayu apuy | | esa? | | limo? |
| Benuaq | bəliku? | kayu? tu: ⁿ | pələta'n | kina:s | jala | lima? |
| Tunjung | liku:? | kaju? tu'n | mo? pələla'n | mətu? | jala | lima? |

| English | fix | flat | flesh | float | flood |
|------------|----------------|---------------------|------------|---|-------------|
| Kadorih | ŋapioyh | da ^h tah | usi? | rapaŋ | danum haco? |
| Ngaju | ŋambuah | rata? | isi? | lampaŋ | calap |
| Kapuas | | rata? | dagiŋ | ləmbut | danum hai? |
| Bakumpai | məmpəbagus | rata? | dagiŋ | lembut | danum hai? |
| Maanyan | naragu?/ñamuah | datay | lunek | timul | sampurak |
| Dusun Witu | ñamuah/naragu? | rata? | lunek | gamampo ^ə ŋ/galampo ^ə ŋ | ba?ah |
| Taboyan | | rata? | isi | lamponŋ | danum solay |
| Paser | tiŋoŋ kuen | lenow | dagiŋ (L) | səgampunŋ | oa? |
| Benuaq | ŋəbue? | rata | isi?/isi'n | gəlampok ^ə ŋ | |
| Tunjung | ŋəmpajik | licin | usi? | gəlampok ^ə ŋ | anum haja? |

| English | floor | fly | flying lemur | fontanelle | food | foot |
|------------|------------|--------------------------|---------------------|------------|-------------|---------------------|
| Kadorih | saoh | naaŋ | kuvunŋ | karabuot | paŋuman | |
| Ngaju | laseh | tarawaŋ | kuvunŋ | kalabuot | paŋinan | pai? |
| Kapuas | | hanterawaŋ | aŋuy | kələbuot | | |
| Bakumpai | lantay | han tətawaŋ | səŋkalap jimay | kələbuot | pəŋinan | təlapak pai? |
| Maanyan | lantay | samidi ^k ŋ | kuvu ^k ŋ | kalabuot | makuta? | pe?e |
| Dusun Witu | lantay | samidiŋ | kuvu ^k ŋ | kələboet | paŋuta? | pe?e |
| Taboyan | dasəy | mənsiliŋ | səntukup | bələluə? | pəŋokan | kuku |
| Paser | lantay (L) | təmbiliŋ | pawiŋ | bluo | pəŋokan | |
| Benuaq | dasay | təmpu? | kuu ^k ŋ | konat | esa? doka'n | kene ^k ŋ |
| Tunjung | pəpa | tərba ^k ŋ (L) | kuu ^k ŋ | kənat | lulu? anan | une ^k ŋ |

| English | forehead | forget | four | friend | frighten | frog | from |
|------------|----------|------------|------|--------------------------|------------|-----------|-----------|
| Kadorih | likow | taŋiŋow | opat | ure? | pakikoh | somotitik | bara? |
| Ngaju | liŋkaw | dia biŋat | epat | kawal | pikeh | bakatak | |
| Kapuas | liŋkaw | | epat | | | kodok | bara? |
| Bakumpai | liŋkaw | | epat | kawal | məmpəpikeh | kodok | dumah |
| Maanyan | ra?i | paka-itunŋ | epat | heŋaw | ñantakut | wekuk | haŋ ka? |
| Dusun Witu | ra?i | koi iŋat | epat | heŋaw | ñantakut | bekok | tike/nike |
| Taboyan | konat | kelot | opat | kawal/aju ^d n | ñantakut | bekok | ke? |
| Paser | | kewot | opat | təman (L) | | bekok | ket |
| Benuaq | konat | pipat | opat | aju'n | ñintakut | beka:k | ete |
| Tunjung | kənat | likut | pa:t | oyo? | pəkihi'n | bekok | ete? |

| English | fruit | fruit bat | fry | full | full (food) | gall | gather |
|------------|-----------|--------------------------|---------------------|--------|---------------------|--------|---------------------|
| Kadorih | bua? | karonj/qaat | ñaña? | kutok | bosuh | poru? | |
| Ngaju | bua? | pañamat | ñaña? | kuntep | besuh | pəru | |
| Kapuas | bua? | bəñamat | məñaña? | penu? | besuh | əmpədu | məñumpulan |
| Bakumpai | bua? | kəlalawar | məñaña? | penu? | beñsuh | əmpədu | məñumpuli? |
| Maanyan | wua? | pai ^k η | ηjureη | penu? | wisiη | aperu | mandruk |
| Dusun Witu | ua? | pai ^k η/tenok | ηore ^k η | penu? | wisiη/belat | peru | ñimoh |
| Taboyan | bua | pai ^s η | ηado/ηəbue? | ponu | botiη | poru? | ηuna ^s η |
| Paser | δua? | pawiη | saña? | ponu | botiη | poru? | |
| Benuaq | bulət | pawi ^k η | ñakay | ponu | boti ^k η | poru? | ηumpur |
| Tunjung | ugan/ulət | pawi ^k η | təñehay | pənu:? | bəti ^k η | poru? | ηumpur |

| English | ghost | gibbon | gills | give | give birth | go |
|------------|-------------|------------------|---------------|---------|------------|--------------|
| Kadorih | riow/kambe? | karavot | siηap | noña? | ηanak | turak |
| Ngaju | taluh | kəlawet | risaη | neña? | manak | buhaw |
| Kapuas | | wakwak | hisaη | məneña? | manak | tulak |
| Bakumpai | kambe? | ua?-ua? | insaη | məneña? | manak | tulak |
| Maanyan | alah | tulumpiaw | kariηap | ηami? | ηanak | tulak/lepuh |
| Dusun Witu | paηuluh | kəlavot | kariηap | ηami? | ηanak | tulak/mahulu |
| Taboyan | uok | kəlawət/kəlawot | kələηap/empan | ηokoy | ñawo | |
| Paser | uok | kəlawot | sinta? | sie? | mekus | malan |
| Benuaq | wok | kəliawat/kəlawat | sipa | ñe:? | mələlos | əηko |
| Tunjung | ñələh | kəlawat | sipa | nare? | mələlos | kəkat |

| English | goat | goiter | gong | good | grainary | grandchild | grandfather |
|------------|---------------------|---------------------|---------------------|-----------|---------------------|------------|-------------|
| Kadorih | kombiη | pakuk | | pioyh | ra ^h kuη | osu? | bue? |
| Ngaju | | babonkok | | bahaləp | karaηkiη | esu? | bue? |
| Kapuas | kambiη | bəbuηkuk | goη | bahalap | | esu? | bue? |
| Bakumpai | | | goη | bahalap | | eηsu? | ue? |
| Maanyan | | si?u ^k η | aguη | ma?eh | wiran | umpu | kakah |
| Dusun Witu | kami ^k η | teηok | aguη | ma?eh | kinay | opo?/umpu | kakah |
| Taboyan | kami ^s η | tiηok | | buən/bue? | pipir/soloη | opon | kaka |
| Paser | bembe? | | | buen | samer | | dato? |
| Benuaq | behe? | tiηok | gəni ^k η | bue? | kələηki'n | opo'n | kakah |
| Tunjung | behe? | tiηo:k | gəni ^k η | pajip | kələηki'n paray | ncu'n | mpo'n liha? |

| English | grandmother | grass | grasshopper | grave | argus pheasant |
|------------|---------------------|------------|--------------------|--|----------------|
| Kadorih | ta ^h tu? | uru? | makarap | kuburan | haruwew |
| Ngaju | tambi? | uru? | saŋkalap | kuburan | haruey |
| Kapuas | tambi? | rumpu | halalaŋ | kuburan | kuay |
| Bakumpai | bawi? | rumpu | | kuburan | kuay |
| Maanyan | itak/nini? | rikut | aŋkalap | raru ^k ŋ/pasaran | juey |
| Dusun Witu | itak | rikut | saŋkariet/saŋkalap | raru ^k ŋ/oga ^s ŋ | juey |
| Taboyan | ita? | bəliwit | upa ^d n | lubəŋ | jue |
| Paser | | dikut | upan | | |
| Benuaq | itak | jikut | upa'n | lubə ^k ŋ | jue: |
| Tunjung | mpo'n wawe? | uru?/jikut | upa'n | lubə ^k ŋ | jue: |

| English | greedy | green | gums | hair whirl | half | hammer |
|------------|----------------------|--------------|------------|--------------------------|------------------------------|---------------|
| Kadorih | bakahu? | bahijaw | lilir | tombuk | baheteŋ | tukul/pəŋudam |
| Ngaju | babelay | bahijaw | lilir | kalapuru? | stengah | tukul |
| Kapuas | rakus | bəhijaw | gusi | kuncir | belah | |
| Bakumpai | sərahah | bəhijaw | gusi | kuncir | sətəŋah | |
| Maanyan | karai ^k ŋ | kakuriŋ | lili niren | user una ^k ŋ | səparu? | tukun |
| Dusun Witu | bosok | hijaw/karadu | lali n̄ir | usar kami ^k ŋ | saparu?/bəŋka ^k ŋ | tukun |
| Taboyan | pəradoe | lemit | lalat | kirik bali | sətəŋah | tukul |
| Paser | gərahah (L) | hijaw (L) | daray | pusə blanak | teŋa (L) | palu |
| Benuaq | aho:? | jəraw | lalat | itət balo | təŋah erai | |
| Tunjung | aho? | nahuŋ | lala:t | alaw təməcat | | |

| English | hand/arm | handspan | hang | happy | hard | harvest |
|------------|----------|---------------|------------------------|--------------|---------------------|---------------------|
| Kadorih | rono? | taŋ | biri-birik | pioyh nañama | mahaŋ | napunay |
| Ngaju | leŋe? | gawaŋ | ŋantuŋ | hanjak | segah | mutik |
| Kapuas | leŋe? | jəŋkal/jəŋkaw | | sənaŋ (L) | bətekaŋ | məŋetem |
| Bakumpai | leŋe? | kilan | gantūŋ | sənaŋ (L) | | məmutik |
| Maanyan | taŋan | jeke | gague ^k ŋ | mihevu | tagap | masi? (rice)/ŋutik |
| Dusun Witu | taŋan | jeke | gagoe ^s ŋ | ma-hevu | tagap | masi? |
| Taboyan | kami | jokə? | ŋonte ^s ŋ | sənəŋ (L) | tokeŋ | uti asil |
| Paser | kayaŋ | | gantūŋ | gawal | | manen |
| Benuaq | kami | jokar | gonte ^k ŋ | ehaw | kote ^k ŋ | ŋota ^p m |
| Tunjung | aŋa? | kila'n | səgompe ^k ŋ | ehaw | toke ^k ŋ | ŋətə ^p m |

| English | hat | have | he/she | head | head hair | headhunting | heart | heavy |
|------------|-------|-----------------------|-----------|---------------------|-----------|-------------|----------------------|---------|
| Kadorih | takuy | to ^h ko? | io? | kuhuŋ | barow | ŋaŋow | jantuŋ | bahat |
| Ngaju | topi? | tege? | ie | kuluk | balaw | ŋaŋaw | jantuŋ | babehat |
| Kapuas | tupi? | tege? | ie/ketun | təkuluk | | ayaw | jantuŋ | bəbehat |
| Bakumpai | | tataw | uluh | təkulu? | bulaw | məʔayaw | jantuŋ | bəbehat |
| Maanyan | tupi? | naʔan | hañe | ulu? | wulu ulu? | mambala | jantu ^k ŋ | maveʔat |
| Dusun Witu | tupi? | naʔan | aye | ulu? | wulu ulu? | ŋabala | jantuŋ | weʔat |
| Taboyan | tupi? | ia ⁿ /naan | da? | utək | balo | ŋəbala | ləpusu | doyat |
| Paser | | keow/umpun | enaʔ/io? | utok | balo | | ləpusu | boyat |
| Benuaq | topi | naan | uha? | pua? | balo | bala | ləpusu ⁿ | oyat |
| Tunjung | topi | ba? | uhaʔ/isa? | kuhu ^k ŋ | alaw | bala? | | bahat |

| English | helmeted hornbill | help | here | heron | hide | his/hers |
|------------|-----------------------|-------------|-------------|-------------|------------|----------------------|
| Kadorih | taña ^h ku? | ñavot dohop | aŋ otoy | | nasuhuk | emu? le? |
| Ngaju | tanjaku? | dohop | melay hetuh | karak danaw | mañahukan | ayu |
| Kapuas | tukuŋ | mənoloŋ | si hetuh | | məñəhokan | |
| Bakumpai | tukuŋ | toloŋ | sihituh | | məñəhokan | ayun ie |
| Maanyan | tukuk | awat | haiti | səbaru? | nina? | wat ni |
| Dusun Witu | tukuk | awat | ta? iti | səbaru? | nina? | na? aye |
| Taboyan | bəŋkəlian | wat | bəhə? | kətətojo? | ñiok/ŋona? | ian da? |
| Paser | | | məndo? | | ŋona? | umpun ño? |
| Benuaq | batu uluk | awat | mo oho? | kojo? | ñilək | pu ⁿ uha? |
| Tunjung | batu uluk | awat | de? tih | kojo? | təñələh | gən uha? |

| English | hoarse | hold | hole | hook | horn | hot |
|------------|-------------|-------------|--------------------|-----------|---------|------------------------------|
| Kadorih | pahot | ŋambit | ruvaŋ | posi? | tonduk | barasu? |
| Ngaju | barehuŋ | ñimbiŋ | rombak | pisi? | tanduk | balasut |
| Kapuas | sərak | məʔimbiŋ | | | | bəlasut |
| Bakumpai | sərak | məʔimbiŋ | lubaŋ | kait | tanduk | bəlasu? |
| Maanyan | payat/paraw | nege | luvaŋ | wintan | tandruk | malai ⁿ /malanjan |
| Dusun Witu | payat | negey | luaŋ | wintan | tandruk | malai ⁿ |
| Taboyan | pəlayo | nakəp/nəkən | lua ^s ŋ | kəkait | tanuk | layəŋ |
| Paser | paraw | nənten | luaŋ | kait (L)? | tanduk | layoŋ |
| Benuaq | payo | ge:? | lia ^k ŋ | kait | tanuk | pəra ^k ŋ |
| Tunjung | payo | əŋkat | lia ^k ŋ | kai:t | tanuk | pəra ^k ŋ |

| English | house | house post | how | how many | hundred |
|------------|------------------------------|------------|-------------------------------|----------|------------|
| Kadorih | huma? (city)/ropow (village) | johi? | iay/inan koro | pira? | səratu |
| Ngaju | huma? | jih? | kenampi | pire? | səratu |
| Kapuas | | | kəkuweh | səpire? | səratu |
| Bakumpai | huma? | tuŋket | kəkueh | pire? | səratu |
| Maanyan | levu? | ari? | kaʔawe/kaʔave | pire | jatuh |
| Dusun Witu | lewu?/leu? | tihəŋ | sameh awe | pire | jaatuh |
| Taboyan | bəlay | ori | ŋət met/ŋəntoo ^d n | pire? | səratu (L) |
| Paser | lou?/bəlay | tiaŋ (L) | kati one | tenu? | jatus |
| Benuaq | bəlay | ori | kələme? | bərapa | səratu |
| Tunjung | dape? | cihi:? | macamña | bərapa | cəhatu |

| English | hungry | hunt w/ dog | husband | husk | I | if | in front |
|------------|-------------|-------------|-------------|--------------------|--------------------|----------|----------------|
| Kadorih | barou? | ŋandup | bosay | buru? | a ^h ku? | korow | aŋ baun |
| Ngaju | balau? | mandup | bana | bulu? | aku? | kilaw | melay baun |
| Kapuas | bəlau? | bərahan | bane? | dədak | yaku? | ataw | si taha deoans |
| Bakumpai | bəlau? | handep | bane? | eta? pare | yaku? | kalaw | si taha depan |
| Maanyan | kala? uan | ŋanup | matueh upu | ete? | aku | amun | ha dəpan |
| Dusun Witu | kaluan | ŋanup | wane | ete?/ape? | kuki? | amun | |
| Taboyan | lau? | ŋasu? | banən | oto? | a:p | amun | tai onə? |
| Paser | səlau? | | soŋ | | aku | ena? | la? ono? |
| Benuaq | lau? | kasu? | bana? | uya ^p m | a:p | aman | mo təlama? |
| Tunjung | lao?/pəri:? | mahaw | wana?/wanay | uya ^p m | akuy/ap | ji kalaw | de? təlama? |

| English | insect bat | inside | insult | intestinal worms | intestines | ironwood |
|------------|------------|-------------------------|---------|-------------------------------|--------------|------------|
| Kadorih | pondan | aŋ huaŋ | ŋañaat | toŋorokuŋ | gambuh | taa barion |
| Ngaju | pandan | melay huaŋ | pahawen | handalay | karintiŋ | tabalien |
| Kapuas | bəŋamat | si huaŋ | məhina? | | | təbəlian |
| Bakumpai | kəlalaraw | si huaŋ | məhina? | bəcaciŋ | usus (L) | təbəlian |
| Maanyan | antaway | ha vuaŋ | mahina? | sasiŋan (L) | wakay səna?i | tawu di?en |
| Dusun Witu | santaway | ta huaŋ | mahina? | basasi ^e ŋ/sasiŋan | wakay səna?i | tadi?en |
| Taboyan | | tai sua ^e ŋ | pərat | juaret | tənai? | təluyən |
| Paser | kələnaway | la? dalom | | caciŋan (L) | sus (L) | təluyan |
| Benuaq | mir | sua dalə ^p m | ŋilay | loku ^k ŋ | tənain | təluyə'n |
| Tunjung | mir | de? la ^p m | təŋilay | loku ^k ŋ | nai:n | təliə'n |

| English | island | itchy | jealous | jump | kick | kill |
|------------|-----------|---------------------|------------------------|------------------------|---------------------|-----------------------|
| Kadorih | purow | ka ^h tin | | nakecuk | ñe ^h pak | ɲapa ^h toy |
| Ngaju | pulaw | keray/gatel | ɲabe ^h u? | naŋkeru? | nakir | məmpatey |
| Kapuas | pulaw | bəgatel | məɲəbe ^h u? | məluncat | məñepak | məmunu? |
| Bakumpai | pulaw | bəgatel | məɲəbə ^h u? | məluncat | məñepak | məmunu? |
| Maanyan | pulaw | makaten | ɲadidit | nampeku ^s ɲ | sepakan/ñepak | munu? |
| Dusun Witu | gusuŋ | kale ⁿ | kadidit/ɲadidit | ñampetu? | sepakan | munu? |
| Taboyan | pulaw (L) | ləkatə? | kəwoyu? | sətedot | ñepak | pəkate |
| Paser | pulaw (L) | kəlato? | | montir | təndaŋan | |
| Benuaq | pulaw | kelata? | kuwoyu? | pəncit | ñepak | munu |
| Tunjung | pulaw | katar | kəmpuru? | pəcok | təñepak | pakate?/munu:? |

| English | kingfisher | kiss | knee | lake | land | landslide | large fly |
|------------|------------------------------------|-----------|-----------------------|---------------|--------|---------------|------------|
| Kadorih | bo ^h ka ^{ka} ? | ñium | karop | rawaŋ | tana? | tana? loŋsor | raŋow |
| Ngaju | ahat | ñium | utut | danaw | petak | petak batusut | laŋaw |
| Kapuas | cəcuit | məñiŋut | tut | danaw | petak | | laŋaw |
| Bakumpai | bubut | siŋut | lutut | danaw | petak | | |
| Maanyan | bakaka? | siuk | | danaw | tane? | tane? runtun | lalet |
| Dusun Witu | kajojo? | siuk/ñiuk | alep | danaw | tane? | jawa | lalet/reah |
| Taboyan | binti | ɲənok | təkələw | dano | tana | tana lutut | |
| Paser | | | bokut | danaw (L) | tana? | tana? loŋsor | suakaŋ |
| Benuaq | sələbinti | ɲənok | təkolo ^k ɲ | nohan | tana: | | ləŋalo |
| Tunjung | sələbinti | ɲənuk | təkolo ^k ɲ | kənohan/nohan | tana:? | | laŋaw |

| English | laugh | lazy | leaf | leak | leave | leech |
|------------|----------------------|------------|---------------------|-------------------------|--------|----------------|
| Kadorih | ɲatao? | bokolayh | daun | batom boyh | barua? | jorow |
| Ngaju | tatawe? | bakulas | dawen | tembus | balua? | lamantek |
| Kapuas | tətawe? | pəŋoler | dawen | bawah/bəsila? | bəlua? | pacat |
| Bakumpai | tətawe? | pəŋoler | dawin | bocor | bəlua? | pacat |
| Maanyan | kakih ⁱ ? | mavule? | raven | bubul (puncture) /bubus | kaluar | alimaket |
| Dusun Witu | kamih ⁱ ? | mavule(?) | rawe ^d n | bobos | balua? | lelaw |
| Taboyan | koka? | | dao ^d n | miris | losek | suakaŋ/ləmatək |
| Paser | koka | belo kakan | daon | təlosan | baliŋ | lintah (L) |
| Benuaq | koka | malas | dawa ⁿ | tobos | losek | ləmpatak/-ək |
| Tunjung | taga? | madəy | ro ⁿ | tobos | kərehe | ləmpatak |

| English | left | leg | lend | leopard | lid | lie down |
|------------|---------|--------|----------|------------|---------------|----------------------------|
| Kadorih | kamuroy | paaʔ | pinjam | horomaʊŋ | lakurop/tutup | kariŋ |
| Ngaju | sambil | paiʔ | minjam | haŋ kulih | tutup | menter |
| Kapuas | kiri | paiʔ | məʔinjam | kuleh | | menter |
| Bakumpai | kiri | paiʔ | məʔinjam | kuleh | atep | menter |
| Maanyan | kaviʔ | peʔe | nihaw | kuli | tutup | maŋkadiŋ/salaŋay (on back) |
| Dusun Witu | kawiʔ | peʔe | ŋ-ihaw | kuli | tutup | maŋkadiŋ |
| Taboyan | seiʔ | kuku | tihaw | kuli | taŋkep | lokkuʔ |
| Paser | seiʔ | botis | pinjam | timaŋ/kuli | tokom | lumbiʔ |
| Benuaq | sei:ʔ | keneʔŋ | tihaw | kuli | kaput/talaw | lokuʔ |
| Tunjung | uləy | uneʔŋ | incaʔm | kuleh | tutu:p | tiriʔ |

| English | lift, carry | light weight | light/bright | lightening | like | lime | lips |
|------------|--------------------------|--------------|---------------------------|------------|-------------|--------------------|-----------|
| Kadorih | ŋa ^h taŋ/ŋomi | mahian | baroaŋ | kirap | jorih | e ^h tup | bivih |
| Ngaju | gataŋ/imbit | mahian | balawaʔ | kilat | handak | kapur | biwih |
| Kapuas | imbit | məhiaŋ | taraŋ | patir | bəkəlahiʔ | | biwih |
| Bakumpai | məʔimbit | məhian | | patir | sukaʔ | | biwih |
| Maanyan | enat | madine | maraʔay | kelat | hamen/kakan | kapuy | wiwi |
| Dusun Witu | enak/nunaʔ | madiney | maraʔay | nāyū | kakan | kapoy | wivi |
| Taboyan | ŋeŋ/oit | nean | ama ^d n/maa | ilap | ehəw/sənəŋ | apoy | biwiʔ |
| Paser | eŋkat | mean | təraŋ | jələpan | tujuʔ | | biwiʔ |
| Benuaq | meŋkat | nean | təra ^k ŋ | | ehaw | mayan | biwiʔ |
| Tunjung | məŋkat | ñia:n | ampap təra ^k ŋ | ilap | ewah | | bibir (L) |

| English | listen, hear | liver | log | loincloth | lonely | long |
|------------|---------------|--------------------|-------------|-----------|----------------|---------------------|
| Kadorih | ŋonih | a ^h toy | | ewah | oŋi-oŋin | ombuʔ |
| Ngaju | mañeneh/ñeneh | atey | bataŋ kayuʔ | ewah | beñem | panjaŋ |
| Kapuas | məhiniŋaŋ | atey | pun kayuʔ | bah | kəbeñelan | panjaŋ |
| Bakumpai | məhiniŋkan | hati | bataŋ layuʔ | cancut | kəbeñeman | panjaŋ |
| Maanyan | ñandreŋe | atey | wataŋ kayu | sempak | saniʔ wem | amaw |
| Dusun Witu | ŋariŋey | atey | wataŋ kayu | belet | suni beñem | amaw |
| Taboyan | kəriŋa | ate | bokaŋ kayu | belet | luay ləkateh | paña ^s ŋ |
| Paser | kəroŋoy | ate | tondal kayu | | luay | anjaŋ (L)? |
| Benuaq | ñəmpaniŋ | ate'n | | bele:t | luay/ləŋ konay | mo:ʔ |
| Tunjung | kəheneŋ | limpa/ate'n | watay kajuʔ | bələt | kəsəpian | moʔ |

| English | long-tailed mac. | longhouse | loose | loud | louse | lowland plain | make | man |
|----------------|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|-------------|----------------------|
| Kadorih | ba ^h kay | be ^h taŋ | saruah | boho-boho? | ku ^h tu? | da ^h tah | napa? | ba ^h kaeḡ |
| Ngaju | | huma? panjaŋ | tendur | nanteŋu | guti? | datah | nampa? | hatue? |
| Kapuas | | | luŋgar/kendur | bəndiŋer | guti? | rata? | ma?auit | hatue? |
| Bakumpai | | | | diŋer | guti? | dataran | maui? | hatue? |
| Maanyan | | betaŋ | luŋar | ridu? | kutu | datay | ŋulah | upu |
| Dusun Witu | | | luŋar | rami? | kutu | datay | ŋulah | laki |
| Taboyan | kode? | lou solay | ñara ^d n | rami? (L) | kutu? | datay | ŋenə? | so: ^s ŋ |
| Paser | kode? | | | | kutu | lenow | nampa? | soŋ |
| Benuaq | kode:? | lou mo? | ostol | ñari ^k ŋ | kutu? | datay | ena? | so ^k ŋ |
| Tunjung | kode? | lu? mok | lohoy | rame | kutu:? | talu ⁿ iwe? | ŋa? | liha? |

| English | many | marry | mat | measure | meet | millipede |
|----------------|-------------|----------------|---------------------|---------------------|-------------|-----------------------|
| Kadorih | aro? | kavin | ka ^h caŋ | ŋu ^h kur | hotobaruŋ | urot kacap/urot kayap |
| Ngaju | are? | kawin | amak | nipeŋ | hasupa? | ulet kambekayap |
| Kapuas | are? | | | məŋukur | bəsundaw | |
| Bakumpai | are? | | amak | mə?ukur | hasupa? | |
| Maanyan | wahay/hene? | naranjaŋ | patah | ŋukur | panalu | ulet lahu? |
| Dusun Witu | hadi?/ajoh | naharaw/namane | patah | ŋukur | bakahalu | ulet lahu? |
| Taboyan | deo? | | apay | ñira? | bəkəruku | kərəmalat |
| Paser | deo? | | | | bakoruku | kələmandan |
| Benuaq | beo? | səmproh | apay | ŋukur | bəruku | opan nolo |
| Tunjung | adi? | səmproh | mpa ⁿ | təŋukur | bərəmpuh | opanolo |

| English | mine | mist | mix | molars | monitor | monkey |
|----------------|-------------|-------------|---------------|---------------|---------------------|---------------|
| Kadorih | eku? | kabus | ŋārōūk | jaa? | mandahat | boruk |
| Ngaju | ayun ku? | pijem | ñampur | guntum | kavuk/bəjawak (lrg) | beruk |
| Kapuas | ayun ku | bə?əmbun | məncampur (L) | gəraham | biawak | bake |
| Bakumpai | ayun ku | kaput | məncampur | gəraham | bəjai? | bəkei |
| Maanyan | wat ku | kabus | ñampur | guntum | mañua? | weruk |
| Dusun Witu | na kuki? | kabus | ñampur | rahaman | mañua? | weruk |
| Taboyan | ian a:p | rəməŋ | pəkaluk | lalat | mia | boruk |
| Paser | umpun ku | kabur (L) | | | mərayat | boruk |
| Benuaq | gəna:p | | pəkaluk | wala? | mia | boruk |
| Tunjung | gəna:p | | təñampur | wala? | mia | buru:k |

| English | moon | morning | mortar (large) | mosquito | moss | moth | mother |
|------------|--------|-------------|---------------------|----------|------------|------------|--------|
| Kadorih | buran | ŋokoyh | rosuŋ | ñamok | rumut | | |
| Ngaju | bulan | hanjevu? | lisuŋ | ñamuk | lumut | rihun | umay |
| Kapuas | bulan | hajen jewu? | | ñamuk | lumut | pəmpijit | umay |
| Bakumpai | bulan | nanjewu? | halu? | ñamuk | lumut | ŋəŋat | umay |
| Maanyan | wulan | kaʔayat | lehuŋ | mamu? | lumut | bihue | ineh |
| Dusun Witu | ulan | kiat | lehu ^s ŋ | mamu? | lumut | | ine? |
| Taboyan | bulan | pita | losuŋ | kəŋoyo | luut/dupa? | ayan anay | ineʔa |
| Paser | bulan | pita/ma | ləsuŋ (L) | kioŋo | lumut | kalokomban | ma? |
| Benuaq | bula'n | kurin | losu ^k ŋ | kioŋ | lumut | ŋəŋət | tinən |
| Tunjung | ula'n | usur | ləsu ^k ŋ | ñamu:k | lumu:t | nəŋat | me? |

| English | parent in law | mountain | mouse deer | mouth | mushroom | mute | myna |
|------------|--------------------------|--------------------|------------|---------------------|----------|-------|--------------------|
| Kadorih | upu? jo bakayh | koron | paranuk | baum | kurat | bisu | tiuŋ [tiuŋ] |
| Ngaju | empu? | puruk | palanduk | ñama? | kulat | bisu? | tiuŋ |
| Kapuas | empu? | gunuŋ | pəlanduk | ñame? | kulat | bisu | |
| Bakumpai | empu? | gunuŋ | pəlanduk | ñame? | kulat | bisu | |
| Maanyan | kasian upu | gunuŋ | palanuk | wawa? | kulat | muna? | siu ^k ŋ |
| Dusun Witu | umpu? | bontot | pəlanuk | wawa? | kulat | oŋo? | siu ^k ŋ |
| Taboyan | tupu? | sai ^d n | pəlanuk | boa | kulat | oŋo? | tio ^s ŋ |
| Paser | | tunden | pəlanduk | boa | kulat | pepe | |
| Benuaq | tupu'n so ^k ŋ | sai'n | pəlanuk | molot | kulat | bisu? | |
| Tunjung | ewan | sai'n | pəlanuk | onco ^k ŋ | kulat | bisu? | |

| English | naked | name | nape | navel | near | neck | necklace |
|------------|----------|--------------------|---------------------|---------------------|-------------|--------------------|----------|
| Kadorih | bahuraŋ | nama? | pu ^h kot | pusot | doni? | ucat | ratay |
| Ngaju | haluway | aran | tekuk | puser | tukep | uyat | rantay |
| Kapuas | halubay | | tekuk | puser | tukep | uyat | rantay |
| Bakumpai | halubay | aran | təŋkuk | puser | tukep | uyat | |
| Maanyan | tabentur | ŋaran | təndru | puhet | teteʔ/riʔet | diu ^k ŋ | manah |
| Dusun Witu | ma-poloy | aran | təndru | puhet | rite? | diu ^s ŋ | manah |
| Taboyan | bəlawoy | ara ^d n | təŋoru? | puser | dini? | biu ^s ŋ | koŋkoŋ |
| Paser | blai | karan | | | dəmpet | biuŋ | rantay |
| Benuaq | bəlaway | nai | təŋkoru? | puso ^k ŋ | dini? | tija | |
| Tunjung | kəloloh | ñama? | | puso ^k ŋ | totoy/totok | lohoŋ/tija | |

| English | nest | new | next to | niece; nephew | night |
|------------|-------------------------|----------|--------------------------|--------------------|---------------------|
| Kadorih | saraŋan | bahua? | aŋ bəri ^h kat | a ^h kon | ŋãĩõmĩ? |
| Ngaju | saraŋan/rambunan (boar) | taheta? | haka tukep/ulet balikat | aken | hamalem |
| Kapuas | | haru? | si bəlikat | aken | hamalem |
| Bakumpai | jariŋan | hañar | si bəlikat | aken | hamalem |
| Maanyan | hanay | wa?u | ha iri ^k ŋ | aken | kamalem |
| Dusun Witu | hanay/rimun (boar) | wa?o/bio | ta lapeh | ake ^d n | male ^b m |
| Taboyan | salay | yəbayu? | tai lepeh | aken | malə ^b m |
| Paser | səlayan | bayu? | | anak akon | malom |
| Benuaq | ayut | bayu? | molepas | pəŋanak | mala ^p m |
| Tunjung | ayut | isay | de? silay | pəŋanak | kələ ^p m |

| English | nine | noon | nose | not true | now | ocean | old |
|------------|---------------------|---------------------------|--------------------|-------------------|------------|------------------------|-----------|
| Kadorih | jaratien | tohun ondow | uruŋ | sara? | metutuh | laut | oko? |
| Ngaju | tien | benteŋ andaw | uruŋ | sala? | metuhtuh | tasik | hoŋko? |
| Kapuas | təjələtien | bentuk andaw | hiduŋ | sala? | metu?tuh | laut | bakas |
| Bakumpai | jələtien | bentok andaw | uruŋ | sala? | utuh | laut | bakas |
| Maanyan | suey | penah andraw | uruŋ | | itati | tahik | matu?eh |
| Dusun Witu | suwey | penah andraw | uruŋ | hala? | wayah iti | tahik | matu?eh |
| Taboyan | sie | botuk olo | uruŋ | sala | nehə? | tasik | tuha? (L) |
| Paser | sie | | ɬaɛ?/uruŋ | sala? | des endo? | tasik | tuo |
| Benuaq | sie | təŋah olo | uru ^k ŋ | sala? | baya? oho? | tasik | tuha? |
| Tunjung | sə-tiə ⁿ | təŋah kəni ^k ŋ | uru ^k ŋ | səla ⁿ | kəda? tih | tasik/lau ⁿ | pələga? |

| English | old | older siblings | on top | one | onion | only | open |
|------------|--------|----------------|-------------------|------|-------|------------------|------------------------|
| Kadorih | tahi? | oka? | aŋ isuŋ | ico? | bawaŋ | atuh | muka?/buka? |
| Ngaju | tahi? | aka? | hunjun | ije? | bawaŋ | te? | habaŋah/mambaŋah |
| Kapuas | tahi? | kakam | | ije? | bawaŋ | only | buka |
| Bakumpai | tahi? | kaka? | | ije? | bawaŋ | haña | məmbuka? |
| Maanyan | lawah | tata? | haŋ amaw | isa? | bawaŋ | ekat | ŋ-uka?/ñilak (uncover) |
| Dusun Witu | lawah | tata? | ta hamaw | isa? | bawaŋ | ekat | ŋ-uka? |
| Taboyan | yəola? | tukə? | | eray | bawaŋ | ede | neŋaw |
| Paser | ola? | | | eray | ɬawaŋ | | bənuka?/buka |
| Benuaq | ola? | tuka? | məmo ⁿ | eray | basəŋ | ede ⁿ | muke/buke |
| Tunjung | lama? | tunŋkay | | bueh | bawaŋ | kadi | əmpoga? |

| English | or | otter | overflow | owl | paddle | palm |
|------------|--------|-------------|-----------------------|--------------|---------------------|---------------|
| Kadorih | ataw | doŋon | nũāp | kamiak | bes ^v ew | |
| Ngaju | atawa | deŋen | kuntep/mulak | tambulaw | bese ^y | lukap |
| Kapuas | | baram-baram | penuk | puŋguk | bese | |
| Bakumpai | ataw | baraŋ-baraŋ | penu? | buruŋ kambe? | bese: | təlapak leŋe? |
| Maanyan | atawa? | deŋen | maluap | maŋkoŋ | wehey | palat |
| Dusun Witu | atawa? | doŋon | maruap | maŋkoŋ | wehey | palat |
| Taboyan | | doŋən | məlu ^u put | pao? | bətañu? | palar |
| Paser | ataw | doŋon | | paok | | palar |
| Benuaq | ataw | doŋan | danum solay | buak | bərsi? (L) | pala:r |
| Tunjung | ataw | doŋan (L) | pənu? | buak | bərsi?/mersi? (L) | palar |

| English | pangolin | parang | parang handle | peak/top | peel fruit | person |
|------------|--------------------|--------|---------------|------------|---------------|--------|
| Kadorih | ahom | pisow | puraŋ isow | puncak | ñirap | uruŋ |
| Ngaju | ahem | pisaw | pulaŋ pisaw | hunjun | ŋurak | uluh |
| Kapuas | | | | puncak | məñila? | uluh |
| Bakumpai | trəŋiliŋ | paraŋ | kumpaŋ | puncak | | uluh |
| Maanyan | ayem | taruh | ulu? taruh | | ŋupah | ulun |
| Dusun Witu | ayem | taruh | ulu? taruh | | ŋupah | ulun |
| Taboyan | ayəm | odak | ulu? odak | punsək | muku? | utun |
| Paser | ayom | otak | | usuk | kənopas/ŋopas | ulun |
| Benuaq | aya ^p m | eke:? | ulu? eke? | utək sai'n | | olu'n |
| Tunjung | aha ^p m | do:kŋ | ulu? do:kŋ | uncak | | ulu'n |

| English | pestle (large) | pile | pinch | pinky | place, noun |
|------------|----------------|-------------------|---------|------------------------|--------------|
| Kadorih | haru? | hicok/kumpul | ŋutin | | saraŋan |
| Ngaju | halu? | numpuk | ŋutip | tunjuk iŋkiŋ | eka? |
| Kapuas | | | məŋitip | | |
| Bakumpai | liŋsuŋ | tumpukan | məŋubit | | ukan |
| Maanyan | alu | timunan | ŋubit | kiŋki ^k ŋ | unen/unenjan |
| Dusun Witu | alu | tuyukan/nuyuk (v) | ŋubit | | unenŋe |
| Taboyan | alu? | oŋok | ŋotər | kərik | antay |
| Paser | alu (L)? | tumpukan (L) | ŋotil | | awa? |
| Benuaq | alu? | tompok | ŋətip | kəliŋki ^k ŋ | oŋok |
| Tunjung | alu? | tompok | təŋətip | kəliŋki ^k ŋ | aña? |

| English | plant | pluck | point | porcupine |
|------------|-------------------------------|------------------|----------------------|---------------------|
| Kadorih | nimbun (padi)/namuran (other) | | ninju? | tahotuŋ |
| Ngaju | ñimbul | mutik | ninjok | tahatuŋ |
| Kapuas | məʔimbul | mənduan/məndinun | mənunjuk | |
| Bakumpai | məʔimbul | məmutik | tunjuk | landak |
| Maanyan | ŋamule | ŋutik | tutuy | tetuŋ |
| Dusun Witu | mule | ŋutik | tutuy | tetuŋ |
| Taboyan | ŋulə? | uti | nun ^d ruk | |
| Paser | ŋulo? | | | tetuŋ |
| Benuaq | ŋula? | uti: | pətunu? | titu ^k ŋ |
| Tunjung | mola? | mutik | nuñuk | stui |

| English | pound rice | pour | pregnant | primary jungle | print |
|------------|---------------------|-----------------------|-----------------------|--------------------|---------------------------|
| Kadorih | mu ^h ca? | nusuh | batohi? | himba? noŋon | rokun paa? |
| Ngaju | tepe? | ñuaŋ | batahi? | himba? | awan |
| Kapuas | | məmpətame? | bətihi? | pəleŋet | |
| Bakumpai | | mələbuh | bətihi? | hutan | kəleka? pai? |
| Maanyan | nutu/iputu | naluy/nundrak (empty) | mihaw wuntuŋ | jumpun | bakas pe?e |
| Dusun Witu | nutu | ŋisi? | savutu ^s ŋ | haket | bakas |
| Taboyan | | ñinsək | untu ^s ŋ | laa ^s ŋ | ewah |
| Paser | | nuanŋ (L) | untuŋ | lati/alas | bəkās botis |
| Benuaq | | nota | untu ^k ŋ | bəŋkar | bekas kene ^k ŋ |
| Tunjung | | nəta:? | tehe? | talu'n | bəkās uni ^k ŋ |

| English | proboscis monkey | promise | pull | punch | punnish | pus |
|------------|------------------|----------|----------------|----------|-------------------------|-------|
| Kadorih | bakara? | janjin | ŋuhut | napar | niŋak/majar | nana? |
| Ngaju | bakara? | bajanji? | jijit | nampar | neŋa?ajar | nana? |
| Kapuas | | | məŋguaŋ | mənampar | məhukum (L) | nana? |
| Bakumpai | | bəjanji? | mənarik | mənampar | məhukum | nana? |
| Maanyan | | bajañi | narik | nampar | nukum | nana? |
| Dusun Witu | pikah | bajañi | narik | nampar | utaŋ | nana? |
| Taboyan | bəŋkara? | | bəkətarik (L?) | nampar | pədəna? | nana |
| Paser | | | tarek | jagor | məŋhukum (L) | |
| Benuaq | | bənañi | nepok | nampa:r | ŋuku ^p m | nana |
| Tunjung | | bəjañi:? | nepok | ñagur | təməhuku ^p m | nana |

| English | push | put down | put together | python | quiet | raft |
|------------|---|---------------------------|--------------|------------|---------------------|---------------------|
| Kadorih | natu ^h cu? | ñina?/ni ^h kas | mupuŋ | paŋanon | beñem | ra ^h kit |
| Ngaju | juju? | ŋandak | nampuna | paŋanen | beñem | lantinŋ |
| Kapuas | məñuruŋ | ma?andak | məŋumpulan | pəŋanen | beñem/beñim | lantinŋ |
| Bakumpai | məñuruŋ | andak | məŋumpulan | hanjaliwan | beñem | lanting |
| Maanyan | ju?u ^d n | ŋandak | | paŋanen | sunì | lantinŋ |
| Dusun Witu | ju?u ^d n/ñu?u ^d n | ŋonok | | pəŋanen | beñem | lantinŋ |
| Taboyan | ŋəjuju? | ñilak | ŋumpur | pəŋanən | emay | lantinŋ/təlatap |
| Paser | doroŋ (L) | tape? | | pəŋanen | sunì | rakit (L) |
| Benuaq | nəjuk | pəgolek | ŋumpur | pəŋanən | gəɾə ^p m | rakit |
| Tunjung | | təməgolek | təŋumpul | pəŋanan | dia ^p m | rakit |

| English | rafter | rain | rainbow | rapids | rare | rat | rattan |
|------------|-----------------------|-------|---------------|--------------------------|-----------------------|---------|----------|
| Kadorih | kasow | ucan | liu? | kiham | raka | bəɾavow | uoy/uvoy |
| Ngaju | kasaw | ujan | liu? | gəlumbaŋ | jaranŋ | balawaw | uwey |
| Kapuas | | ujan | pəlanŋi | bədehes | jaranŋ | tikus | ue |
| Bakumpai | kasaw | ujan | pəlanŋi | danum bədehes | lanŋka | tikus | ue |
| Maanyan | kasaw | uran | salim paraw | kiham | jaranŋ | basosin | uey |
| Dusun Witu | kasaw | uran | jawata | kiham/ria ^p m | jaras ^ŋ | basosiŋ | uey |
| Taboyan | jəɾəña ^s ŋ | uran | juata | doyəs | | leso? | ue |
| Paser | kasaw | uran | pəlanŋi/juata | doyam | | bəleso? | ue |
| Benuaq | kasaw | osa? | juata | keha ^p m | lanŋka ^k ŋ | leso? | we |
| Tunjung | kasaw | uca'n | | keha ^p m | jarə ^k ŋ | leso? | gay |

| English | rattan backpack | rattan backpack | rattan backpack | rattan backpack | raw |
|------------|---------------------------|-----------------|---|-----------------------|--------|
| Kadorih | ancat/anjat | pakaru? | ramat | ronjoŋ | mota? |
| Ngaju | anjat | keba? | rambat | lontoŋ | manta? |
| Kapuas | | | | | manta? |
| Bakumpai | | | | | |
| Maanyan | luntuŋ | keba? | rambat | lampuñut | manta? |
| Dusun Witu | salemanŋ | keba? | bukuy/anjat | lonto ^s ŋ | manta? |
| Taboyan | bisan | keba? | gawaŋ rahaw | gawaŋ | nta? |
| Paser | soloŋ | təŋkalaŋ | anjat | soloŋ olay | nta? |
| Benuaq | gawa ^k ŋ anyat | kianŋ | gawa ^k ŋ lanŋka ^k ŋ | oŋ ke: ^k ŋ | nta? |
| Tunjung | butə'n | kianŋ | gawa ^k ŋ lanŋka ^k ŋ | oŋ ke: ^k ŋ | mata? |

| English | red | red-leaf monkey | remember | rest | return | return home |
|------------|---------------------|-----------------|-----------------|-----------|----------|-------------|
| Kadorih | bahandaŋ | mapuran | biŋat | tondo? | haduri? | |
| Ngaju | bahandaŋ | kəlaŋi | biŋat | | mules | |
| Kapuas | bahandaŋ | bəkara? | iŋat | bəməndeh | hampuli? | |
| Bakumpai | bahandam | bəkantan | iŋat | istirahat | hampuli? | hampuli? |
| Maanyan | marian | kəlahi | ka?-ituŋ/ŋ-ituŋ | tarie? | mulek | |
| Dusun Witu | mariaŋ | sampulan | iŋat | tavire? | waleŋ | |
| Taboyan | mea? | buis | | tehur | | puli |
| Paser | mea? | | | səŋole | | |
| Benuaq | mea:? | bəkara? | umpi? | tehur | mulik | mulik |
| Tunjung | boho ^k ŋ | bəkara? | miŋat | radu? | muli? | muli? |

| English | rhinoceros beetle | rhinoceros hornbill | rice | rice grain | rice wine |
|------------|---------------------------|---------------------|-------|----------------------------------|------------|
| Kadorih | karambohoŋ gajah | tiŋaŋ | paroy | bocah | andiŋ |
| Ngaju | | tiŋaŋ | parey | behas | andiŋ |
| Kapuas | | tukuŋ | pare | behas | burak |
| Bakumpai | kumbaŋtai? | buruŋ əŋgaŋ | pare | behas | burak |
| Maanyan | muəŋ | manəŋaŋ | parey | weah | tuak/tapai |
| Dusun Witu | muəŋ | manəŋan | parey | weah/uya ^m (leftover) | tuak |
| Taboyan | buah | toŋaw | pare | boyas | |
| Paser | | koraw | pare | bias | |
| Benuaq | kumə ^k ŋ tanuk | toŋaw | pare | boyas | tuak |
| Tunjung | buah ^k ŋ | toŋaw | paray | waha | pulut |

| English | ridge | right | ripe | river | river bank | river mouth | road |
|------------|-----------------------|---------------------|--------|-------|---|--------------------|-------|
| Kadorih | | katou? | mosak | suŋoy | saran suŋoy | tumbaŋ | jaran |
| Ngaju | tiwiŋ | gan tau? | masak | suŋey | saran suŋey | tumbaŋ | jalan |
| Kapuas | tewaŋ | kanan | maŋkal | suŋe | saran suŋe | muara? | |
| Bakumpai | lereŋ | kanan | masak | suŋe | | muara suŋe | |
| Maanyan | jura ^k ŋ | kavan | mihak | huŋey | pampaŋ | naŋe | lalan |
| Dusun Witu | tane mipik | kawa ^d n | mihak | huŋey | pantay | naŋe | lalan |
| Taboyan | kərebek | sanān | nsak | suŋe | pampaŋ suŋe | olə ^s ŋ | |
| Paser | juraŋ | sanān | nsak | loak | piŋgir loak | sawa? | boyan |
| Benuaq | kəreba ^k ŋ | sanān | ncak | suŋe | diri ^k ŋ suŋe/pampa ^k ŋ | mara? | lala? |
| Tunjung | kəreba ^m | tao:? | ncak | suŋay | pampa ^k ŋ suŋay | mahara? | cala? |

| English | roast | roll | roof | room | roots | rope |
|------------|---------------------------|--|---------------------|---------------------|-------|-------|
| Kadorih | ma ^h puy | mukuyh | sa ^h pow | ta ^h kun | uhat | tari? |
| Ngaju | | guluŋ | sapaw | suaŋ | uhat | tali? |
| Kapuas | məmapuy | guluŋ (L) | | | akah | |
| Bakumpai | məmapuy | guluŋ | | | uhat | tali? |
| Maanyan | nutu ^k ŋ/mapuy | ŋulu ^k ŋ (rope)/malu ^d n (mat) | hapaw | bilik | wakat | tadi |
| Dusun Witu | nutuŋ/mapuy | malu ^d n | hapaw | | wakat | tadi |
| Taboyan | ñuru | ŋulu ^s ŋ | sapo | bilik | wakat | tali? |
| Paser | təneket | | sapo | kamar (L) | wakat | tali |
| Benuaq | ñuru | gulu ^k ŋ | sapo | orok | wakat | tali? |
| Tunjung | ninu? | gulu ^k ŋ | sapaw | leko ^k ŋ | waka | tali? |

| English | rotten as meat | rub | run | sago | saliva | salty |
|------------|----------------|----------|-----------|--------|-------------|-------------|
| Kadorih | maram | ŋarusu? | nakoru? | sagu? | ivoh | hohit |
| Ngaju | maram | gosok | hadari? | sagu? | luja? | bakahij |
| Kapuas | buruk | məŋgusuk | bukah | sagu | daum luja? | bəkahij |
| Bakumpai | burok | məŋgusuk | bukah | sagu | danum luja? | bəkahij |
| Maanyan | buruk | ŋusuk | nempat | sagu | iwey | ma?eran |
| Dusun Witu | buruk | ŋusuk | ma-lempat | sagu? | ivey | merañ |
| Taboyan | boto? | | mənsit | sagu | iway | pəreŋet |
| Paser | boto? | | mənsow | sagu? | danum iwey | masin |
| Benuaq | boto:? | ŋosak | təkoru? | jəmia? | iway | porit daŋi? |
| Tunjung | botos | ŋoso:k | təliu? | jəmia? | cihun ewah | adi? ceħa? |

| English | sand | sand fly | sap | sape | say | scabbard |
|------------|---------|----------|---------------------|---------------|----------------|---------------------------------------|
| Kadorih | baraəħ | maroŋit | ki ^h ta? | kacapi? | mander | kupaŋ isow |
| Ngaju | baras | raŋit | gita?/karet | kacapi? | ñewut | kumpaŋ pisaw |
| Kapuas | pasir | raŋit | gita? | sampe? | hapander | |
| Bakumpai | pasir | agas | gita? | sampe? | bərpander | |
| Maanyan | karasik | nenek | gatah | rabap/kacapi? | nantuh | lunan taruh |
| Dusun Witu | karasik | nenek | gatah/dite? | kacapi?/rabap | ŋantuh/mawara? | kumpaŋ pisaw |
| Taboyan | jone | | gətəħ | | kulek | kumpaŋ odak |
| Paser | paser | soraw | gəta | gambus | ulek | |
| Benuaq | one | soraw | gətah | sampe? | nokay | saru ^k ŋ |
| Tunjung | pasi:r | soraw | gətah | sampe? | bəħaga? | saru ^k ŋ do ^k ŋ |

| English | scale | scar | scorpion | scratch | secondary jungle |
|------------|-------|-----------------------------|----------------|-----------|---------------------|
| Kadorih | ondap | badinjan | kara? | nakaco | taca? |
| Ngaju | tisik | balalas | kala? | məŋgayaw | bahu? himba? |
| Kapuas | | kələla? | kala? | məŋgayaw | bəlukar |
| Bakumpai | | kələka? bəhimaŋ | kala? | bəgayaw | pəreŋet |
| Maanyan | sihi | tundruŋ (big)/patan (small) | puya? kala? | ŋukut | baliŋ |
| Dusun Witu | sihi | baguray/bata'n | aliŋ maŋu? | ŋukut | bali ^s ŋ |
| Taboyan | onap | bəkawa | sələmaŋu? | ŋələkatə? | |
| Paser | | pulak | kaləjəŋkiŋ (L) | ŋakap | |
| Benuaq | | pulak | kala? | ŋəragut | urat |
| Tunjung | | pulak | kala? | ŋərogot | kurat |

| English | see | seed | seed rice | sell | send | seven | sew |
|------------|---------------------------|-------|-------------|-------------|-------------------------------|-------|-------------|
| Kadorih | no ^b to? | pauŋ | boŋi? | badagaŋ | ŋirim | uju? | nusuk |
| Ngaju | payah | pauŋ | | manjual | ŋirim/magah | uju? | nitur |
| Kapuas | nəmpayah | bawak | bini? | mənjual (L) | məŋirim | uju? | məŋjərumat |
| Bakumpai | malaŋ | | bini? | mənjual | məŋirim | uju? | məŋjahit |
| Maanyan | dinuŋ/ninuŋ | wini? | parey wini? | ŋari? | ŋirim | pitu | ikamit |
| Dusun Witu | ini? | umaŋ | bibit | mataŋ | ŋirim | pitu | makamit |
| Taboyan | kita? ² /nitə? | umaŋ | | ŋəjual (L) | məŋirim/pəkiri ^b m | turu | ŋəjahit (L) |
| Paser | meti? ² /eti? | bini | | jual (L) | kənirim | turu? | ŋəjait |
| Benuaq | kita? | | bini | pogay | kirim | turu | ŋarut |
| Tunjung | meaw/neaw | bibit | | pogay | təŋirim | tucu? | ŋabe:t |

| English | shade | shadow | shallow | sharp | sharpen |
|------------|-------------------------|-----------------------|---------|-------------|-----------------------------|
| Kadorih | unuk ŋiŋow | pahirip/kariŋoy | tocah | maŋoot | ŋasa? ² /ŋasiru? |
| Ngaju | | kaliŋen | surut | baŋihi? | paŋihi? |
| Kapuas | | | surut | bəŋihi? | ma?aŋsat |
| Bakumpai | ukan itah mendeh | bayaŋan | surut | bəŋihi? | ma?aŋ sa? |
| Maanyan | luŋen | hamayan | mahak | kumat | ŋaniriŋ |
| Dusun Witu | luŋen | hamaya ^k ŋ | mahak | kumat | ŋaha? |
| Taboyan | sərunu? | sənsinu? | riwo | terap | pəterap |
| Paser | jumo? | amba? | riwo | | ŋəntarom |
| Benuaq | odə ^p m | inu | moti? | roncik | ŋasa |
| Tunjung | aŋam odə ^p m | inu | moti? | masuk/terap | təŋasa:? |

| English | shield | shin | shoot blowpipe | short | short | shoulder | shout | shrimp |
|------------|-------------|-------------|---------------------|--------|--------|----------|----------|---------------------|
| Kadorih | taravaŋ | turaŋ durut | ño ^h pot | ivak | pinda? | bahay | ŋombak | undaŋ |
| Ngaju | talawaŋ | lulur | ñipit | pandak | randah | bahai | ŋombak | undaŋ |
| Kapuas | | | məñipet | pandak | pandak | bahan | bəkuriak | undaŋ |
| Bakumpai | tameŋ | | | pandak | | bahan | bəkuriak | undaŋ |
| Maanyan | kələbet | su?i | nipet | ime? | ime? | papale | nantiak | undraŋ |
| Dusun Witu | kələbit | su?i | nipet | leba? | | papale | maŋkiak | undraŋ |
| Taboyan | kələbet | | ñipət | udok | ua? | pəluka? | ŋərodoy | un ^d rəŋ |
| Paser | pərisay (L) | | | idok | baka? | pluko? | | udaŋ |
| Benuaq | kələbet | lolor | | idok | idok | pəluka? | ŋədodoy | ura ^k ŋ |
| Tunjung | kələbet | lolor (L) | ñəmpu:t | idok | idək | bahu? | | ura ^k ŋ |

| English | shy | sick | silver leaf monkey | sit | six | skin | skin animal |
|------------|---------------|-----------------------------|-----------------------|-----------------------|---------|-------|---------------------|
| Kadorih | pə-mia? | mondam | buhih | tuot ^h | jahaven | upak | ŋu ^h pak |
| Ngaju | mahamen | pehet | buhis | munduk | jahawen | upak | ŋupak |
| Kapuas | mahamen | haban | | | jahawen | kulit | məŋulit |
| Bakumpai | mahamen | haban | | | jahawen | kulit | |
| Maanyan | umaŋan | meku ^b m/mariŋin | buhis | maharuŋ | enəm | kudit | ŋudit |
| Dusun Witu | pamaŋan | mariŋin | buhis | maharu ^s ŋ | enem | upak | ŋalupak |
| Taboyan | pərəhaŋən | | | | onum | upak | ŋələpak |
| Paser | pəmai? | kəmbay | | | onom | upak | |
| Benuaq | maŋən/pəraŋan | bərotə'n | | | jawa'n | kolit | |
| Tunjung | paŋan | dodoŋ | | dacu ^k ŋ | hagə'n | kulit | |

| English | skink | skinny | sky | slap | sleep | sleep talk | slice |
|------------|--------------------|---------------------|-------|----------|---------|------------|---------------------|
| Kadorih | katiraŋ | kadarah | laŋit | napar | tiruh | ŋapa? | mi ^h pih |
| Ngaju | saŋahaw | bariŋkoŋ | laŋit | ŋapek | tiruh | ŋampa? | ŋiris |
| Kapuas | bəŋkaruŋan | bəñuaŋ/pəriŋkuŋ | laŋit | məŋapek | bətiruh | məŋampa? | məhiris |
| Bakumpai | | bəñuaŋ | laŋit | jagur | bətiruh | məŋigaw | mə?iris |
| Maanyan | wali?ay | māis | laŋit | ŋapek | mandre? | ŋudaw | |
| Dusun Witu | wali? ai | mais | laŋit | nampelen | mandre? | ŋodaw | ñayat |
| Taboyan | təŋkəliwas | mais | laŋit | pəndarə? | turuy | mau? | ŋires |
| Paser | bəliay | mais | laŋit | təmpelen | turi | | kiris |
| Benuaq | bələk ^ŋ | maih | laŋit | ñagur | turi | mao? | ŋesek |
| Tunjung | bələk ^ŋ | miga ^k ŋ | laŋit | ñagur | tiro | mao? | təŋehet |

| English | slip | slow | slow loris | small | smart | smell | smile |
|------------|------------|---------------|---------------------------|-------|------------|---------|----------------------|
| Kadorih | taŋgarisaŋ | dandah | kəravot boraŋ | koit | harati? | buan | ŋomi? |
| Ngaju | tatempak | baraŋkah | kokaŋ | kurik | harati? | bahevaw | ŋomi? |
| Kapuas | təgəliŋsir | rambat | kukaŋ | kurik | pintar | | mənənture? |
| Bakumpai | təpəliŋsir | lambat | muŋaŋ | kurik | pintar | | tərsəñum |
| Maanyan | pagalesak | unte? | werok amok ^h ŋ | halus | panay | eŋuh | rarimut |
| Dusun Witu | pagalesoy | lambat | kukaŋ | halus | panay | eŋuh | rarimut |
| Taboyan | sənseler | bələy/bəgamat | bəkiki? | kədis | sərədi? | ewo | remure ^{bm} |
| Paser | | lae | kukaŋ | alus | pintar (L) | eŋus | koka |
| Benuaq | təmpələsek | səbaneh | ukər | kədiŋ | jaji | ewo? | koka |
| Tunjung | təmpələsek | bana | ukər | iti:t | jaji | baoy | səñum |

| English | smooth | snail | snake | snap | sneeze | snore |
|------------|----------|--------------------------------|----------|---------------|----------|---------|
| Kadorih | masoriŋ | kavon/kara bue | rohi? | mōřōk | ŋasiman | ŋarohok |
| Ngaju | rata? | kalambuey/kalisi? | handipe? | pelek/melek | bañin | ŋorok |
| Kapuas | halus | ambualaŋ/kələmbuay | handipe? | məmulek | bərasin | məŋerok |
| Bakumpai | halus | siput | handipe? | məmela? | bərsin | məŋerok |
| Maanyan | alakadar | usi | anipe | mepet/pepet | wi? enan | miheruk |
| Dusun Witu | nañap | osi/lalaŋ ladoy (lrg)/kəluŋuay | nipe | mepet | wenan | maheruk |
| Taboyan | lañap | osi | ñipə? | pəpulək | bonan | moruk |
| Paser | | osi | nipo? | tepok/tənepok | bonan | ñoruk |
| Benuaq | kələh | osi | nipa? | mulək | bonan | ŋoruk |
| Tunjung | səbana | osi | nipa? | təmələk | təhonan | ŋəhorok |

| English | snot | soft | some | sour | speak | spicy | spider |
|------------|----------|---------|--------------|---------------------|------------|---------|---------------------|
| Kadorih | usot | boromu? | pira?-pira? | mosom | pander | karah | ba ^h kaŋ |
| Ngaju | burek | balemu? | sapire? | masem | bapander | padas | baŋkaŋ/lawa? |
| Kapuas | | bələmu? | səpire? beh | məŋsem | mənənture? | bəhari? | |
| Bakumpai | iŋus | bələmu? | pire? beh | məŋsem | bəpander | bəhari? | |
| Maanyan | wuket | maleme? | mēhē? | ma?asem | bapaner | marare | gandralawa? |
| Dusun Witu | wuket | leme? | beŋkaŋ/mehe? | mase ^{bm} | bapaner | marare | wai |
| Taboyan | səmək | lome? | pəpire? | səmori | boa | nerew | təŋkələga |
| Paser | polok | | səbagian | mosom | səbogah | | la? |
| Benuaq | lodu | ləbut | | mənə ^{pm} | bioŋaw | mərərew | |
| Tunjung | lodu (L) | ləma | | məci ^h ŋ | bəgaha? | mərərew | təŋkələga |

| English | spider hunter | spit | splash | split | square | squeeze |
|------------|---------------|-----------|----------------|---------|--------------------------|-----------------------------|
| Kadorih | iram | ŋa(?)uca? | navuy | ŋaravan | ra ^h pak opat | ŋa ^h kap |
| Ngaju | talusup | məluja? | musik | ñila? | halapak | ŋacak |
| Kapuas | seset | məluja? | təpəlatik | məñila? | | |
| Bakumpai | seset | nəjula? | məŋəlatik | məñila? | segi epat | məŋacak |
| Maanyan | sinsi lahak | irura? | namurahi? | nūhī? | parasagi? | ŋərəkusuk |
| Dusun Witu | sinsi lahak | nura? | narahi?/ñavuy/ | nūhī? | parasagi | ŋaromos |
| Taboyan | busek | mupus | məmpərau | mokak | | mōyāt |
| Paser | | nəpus | | | pərsəgi | |
| Benuaq | sesit | təmpus | prik pətik | moka? | pərsəgi | moyak |
| Tunjung | tesit | məcuh | prik pətik | məka? | pərsəgi | pəras/təŋəŋkə ^{pm} |

| English | squirrel | stab | stairs | stand | star | stay; lodge |
|------------|---------------------|--------------|---------|-----------------------|----------------------|-------------------|
| Kadorih | tu ^h pay | ñuduk | hojan | tombok | bintaŋ | totah |
| Ngaju | tupay | nepe? | hejan | mendeŋ/pendeŋ (erect) | bintaŋ | lihi? |
| Kapuas | tupay | mənusuk | | mendeŋ | bintaŋ | bəlihi? |
| Bakumpai | tupay | mənusuk | hejan | mendeŋ | bintaŋ | bəlihi? |
| Maanyan | memay | ñuduk | tukat | mindri | bintaŋ | muneŋ |
| Dusun Witu | memay | ñuduk | tukat | mindri | bintaŋ | monəŋ |
| Taboyan | nakit | nōwāk | tukar | jakat | bintəŋ | nono? |
| Paser | memay | | tukar | akat | bintəŋ | tilo? |
| Benuaq | puka ^k ŋ | niso:k | tukar | jaka:t | binta ^k ŋ | noŋko |
| Tunjung | tupay | nicok/mancak | kəca:ʔn | təge: | binta ^k ŋ | dia ^{pm} |

| English | steal | sticky | stomach | stone | stop | straight |
|------------|-------------------------------|---------|----------------------|---------------------|------------|----------|
| Kadorih | na ^h kow | mareket | butuy | ba ^h tu? | tondo? | murus |
| Ngaju | nakaw | leket | kanai? | batu? | tende? | lurus |
| Kapuas | mənakaw | leŋket | tənai? | batu | bəmendeh | bujur |
| Bakumpai | mənakaw | leŋket | tənai? | batu | sətop | |
| Maanyan | ŋalat | ireket | wuntuŋ | watu | tarie? | mavitu? |
| Dusun Witu | ŋalat | mareket | wuntu ^s ŋ | watu | tadoh/ulep | witu? |
| Taboyan | tako | leket | butu ^s ŋ | batu | joot | məŋkorəŋ |
| Paser | ŋakow | pəreket | butuŋ | batu | | |
| Benuaq | dako | kepat | butu ^k ŋ | batu? | tehur | təpat |
| Tunjung | mali ^k ŋ/no? dadak | kepat | nai? | batu:? | bərənti? | tərih |

| English | stranger | strong wind | stump | stupid | sugar cane | sun hat |
|------------|------------|---------------|------------|-------------|------------|--------------|
| Kadorih | urun raut | | paruŋ | uoŋ | tovu? | takuy dasow |
| Ngaju | ulu luar | barat | tunġul | mameh/humuŋ | tevu? | taŋgoy layah |
| Kapuas | | | tunġul | buŋul | tebu? | sərauŋ |
| Bakumpai | | barat | tunġul | buŋul | tebu? | |
| Maanyan | ulun asiŋ | barat kapitu? | tunġun | luŋa? | tevu | taŋuy |
| Dusun Witu | ulun asiŋ | barat kapitu? | tunġun | buŋul | teu | taŋuy |
| Taboyan | ulu bayu? | toyu? | tuər | polo | tou? | taŋkuy |
| Paser | ulun barat | bərubu ries | tunġul (L) | galu? | tou | |
| Benuaq | | | tuar | polo | tou:? | |
| Tunjung | | waheu na:s | toar | polo | tuu? | |

| English | sunrise | sunset | supernatural storm | surprised |
|------------|---------------------------------|--------------------------------|--------------------|-----------|
| Kadorih | matan ondow rombut | matan ondow sohit | basaruh | takocit |
| Ngaju | mata andaw duma | mata andaw belep | basalu | |
| Kapuas | matan andaw belum | | barat | təŋkejet |
| Bakumpai | matan andaw lembut | matan andaw mate | barat | təŋkejet |
| Maanyan | mate andraw timul | mate andraw leteŋ | rivut barat | emmah |
| Dusun Witu | mate andraw welu ^h m | mate andraw pare? | | emah |
| Taboyan | matən olo sulit | matən olo doya ^s ŋ | touy? | təkəjət |
| Paser | | | | təŋkojət |
| Benuaq | mata'n olo əmpat | mata'n olo lota ^k ŋ | elik | tekejet |
| Tunjung | we naw mo:t | we naw təŋkələ ^h m | kəncilit | təkərot |

| English | swallow | sweat | sweep | sweet | sweet potato | swim |
|------------|---------------------|-------------|----------------------|-----------|--------------|-----------------|
| Kadorih | noron | nahorayh | mo ^h payh | momih | tarih | naŋuy |
| Ngaju | nelen | bebes | mapas | manis | gəmbili? | neser |
| Kapuas | məneguk | bebes | məmpis | manis (L) | gumbili? | bəkuŋuŋ/mənaŋuy |
| Bakumpai | məneguk | bebes | məŋapu | manis (L) | gumbili? | bəkuŋuŋ |
| Maanyan | nelen | malahik | ipapas | mamis | gumili? | katamah |
| Dusun Witu | melen | malahik | ŋakarik | mamis | gamili? | katamah |
| Taboyan | nolə ^s ŋ | losek panas | ŋapu? | mamis | | səlaŋuy |
| Paser | təŋok/təneŋok | | kənias | manis (L) | | səlaŋuy |
| Benuaq | nola'n | mərəsa? | ŋapu | mamih | aya:? | səraŋuy |
| Tunjung | nələ'n | bəpələh | ŋapu | mamih | aya? | kəraŋoy |

| English | swollen | table | tail | take | tall | tamp earth | tarap fruit |
|------------|---------------------|-------|--------------------|----------|---------|------------|------------------------|
| Kadorih | rotiŋ | mɛjaʔ | i ^h kuh | ŋomiu | isuŋ | ñikiʔ | |
| Ngaju | kembaŋ | mɛja | ikuh | manduan | gantun | | buaʔ pilaŋ |
| Kapuas | kembaŋ | | buntut | bəbinun | gantun | məmpəpisi | buaʔ tarap |
| Bakumpai | kembaŋ | mɛja | buntut | məndinuʔ | tiŋgi | | tarap |
| Maanyan | bakah | mɛja | ukuy | ŋalap | entu | ñirep | wuaʔ tarap |
| Dusun Witu | bunjak | mɛja | ikuy | ŋalap | | muput | uaʔ tarap |
| Taboyan | jəŋkak | mɛja | ikuy | uti | moʔ | pərapet | oput |
| Paser | ŋəmpo | mɛja | ikuy | | bao | | |
| Benuaq | kəmu ^k ŋ | mɛja | ikuy | alaʔ | mo: | | bənturu ^k ŋ |
| Tunjung | kəmu ^k ŋ | mɛja | iŋko:t | nənoʔ | moʔ wəs | | bənturu ^k ŋ |

| English | tasteless | tear | tell | ten | that, far |
|------------|-----------|-----------------|----------------|----------------------|----------------------------------|
| Kadorih | hampar | marabit/manirat | bakesah | sapuruʔ | anay |
| Ngaju | batawah | marabit | ŋesah | sapuluh | teʔ |
| Kapuas | bətawah | mərapit | məŋesahkan | səpuluh | kanih |
| Bakumpai | bətawah | | məŋesakan | səpuluh | |
| Maanyan | mapahe | ñirah | ŋesah | sapuluh | yaruʔ |
| Dusun Witu | pahe | ñirah/minsit | ŋesah | səpulu | aro (visible)/anuy (not visible) |
| Taboyan | taway | ŋəreset | ŋesah | səpuluh | aruh |
| Paser | | bisit/bənisit | bəkesa | səpuluh | aneʔ |
| Benuaq | taway | | ŋesah/bə kesah | səpuluh | duh |
| Tunjung | tawa | | ŋesah | sawa: ^k ŋ | aneh |

| English | that, near | there, far | there, near | they | thick | thigh | thin |
|------------|------------|------------------|-------------|------------------|---------------------|---------------------|------------|
| Kadorih | atuh | aŋ anaynay | aŋ anan | kemeʔ | ka ^h pan | sa ^h pak | mipih |
| Ngaju | nih | melay heteʔ | melay kanih | ewen | tabal | sapak | tipis |
| Kapuas | jiteʔ | si kejaw | si hiteʔ | ewen | tabal | | tipis |
| Bakumpai | jiteʔ | sikanihhh | sihiteʔ | | təbal | | tipis |
| Maanyan | iruʔ | hayanay | hairuʔ | here | makapan | sakap | mariris |
| Dusun Witu | hio | taʔ aro/taʔ anuy | ta hio | here | kapa ^d n | kahapaŋ | mariris |
| Taboyan | iro | tai aruh | tai iro | dali | kapar | pooʔ | lipis |
| Paser | eneʔ | meneʔ | laneʔ | | təbal | po:ʔ | tipis |
| Benuaq | iro | mo duh | mo iro | ulu ⁿ | kapar | po:ʔ | lipih |
| Tunjung | jo:ʔ | deʔ daneh | deʔ dijoʔ | eraʔ | kapar | paaʔ | tipi/lipih |

| English | think | thirsty | this | thorn | thousand | three | throw |
|------------|-----------|---------------|----------|----------------------|------------|--------|-----------------------------|
| Kadorih | mikir | haus | tuh | duhi? | səribu? | toru? | ma-ñakah |
| Ngaju | bapikir | haŋos | tuh | duhi? | saribu? | telu? | medak |
| Kapuas | | haus | jituh | duhi? | səribu? | telu? | |
| Bakumpai | bəpikir | haus | ituh | duhi? | səribu | telu? | məmantıŋ |
| Maanyan | bapikir | lapah/kalalah | iti | run ^d ruy | səribu | telu | muŋkalu ^s ŋ |
| Dusun Witu | bapikir | lapah/kalalah | iti | rundruy | jaribu | telu | manti ^s ŋ |
| Taboyan | mikir (L) | seŋo | hə? | dui? | səribu (L) | tolu? | nura? |
| Paser | piker (L) | kəreŋan | endo? | dui? | | tolu? | pinoturak |
| Benuaq | ñana? | laha'n | oho? | dui? | səribu? | tolu? | nəmpalə ^k ŋ |
| Tunjung | ñana? | laha'n | itih/tih | ruhi? | səribu? | təlu:? | noak/ñəmpala ^k ŋ |

| English | thunder | tickle | tie | tight | time | tired |
|------------|----------|-----------|------------------------|---------|----------------------|------------|
| Kadorih | duhuŋ | maketek | mo ^h toŋ | | wa ^h ktu? | uyuh |
| Ngaju | ñahu? | ŋitik | meteŋ | seke? | waktu? | uyuh/heka? |
| Kapuas | guntur | | məŋjarat | kantat | | uyuh |
| Bakumpai | guntur | lucut | məŋjarat | kəncəŋ | waktu | uyuh |
| Maanyan | ampeŋ | ñakerek | nuruk/makut (restrain) | mahelet | katika | uyuh |
| Dusun Witu | | ñakerek | nuruk | helet | katika? | wiuh |
| Taboyan | pərempeŋ | ŋələketek | ŋikət | miət | | mole |
| Paser | kələnayo | pinoritik | pinosiret | | | dodoŋ |
| Benuaq | | kələkay | ŋənikət | solot | watu | ləlah |
| Tunjung | ləper | gəlik | təməcət | təsak | tempo | lelay |

| English | to clean | to dry | to fish | to lean | to lie | to sting |
|------------|-----------|-----------------------|----------|---------------|------------|----------|
| Kadorih | parasih | ñihaŋ (in sun)/ñihoy | mosi? | basikuh | babarik | motik |
| Ngaju | parasih | teah | misi? | basantah | nanjaru? | mepet |
| Kapuas | məmpərəsi | məmpəkeəŋ | məmisi? | məmpəndeŋan | bələcak | seŋat |
| Bakumpai | | məŋeyaŋ | məmisi? | mə?andak | məŋəramput | məmaŋkit |
| Maanyan | marasis | ŋampi?ean | | nandri/handri | i-pusu? | neŋet |
| Dusun Witu | marasih | ŋekay/pameaŋ | mintan | mahandri | namposo? | neŋet |
| Taboyan | mərəsih | pəmeaŋ | pəyampan | nəne? | ŋeta? | ñiŋət |
| Paser | pinorseh | kənoreŋ | miwit | | eta?/kəro | |
| Benuaq | mərəseh | ŋəmeaŋ | məliwih | ñəne? | ŋ-eta? | ñiŋət |
| Tunjung | təmərseh | təŋehe ^k ŋ | məriwih | ñone | ŋak la:t | ñəŋət |

| English | to taste | to whistle | to wrap | toad | today |
|------------|----------|------------|---------------------|-------------------------------|------------------------|
| Kadorih | ŋinjok | ñamovow | mo ^h toŋ | bahuca?/bara ^h ku? | andaw tuh |
| Ngaju | ñari? | ñarohiw | muŋkus | koŋkoŋ/bahuya? (edible) | andaw tuh |
| Kapuas | | bəsuil | məmbuŋkus | kodok bəra ^h ku? | andaw tuh |
| Bakumpai | mərasai | suliŋ | məmbuŋkus | | andaw tuh |
| Maanyan | ŋinəm | ŋukuyuku | munut | bariŋkatak | andraw iti |
| Dusun Witu | ŋiŋkam | ñansopiu | muŋkus | barakatak | andraw iti/andraw ina? |
| Taboyan | ŋinam | pəluit | muŋkus | jau ^g ŋ | olo hə? |
| Paser | | | | | olo endo? |
| Benuaq | | bəlalu? | muŋkus | beka:k jau ^k ŋ | olo oho? |
| Tunjung | pəresa? | səpuy | təmmuŋkus | bekok | naw tih |

| English | tomorrow | tongue | tooth | touch | tourtise | trap |
|------------|----------|--------|---------------------|----------|------------------------|--------------|
| Kadorih | hovun | jora? | kosin | ma-injok | korop/korop baniŋ (lg) | rakep |
| Ngaju | jewu? | jela? | kasiŋa? | ninjek | kelep baniŋ | jabakan |
| Kapuas | jewu? | jela? | kəsiŋe? | məŋkeme? | biuku? | mawi? tuŋkup |
| Bakumpai | jewu? | jela? | kəsiŋe? | məŋjapay | | |
| Maanyan | ki?uni | lela? | dipen | ñamak | rare?eh/biyuku? | |
| Dusun Witu | katuni | lela? | dipen | ñamak | kolow | mapah |
| Taboyan | tanə?a | lola | kukut | təŋkəŋ | kodok | |
| Paser | dilo | dola | kukut | | | |
| Benuaq | kəruman | lola | kukut | tiŋkur | kodo:k | |
| Tunjung | dilaw | cəla? | kəsi ^k ŋ | ŋka:t | buku? | |

| English | tree | tree shrew | tributary | true/correct | try | turn |
|------------|-------|------------|-------------|-------------------|---------|--------------------------------------|
| Kadorih | kacu? | toson | | bujur/buah | coba? | puruŋ paraŋ |
| Ngaju | kayu? | uŋis | anak suŋey | tutu? | cuba? | putar |
| Kapuas | | | anak suŋe | | mərasa? | bəliokliok |
| Bakumpai | kayu? | | | bujur | coba | bərbəlok |
| Maanyan | | memay | | tu?u/wuwah | suba? | bapali ^k ŋ/ikulik (əbody) |
| Dusun Witu | | | ruak | tu?u/uah | suba? | ñimpa ^g ŋ |
| Taboyan | | | anak suŋe | bəne?/kune?/kunə? | ŋinam | siat |
| Paser | kayu | | luak/saŋke? | beta(?) | | |
| Benuaq | | | | kona? | pəresa | ŋula ^k ŋ |
| Tunjung | | | anak suŋay | kənay/kəna? | sida? | neaw jalituk |

| English | turn | turtle | twig; stick | twins | two |
|------------|--------------------------|------------------------|---------------------------|----------------------|-------|
| Kadorih | | korop daro? | pa ^h tiŋ kacu? | kambar | duo? |
| Ngaju | mules ñampayah | kelep | patiŋ | kembar | due? |
| Kapuas | | kətam | tuŋket | kambar | due? |
| Bakumpai | | | | kəmba | due? |
| Maanyan | ivadik (around in place) | kadrendren/kelep | tuŋkeh | kam ^h bar | rueh |
| Dusun Witu | ŋulik | badawa ^s ŋ | tuŋkeh | | rueh |
| Taboyan | | kodok/ləwawi? | | ruaŋ | duə? |
| Paser | | | | | duo? |
| Benuaq | kulep | kəntawə ^k ŋ | tuŋkat | mərua ^k ŋ | dua? |
| Tunjung | nəncəŋ | kəntawə ^k ŋ | leŋan/toŋkat | mərua ^k ŋ | rəga? |

| English | ugly | uncle | under | understand |
|------------|----------------------------|-------|---------------------------|-----------------------------------|
| Kadorih | caat | mama? | aŋ pinda? | məŋərti |
| Ngaju | papa? | mama? | penda? | paham |
| Kapuas | papa? | amaŋ | hən penda? | paham (L) |
| Bakumpai | papa? | amaŋ | si penda? | məŋəti |
| Maanyan | muru ⁿ /pəma?eh | mama? | haŋ kapit | kataru?/paha ^m /karasa |
| Dusun Witu | | tamo | ta kapit/ta? ime? (below) | kataru? |
| Taboyan | daat | tamo | tai wa? | |
| Paser | dat | uda | la? diwa? | |
| Benuaq | data | tua? | mo itay | ŋərti |
| Tunjung | pəjay | tua:? | de? ime? | toga? |

| English | tart | untie | upriver | urinate | urine |
|------------|---------------|-----------------------|--------------------|---------|-------------|
| Kadorih | batavah | | uut | ŋahit | kahit |
| Ngaju | bakalat/ñilu? | | ŋaju? | mahit | ahit |
| Kapuas | | məmpəhai? | ŋaju? | məŋahit | danum kahit |
| Bakumpai | | məmpahai? | ŋaju? | məŋahit | danum kahit |
| Maanyan | makalat | ŋurak | rahay | amini? | ranu? ini? |
| Dusun Witu | makalat | ñaruhuy | rahay | mini? | ranu? ini |
| Taboyan | | pəsurut/ŋuŋkar/ŋuŋke? | dayə? | moni | diun oni |
| Paser | səpat | | murek | moni | danum oni |
| Benuaq | | ŋuas | daya? | pəni | oni |
| Tunjung | | ŋuas | nu: ^k ŋ | ŋəni:? | anum ni:? |

| English | uvula | valley | vein | village | vine |
|------------|-----------------------------|---------------------|-------------|----------------------|--------------------|
| Kadorih | po ^h kin borokuŋ | luow | uhat | rovu? | a ^h kah |
| Ngaju | puki? bəliŋkuŋ | ruak | uhat | lewu? | bajakah |
| Kapuas | anak jel? | rapak | | | |
| Bakumpai | anak jela? | | | | məŋgayap |
| Maanyan | wutu? gaguruŋan | lema ^k ŋ | uat/uwat | tumpuk | |
| Dusun Witu | utu? gogoroŋah | lebak | uyat | tumpuk | wakay |
| Taboyan | lolak kədis | lenok | uyat | jaa/lou | |
| Paser | anak dola | lenow | | kampon (L) | bako |
| Benuaq | | dəmpak | topok daya | kampu ^k ŋ | |
| Tunjung | | talun dəmpak | topok raha? | kampu ^k ŋ | waka ŋraba? |

| English | vine | visitor | voice | vomit | waist | wait | wake up |
|------------|------------|------------|------------|-------|---------------------|-----------|---------|
| Kadorih | | urun masap | bahiŋ | ŋuta? | kahaŋ | ŋindoy | moŋun |
| Ngaju | bajakah | pəndataŋ | auh | muta? | kahaŋ | nunŋu? | hiŋkat |
| Kapuas | | | suara | muta? | kahaŋ | tunŋu (L) | misik |
| Bakumpai | məŋkayap | | suara | muta? | kahaŋ | tunŋu | miŋsik |
| Maanyan | haratak | ulun ganta | leŋan/eaw | nua? | piŋa ^k ŋ | andrey | kaʔelan |
| Dusun Witu | wakay | ulun ganta | leŋan | nua? | piŋakŋ | andrey | mele |
| Taboyan | wakay | koteu | eŋan | ŋuta | toi ^s ŋ | ema? | ruko |
| Paser | bako | pəndataŋ | oyon | nuta | | inte? | ruko |
| Benuaq | pu'n wakay | | oŋaw/gənoh | ŋuta: | toi'n | enti? | ruko |
| Tunjung | | | gənoh | nota? | kaha ^k ŋ | nugu? | pokaw |

| English | walk | wall | want | wash clothes | wash dishes | water |
|------------|--------------------------------|--------|------------|---------------------|-------------|-------|
| Kadorih | nanjuŋ | dindiŋ | nahaŋ | mu ^h puk | bapeŋow | danum |
| Ngaju | nanjuŋ | dindiŋ | handak | pukan | meŋaw | danum |
| Kapuas | mənanjuŋ | | kəpiŋin | mənbasuh | | danum |
| Bakumpai | mənanjuŋ | | handak | bətapasan | | danum |
| Maanyan | takia? | pipik | ŋahaŋ | ituhun | ivui? | ranu? |
| Dusun Witu | takia?/parser (to go for walk) | pipik | kakan | sampupuk | mui? | ranu? |
| Taboyan | malan | diniŋ | kaet/kakan | mui | | danum |
| Paser | malan | dindiŋ | kakan | səbui? | | danum |
| Benuaq | mana.n | | kaka'n | nəpas | | danum |
| Tunjung | cala'n | | ewah | mōhē? | | anum |

| English | waterfall | we ex | we in | weak | weave | wedge | western tarsier |
|------------|---------------------------|--------------------|--------------------|-----------|-------------|---------------------|--------------------------|
| Kadorih | ŋaŋatu? | i ^h kay | i ^h to? | boromu? | ŋuan aro | ba ^h ci? | ko ^h kaŋ |
| Ngaju | danum jatuh | ikey | itah | balemu? | məndare? | pusak | buak |
| Kapuas | air tərjuŋ | ikey | ikey | bəlemu? | maʔayam | | buak |
| Bakumpai | air tərjun | ike | itah | bəlemu? | mənənum | baji | |
| Maanyan | ranu? mitun | kami | takam | malue | ipuru?/nare | baji? | weruk amo ^h ŋ |
| Dusun Witu | ranu? mitu ^d n | kami | takam | leme?/lue | nare | | |
| Taboyan | səntuyun | kain | taka? | kehe | | baji? | ukər |
| Paser | danum səntuyun | kain | taka? | loma? | | paji | |
| Benuaq | jantur | kai? | taka:? | lome? | | | ukar |
| Tunjung | keha ^m | kami? | ta:y | ləmah | ŋabe:t | | ukər |

| English | wet | what | when | where | which | whirlpool |
|------------|---------|-------|------------|-------------------|----------|---------------|
| Kadorih | bisa? | inon | ira? | aŋ amoh | ju moh | lisuŋ undaŋ |
| Ngaju | bisa? | naray | pea? | mele kue? | je kueh | tambuleŋ |
| Kapuas | bəbisa? | naray | hampəreya? | həŋ kueh | | pusaran danum |
| Bakumpai | bəbisa? | naray | kareh | | jikueh | puseran danum |
| Maanyan | wehu? | inun | hantek awe | wuah inun | sa? awe | ulak ranu? |
| Dusun Witu | wehu? | inon | tavian | ta? ave/taŋar ave | sa? awe | leok |
| Taboyan | biso? | nse? | nkar me? | tai me? | nse? iə? | user leok |
| Paser | bosa | ise? | jəman one | mone? | ya mone | ləmbuer |
| Benuaq | biso? | o:n | kapan | mo: me? | | |
| Tunjung | bisa? | ŋama | kapan | de? diŋa | | ulək anum |

| English | white | who | why | wide | widow | widower | wife |
|------------|---------|--------|-----------|--------|-------|---------|----------------------|
| Kadorih | puti? | | ombay | saruah | baru? | bucu? | oruh |
| Ngaju | puti? | eweh | buhən | hai? | balu? | buyu? | sawa |
| Kapuas | bəputi? | yaweh | buhən | hai? | balu? | | sawe? |
| Bakumpai | bəputi? | yaweh | buhən | | balu? | balu? | sawe? |
| Maanyan | mahilak | hie? | | dedeh | walu | walu | darəŋan/matueh wawey |
| Dusun Witu | mahilak | hie? | uwah inun | hante? | walu | walu | haraw |
| Taboyan | bura | no me? | | | balu? | balu? | sao ^d n |
| Paser | bura | | kənone? | sae | | | ɓawe |
| Benuaq | bura | ənce? | o:n esa? | solay | | | sawa? |
| Tunjung | puti? | uŋa | ŋama | haja? | | | saga?/sagan |

| English | wind | wing | wipe | with | woman | wood pecker | worm |
|------------|-------|---------|---------|---------|-------|-----------------------|------|
| Kadorih | bahiw | irat | məñũhũk | doŋam | bavi? | bara ^h tuk | urot |
| Ngaju | rivot | palapas | malap | pandinu | bawi? | bəlatuk | uret |
| Kapuas | aŋin | sayap | məmusut | | bawi? | | uler |
| Bakumpai | aŋin | sayap | məlap | deŋan | bawi? | | uler |
| Maanyan | rivot | elat | muhut | andri | wawey | walatuk | ulet |
| Dusun Witu | rivot | elat | muhut | nihī? | wavey | walatuk | ulet |
| Taboyan | dolək | ekap | | oit | bawe | təkalis | iəy |
| Paser | wayat | olar | | dian | bawe | | ulor |
| Benuaq | dolak | ekap | ñimpeh | ampe'n | bawe | | ule? |
| Tunjung | waheu | ekap | təmusas | dəŋ | wawe? | təkalih | ular |

| English | wring | yawn | year | yellow | yellow black snake | yesterday |
|------------|-----------------------|-----------------------|---------------------|----------|--------------------|-----------------------|
| Kadorih | mara ^h tit | ñũāp | toun | bahenda? | maravak | māñōm |
| Ngaju | mahamis | malalap | ñelu? | bahenda? | sambarian | ndate? |
| Kapuas | məmules | məŋuap | ñelu? | | hanja liwan | male? |
| Bakumpai | məmules | məŋuap | ñelu? | | | jəmele |
| Maanyan | mi?an | huhaya ^p m | ta?un | madintan | | kaŋkarive? |
| Dusun Witu | mi?an | hahaya ^p m | ta?u ^d n | madintan | pəŋanen ranan | karive? |
| Taboyan | miek | ñoaw | tau ^d n | | | aləŋ |
| Paser | pia? | ñoam | taun | | | prey |
| Benuaq | moyak | moaw | tau'n | | pa? lidi | əŋkalə ^p m |
| Tunjung | tə moyak | moaw | tao'n | | nipa? lidi | rahi'n dilaw |

| English | you | you plural | young | younger siblings | youngest | yours |
|------------|--------------------|--------------------|---------|------------------|-------------|----------|
| Kadorih | i ^h ko? | i ^h kam | biow | ari? | pariŋ biow | əmu? |
| Ngaju | ikaw | ketun | tabela? | andi? | tabela? | ayum |
| Kapuas | ikaw | ketun | təbela? | younger | paliŋ kurik | ayun mu |
| Bakumpai | ikaw | ketuh | təbela? | adik | paliŋ kurik | ayun mu |
| Maanyan | hañu? | naun | ia? | andi? | | wat nu |
| Dusun Witu | kayo? | kaon | nakia? | ani? | taŋka?ia? | na kayo? |
| Taboyan | ko(?) | kam | tia? | ani? | iə? tia? | ian ko |
| Paser | iko? | ikam | burok | | yo burok | umpun ko |
| Benuaq | ko | ka | tia? | tari'n | paliŋ tia:? | pu'n ko |
| Tunjung | koy/ko? | ka ^p m | tuhi:? | gari'n | paliŋ tui? | gəŋ koy |

APPENDIX 7

MALAYIC

| English | not true | abandon | above | adam's apple | adult | aflame |
|-----------|--------------|------------|----------|--------------|----------|-----------|
| Kendayan | salah | naŋalan | kaʔ atas | | | kabakaran |
| Ketapang | salah/sumban | məniŋgalan | | butoh ləlaki | bəpənohu | təcəlukot |
| Keninjal | salah | nudi | di atas | jakun | dewasa | botuʔ |
| Seberuang | salah | tudey | ataw | jakun | | alaʔ |
| Iban | salæh | niŋal | datas | təkaŋ garam | bəsay | aŋuəs |
| Mualang | salah | məniŋalkan | di ataw | jakoən | tuay | tətunu |

| English | afraid | after | age | agree | air | air | alive | all | alone |
|-----------|--------|------------|------|--------|--------|--------|-------|-------------|------------|
| Kendayan | galiʔ | lakaʔ nian | umur | satuju | udara | udara | idup | samua | babarow |
| Ketapang | golak | | umor | aumo | rosah | rosah | sogar | səgəgolo | sənsuraŋan |
| Keninjal | golak | sətəlah | umoy | sətuju | | | idup | səmua | kədəyiʔ |
| Seberuang | takut | təlah | umuy | stujow | | | idup | səmua | kədiyeʔ |
| Iban | takoət | səʔudah | umur | sətuju | ribuət | ribuət | idoəp | səmua | kadiɾeʔ |
| Mualang | takoət | təlah | umoy | sətuju | udaya | udaya | idoəp | səmuá/səmwá | kədiyeʔ |

| English | already | also | always | and | angry | animal | answer | ant | argue |
|-----------|---------|------|---------|-----|-------|---------|----------|--------|-----------|
| Kendayan | udah | ugaʔ | salalu | dan | bera | laok | ñawap | samut | mañanŋkal |
| Ketapang | udah | jaʔ | ajaʔam | uan | godu | jəjolu | mənimbas | somot | məñanŋkal |
| Keninjal | udah | juga | səlalu | dan | luat | binataŋ | ñawap | somot | mantah |
| Seberuang | udah | | sələləw | dan | luat | amaʔ | ñawət | səmot | bantah |
| Iban | udah | | səlalu | dan | ŋanoʔ | jəlu | ñawət | səmuət | ñanŋkal |
| Mualang | təlaʔ | juga | slalu | dan | sao | binatəŋ | jawab | kəsáʔ | bantah |

| English | argus pheasant | armpit | ash | ask | aunt | baby | baby carrier |
|-----------|----------------|---------|-------|---------|-----------|--------------|--------------|
| Kendayan | ruay | kateak | abu | batañaʔ | bibiʔ | anak/kamudaʔ | paŋendoŋ |
| Ketapang | ruay | lapak | ha:bu | bətakon | | biak nirah | kəmbilay |
| Keninjal | səmpidan | kəlipak | abu | bətañaʔ | bibiʔ | baʔ | soŋkeʔ |
| Seberuang | yuyay | kətiak | abow | nañaʔ | iboʔ | nəmiək | kain nintaŋ |
| Iban | ruay | kəciæʔ | aboʔ | nañaʔ | iboʔ | anæʔ mĩʔt | pəñaneəʔ |
| Mualang | səmiälaw | kətiák | abu: | bətañaʔ | bibi/iboʔ | baʔ | ŋəmaiʔ |

| English | back | bad | bail water | bait | bald | bamboo | banana |
|-----------|---------------|-------|------------|-------|--------|--------|----------------|
| Kendayan | puŋuŋ | jahat | nimbaʔ | ompan | | buuh | piŋan |
| Ketapang | bəlikaŋ | jóhat | tipok | umpan | loŋar | poreŋ | pəŋkaran/piŋan |
| Keninjal | puŋuŋ/bəlakaŋ | jahat | nimaʔ | umpan | botak | aoy | piŋan |
| Seberuang | bəlakaŋ [aŋ] | jaeʔ | timaʔ | umpan | gundul | pəyiəŋ | piŋan [aŋ] |
| Iban | bəlakaŋ [a] | jaeʔ | pənimaʔ | umpan | gunol | buloəh | piŋan [-aŋ] |
| Mualang | puŋoəŋ | jahát | timaʔ | umpan | gunoəy | buloəh | piŋan |

| English | banyan | barb | bark | barking deer | bathe | bear | beautiful |
|-----------|-------------|---------|-------------|--------------|---------------------|---------------------|-----------|
| Kendayan | kayu ara | | kuit | | maniʔ | baruʌŋ | cegaʔ |
| Ketapang | kriyayo | ruhet | | kijaŋ | mandɛʔ | bruʌŋ | |
| Keninjal | kaya aya | yuit | kulit batan | kijaŋ | maniʔ | bəyuaŋ | cantɛʔ |
| Seberuang | pun bəriŋin | səyəpaŋ | kulit kayow | kijaŋ | man ^d ɛʔ | bəyuaŋ | canteʔ |
| Iban | puʌn karaʔ | ruiaʔ | kulit kayoʔ | kijaŋ [-æŋ] | manɛʔ | jugam | bajiaʔ |
| Mualang | bəyiŋen | yuwet | kuleʌt pon | kijaŋ | man ^d ɛʔ | buɣ ^w aŋ | panci: |

| English | because | become | bee | beetle | before | begin | behind | believe |
|-----------|---------|---------|---------|----------|---------|-------|-------------|---------|
| Kendayan | karnaʔ | jadiña | pañaŋet | kumaŋ | bəlum | muley | kaʔ balakaŋ | picayaʔ |
| Ketapang | ilo | mənjadi | soŋat | kambihan | olom | mulay | di bəlikaŋ | pəcayo |
| Keninjal | kayəna | ñadi | mañiʔ | kumaŋ | səbuna: | mulay | di bəlikaŋ | pəcayaʔ |
| Seberuang | kɣəna | jadey | muañiʔ | | apan | mulay | bəlikaŋ | pəcayaʔ |
| Iban | laban | ñadi | mañɛʔ | kəkunəŋ | səbədaw | mulay | baʔ bəlikaŋ | pəcayaʔ |
| Mualang | kaŋɣná | mənjadi | ləbah | kumán | səbədáw | mulay | di bəlikaŋ | pəcayáʔ |

| English | bent | betel chew | betel nut | between | big | binturong | bird | bite |
|-----------|---------|------------|-------------|------------|--------|-----------|-------|---------|
| Kendayan | bəŋkok | sirih | pinaŋ | kaʔ antara | ayaʔ | musan | buruŋ | ñigit |
| Ketapang | biŋkok | sireh | pinaŋ | di sapat | baŋkal | bənturun | buoŋ | məŋótap |
| Keninjal | bəŋkok | | pinaŋ | di antaya | bosay | batat | buɣuŋ | ŋigit |
| Seberuang | biŋkok | siyiqh | pinán [aŋ] | antaya | bəsay | | buɣoŋ | |
| Iban | biŋkoʌʔ | sireh | pinaŋ [-aŋ] | baʔ antara | bəsay | nturuʌn | buoʌŋ | ŋətop |
| Mualang | biŋkoʌk | siyeh | pinán | di antaya | bəsay | musan | buɣoŋ | ŋətop |

| English | bitter | black | blader | blind | blink | blood | blow nose |
|-----------|--------|----------|--------------|-------|-----------|-------|------------|
| Kendayan | pait | naŋ itam | kantuŋ kameh | buta | kalalepan | darah | muʌŋ iŋus |
| Ketapang | póhet | hitam | kəkompon | buto | məŋkirap | darah | məŋoseh |
| Keninjal | pait | itam | kantuŋ kəmi | butaʔ | ŋkiyap | dayah | muʌŋ iŋus |
| Seberuang | paŋ | itam | kantuŋ kəmiʔ | butaʔ | mpijam | dayah | ŋənsəŋ |
| Iban | payet | cəluʌm | saraŋ kameʔ | butaʔ | ŋkijap | darəh | mueʔ insəʔ |
| Mualang | payet | hitám | kanon kəme | butaʔ | kadeʌp | dayah | muay insak |

| English | blow | blow, (mouth) | blowpipe | blue | boar | body | body hair |
|-----------|------------|---------------|----------|----------|----------|---------------------|--------------------|
| Kendayan | tatiup | niup | sumpit | naŋ biru | babon | tubuh | bulu |
| Ketapang | təciop | | sumpetan | bíruə | təlimpay | buka ^k ŋ | bulú:/bulú (rough) |
| Keninjal | konaʔ tiup | ənciup | sumpit | biyu | babi | tubuh | bulu |
| Seberuang | | ŋəsuaŋ | sumpit | biyow | babey | baka | bulu: |
| Iban | spou | ñəpou | sumpiaʔ | biru | babi | tubuh | bulou |
| Mualang | | | sumpet | biyú: | babi | tuboh | bulu |

| English | boil | bone | bored | bracelette | brain | branch | brave |
|-----------|----------|-------------|-----------------|----------------------|-------|--------|---------|
| Kendayan | | tuəŋ | bosənə | galəŋ | otak | dahan | barani |
| Ketapang | boŋkak | tulaŋ | kəpəmpuwalan | gólak ^h ŋ | untak | dohan | cəgolak |
| Keninjal | kəmpisa? | tulaŋ | losu | golaŋ | untak | dahan | bəyani |
| Seberuang | kəpisa? | tulaŋ | puas | gəlaŋ | untak | dan | bəyaney |
| Iban | pisa? | tulaŋ [-aŋ] | [ləyo?] /ləio?/ | gəlaŋ [-aŋ] | untə? | dan | bərani |
| Mualang | bayah | tuláŋ | busan | galáŋ | uta? | dan | bəyani |

| English | breast | breast feed | breathe | bridge | broom | burn | burp | burry |
|-----------|--------|-------------|------------|----------|--------|------------|---------|---------|
| Kendayan | susu? | ñusui? | bəseŋat | jambatan | sapu | nunu | | nubur |
| Ketapang | susu | moñusui | bərosah | titi | səsapu | məncəlukot | bətirap | pondam |
| Keninjal | nənən | ñusu | bənapas | gəyta? | sapu | nuŋkun | nteyε? | ŋuboy |
| Seberuang | susow | ñusow | aoh pəñaan | gəyətak | sapow | nunu | ŋədak | nimbuəŋ |
| Iban | susuu | məñusuu | bəsəpuət | jəmatan | sapuu | nunu | tərae? | mənám |
| Mualang | susu | ñusu | bəñuan | gəyta? | sapu | mənunú | | ŋuboəy |

| English | but | butterfly | buy | calf | call |
|-----------|------------|------------|----------------------------|-------------|---------|
| Kendayan | tapi | kupu-kupu | mali | batis | ñaru? |
| Ketapang | hanja? bay | cugaw | məmboli/bəhəhurop (barter) | hahan saman | mənalaw |
| Keninjal | tapi | kupu-kupu | moli | botis | numpay |
| Seberuang | tapey | | məley | bətiəh | kumay |
| Iban | tapii | kəsulay | məlii | bətiəh | ŋaŋaw |
| Mualang | tapi | kupu-kupú: | məmbəli/məmbli | bətes | ŋumay |

| English | can; able | canine | canoe | capsize | carry on back |
|-----------|-----------|--------------|-----------------------|---------|---------------|
| Kendayan | mu:lih | gigi batariŋ | parahu | tiŋalam | ŋuba? |
| Ketapang | caŋker | gigi tajam | pərohu/lajor (dugout) | karam | məhambən |
| Keninjal | ona? | gahin | pəyahu | kayam | ŋomin |
| Seberuang | tao | tayin | pəyaq | kayam | ŋəma? |
| Iban | uliəh | ŋələ? susu | pərao? | karam | ŋəma? |
| Mualang | tao? | gigi tayen | pəyaw | kayam | ŋəma? |

| English | carry by handle | carry on shoulder | carry with hands | cat | cataract |
|-----------|-----------------|-------------------|------------------|-------|-------------|
| Kendayan | nicaŋ | mikut | ŋicaŋ | uciŋ | buta? manok |
| Ketapang | məñələkiteŋ | məhambən | mə?umbay | kuceŋ | buto manok |
| Keninjal | ñiñiŋ | ñohan | mai? | uncin | katayak |
| Seberuang | pəgay | san | ŋəmae? | mayaq | |
| Iban | taŋkuəŋ | ŋəsən | maé? | mayaw | kərabur |
| Mualang | jinjeəŋ | mikoəl | ŋəmai? | ñəəŋ | katayak |

| English | catch as a ball | cave | centipede | chair | cheek | chest | chew |
|-----------|-----------------|------|--------------|---------|-------|-------|-------------|
| Kendayan | ulih | goa | ñaipan/lipan | karusi | pipi | dada | ɲuñah/kuñah |
| Ketapang | məncogap | guho | hənɟəlipan | baŋku | pipi | dado | məmapak |
| Keninjal | naŋkap | gua | ñəlipan | koysi | kuyu? | dada | ɲigrɪ |
| Seberuang | taŋkap | | ñəlipan | baŋkow | pipi | dada | ɲuñah |
| Iban | naŋkap | gua: | ñəlipan | lampoɔŋ | kuyo? | dada | ɲuñæh |
| Mualang | məŋáŋkap | guá | ñəlipan | kuysi: | pipi | dada | ɲuñáh |

| English | chicken | chief | child | chin | choke | choose | chop | cicada |
|-----------|---------|------------|-------|--------|-----------|--------|---------------|----------|
| Kendayan | manok | binua | anak | dagu | tasadak | milih | natak | senteran |
| Ketapang | manok | dómoŋ | anak | kaŋkam | sidak | pileh | məŋotahi | tayer |
| Keninjal | mano? | | anak | dagu? | təbəyosak | milih | motonɟ | kəyiaŋ |
| Seberuang | manok | təməŋgonɟ | anak | jago? | kəsədak | pileh | tuŋkõŋ | kycəŋ |
| Iban | manuɔ? | tuay mənua | anæ? | dago? | ensədæ? | miliɔh | ɲəmat/tətæ? | buntæ? |
| Mualang | manok | utua | anãk | dagoɔ? | sədak | pileh | məŋəpat/kəpat | pəŋiñãt |

| English | cigarette | circle | clean | climb | cloud | cockroach | coconut |
|-----------|-----------|-----------|---------|---------|-------------|-----------|-------------------|
| Kendayan | rokok | bo:at | baraseh | naki? | awan | kacoak | kaapa? |
| Ketapang | təmbako | buntar | aser | məndaki | abal | lipeh | kələpa |
| Keninjal | yoko? | bulat | boysəh | nait | əmun | kəcoa | ñioy |
| Seberuang | yuko? | liŋkay | bəysiəh | nayək | amun | səmpawa? | ñioɪ ^v |
| Iban | insap | kəlikeɔŋ | bərseh | neke? | rəmaŋ [-aŋ] | gərinaŋ | ña? |
| Mualang | yukoɔ? | liŋkaya'n | bəysəh | niket | awan | kicay | ñioɔy |

| English | coffin | cold | collapse | come | cook | cooked rice | corpse |
|-----------|-------------------------|-------|----------|--------|---------|-------------|--------|
| Kendayan | pati mati | diŋin | roro? | ataŋ | basuman | nasi? | baŋkey |
| Ketapang | kərondo (modern)/lancaŋ | diŋen | aro? | datanɟ | bərapɪ | nasə? | |
| Keninjal | pəti mati | colap | yuntoh | datanɟ | bəyapɪ | nasi? | mayat |
| Seberuang | kas | cəlap | | datay | məyapey | nasə? | baŋkay |
| Iban | suŋkuɔo | cəlap | runtoɔh | datay | manuɔ? | asə? | baŋkay |
| Mualang | pəti mati | cəlap | yuntoɔh | datay | ñumay | umpan | mayat |

| English | cotton | coucal | cough | count | cousin | cow | crab |
|-----------|--------|--------|--------|-----------------------------|---------|-------|------------|
| Kendayan | kapas | jaak | batuk | ɲetonɟ | sapupu | sapi | karama? |
| Ketapang | kapas | indak | batok | məhitonɟ/məmbilaŋi (object) | səpupu | sapi | kotam |
| Keninjal | kəkabu | bubut | batok | ɲitunɟ | məñadi? | sapi | kotam |
| Seberuang | kapas | bubuɔt | batok | bəyitunɟ | səntua | sapey | kətam [am] |
| Iban | kapas | bubuɔt | batuɔ? | ɲituɔŋ | səpupu | capi | gərama? |
| Mualang | kapas | bubuɔt | batok | ñitonɟ | spupu | sapi | gəyama? |

| English | crack | crazy | crocodile | crush | cry | dance | dark |
|-----------|------------|-------|-----------------------|------------|---------|---------|---------|
| Kendayan | ratak | gila | borow | ɲancuran | ɲeak | bajoget | galap |
| Ketapang | rótak | gilo | bəhayo/bataŋ bəgumbaŋ | məŋgoporan | mənaŋes | bənari | gólap |
| Keninjal | lotay | | boaya? | ɲancoy | naŋis | naɣi | potan |
| Seberuang | yətak [ak] | gila | boaya? | | ñabak | naɣey | kələman |
| Iban | mərtas | gilá | baya | ɲancur | ñabæ? | ɲajat | pətan |
| Mualang | yətak | gila | buayá: | məŋancay | ñabak | mənaɣi | gəláp |

| English | dart | dart case | daughter in law | day | day after tomorrow |
|-----------|-------------|-------------|-----------------|------|--------------------|
| Kendayan | dama? | tabuŋ dama? | minantu | ari | lusa? |
| Ketapang | damak | təmbilahan | bənantu | ari | lusu |
| Keninjal | anak sumpit | badah | nantu | aɣi | lusa? |
| Seberuang | mata sumpit | kələpay | nantou | aɣey | |
| Iban | laja? | pam laja? | mənantu | ari | lusa? |
| Mualang | anak sumpet | taken | mənantu | aɣi | aɣi lusa |

| English | day before yesterday | deaf | death | deep | deer | derris root | dew |
|-----------|----------------------|-------|------------|----------|-------|-------------|-------|
| Kendayan | tulat | tuli? | | ka-dalam | | tuba | əmbun |
| Ketapang | səlibah həmalam | tiŋal | kəhilanjan | dalam | ruso | tubo | ombon |
| Keninjal | kəmaɣi? lusa? | tulı? | mati | dalam | ɣusa? | tuba? | omun |
| Seberuang | | baŋap | matey | dalam | ɣusa? | tuba: | |
| Iban | kəmarə? lusa? | tulə? | pəmaray | dalam | rusa? | tubay | mɔəŋ |
| Mualang | kəmaɣe? nsana? | tule? | kəmatian | ala:m | rusa? | tubá | mboəŋ |

| English | diarrhea | die | different | difficult | dig | dirty |
|-----------|--------------------------|-------|-----------|-----------|---------|-----------|
| Kendayan | bariha?-bariha?/takencet | mati | babeda | payah | ɲali? | kotor |
| Ketapang | təkəkiret | hilaŋ | cəsamə a? | joreh | məɲali | bətəmbabu |
| Keninjal | podı? poyot | mati | beda | susah | ɲali | kotoy |
| Seberuang | noəɣit | matey | beda: | may | ɲaley | kutuəy |
| Iban | cireət | paray | layeəŋ | susəh | ɲərawaŋ | kəməh |
| Mualang | diaye | mati | bida: | suleət | ɲalı: | kutoəy |

| English | divide | divorce/separate | dizzy | dog | dom. Pig | door |
|-----------|--------------------|-------------------|--------------|-------|----------|--------|
| Kendayan | marə? | bacarey | ɲaluŋ | asu? | babon | pintu |
| Ketapang | bəduman/bədənduman | pəsarikan/bəsarak | ponəŋ kəpalo | kudok | under | lawan |
| Keninjal | magi: | cəɣay | | aso? | | lawan |
| Seberuang | bagey | cəɣay | pədiəh pala? | ukuy | | pintow |
| Iban | pədua? | sarə? | buŋaw | uduə? | babı | pintou |
| Mualang | məye? | bəsuayak | ɲəlú: | ukoy | | pintú |

| English | downriver | dragonfly | dream | drink | drop | drown | drum |
|-----------|-------------------|-----------|---------|--------|------------|------------|---------|
| Kendayan | hilir/ñilir | capuŋ | bamimpi | ñocok | ñantuʔan | ñalaman | panabah |
| Ketapang | hiler/məhəhileran | aʔancot | bəmimpi | minom | məŋgarakan | mənəŋgolam | gondaŋ |
| Keninjal | iliʔ | kənsiboŋ | mimpi | minum | ñotuʔ | təŋolam | gəndaŋ |
| Seberuang | ileʔ/kileʔ | kənsibuəŋ | mimpey | minum | jatoʔ | təŋəlam | gənaŋ |
| Iban | | cəcawır | mimpiri | ñiruəp | ŋələbuəh | ŋaram | gənnarŋ |
| Mualang | ileʔ/mileŋ (go) | capoŋ | bəmimpi | ŋinom | ŋələboəh | nəŋəlam | gənaŋ |

| English | drunk | dry | dull | durian | eagle | ear |
|-----------|-----------|--------------------------------|---------|--------|------------|---------------------|
| Kendayan | kamabuk | kariŋ | tumpul | durian | elaŋ | tareñeŋ |
| Ketapang | kəməbokan | kareŋ/raŋkay (dry and crunchy) | tumpol | duren | holəŋ | patulen |
| Keninjal | | yaŋkay | tumpol | nəyian | buyuŋ olaŋ | təliŋa |
| Seberuang | maboək | xaŋkay | tumpuəl | yian | laŋ | pəndiŋ |
| Iban | mabuəʔ | raŋkay | tumpoəl | rian | buruəŋ læŋ | pənéəŋ |
| Mualang | maboək | yaŋkay | tumpoəl | yian | buyoŋ ləŋ | pan ^d eŋ |

| English | earthworm | easy | eat | edge | egg | egret | eight |
|-----------|-----------|-------|-------------|-------|--------|---------|--------------|
| Kendayan | caciŋ | mudah | makan/majuŋ | təbiŋ | taoʔ | karowak | lapan |
| Ketapang | caceŋ | sonaŋ | makan | sísi | tolor | suŋayan | lapán |
| Keninjal | cacm | enteŋ | ñogaʔ | sisi | toluʔ | baŋaw | lapan utiʔ |
| Seberuang | | mudah | makay | sisey | təloʔ | | lapán |
| Iban | bəloəʔ | mudah | makay | tisi | təloʔ | | lapan iteʔ |
| Mualang | caceŋ | mudah | makay | təpi: | təloəʔ | pipeəʔ | dələpan uteʔ |

| English | elbow | empty | enemy | enough | enter | evening | every | excrement |
|-----------|-------------|-------|---------|--------|-------|------------|--------|-----------|
| Kendayan | sikuʔ | ampaʔ | musuh | cukup | tamaʔ | gumareʔ | satiap | tahiʔ |
| Ketapang | siku santaŋ | puəŋ | hútaŋan | gonap | tamo | mərian | halet | tohi |
| Keninjal | siku | koson | musuh | cukup | tamaʔ | palam ayi | sətiap | taiʔ |
| Seberuang | sikəu | koson | lawan | cukup | tamaʔ | malam ayey | sətiap | taiʔ |
| Iban | siku | puəŋ | munsoəh | cukoəp | tamaʔ | | sətiap | təeʔ |
| Mualang | siku | puəŋ | musoəh | cukoəp | tamaʔ | malam ayi | sətiap | taiʔ |

| English | eye | eye brow | eyelash | face | faint | fall |
|-----------|--------|----------------|------------|------------------|--------------|-------------|
| Kendayan | mata-e | alis-e | bulu mata | muha | cutam | jantuʔ |
| Ketapang | mato | tukolok boŋkaw | bulu: mato | pəmuhoʔan (muho) | solap | garak |
| Keninjal | mata | bulu kəlibuŋ | bulu mata | muka: | piŋsan | jatuʔ |
| Seberuang | mata | kəlipak mata | | muá | | yuboh/jatoʔ |
| Iban | mata | bulu kəniəŋ | bulu mata | mua | | laboəh |
| Mualang | mata | ales | bulu mata | mua | laboh pinsan | laboəh |

| English | fall over | far | fast | fat | fat (n) | father | fathom |
|-----------|-------------|----------|--------|--------|---------------------|-----------|--------|
| Kendayan | | naŋ jauh | gaceh | gamuk | lamak | apa? | dapa? |
| Ketapang | bun̄kat | jówoh | dóras | bantot | kəkulor | apay | dopo |
| Keninjal | γuncuh | jauh | | | lomak | ayah/apa? | dopa? |
| Seberuang | | jawəh | sigat | gəmo? | ləmak [ak] | apay | nəpa? |
| Iban | tumā? (-k?) | jawəh | jampat | gəmo? | ləmæ? | apay | dəpa? |
| Mualang | γuboḡh | jawəh | cəpat | gəmoḡ? | ləmā ^h k | apay | dəpa |

| English | feeling | fell | fern | fever | few | field hut |
|-----------|----------|-------------------------------|----------|---------------------|----------|------------|
| Kendayan | | nabaŋ | miduŋ | doŋo? | sadikit | daŋow |
| Ketapang | in̄seman | mənobaŋ/məñokat (clear field) | paku | | siket | bagan |
| Keninjal | γasa | nobaŋ | paku? | domam | sikit | pondo? |
| Seberuang | pəγasay | təbaŋ | pako? | tabin | sikit | laŋkaw uma |
| Iban | asay | nəbaŋ | kəmidiaŋ | | mimūət | laŋkaw |
| Mualang | pəγasá: | nəbá ^h ŋ | pakoḡ? | tabe ^d n | sədikeət | laŋkaw |

| English | fight | fill | fin | find | finger | finger nail | finish |
|-----------|-------------|----------|---------------|---------|---------|-------------|---------------------|
| Kendayan | bakalahi | ŋisi? | sirip | namu | jari | kuku? | udah |
| Ketapang | bəlalayo?an | məmonohi | siar | bədatap | gərigi? | silu | səlosay |
| Keninjal | bətumoh | ŋisi? | sisit | nomu | jaŋi | silu? | sələsay |
| Seberuang | kəlay | ise? | siyəp | təməw | | silo? | təmo ^w ? |
| Iban | bətaniaŋ | ŋise? | kəda:p [-a:p] | | jari: | kukoḡt | təmo? |
| Mualang | bəlagá? | ŋise? | siyəp | mənəmú: | jaŋi | kuku jaŋi | sələsay |

| English | fire | firefly | fireplace | firewood | drying rack | first | fish |
|-----------|------|-------------|-------------|------------|-------------|------------|------------|
| Kendayan | api | kulaŋ kalit | toŋko? | | | naŋ utama | ikan |
| Ketapang | api | kampilat | dəpuran | suloh | pəparo | hóyu | ikan |
| Keninjal | api | | baya api | kayu api | | pəytama | laok |
| Seberuang | aŋey | səmpupat | tun̄ko? | kayow aŋey | paya? | pətama | ikán/laok |
| Iban | apij | kunaŋ-kunaŋ | ŋiduəp apij | kayo? apij | pəñalay | yake dulo? | ikan [-an] |
| Mualang | api: | kunaŋ-kunaŋ | tun̄koḡ? | kayu api | γəŋaŋ | pətamá: | ikan |

| English | five | fix | flat | flesh | float | flood |
|-----------|------------|-----------|-------|------------------------|---------------------------|-----------|
| Kendayan | lima | maiki? | datar | dagiŋ | ŋapuŋ | banjir |
| Ketapang | limo | məmbulahi | rato | ise?/jolu (of animals) | timbol | mərawaŋan |
| Keninjal | lima uti? | mela: | γata | dagim | timol | pasan̄ |
| Seberuang | lima? | ñəmayək | γata: | ise? | kəlampon̄ | pasan̄ |
| Iban | lima? ite? | ŋadu: | lanay | ise? | | bəh |
| Mualang | lima? ute? | səmayək | datay | dageəŋ | ŋapən/ŋ ^h apən | bəyanaŋ |

| English | floor | flower | fly | flying lemur | fontanelle | food | forehead |
|-----------|--------|--------|---------|--------------|------------|--------------|----------|
| Kendayan | lantey | buŋa | tarabaŋ | | ubun-ubun | makanan | dahi |
| Ketapang | lantay | kombaŋ | tərobaŋ | kuboŋ | koneʔŋ | pəmakən | ciper |
| Keninjal | lantay | buŋa | təyobaŋ | | ubun-ubun | boyona pyema | konim |
| Seberuang | lantay | buŋaʔ | təybaŋ | | ubun-ubun | pəmakay | kəniŋ |
| Iban | lantay | buŋay | tərbay | | puño adi | utay mpaʔ | kəniŋ |
| Mualang | lántay | buŋa | təybay | kumoŋ | ubon-ubon | təpakay | dai |

| English | forget | four | friend | frighten | frog | from | fruit | fruit bat |
|-----------|----------|------------|---------|-------------|--------|------|-------|--------------|
| Kendayan | lupa | ampat | ayuŋ | ŋaliʔiʔ | rega | dari | buah | kaluaŋ |
| Ketapang | lúpo | ómpat | əʔambəh | məŋgəgolaki | kucip | ataŋ | buah | kətambah |
| Keninjal | kəlupaʔ | əmpat utiʔ | jəyajan | ŋolak | katak | dayi | buah | antu kəkubun |
| Seberuang | kəlupa: | əmpát | kaban | bəguyaw | | dayi | buah | məntaway |
| Iban | naʔ iŋāt | mpat iteʔ | kaban | mənakuət | kataəʔ | ari | buəh | ntaməh |
| Mualang | klupa | əmpat uteʔ | təmə:n | nakoət | kacon | ayí: | buáh | kəluəŋ |

| English | fry | full | full, of food | gall | gecko | ghost | gills |
|-----------|----------|---------------|---------------|---------|-------|---------------------|-----------|
| Kendayan | ŋoreŋ | pənuh/barisiʔ | kañan | paduʔ | tokeʔ | antu | insaŋ |
| Ketapang | məŋgureŋ | popak | koñan | hompodu | ñariŋ | jojolu | iŋap |
| Keninjal | ŋoyeŋ | ponuh | | əmpodu | yekok | antu/yoh | insaŋ |
| Seberuang | guyin | pənuəh | kəñan | mpədow | | antow | inaŋ [aŋ] |
| Iban | ŋurəŋ | pənoəh | kəñan | mpədou | lacaw | antou | təpoəs |
| Mualang | ŋuyekŋ | pənoəh | səgay | əmpədú | cicak | antú:/yoh (spirits) | insán |

| English | ginger | give | give birth | go | goat | goiter | good |
|-----------|--------|-----------|----------------------|-------------|----------------------|----------|-------------|
| Kendayan | liaʔ | mareʔ | ŋalahiran | ampus | kambiŋ | gondok | gagas |
| Ketapang | həlio | məmborian | bəranakan | bəkanal | | toŋkokan | jaŋaʔ |
| Keninjal | liaʔ | moyi | ŋəlahəy | pəygi | kamin | toŋkok | bagak |
| Seberuang | liaʔ | bəyeʔ | bəyanak | aŋkat | kam ^{bi} əŋ | gunuk | bayək |
| Iban | liaʔ | məreʔ | bəranəʔ | bəjalay | kaməŋ | | manah [-ah] |
| Mualang | liaʔ | məyeʔ | bəyanā ^{nk} | pəygi/aŋkat | kam ^{be} əŋ | gundok | bayək |

| English | grainary | grandchild | grandfather | grandmother | grass | grasshopper |
|-----------|-------------|------------|-------------|-------------|---------|-------------|
| Kendayan | rumah padi | ucuʔ | eneʔ | eneʔ | rumpot | balalaŋ |
| Ketapang | júroŋ | cucu | aŋkey | ayan | rumpot | buntak |
| Keninjal | laŋkaw | ucuʔ | ai | mbah/datoʔ | yumpot | buntak |
| Seberuang | lupuəŋ | ucoʔ | akeʔ | ineʔ | yupuət | bəlaləŋ |
| Iban | tibaŋ [-aŋ] | ucoʔ | akeʔ | ineʔ | rumpoət | buntəʔ |
| Mualang | luməŋ | ucoəʔ | akeʔ | ineʔ | yumpoət | blaləŋ |

| English | grave | great grandparent | greedy | green | grow, as a plant | gums |
|-----------|----------|-------------------|---------|----------|----------------------|--------------|
| Kendayan | kuburan | nəʔ uyut | sarakah | naŋ ijow | | gusi |
| Ketapang | pondaman | upoy | kolobok | hijaw | tumboh | pəlälən gigi |
| Keninjal | kuboyə | buyut | səyakah | ijaw | tumuh | gusiʔ |
| Seberuang | kuboy | | yaŋkaʔ | ijaw | | gusi |
| Iban | raroəŋ | moəh | raŋkaʔ | gadoəŋ | tubuəh | guseʔ |
| Mualang | kubuyán | muyəŋ | tamaʔ | hijaw | tum ^h oəh | guseʔ |

| English | hair whirl | half | hammer | hand/arm | handspan | hang | hard |
|-----------|---------------|---------|----------|----------|----------|---------|----------|
| Kendayan | pusaran buʔuk | sataŋah | tukul | kokot | jaŋkal | ŋantəŋ | samot |
| Ketapang | kəpalo hagi | sətoŋah | pəmaŋkoŋ | jampal | kilan | saŋkot | koras |
| Keninjal | usay-usay | stoŋah | tukul | loŋan | kilan | ŋantuŋ | təgaŋ |
| Seberuang | pusar | stəŋah | palow | jayey | kilan | gantuəŋ | təŋkyiəŋ |
| Iban | palaʔ ucoŋ | stəŋəh | tukoəl | loŋan | jaŋkal | ŋantuəŋ | təgar |
| Mualang | pusayan boʔ | stəŋah | tukoəl | taŋán | kilan | ŋantəŋ | tegay |

| English | harvest | hat | haughty | have | he/she | head | head hair |
|-----------|---------|-------|---------|-------------------|--------|---------|-----------|
| Kendayan | panen | topi | | nuʔ/ada | ia | kapala | buʔuk |
| Ketapang | bəhaŋi | topi | dayo | ompon/bisi(exist) | iño | kəpalo | rambot |
| Keninjal | manen | topi | aŋkuh | ompuʔ/ada | ia | palaʔ | yaŋmot |
| Seberuang | ŋətam | tupey | | mpow/aday | dia | kəpalaʔ | rambut |
| Iban | ŋətaw | tupi | sumuəŋ | mpu/biseʔ (ada) | ia | palaʔ | boəʔ |
| Mualang | manen | tapu | yaŋah | mpu/aday (ada) | ya | kəpalaʔ | boʔ |

| English | headhunting | heart | heavy | heel | help | here | heron |
|-----------|-------------------|---------|-------|--------------------|---------------------|----------|----------------------|
| Kendayan | ŋayaw | jantəŋ | barat | tumit | toloŋ | kaʔ dian | |
| Ketapang | məŋayaw/pəŋayawan | jantəŋ | borat | tumət | tuloŋ | diʔ isen | kərowak |
| Keninjal | pəŋayawan | jantuŋ | boyat | tumit | talaw | dituʔ | bəlibis |
| Seberuang | ŋayaw | jantəŋ | bəyat | tumit | tuluəŋ | di toʔ | |
| Iban | ŋayaw | jantəəŋ | bərat | tumit | ŋuluəŋ | ditəʔ | kujoʔ |
| Mualang | məŋayaw | jantəəŋ | bəyát | tumɛ ^{nt} | tulo ^s ŋ | di toəʔ | ŋkuy ^w ak |

| English | hide | his/hers | hit with a stick | hoarse | hold | hole |
|-----------|------------|--------------|------------------|--------|----------------|-------------|
| Kendayan | ñosokan | nuʔ ña | maŋkoŋ | sarak | ñañkam/ñiñiʔit | ubaŋ |
| Ketapang | məʔombaŋan | ompon sio | məmuŋkal | koraw | məŋaroti/karot | dolaman |
| Keninjal | nabok | əmpuʔ səntua | maluʔ | səyak | masuŋ | lubaŋ |
| Seberuang | tayoh | | paloʔ | sərak | məgay | lubaŋ [aŋ] |
| Iban | ŋəlalay | mpu ya | | raguəʔ | məgay | lubaŋ [-aŋ] |
| Mualang | mənapok | əmpu an | paloəʔ | səyaʔ | məgay | lubaŋ |

| English | hook | horn | hot | house | house post | how | how many |
|-----------|--------------------------|----------------------|--------|---------|-------------|----------|----------|
| Kendayan | mata panciŋ | takduk | aŋat | rumah | tihaiŋ | ay amay | saŋahey |
| Ketapang | popas (sm) waiŋkaŋ (lrg) | tandok | haiŋat | rumah | tihaiŋ | iboiŋapo | bəropo |
| Keninjal | isi? kail | tanok | aŋat | yumah | tiaiŋ | koti | bəyopay |
| Seberuang | isi kait | tan ^o oək | aŋāt | laiŋkaw | tiaiŋ | tipa: | bəyapa |
| Iban | mata ginte? | tanuə? | aŋat | rumæh | tiaiŋ [-aŋ] | kati | bərapa |
| Mualang | mata kayel | tan ^o oək | aŋānt | yumah | tiaiŋ | kati | bəyapa |

| English | hundred | hungry | hunt w/ dog | husband | husk | I | if |
|-----------|--------------|-------------|-------------|---------|-------|------|-------|
| Kendayan | saratus | lapar | ŋasu? | laki | sakam | aku | kalo? |
| Ketapang | saratus | podeh porot | mahayoŋ | laki | sokam | ku | omon |
| Keninjal | səyatus uti? | | bəybuyu | laki | sokam | aku | kalaw |
| Seberuang | səratuŋ | lapay | buyow | lakey | | akow | kalaw |
| Iban | səratuŋ ite? | lapar | bəgiga? | lakij | səko? | akoŋ | ante? |
| Mualang | səyatos | lapay | ñuloh | suami | səkám | aku | ante? |

| English | in front | insectivorous bat | inside | insult | intestinal worms |
|-----------|--------------|-------------------|-----------|---------|------------------|
| Kendayan | ka? depan | kayawar | ka? dalam | nina | caciŋan |
| Ketapang | di pəhadapan | kəlalowar cuncoŋ | di dalam | məhino | parot buntoŋ |
| Keninjal | di muka | kəlaway | di dalam | ŋina | caciŋan |
| Seberuang | dəpan | kəsinap | alam | məŋhina | caciŋ |
| Iban | ba? dəpan | kəsinap | ba? dalam | məñae? | bəlunuŋ |
| Mualang | di dəpan | ntaway | di dalám | ŋina | caciŋán |

| English | intestines | ironwood | island | itchy | jealous | jump | just; recently |
|-----------|----------------|----------|---------|-------|-------------|----------|----------------|
| Kendayan | usus | bulian | pulow | gatal | digandi | naluncat | aŋkin |
| Ketapang | rəramāt | bulen | pəpulaw | gatal | muntek hati | | hoyuam |
| Keninjal | usus | təbəlían | pulaw | | cəmbuyú | ŋəluncat | bayo? kiniam |
| Seberuang | kañit | təbəlían | pulaw | gatal | pəŋəmuŋyú | məlañuŋ | |
| Iban | guloŋəŋ pəroŋt | təbəlían | pulaw | gatal | niniŋ | məŋjuŋ? | baru aja? |
| Mualang | usos | uleŋ | puláw | gatal | cəmuŋyú | ŋəlumpat | bayoŋ? ja? |

| English | kick | kill | kingfisher | kiss | knee | knuckle | land | landslide |
|-----------|--------|-----------|-------------|-------|---------|------------|-------|----------------|
| Kendayan | ñepak | mambunuh | | cium | | buku | tanah | tanah loro? |
| Ketapang | sipak | məmatian | | ciom | bəkutot | buku | tanah | tanah garak |
| Keninjal | təndaŋ | məmbunuh | buyuŋ laot | ñium | tuyut | tumo? | tanah | tanah tumpoyə? |
| Seberuang | ñepak | bunuŋh | nsiŋ | sium | lutut | siku jayey | tanah | tanah yoboh |
| Iban | nənáŋ | munuŋh | nsiŋ | ñium | batoŋ | buko? | tanæh | tanah tusor |
| Mualang | sipak | məmbunoŋh | pipeh bəsay | ciəŋm | lutot | bukoŋ? | tanáh | tanah lunsoŋy |

| English | large fly | large mortar | large pestle | last | laugh | leaf | leak |
|-----------|-------------|--------------|--------------|-----------|---------|-------|-----------|
| Kendayan | lalat | lasuŋ | palu | naŋ ahir | galak | daun | kapocoran |
| Ketapang | laŋaw | linsongan | halu | pəŋabisan | tətawo | dowon | posok |
| Keninjal | lalat | losuŋ | alu | təyaheɣ | kətawaʔ | dauh | kəbocoɣ |
| Seberuang | lalat | ləsuŋ | alow | aiɣ | kətawaʔ | dawən | bocoɣ |
| Iban | lalat [-at] | ləsoŋ | alou | | kətawaʔ | dawən | təmoəs |
| Mualang | lalat | ləsoŋ | alú: | təyakeɣ | kətawaʔ | dawən | bucó: |

| English | learn | leave | leech | left | leg | lend | leopard | lid |
|-----------|---------|---------|----------------|-------|-------|--------|-------------|--------|
| Kendayan | balajar | kaluas | lintah | kebaʔ | pahaʔ | minjam | rimow | lid |
| Ketapang | bəlar | kəluar | lintah | kibaʔ | poho | pinjam | horo mowon | tukop |
| Keninjal | bəlar | kəluar | pacat | kibaʔ | kaki | ŋiñaw | | tutup |
| Seberuang | bəlar | kəluar | lintáh | kibaʔ | kakeɣ | miñaw | | tutup |
| Iban | bəlar | pansuət | ñəmətəʔ/lintəh | kibaʔ | kakı | miñaw | jəlu: mayaw | tutuəp |
| Mualang | bəlar | kəluar | lintah | kiyi | kakı | miñaw | unceŋ batu | tutóəp |

| English | lie down | lie prone | lift | light weight | lightening | like |
|-----------|---------------------|-----------|--------|--------------|-------------|---------------------------------|
| Kendayan | guriŋ | tiarap | ŋaŋkat | riŋan | ateʔ | suka |
| Ketapang | məŋgaliŋ | orap | kobak | hampaw | goron | ganjaŋ (things)/rindaŋ (people) |
| Keninjal | guy ^w in | tiŋkap | aŋkat | lompun | kilat | suka |
| Seberuang | galay | tiŋkap | aŋkat | ləmpuət | kilat | kaʔ |
| Iban | galeʔ | niŋkap | aŋkat | ləmpoŋ | kilat [-at] | kaʔ |
| Mualang | bəgələʔ | tiŋkap | aŋkat | yiŋan | ñayú | cəyat |

| English | lime | lips | listen, hear | liver | loincloth | long | long house |
|-----------|-------|--------|--------------|-------|----------------|--------|-------------|
| Kendayan | kapur | beber | naŋaran | ati | cawat | pañaŋ | rumah pañaŋ |
| Ketapang | kapor | biber | doŋay | hati | cawat səmbirat | lántor | |
| Keninjal | kapoɣ | bibeɣ | niŋay | ati | cawat | pañaŋ | yumah pañaŋ |
| Seberuang | kapoɣ | | diŋa | atéy | piñaŋ | pañay | yuma adat |
| Iban | kapoŋ | muluət | niŋaʔ | ati | tancuət capiŋ | pañay | ruməh pañay |
| Mualang | kapoɣ | bibeɣ | məniŋá: | hati | cawat/tapeh | pañay | yumah pañay |

| English | loose | lost | loud | louse | lowland plain | maggot | make | man |
|-----------|---------------------|-------|----------|-------|---------------|---------------|----------|------------|
| Kendayan | goroh | sasat | takar | kutu | tanah sapok | amatar (grub) | minjawat | naŋ laki |
| Ketapang | luŋgar | sosat | tədədoli | kutu | natay/halaman | həmbatar | məmbulah | ləlaki/apa |
| Keninjal | lumay | sosat | kiŋah | gutu | tanah bawah | | mulah | ləlaki |
| Seberuang | luŋ ^s ay | səsət | yibut | kutow | ləboʔ | siŋkit | mulah | bakas |
| Iban | gərəh | təsət | capuəh | kuto | lanay | | ŋagaʔ | lakı |
| Mualang | luŋ ^s ay | səsət | biseŋ | kutú: | datayán | | mulah | məh |

| English | mantis | many | married | mat | measure | meet | messy |
|-----------|--------------------------|--------|----------|-------|---------|---------|-----------|
| Kendayan | | mañak | pañanten | tikar | ñukur | batamu | ribut |
| Ketapang | sənsombah | hoja? | pəjadian | ampar | məʔukor | bətomu | təmbəraro |
| Keninjal | buntak pantap | bañak | bəlaki | | ñukoy | bətomu | ñəyahu |
| Seberuang | bunta ^k | mayoh | | tikay | ukuəy | bətəmw | kacaw |
| Iban | buntəʔ tayoəʔ | mayoəh | jadi | tikay | ñukat | bətəmu | caroət |
| Mualang | buntak səmã ^k | mayoh | gaway | tikay | ñukoəy | bətəmú: | kacaw |

| English | millipede | mine | mist | mix | monitor | moon |
|-----------|------------|-----------|--------|---------|------------------------|-------------|
| Kendayan | | nu? ku? | kabut | ñaduk | biawak | buan |
| Ketapang | ləmbay | ompon ku | kabot | məŋgaol | bənayan/biawak (black) | bulá:n |
| Keninjal | toduŋ sayi | əmpu? ku | kabut | ñampoy | yabin | bulan |
| Seberuang | kəmyut | əmpu akow | kabut | campoəy | boayak | bulan |
| Iban | ñəmayar | mpo akou | kaboət | ñampuər | bayə? | bulan [-an] |
| Mualang | pacat | əmpu ku | kaboət | ñampoəy | payat | bulán |

| English | morning | mosquito | moss | mother | mother in law | mountain | mouse deer |
|-----------|----------|----------|--------------------|--------|---------------|----------|------------|
| Kendayan | pagi | ñamuk | lumut | uwe? | mertua | bukit | pilanduk |
| Ketapang | sunsoŋ | ñamok | lumot | inday | məntuho | gunoŋ | pəlándok |
| Keninjal | bo? obu? | səpun | lumot | uma? | məntuha | gunuŋ | lanok |
| Seberuang | pagey | kap | | inay | məntua | gunoəŋ | pəlanok |
| Iban | pagi? | ñamoə? | lumuət | inay | ntua | tintiəŋ | pəlanuə? |
| Mualang | pagi | ñamok | lumōə ^t | inay | məntua | gunoəŋ | pəlanduk |

| English | mouth | mud | mushroom | mute | myna | naked |
|-----------|-------------|---------|-------------|--------------|-------|--------------------|
| Kendayan | molot/moʔot | lumpur | | awa? | beo? | batulañan/baʔantol |
| Ketapang | pəña woʔan | ləlatak | kulat | pərogam bisu | tioŋ | kəməlanjam |
| Keninjal | mulut | lumpoŋ | jamoy | bisu? | tiuŋ | təlañan |
| Seberuang | mulut | paya? | jəmyu | biso? | tioŋ | təlañan |
| Iban | muluət | lupə? | kulat [-at] | bago? | tiuəŋ | təlañay |
| Mualang | muloət | lumpoəy | kulat | bisoə? | beó: | təlañan |

| English | name | nape | narrow | navel | near | neck | necklace |
|-----------|-------|---------------|--------|---------|-------------------|---------------|----------|
| Kendayan | nama | taŋku? | sampet | pusat | samak | tege? | kaluŋ |
| Ketapang | damo | tuoŋ? | sompət | pusart | dampəŋ | likeran | toŋgak |
| Keninjal | nama | bəlakan ləheŋ | sokut | pusat | dəmpin | ləheŋ | kalon |
| Seberuang | nama: | təkuk | səmpit | pusat | dəmpiəŋ | leher [ləheə] | təŋgak |
| Iban | namá: | pəgo? | sokoət | tampoə? | dəmpəəŋ | pəgo? | marıə? |
| Mualang | | təŋkok | səkoət | pusat | səmã ^k | le:y | kuŋkon |

| English | nervous | nest | new | next to | niece; nephew | night |
|-----------|-------------|--------|----------------|------------|---------------|-------|
| Kendayan | goraʔ-goraʔ | saraŋ | barahu | kaʔ sampiŋ | kaponakan | maam |
| Ketapang | təpəhiŋao | sayəŋ | baru/səpəʔupak | disisi | anak səjolor | potəŋ |
| Keninjal | goyi | sayəŋ | bayu | di sisi | | malam |
| Seberuang | | sayəŋ | bayow | di sisi | anak məñadeʔ | malam |
| Iban | gugoʔp | saraŋ | baru: | baʔ tisi | anəʔ sikoʔ | malam |
| Mualang | kaŋaʔ | sayəkŋ | bayu | di sampen | kəponakan | malam |

| English | nine | nipple | noon | nose | not true | now |
|-----------|---------------|--------|------------|----------------------|--------------|-----------|
| Kendayan | səmbilan | putiŋ | taŋah ari | iduŋ | salah | naŋ aŋkin |
| Ketapang | səmbilan | puteʔŋ | toŋah ari | hidon/kanson (snout) | salah/sumbaŋ | oyenen |
| Keninjal | səmilan utiʔ | pənteŋ | toŋah ayi | iduŋ | salah | tuʔ am |
| Seberuang | səmbilán | puteyŋ | teŋah ayey | hiduŋ | salah | səkarəŋ |
| Iban | səmilan iteʔ | putiŋ | təŋahari | iduŋ | saləh | diatoʔ |
| Mualang | səmbilan uteʔ | puteŋ | təŋah ayi | hidoŋ | salah | səkayəŋ |

| English | ocean | old | old | older siblings | on top | one | only | open |
|-----------|-------|----------|----------|----------------|----------|----------|------|---------------|
| Kendayan | laut | naŋ tuha | naŋ lama | kakaʔ | kaʔ atas | asaʔ | saja | mukaʔ |
| Ketapang | lowot | túho | lambat | pəsanakan | di pucok | sa/sutek | mo | |
| Keninjal | laut | tua | lamaʔ | akaʔ | di atas | sutiʔ | saja | bukaʔ |
| Seberuang | lawət | tuay | lamaʔ | akaʔ | ataw | satu | saja | bukaʔ |
| Iban | tasiʔ | tuay | lamaʔ | akaʔ | datas | siteʔ | ñaʔ | mukaʔ |
| Mualang | lawət | tuay | lamáʔ | | di ataw | suteʔ | saja | məməkəʔ/bukaʔ |

| English | or | orangutan | otter | outside | overflow | owl |
|-----------|--------|------------------------|-----------|----------|----------|-------------------|
| Kendayan | ataw | uraŋ utan | tikus aiʔ | kaʔ luas | barisiʔ | buruŋ buak |
| Ketapang | ai | oraŋutan/mandar (male) | riŋen | di luar | məliber | kuap |
| Keninjal | ataw | oyaŋutan | | di luay | məluap | buyuŋ antu |
| Seberuang | anteŋʔ | | | luay | məlimpay | |
| Iban | ataw | mayas | riŋin | baʔ luar | ŋkuræʔ | ləŋ pipiŋt/bureŋʔ |
| Mualang | ataw | mayas | pagap | di luay | nəluap | buyoŋ antu |

| English | paddle | palm | palm civit | pangolin | parang | parang handle | peak/top |
|-----------|----------|---------------|------------|----------|--------|---------------|----------|
| Kendayan | dayuŋ | tapak | musəŋ | taŋgiliŋ | selen | | puncak |
| Ketapang | pəŋāyōh | tampo taŋan | munsəŋ | təŋgileŋ | poraŋ | | pəmuncaŋ |
| Keninjal | ŋayoh | lapak | munsəŋ | təŋjilin | isaw | ulu isaw | puncak |
| Seberuang | dayoŋ | | | təŋjileŋ | | | pucok |
| Iban | səŋayoŋh | tapaʔ | | təŋjileŋ | dukoʔ | ulu dukoʔ | tucuoŋ |
| Mualang | dayoŋ | təlapak taŋán | musəŋ | təŋjileŋ | paŋaʔŋ | ulu paŋəŋ | puncák |

| English | peel fruit | person | pig tailed mac. | pigmy squirrel | pile | pinch |
|-----------|------------|--------|-----------------|----------------|-----------|---------------|
| Kendayan | ŋoseʔ | uraŋ | karaʔ | | tumpulkan | ŋatok |
| Ketapang | məʔupak | uraŋ | borok | kəlinsat | rioʰŋ | məŋotel/kotel |
| Keninjal | məŋupas | oʔaŋ | bəyok | poncin | bətumpoh | gotel |
| Seberuang | kupak | uʔaŋ | bəyuk | pəncin | tumpul | ŋəyubit |
| Iban | ŋupaʔ | uraŋ | ñumuəh | | tugəŋ | ŋətəʔl |
| Mualang | ŋupas | uʔaŋ | kuntol | kuyoay | tumpoək | cubet |

| English | pinky | pit viper | place (n) | plant | plate | pluck | point |
|-----------|---------------|----------------|-----------|----------|-------|--------|----------|
| Kendayan | kaliŋkiŋ | uar ijow | tampat | mənanam | piŋan | matek | nunjuk |
| Ketapang | gərigiʔ búnsu | ular downon | tompat | mənanam | pireŋ | məhaŋi | tunjokan |
| Keninjal | jagi kəlincin | ulay daun | oloy iaʔ | nanam | piŋan | mətik | nuñok |
| Seberuang | jayey anak | untup | təmpat | bəntanam | piŋan | pətəʔk | nuñuək |
| Iban | anəʔ jari | ular buŋay | pam | nanam | piŋay | dameʔ | nuñuəkʔ |
| Mualang | jayi mɛʰt | ulay mata hayi | təmpat | tamak | piŋan | mətek | tuñoək |

| English | porcupine | pot gong | pound rice | pour | pregnant | primary jungle | print |
|-----------|---------------------|----------|------------|---------|----------|---------------------|------------|
| Kendayan | tupe duri | | numbuk | lelehan | babuntiŋ | utan | |
| Ketapang | landak | tətawak | mənutu | mənubah | bunteŋan | rimbo bobaʔ | tampo |
| Keninjal | lanak | | mənumbuk | ñiuŋ | ŋanuŋ | utan yimaʔ | tapak kaki |
| Seberuang | lan ^d ak | kətawak | nutuk | tuaŋ | ŋanoŋ | yimbaʔ | bəkas |
| Iban | lanəʔ | tawəʔ | numuəkʔ | nuaŋ | ŋanoŋ | kərapa | bəkaw kaki |
| Mualang | lan ^d ák | | mənumoək | nuáŋ | naŋoŋ | yim ^b aʔ | abi jalay |

| English | proboscis monkey | promise | pull | punch | pus | push |
|-----------|------------------|---------|----------|---------------|-------------|-------|
| Kendayan | bagantan | bajanji | nujut | batinju/ninju | nanah | ñoroŋ |
| Ketapang | bontaŋan | bəjanji | mənarek | məninju | darah burok | suroŋ |
| Keninjal | | bəjanji | mənarik | bətumok | nanah | ñuju |
| Seberuang | | jañey | taʔiək | gucuəh | nanah | joʔ |
| Iban | bəkətan | bəjañi | nariəkʔ | bukuət | nanəh | asuər |
| Mualang | idoŋ bəsay | bəjañi: | mənaʔeək | gucoh | bananáh | sudú: |

| English | put down | put together | python | quiet | raft | rafter |
|-----------|---------------|--------------|---------|-------|---------------------------|-----------|
| Kendayan | simpan/ñimpan | ŋomoʔan | sawaʔ | diam | rakit | kasaw |
| Ketapang | məʔabahan | məŋumpolan | sawo | suneʔ | ba:m (log)/raket (bamboo) | kasaw |
| Keninjal | ŋəlotak | ŋumpol | sawaʔ | diam | lantin | kasaw yəŋ |
| Seberuang | ŋkah | kumuəʔl | sawaʔ | nugaw | lantiŋ | kasaw |
| Iban | ŋələkaʔ | nəmpuroʔ | sawaʔ | diaw | akiət | kasaw |
| Mualang | təpoəkʔ | ŋumpoəʔl | səmənaŋ | nugaw | yaket | kasaw |

| English | rain | rainbow | rapids | rat | rattan | rattan backpack |
|-----------|-------|----------|------------|------------------|--------|-----------------|
| Kendayan | ujan | palaŋi | | curut/tikus | rotan | baŋkat |
| Ketapang | muroh | si:andaŋ | aray garak | curot (sm)/tikus | rotan | kinday |
| Keninjal | ujan | pəlaŋi | ɣiyam | tikus | ui | |
| Seberuang | ujan | | ai? dəyas | tikoyh | uey | jaɣay/laduəŋ |
| Iban | ujan | pməraja | tanəh | ciət | wi | laŋe? |
| Mualang | huján | plaŋi | jəyam | ceat | ui | tuŋkeŋ |

| English | rattan backpack | rattan backpack | raw | receive | red | red-leaf monkey |
|-----------|-----------------|-----------------|--------|---------|----------|-----------------|
| Kendayan | baŋkat | baŋkat | manta? | narima? | na merah | |
| Ketapang | kəbudot | bəriot | mátah | tərimo | mírah | kəlasi |
| Keninjal | təŋkalan | | mata? | nəyima? | miyah | kəlasi |
| Seberuang | | inyəŋ | mata? | təyima? | miyah | kələsey |
| Iban | uyuət | uyuət simpe? | mata? | ŋame? | mirah | jəlu mirəh |
| Mualang | tuŋkeŋ | tuŋkeŋ | manta? | | miyah | |

| English | remember | rest | return | return home | rhinoceros hornbill | rice |
|-----------|----------|------------|------------|-------------|---------------------|-------|
| Kendayan | tariŋat | istirahat | mulaŋ/ulaŋ | | eŋgaŋ | padi |
| Ketapang | iŋat | mələlonkay | bəbalek | pulaŋ | tiŋaŋ | padi |
| Keninjal | iŋat | bələpa | kəmbali | pulaŋ | buyuŋ bəlati? | padi |
| Seberuang | iŋat | bətiga? | | pulay | sayapaw | padey |
| Iban | iŋaʔt | bəsəŋəh | datay | pulay | kəŋalaŋ | padi |
| Mualang | iŋaʔt | bələpa | kəmalí: | | ŋgaŋ | padi |

| English | rice grain | ridge | right | ring | ripe | river | river bank |
|-----------|------------|--------|-------|---------|-----------------------|-------|--------------|
| Kendayan | baras | juraŋ | kanan | cincin | masak | suŋey | tabiŋ |
| Ketapang | bóras | kalam | kanán | cincem | másak/mondak (cooked) | sə | kənambiŋ |
| Keninjal | boyas | təbiŋ | kanan | cincin | mansak | suŋay | pantay |
| Seberuang | bəyaəh | təbiəŋ | kanan | cicen | matan | suŋay | dampiŋ suŋay |
| Iban | bəraw | təbiəŋ | kanan | cinciəŋ | mansaw | suŋáy | |
| Mualang | bəyas | təbeəŋ | kiba? | cinceəŋ | mudoəh | pian | təpi pian |

| English | river mouth | road | roll | roof |
|-----------|-------------|-----------|--------|--|
| Kendayan | ŋuara | maragah | ŋuluŋ | atap |
| Ketapang | həmaro | gonggaŋan | guloŋ | hatap/lapes (wood)/kalah (bamboo)/hapeŋ (leaf) |
| Keninjal | muaya | jalan | guluŋ | atap |
| Seberuang | muaya | jalay | guluŋ | atap |
| Iban | naŋa: | jalay | ŋuluəŋ | atap |
| Mualang | muayá | jalay | guloəŋ | atap |

| English | roots | rope | rotten | rough | rub | run | sago | saliva |
|-----------|-------|-------|--------|--------|----------|---------|--------|-------------------|
| Kendayan | akar | tali | busuk | kasar | ḡosok | bakuñar | sagu? | ai? jiah/ai? liur |
| Ketapang | akar | tali | buntaw | haḡkal | məḡsusok | bəkojot | sago | aray rigah |
| Keninjal | uyat | tali | buntaw | kasay | ḡoso? | bədodas | sagu? | ai? lujah |
| Seberuang | akay | taley | buntaw | kasar | bubasok | xayey | sago? | ludah |
| Iban | akar | taliḡ | buḡt | kasar | ḡusuḡ? | lari: | muluḡḡ | ae? ludah |
| Mualang | akay | tali | busoḡk | kasay | məḡsusok | bəḡuay | sagoḡ? | ai? lioy |

| English | salty | sand | sand fly | sap | sape | say | scabbard | scale |
|-----------|--------|---------|----------|-------|-------|---------------|--------------|---------|
| Kendayan | asin | pasir | agas | gatah | sape? | mataki? | saruḡ iso? | sisik |
| Ketapang | mancən | paser | kəkoḡap | ḡotah | | bəpadah | saroḡ poraḡ | sisek |
| Keninjal | masin | pasey | ḡəyutuḡ | gotah | gamus | modah | sayuḡ isaw | sisit |
| Seberuang | masin | kyəsiḡt | | ḡetah | gamus | bilanḡ [aḡ] | sayuḡ | sisikḡk |
| Iban | masiḡḡ | pasiḡr | kəriḡḡḡt | ḡetəḡ | sape? | madah | saruḡḡ duko? | sisikḡ? |
| Mualang | aseḡḡ | pasey | aḡas | ḡetah | sape? | bəpəsaw/madah | sayoḡḡ payaḡ | sisek |

| English | scar | scold | scorpion | scratch | secondary jungle | see |
|-----------|---------------|-------------|-------------|----------|------------------|--------|
| Kendayan | luka? | bəra | kayama? | məḡgaru? | | nele? |
| Ketapang | kantat | məḡḡəḡodi?i | kalo | bəkawot | rimbo | tampay |
| Keninjal | luka? | ḡəluat | kalajənkiḡ | | utan dipulah | mantaw |
| Seberuang | litan | | kala: | ḡayo? | təmawaḡ | pəda? |
| Iban | bəkaoh təliḡḡ | ḡano? | kalajənkeḡḡ | bəḡaro? | damoḡḡ | məda? |
| Mualang | luka? | di pəyah | kalá: | ḡayoḡk | babas | məda? |

| English | seed | seed rice | sell | send | seven | sew | shade |
|-----------|--------|-------------|---------|-----------|------------|----------|-------------|
| Kendayan | bibit | | maḡual | ḡirim | tujuh | ḡahit | bataduh |
| Ketapang | boneḡ | boneḡ | məḡjual | məḡḡireḡ | tujoham | məḡjohet | lindok |
| Keninjal | lapa? | biji podi | ḡual | məḡḡiyim | tujuh uti? | ḡait | olo bənayuy |
| Seberuang | bəḡiḡḡ | laka padey | juḡal | kiyim | tjuḡḡ | jayet | pətəḡa? |
| Iban | bəḡiḡḡ | kəraḡ padiḡ | ḡual | ḡiriḡḡ | tujoh ite? | ḡayet | utay linap |
| Mualang | bəḡeḡḡ | | məḡual | məḡḡiyəḡḡ | tujuh ute? | ḡayet | bəliḡoḡḡ |

| English | shadow | shallow | sharp | sharpen | shield | shin | shoot a blowpipe |
|-----------|----------|---------|-------|---------------|---------|--------------|------------------|
| Kendayan | bayaḡan | mabu? | tajam | najaman | jabaḡ | | ḡumpit |
| Ketapang | kambayaḡ | dábo? | taham | məḡansak | tameḡ | ləlanḡanḡ | məḡumpet |
| Keninjal | kəmayaḡ | nabu? | tajam | ḡansah (wett) | pəyisay | lanḡanḡ | ḡumpit |
| Seberuang | bayaḡ | kətiḡk | tajam | ansah | pəyisay | | ḡumpit |
| Iban | ayaw | pabo? | tajam | ḡansəḡ | tərabay | | ḡumpiḡt |
| Mualang | bayaḡán | daḡká:l | tajam | ḡansah | pəyisay | bətes yaḡkay | məḡumpet |

| English | short (height) | short | shoulder | shout | shrimp | shy | sick |
|-----------|----------------|--------|----------|----------|--------------------|----------|--------------|
| Kendayan | ponok | mabu? | bahu | ŋampak | oraŋ | pañupe? | doŋo?/sakit |
| Ketapang | pendek | bawah | bohu | məŋkawoŋ | hundaŋ | həhatian | bóji |
| Keninjal | panak | yonah | bahu | bətəyiak | unaŋ | kəmolu? | podih |
| Seberuang | panus | babah | bao | maŋkas | undaŋ | malow | pədiəh |
| Iban | panæ? | baroəh | bau | mañuəŋ | unay | pəmalu | sakɪət |
| Mualang | panos | kəták | bahu | bətəyiak | un ^d aŋ | pəmalú: | padeh/pədeəh |

| English | sit | six | skin | skin (v) | skink | skinny | sky |
|-----------|--------|-----------|-------------|----------|----------|---------------|--------|
| Kendayan | duduk | anam | kulit | kuliti? | | kurus | laŋit |
| Ketapang | dudok | onam | kulet | məŋansek | bəŋkaroŋ | kuros | laŋet |
| Keninjal | dudo? | ənam uti? | kulit | ŋuliti | ŋkayoŋ | | laŋit |
| Seberuang | dudoək | ənam/nam | kulit | binse? | ŋkayoŋ | xinŋaŋ/yinŋaŋ | laŋit |
| Iban | dudoə? | nam ite? | kulɪət ise? | nite? | bayæ? | | laŋɪət |
| Mualang | dudoək | ənam ute? | kuleət | ŋulet | lacaw | kuyoəs | muayí |

| English | slap | slaves | sleep | sleep walk | slice | slip |
|-----------|----------|--------|-------------------|------------|----------|----------------------|
| Kendayan | nampar | | tidur | nigow | ŋiris | tagu lincir/tasoŋkop |
| Ketapang | mənampar | hulon | idor/nindo (deep) | məŋambaŋ | mərimpos | təjəmbiləŋ |
| Keninjal | nampay | | tidu? | ñigaw | ŋiris | təpələset |
| Seberuang | tampay | kuley | tinuək | ŋigaw | tuŋkoŋ | licin |
| Iban | nampar | uloəŋ | tinuə? | ñigaw | ñirap | təliniəŋ |
| Mualang | nampá:y | | tinok | ñigaw | ŋiyəs | təkəlincey |

| English | slow | slow loris | small | smart | smell | smile | smoke (n) | smooth |
|-----------|-------------|------------|------------------|---------|-------|----------|------------|--------|
| Kendayan | lambat | kokaŋ | enek | pintar | bau | galak | asap | alus |
| Ketapang | asaw | kukaŋ | kocek | cərodek | bowu | kumən | hansap | dópak |
| Keninjal | | dayabayu | senit | | bau | tərsəñum | asap | alus |
| Seberuang | lama? | bəŋkaŋ | jəpit/mit | pintayə | bao | səñum | asap | aluəs |
| Iban | lubah [-ah] | pukaŋ [-æ] | mɪət | pintár | bau | tucuəm | asap [-ap] | aloəs |
| Mualang | lambat | kukaŋ | mɛ ^{nt} | pintáy | bau | təsəñoəm | asap | haloəs |

| English | snail | snake | snap | sneeze | snore | snot | soft |
|-----------|------------------------|---------------------------|------------|---------|---------|--------|---------|
| Kendayan | taŋkuyun | uar | matahan | barasin | ŋorok | iŋus | ece? |
| Ketapang | tokuyoŋ (river)/tuntoŋ | ular | məmukah | bərosin | bəkuroh | hinsaŋ | lombot |
| Keninjal | siput | ulay | mokeh | kasi? | ŋkoyuh | iŋus | ləmbut |
| Seberuang | kyobek (river)/kəmuay | ular [ular ^v] | patah | təkase? | bəkuyoh | insak | ləmah |
| Iban | təkuyuəŋ | ular | ŋəmatah | ŋkase? | bəkuroh | insæ? | ləme? |
| Mualang | sipoət | ulay | məmatahkan | təkase? | bəkuyoh | insak | ləmboət |

| English | son in law | song/sing | sour | speak | spicy | spider |
|-----------|------------|-----------|--------|-----------|-------------|----------------|
| Kendayan | minantu | bareñah | macum | ηomonɔŋ | pades | kaamaʔ |
| Ketapang | bənantu | moñañi | mansam | bərumonɔŋ | podeh | boŋkaŋ |
| Keninjal | nantu | ñañi | masam | ηomonɔŋ | podas | kəlawəʔ baŋkaŋ |
| Seberuang | nantou | ñañey | | biŋan | xah /rah/ | səmpawaʔ |
| Iban | mənantu | bəlagu | masam | bəjakoʔ | pədas [-as] | mɔləwəʔ |
| Mualang | mənantu | məñañi: | masám | bəcakap | bəyaŋãʔt | əmpalawaʔ |

| English | spider hunter | spit | splash | split | spotted | squeeze |
|-----------|---------------------|----------|----------|----------|------------|-------------|
| Kendayan | pipit | ηalujʔah | tasambur | | tuŋul | məmacət |
| Ketapang | konset (short beak) | moludah | pancət | mərimpaŋ | ketampayan | məmoras |
| Keninjal | buyuŋ iŋam | məlujaŋ | pancıt | molah | tutul | məyomas |
| Seberuang | kuncıt | məlucuyʔ | pəciɔk | bəlah | bəgəntaŋ | magay-magay |
| Iban | ηkərasəʔ | ηələdəh | məciɔʔ | mələh | səbuəʔ | məruəʔ |
| Mualang | pantok kuncəʔt | ηələudah | cipyat | məmblah | tutoəl | ηəyəmas |

| English | squirrel | stab | stairs | stand | star | stay; lodge | steal | sticky |
|-----------|----------|-------------|--------|----------|--------------|-------------|---------|---------|
| Kendayan | tupey | nusuk/nikam | taŋgaʔ | badiri | bintaŋ | tiŋal | paŋalit | leŋket |
| Ketapang | tupay | məncucok | taŋgo | bədərian | bintáŋ | bədiam | məŋolet | mələkat |
| Keninjal | tupay | nujok | taŋaʔ | bədiyi | bintaŋ | notap | ŋolet | likat |
| Seberuang | tupay | tusuək | taŋsaʔ | diyəy | bintaŋ | dudey | cayəy | kəyap |
| Iban | tupay | nusuoʔ | taŋaʔ | bədiri | bintaŋ [-aŋ] | tiŋal | ncuri | ləkat |
| Mualang | tupay | mənusuoək | taŋsaʔ | bədiyi | piandaw | tiŋál | ncuyi | likat |

| English | stomach | stone | stop | storm | story | straight | stranger |
|-----------|---------|-------|----------|-------------|--------|----------|-----------------------------|
| Kendayan | parut | batu | baranti | badey | curita | bujur | bukeʔ sae-sae/bukeʔ kamaruʔ |
| Ketapang | parot | bátu | bəhonti | goron kilat | saŋan | bujor | tampon juah |
| Keninjal | poŋot | batu | siŋah | ujan lobat | gesah | bujo | sidaʔ lain |
| Seberuang | pəyut | batow | siŋah | | | luyoəh | uŋaŋ jauh |
| Iban | pəruəʔ | batou | ŋəto | kudəʔ | cərita | luruəs | uraŋ lain |
| Mualang | pəyot | batu | bəyənti: | | | luɔos | təmuay |

| English | striped | strong | strong emotion | stump | stupid | sugar cane | sun hat |
|-----------|----------|--------|----------------|---------|--------|------------|-----------|
| Kendayan | garis | koat | | tuŋul | bodoh | tabu | tarinak |
| Ketapang | bələjor | kopaŋ | golakño | tuŋgol | balan | tobu | taŋgol |
| Keninjal | bəgayis | kuat | sawan | tuŋol | | tobu | topi ŋañi |
| Seberuang | gayis | kuat | xawaŋ /rawaŋ/ | tuŋgoəl | budow | təbow | taŋsoy |
| Iban | bəgariəs | kəriŋ | rawan atı | tuŋoəl | budu | təbou | taŋii |
| Mualang | bəgayəs | kuat | saban | tuŋsoəl | budu | təbu | taŋgoy |

| English | sunrise | sunset | supernatural storm | surprised |
|-----------|---------------------------|-------------------------------|--------------------|-------------|
| Kendayan | olam ari/mata ari tarabit | mata ari tiŋala ^{pm} | | takajut |
| Ketapang | buŋkar siaŋ | mato ari garak | kəpahalo? | təŋkojatan |
| Keninjal | mata ayi timol | mata ayi təŋolam | ayi lobo | pamay dayah |
| Seberuang | mata ayey tumbuh | mata ayey təŋəlam | ləboəy | təkəjuət |
| Iban | tumu pagi | ləmay ari | | təkəñiət |
| Mualang | mata ayi təybet | mata ayi təbənam | baday | təkəjoət |

| English | swallow | swamp | sweat | sweep | sweet | sweet potato | swim | swollen |
|-----------|---------|-------|-----------|--------|--------|--------------|---------|---------|
| Kendayan | nalan | rawa | bakarŋat | mañapu | mansɛ? | kaladi | baranaŋ | baŋkak |
| Ketapang | məlonan | paya? | bəkəriŋat | məñapu | manɛs | birah | bənonaŋ | mambar |
| Keninjal | nolan | yawa | bəpoluh | nopas | manis | kəladi | bəyonaŋ | malulok |
| Seberuang | təlan | paya? | pələoħ | ñapow | manis | lumo? | bəyənəŋ | |
| Iban | nəlan | paya? | bəpələoħ | ñapou | manih | suboəŋ | ñəmərəy | kəmay |
| Mualang | nəlá:n | yawá: | bəpələoħ | təpaw | manɛs | kəladi | kʏənaŋ | bəŋka? |

| English | table | tail | take | tall | tamp earth | tasteless | tattoo | tear |
|-----------|-------|-------|-----------------------|---------------------|-------------|--------------|--------|-----------------|
| Kendayan | meja | eko? | na?ap | tiŋi | ŋarasan | | tato? | ŋarobek/ŋarojek |
| Ketapang | mijo | ikor | mo?utek | tiŋgi | mənokal | cəbəyoso | tato | məŋyuya? |
| Keninjal | meja | ikuŋ | ŋami? | tiŋi? | məmadatakan | ne?esi? iŋam | tato? | məñubit |
| Seberuang | mija | iko? | ŋam ^b e? | tiŋ ^s e? | padat | tabay | tato | yidaŋ |
| Iban | mija | iko? | ŋame? | tiŋe? | ŋəmisiət | tabár | pantəŋ | ñaréə? |
| Mualang | mija | ikoə? | məŋam ^b e? | tiŋ ^s e? | di padat | hambá:y | tato | di binsak |

| English | tell | temple | ten | termite | that, far | that, near |
|-----------|--------------------------|---------|--------------|-----------|-----------|------------|
| Kendayan | bacurita | pəlipis | səpuluh | rayap | naŋ naun | naŋ koa |
| Ketapang | bəkisah (story)/ bəsaŋan | | səpuloh | anay-anay | nun | nan |
| Keninjal | bəgesah | konin | səpuluh uti? | iyun | nun | tu? |
| Seberuang | cəyita | | səpuluh | | ia? | in |
| Iban | madah | | səpuloh ite? | sampoə? | ñən | ña? |
| Mualang | bəgisah/məjisah | pəlipis | səpuloh ute? | sampoək | | itu |

| English | there, far | there, near | they | thick | thigh | thin | think |
|-----------|------------|-------------|--------|--------|-----------|---------|------------|
| Kendayan | ka? naun | ka? dikoa | mereka | tabal | paha? | tipis | mikir |
| Ketapang | di? isun | di? isan | siyǎ? | tóbal | poho rayo | lipɛs | bəhəŋhonaŋ |
| Keninjal | di nun | dia? | sida? | tobal | paha? | tipis | bəpikeɣ |
| Seberuang | dia? | din | sida? | təbal | pa: | tipis | mikiəy |
| Iban | diən | dia? | sida? | təbal | pə:h | mipirəħ | bəpikeəɾ |
| Mualang | di a? | di deən | sida? | təbá:l | pa: | tipes | bəpikeɣ |

| English | thirsty | thirty | this | thorn | thousand | three |
|-----------|------------------|-----------------|--------------------|---------------------|-------------|-----------|
| Kendayan | aus | taluh puluh | niiian | duri | saribu | taluh |
| Ketapang | koreŋ anak lidah | tigo puloh | oyen (in hand)/nen | duri | saribu | tígo |
| Keninjal | | tiga puluh uti? | ini | duy ^{wi} ? | səyibu uti? | tiga uti? |
| Seberuang | aus | tiga puluh | to? | duye? | səribu | tigá |
| Iban | aos | tiga puloh ite? | to? | durɛ? | səribu ite? | tiga ite? |
| Mualang | haos | | ini | duye? | səyibu | tiga ute? |

| English | throw | thunder | tickle | tie | tight | tired | to clean |
|-----------|------------|---------|---------------|---------|--------|--------|-----------|
| Kendayan | nabakan | ate? | ŋaletek | ŋikat | ganten | latih | |
| Ketapang | məŋgalahan | guroh | məŋkələkiteki | məŋobat | torek | | mə?asəri |
| Keninjal | | guntoyə | gəgədi? | məŋikat | kotat | lopa | məyosəh |
| Seberuang | nikam | guntoyə | gələgəde? | kəbat | səmpit | lətiəh | |
| Iban | nuko? | guntor | niciə? | nancaŋ | snat | lələ? | ŋəməsəh |
| Mualang | mənikam | guntoyə | ŋəlicək | tamet | tətát | lələ? | məmbəysəh |

| English | to dry | to fish | to lean | to lie | to sting | to taste |
|-----------|-----------|---------|-----------------|------------|----------|------------|
| Kendayan | maŋali?i? | manciŋ | ñadaran | paŋalok | baŋaŋet | ŋarasa |
| Ketapang | mənuhosan | məŋoyel | məñantoyan | kətumboŋan | məmanah | moyoso?i |
| Keninjal | mayanŋkay | ŋail | | pəmula? | məñonŋat | ñicip |
| Seberuang | | ŋayit | lean | bula? | siŋat | ŋasay |
| Iban | | ñinte? | ñaneəh/ŋəraŋkay | bula? | ŋampuə | ñepe? |
| Mualang | ŋəyanŋkay | ŋayal | bəsanay | bula? | səŋãt | ciceəp/asa |

| English | to whistle | to wrap | toad | today | tomorrow | tongue |
|-----------|------------|------------|------------------------|-----------|----------|---------------|
| Kendayan | basiul | munŋkus | | ari inian | ampagi | jiah |
| Ketapang | bəsiol | məmbunŋkos | bəkatak raŋkoŋ/bərowot | ari oyen | kolamnun | lidah |
| Keninjal | konsuŋ | məmbunŋkus | kodok | ayi tu? | obu? | lidah |
| Seberuang | ŋəsũəŋ | bunŋkuəs | yaonŋ | ayey to? | pagey | |
| Iban | ŋənsuəŋ | ŋələkuəŋ | reriga [-a] | ari to? | pəgi la? | lidəh |
| Mualang | bəsiəŋ | məmunŋkoəs | yawónŋ | ayi toə? | ayi pagi | lidáh [lidəh] |

| English | tooth | touch | tourtise | trap | tree |
|-----------|-------|-----------|----------------|-------------------------------------|-----------|
| Kendayan | gigi | ñantuh | kura?-kura? | paraŋkap | |
| Ketapang | gigi | məŋgoyes | buyuku | pəkaraŋan/pələbaŋ (covered hole) | bənuah |
| Keninjal | gigi | ñopot | | raway (fish line)/jabak (fish trap) | kayu |
| Seberuang | gigey | məgay | baniŋ | bubu (bamboo fish trap) | puəŋ |
| Iban | ŋələ? | nəgo:? | kəkura? baniəŋ | tĩña? | puəŋ |
| Mualang | gigi | məñəntoəh | kəkuya? | tapan | pon/kayú: |

| English | true/correct | try | turn | turn (around) | turn (over) | turtle |
|-----------|-------------------|------|---------------|---------------|-------------|---------------------|
| Kendayan | banar | coba | babelok | | | |
| Ketapang | bónar | ubo | bəbilok | bəputar | məmbalik | kəkuro/ləlabi (sft) |
| Keninjal | kona? | ñuba | melok | məmutay | molet | ləlabi |
| Seberuang | bənay | | biləḡk/biluḡk | bəputay | baliḡk | ləlabey (sft) |
| Iban | amat | ḡuji | bəbiləḡ? | bəpusiḡn | təbaləḡ? | kəkura? tamirət |
| Mualang | amā ^{nt} | cuba | biləḡk | | | kəkuyə? |

| English | two | under | understand | unmarried | unripe | tart |
|-----------|----------|------------|------------|--------------------------|--------|--------|
| Kendayan | dua | ka? babah | ḡarati | bujay | manta? | kalat |
| Ketapang | dúo | di bawah | məḡəroti | bujay (man) dáro (woman) | mátah | kolap |
| Keninjal | dua uti? | di bawah | məḡərti | puna nikah | mata? | kolat |
| Seberuang | duá | kə babah | paham | bujay | mata? | kəlak |
| Iban | dua itə? | ba? barəḡh | ḡərtiḡ | bujay dara | mata? | məḡkal |
| Mualang | dua ute? | di bayoh | məḡəyḡti | bəḡow gaway | manta? | səpat |

| English | upriver | urinate | urine | uvula | valley | vein | village |
|-----------|------------------|---------|-----------|------------|---------|------|---------|
| Kendayan | hulu/mudik | kameh | | anak jiah | rawa | urat | kamponḡ |
| Ketapang | hulu/mudək (go) | kunseḡ | kansaḡ | anak lidah | halaman | urat | həlamən |
| Keninjal | ulu/mudit (go) | kəmiḡ | ai? kəmiḡ | butu yokuḡ | omaḡ | uyat | kamponḡ |
| Seberuang | ulow/mudiḡk (go) | kəmi? | ai? kəmi? | | | uyat | kampoḡḡ |
| Iban | | kəmə? | ai? kəmə? | anə? təkə? | təbiaḡ | urat | |
| Mualang | ulú:/mudeḡk (go) | kəməh | ai? kəməh | anak lidáh | ləmbah | uyat | kampoḡḡ |

| English | vine | visitor | voice | vomit | waist | wait |
|-----------|-----------|----------------|-------|---------|---------------------|------------|
| Kendayan | | pəndatarḡ/tamu | suara | taputah | piḡay | nuḡu |
| Ketapang | akar | uraḡ bəkaḡjal | iḡar | mútah | ilam | tanti |
| Keninjal | akay | tamu | iḡan | muntah | piḡay | nuḡu? |
| Seberuang | kawa | tamu | iḡan | təmutah | puḡḡoḡ | nuḡo?/ñuba |
| Iban | | uraḡ | ñawa? | mutəh | piḡay [-aḡ] | nuḡo? |
| Mualang | ubi jalay | tamu | ḡoḡ? | muntáh | piḡ ^s áḡ | |

| English | wake up | walk | wall | want | wash clothes | water | waterfall |
|-----------|-------------------------|---------|----------------------|--------|----------------|-------|-------------|
| Kendayan | dohani | bajalan | dindiḡ | mao? | ñasah | ai? | ai? tarajun |
| Ketapang | təkojat/baḡket (get up) | bəjalan | díndənḡ | hondak | bətopas (beat) | aray | sílejan |
| Keninjal | uas | pəjalan | diniḡ | onak | bəpompok | ai? | ai? toḡjun |
| Seberuang | uas | bəjalay | din ^d iḡḡ | ka? | bəbasok | ae? | ae? tuja: |
| Iban | daniḡ | bəjalay | | ka? | bəbaso? | ae? | |
| Mualang | dani: | bəjalay | din ^d eḡḡ | ka? | cuce: | ai? | ai? təyḡḡ |

| English | we pl exc | we pl incl | weak | weave | western tarsier | wet | what |
|-----------|-----------|-------------|-------|---------|-----------------|--------|------|
| Kendayan | kami | kita?/diri? | lamah | ŋaŋam | kokan | basa? | ahe? |
| Ketapang | kəkoyi | kitow | hayu | məŋayam | koro məliŋo | bansah | ŋapo |
| Keninjal | kami? | kita | lomah | məŋaŋam | | basa? | apay |
| Seberuang | kamí | kitay | ləmah | aŋam | | basah | nama |
| Iban | kami | kitay | ləmɛ? | ŋaŋam | | basəh | nama |
| Mualang | kami | kita? | ləmáh | məŋaŋam | iŋkay | basáh | apa |

| English | when | where | which | whirlpool | white | whittle | who |
|-----------|----------------|----------|-----------|-------------|-----------|----------|-------|
| Kendayan | kamue?/kamile? | ka? may | nan may | ai? baputar | nan putih | | sae |
| Ketapang | həmbilo | di mono | an mono | ulak | puteh | rowot | siopo |
| Keninjal | sibilay | di monay | yaŋ monay | ual | putih | ɣaut | sopay |
| Seberuang | sibila | dini | yaŋ ni | pusay ae? | putiɔh | lungga? | sapa |
| Iban | kəmaya | dini | ya kəni | | buræ? | ŋərawoɔt | sapa |
| Mualang | kəmaya | di ni | tə ni | pusay ai? | puteɔh | ɣaot | siapa |

| English | why | wide | wife | wind | wing | wipe | with | woman |
|-----------|----------|-------|---------------|------------|-------|---------|-------|----------|
| Kendayan | ŋahe | lebar | bini | aŋin | sayap | ŋapɛl | dəŋan | nan bini |
| Ketapang | ilo bapo | libar | bini | aŋin | sayap | mə?apus | uan | inda |
| Keninjal | kənapa | libay | bəntina?/bini | aŋin | sayap | məŋəlap | dəŋan | bətina? |
| Seberuang | ŋapa | bəsay | minɪ | aŋin/ɣibut | sayap | məŋəlap | ŋaw | indo? |
| Iban | lapa | bəsay | biniɪ | riboɔt | sayap | ŋəlap | ŋaw | inó:? |
| Mualang | ŋapa | libáy | istyɪ | kudɛ? | sayap | məŋəlap | ŋaw | dɛ? |

| English | wood pecker | word | worm | worried | wring |
|-----------|---------------|-------------------------|------------|------------|---------|
| Kendayan | buruŋ pamatok | kata | oat | worried | maras |
| Ketapang | kətara? | kato/bərumoŋ (language) | hulat | gəŋgolakan | məməyah |
| Keninjal | buyuŋ pəlatok | kata | ulat | kuatiɣ | moyas |
| Seberuang | bəlatok | | ulat | kwatiɔɣ | pəɣas |
| Iban | blatoɔ? | jako? | ulat [-at] | | mulas |
| Mualang | balatok | kata/bahasá (lang) | ulat | kuateɣ | məməɣas |

| English | yam | yawn | year | yellow | yellow black snake | yesterday |
|-----------|-----------------------------|------|--------|-----------|--------------------|-----------|
| Kendayan | ubi | ŋoap | tahun | nan kuniŋ | | tumare? |
| Ketapang | sətilo | uap | tohon | kuneŋ | kəmbəliəŋ | həmalam |
| Keninjal | boah ubi | ŋuap | tahun | kunin | ulay ntawaŋ | kəməyi? |
| Seberuang | kɣibəŋ (white)/kanto? (red) | | tahuəŋ | kunin | kəŋkan mas | kəməye? |
| Iban | putiɔŋ | ŋuap | tawən | kuniɔŋ | ular tətə? təbəɣ | kəməre? |
| Mualang | kətilá: | ŋuap | taoən | kuneɔŋ | təŋkan mas | ayi tulat |

| English | you | you pl | young | younger siblings | yours |
|----------------|------------------------|---------------|--------------|-------------------------|-------------------|
| Kendayan | kau | kalian | muda | adi? | nu? kũ? |
| Ketapang | kolay/pañan (familiar) | kayen | muda? | adi | ompon kolay |
| Keninjal | ikau | kɪn | muda? | ade? | əmpu? kaw |
| Seberuang | kao | kita? | muda? | məñade? | əmpu kao |
| Iban | dɛ? | kita? | biæ? | məñade? | mpu de? |
| Mualang | dɛ? (f)/meh (m) | səluá | biak | | əmpu meh/əmpu deh |

APPENDIX 8

BASAP

| English | Basap (Lebo) |
|----------------|----------------|
| abandon | nuada? |
| above | si amo |
| adam's apple | gəroŋ |
| adopted | sawi? simpo? |
| aflame | tutuŋan |
| afraid | takut |
| after | ŋəma? |
| afternoon | tiliŋ |
| alive | bəlum |
| all | juna? di |
| alone | ñani?an |
| already | loŋ |
| ancestors | sawi? simpo? |
| angry | baut |
| animal | kənuat |
| annoyed | muruŋ |
| ant | bətitik |
| argus pheasant | kuma/totoh |
| arm | ləŋən |
| arm (lower) | oro |
| armpit | keke? |
| arrive | təbak |
| ash | abu |
| ask | ŋəntañi |
| aunt | səmena |
| baby | lu?u |
| baby carrier | amən |
| back | tərutup (bone) |
| bad | ja?at |
| bait | məmpan |
| bald | gundul (L) |
| bamboo | bulo? |
| banana | punti |
| banyan | nunuk |
| bark | jomo? |
| barking deer | kojat |
| bathe | nio? |

| | |
|------------------|--------------|
| bear | bəruaŋ |
| beautiful | puri/gərece? |
| because | koneka? |
| bee | wañi |
| before | so ani |
| begin | məmula?an |
| behind | si bərokot |
| believe | pərcaya (L) |
| bent | keloŋ |
| betel nut | kərat |
| between | di səla |
| big | məŋən |
| binturong | kawitan |
| bird | pəmpulu |
| bite | ŋəttop |
| bitter | pait |
| black | metəm |
| bladder | pətete?an |
| blink | kədipkədip |
| blood | dara? |
| blow nose | ŋecos ekən |
| blow, as wind | epəran |
| blow, with mouth | məran |
| blowpipe | səputan |
| blue | biru (L) |
| boar | babuy |
| body | ikur |
| body hair | bulu |
| bone | tulaŋ |
| bracelette | taməŋ |
| brain | otək |
| branch | cakaŋ |
| brave | bərañi |
| breast | susu? |
| breast feed | mənsusu? |
| breathe | ŋələŋasən |
| burn | nutuŋ |
| burp | ŋərdak |

| | |
|------------------------|---------------|
| burry | nəmaʔ |
| bushy crested hornbill | rəʁəweʔ |
| butterfly | kupu-kupu (L) |
| buy | məli |
| calf | bətis |
| call | məŋkok |
| canoe | gubaŋ/alun |
| capsize | ləntəm/karəm |
| careful | pia-pia |
| carry on back | namin |
| carry on shoulder | ŋuʔun |
| carry under arm | nəŋkikik |
| carry with handle | niŋit/memeŋ |
| cast | naliŋan |
| catch as a ball | nuluŋ |
| catch, as an animal | məjipah |
| cave | liaŋ |
| centipede | lipan |
| cheek | pipi (L) |
| chest | rusuk |
| chew | mapaʔ |
| chicken | manuk |
| chief | pəmbakal |
| child | anak/domaŋ |
| chin | jaŋur |
| choke | səsenək |
| choose | mileʔ |
| chop as meat | nətək |
| cicada | kərəketeŋ |
| cigarette | ŋudut |
| circular earring | kəriul |
| clean | bərse |
| climb | manik |
| cockroach | lepəs |
| coconut | niur |
| coffin | luŋun |
| cold | lancit |
| collapse | rəbaʔ |
| come | tədak |
| cook | napu |
| cooked rice | boboʔ |

| | |
|--------------------|---------------|
| coucal | bubut |
| cough | ŋocolan |
| count | mərekən |
| cousin | siabiʔ/siabeʔ |
| cow | sapi (L) |
| crab | puraʔ |
| crack | bətaʔ |
| crazy insane | gila |
| cricket | rerek |
| crocodile | buaya |
| crush | mərəmuk/rimuk |
| cry | naŋis |
| cup | tobaŋ |
| dance | tari (L)? |
| dark | litih |
| dart | sahat/bəlat |
| daughter in law | mərsawa |
| day | ano |
| day after tomorrow | pənilo di |
| deaf | baŋal |
| death | kəpatean |
| deep | tərəm |
| derris root | tuba |
| diarrhea | gəliŋən taiʔ |
| die | mate |
| difficult | bəsakit |
| dig | ŋali |
| dirty | kiciʔ |
| divide | e magi |
| divorce/separate | tuadan |
| dizzy | pəniŋ |
| dog | asu/guyuʔ |
| dom. Pig | ayam |
| door | bələbayan |
| downriver | bibaʔ |
| dragonfly | bulus-bulus |
| dream | mənupi |
| drink | minsəp |
| drop | e nurak |
| drown | mələntəm |
| drum | tubuŋ |

| | |
|---------------|-----------|
| drunk | mabuk |
| dry | riᅇkay |
| dull | tompol |
| durian | durian |
| dust | debu |
| dusty | kədəbu |
| eagle | bunia? |
| ear | teləᅇ |
| early | səlua? |
| earthworm | sərok |
| easy | mudah |
| eat | kuman |
| edge | piᅇgir |
| egg | bunaᅇ |
| egret | pontean |
| eight | kaləᅇ |
| elbow | siku |
| empty | kosəᅇ |
| enter | ᅇneləm |
| estuary | məᅇjana |
| evening | tiliᅇ |
| excrement | tai? |
| eye | mata |
| eye brow | bulu kəᅇᅇ |
| face | mua |
| faint | kəto? |
| fall | murak |
| false | sala? |
| far | rəjo? |
| fast | cəpat (L) |
| fat (n) | məᅇᅇak |
| father | tama? |
| father in law | mərtua |
| fathom | dəpa |
| fell | nəbəᅇ |
| fern | pəca paku |
| fever | diadi |
| few | kotlik |
| field hut | kopo |
| fill | ᅇᅇuaᅇ |
| fin | dabi |

| | |
|------------------|------------|
| find | ᅇule? |
| finish | ᅇəma? |
| fire | apuy |
| firefly | təntulun |
| fireplace | rapen |
| firewood | kayu apuy |
| firewood storage | para |
| fish | ikan |
| fishing net | pukat |
| five | lima |
| fix | məmia |
| flat | datar |
| flesh | dagiᅇ (L) |
| float | lantak |
| flood | suruh |
| floor | dasar |
| fly | təᅇmiliᅇ |
| flying lemur | kubuᅇ |
| fontanelle | boən-boən |
| food | ᅇkanaan |
| foot | tonaᅇ |
| forget | tələpa?an |
| four | mpat |
| friend | kawan |
| frighten | məntakutan |
| frog | sai |
| from | ntan |
| fruit | bua? |
| fry | ᅇᅇaᅇa |
| full | pəno? |
| full, of food | bəsor |
| gall | pədu |
| gecko | mərua? |
| ghost | bebe? |
| gibbon | kələbət |
| gills | saᅇ |
| ginger | lia |
| give | nojok |
| give birth | ᅇanak |
| go | nuan |
| goiter | gondok (L) |

| | |
|-------------------|-------------|
| gong | təbuan |
| good | pia |
| granary | lolon |
| grandchild | nsu/simpo? |
| grandfather | boyo? |
| grandmother | boyo? |
| grass | udu |
| grave | luŋun |
| greedy | lawan |
| green | hijaw (L) |
| grow, as a plant | numo? |
| hair whirl | nanan |
| half | səteŋah (L) |
| handspan | rəka |
| hang | bəgenton |
| happy | sənaŋ (L) |
| hard | kəjo? |
| harvest | nanəm/panen |
| have | ayo? |
| he/she | idi |
| head | təkuru? |
| head hair | bulu |
| headhunting | ŋayaw |
| heart | puso? |
| heavy | bərat |
| heel | tomet/punil |
| helmeted hornbill | tukun |
| help | nolon |
| here | ne? kma |
| heron | co:? |
| hiccup | sənu?an |
| hide oneself | ñurukan |
| hill | bukit |
| his/hers | əmpo? di |
| hoarse | paraw (L) |
| hold | ñəbit |
| hole | luban |
| hook | kawit |
| horn | tanuk |
| hot | panas |
| house | ləbo? |

| | |
|-----------------|--------------|
| house post | ñiri |
| how | unika? |
| how many | kuda? |
| hundred | sətatus |
| hungry | lau |
| hunt with a dog | ŋasu |
| husband | bana |
| husk | səkəm |
| I | aku |
| if | kalaw |
| index finger | tuño? |
| insult | ŋəlīt |
| intestines | liŋkəran |
| ironwood | təbuke?an |
| island | pulaw |
| itchy | ñərit |
| jealous | ŋalan |
| jump | məsot |
| kick | ñipak |
| kill | məmbuno? |
| kingfisher | bəkaka? |
| kiss | ñəmu? |
| knee | aləm |
| knife | rocoŋ |
| land | tane? |
| large fly | təmakəŋ |
| last | sədian |
| laugh | nətawa |
| lazy | boyon |
| leaf | daon |
| leak | bubus |
| learn | bələjar (L) |
| leave | rəmus |
| leech | ləmatək/jəlo |
| left | kəriwi |
| leg | tonaŋ |
| lend | ñua? |
| leopard | ŋuyor |
| lie down | tide? |
| lift, carry | nabaŋ |
| light weight | rean |

| | |
|---------------|--------------|
| light/bright | təraŋ |
| lightening | kilap |
| like | gawah |
| lime | kapur |
| lips | bibir |
| listen, hear | ŋəndeŋər (L) |
| liver | ate |
| lizard | mənawis |
| log | pun kayu |
| loincloth | bilat |
| lonely | kəsioʔan |
| long | boan |
| loose | səlor |
| loud | koga |
| louse | kutu |
| lowland plain | dataran |
| make | ŋaday |
| man | ləlaki |
| mantis | badaʔ rəŋa |
| many | bega/məŋən |
| mat | jaleʔ |
| measles | kuduʔ |
| measure | məmukur |
| meet | bətəmu (L) |
| middle finger | baŋkay |
| millipede | təduŋ kokon |
| mine | əmpoʔ ku |
| mix | məʔok |
| monitor | məruaʔ |
| moon | bulan |
| morning | subaʔ |
| mosquito | ŋamok/yonjon |
| moss | lumut |
| mother | sinaʔ |
| mother in law | mərtua |
| mountain | dulun |
| mouse deer | pəlanuk |
| mouth | babaʔ |
| mud | bəcat |
| mushroom | kulat |
| must | ōāʔ |

| | |
|---------------------|-----------------|
| mute | bisu |
| myna | tioŋ |
| naked | bulor-bulor |
| name | ŋadan |
| nape | topək |
| navel | posən |
| near | daniʔ |
| neck | boŋkon |
| necklace | konkon |
| nervous | latah |
| nest | salar |
| new | baru |
| next to | sireʔ |
| niece; nephew | siman |
| night | maləm |
| nine | pəʔən |
| nose | uduŋ |
| now | konekoi |
| old (people) | tua |
| old (things) | ləbiʔ |
| older siblings | siŋay |
| one | ŋa |
| onion | bawan |
| only | haŋa (L) |
| open | muka(?) |
| or | ataw |
| orangutan | kəriu |
| otter | dəŋən |
| painful | gəlin |
| palate | alak-alak |
| palm | palan |
| pangolin | arəm |
| papaya | məraŋkiʔ |
| paradise tree snake | bəteran |
| parang | pompon/raut |
| parang handle | saruŋ |
| peel fruit | ŋacak |
| person | ulun |
| pig tailed macaque | bəduk |
| pigmy squirrel | bukiʔ |
| pile | dokoʔan/timunan |

| | |
|---------------------|--------------|
| pimple | manta? bobo |
| pinch | ηətəl |
| pineapple | bəkaka? |
| pinky | kinis |
| pit viper | təduŋ daun |
| plate | piŋan |
| pluck | mobot |
| point | nuñok |
| porcupine | tərtuŋ |
| pregnant | bunaŋan |
| primary jungle | rima? |
| print | lana? tonan |
| proboscis monkey | bəkara? |
| pull | e ηətiŋ |
| punch | ñagul |
| pus | danor |
| push | nujuk |
| python | pəŋaʔan |
| quiet | məñit |
| rafter | kasaw |
| rain | hujan (L) |
| rainbow | məraca |
| rapids | tərəm |
| rat | bəlabo |
| rattan | we |
| rattan backpack | anjat |
| rattan backpack | dondoy |
| rattan backpack | keba? |
| rattan backpack | ləmutan iñat |
| raw | manta? |
| receive | nərima |
| red | maran |
| red fire ant | məregon |
| red-leaf monkey | kəlası |
| remember | miŋət |
| rest | məlu(h) |
| return | lukut |
| return home | pule? |
| rhinoceros | badak (L) |
| rhinoceros beetle | suon |
| rhinoceros hornbill | mənəŋan |

| | |
|------------------|-----------------|
| rice | pade |
| rice grain | bəras |
| ridge | eran |
| right | kawanan |
| ring | cincin (L) |
| ripe | ηsak |
| river bank | təmbiŋan suŋe |
| road | jalan |
| roast | nutuŋ |
| roll | ηuluŋ |
| roof | sapo |
| roots | wakat |
| rope | tali |
| rotten as meat | bonto? |
| rub | ηsak |
| run | dəmarin/dəmariu |
| sad | sədih (L) |
| sago flower | buluŋ |
| saliva | ebər |
| salty | asin (L) |
| sand | kərsik |
| sand fly | sisil |
| sap | pulut |
| say | ηəncaran |
| scar | kəlabo? |
| scold | məmaran |
| scorpion | tawar sina? |
| scratch | ηukut |
| seed | biŋit |
| seed rice | bine? |
| sell | ñual |
| send | məkirim |
| seven | tujo? |
| sew | ñait |
| shade | ñaraw |
| shadow | liŋe |
| shallow | dəmu |
| sharp | tekər |
| sharpen | metekər |
| shoot a blowpipe | ñəput |
| short | di baʔan |

| | |
|-------------------|----------------|
| shoulder | bara |
| shout | ŋəsiao? |
| shrimp | udaŋ |
| shy | amaŋan |
| sick | gəlin |
| sit by fire | nadan |
| six | nam |
| skin | aliŋ |
| skin an animal | ñacak |
| skink | məntaliŋ |
| skinny | rasa? |
| sky | laŋit |
| slap | mopok/nəmpelen |
| sleep | mədəm |
| sleep talk | ruŋawan |
| sleep walk | ruŋawan |
| slice | ñayat |
| slip | mələñer |
| slow | ləmet |
| slow loris | kukaŋ |
| small | koloy |
| smart | pintar (L) |
| smell, noun | bau? |
| snail | bəkecot/kəse? |
| snake | təduŋ |
| snap | e monoŋ |
| sneeze | bañan |
| snore | ŋorok |
| snot | ekən |
| soft | ləmu/ləmmu |
| song/sing | tiwa? |
| sour | mənsəm |
| speak | kərəŋət |
| spicy | pədas (L) |
| spider | gotiŋ/təmaman |
| spider hunter | sisit |
| spit | liur |
| splash | kəpətikan |
| split | məta? |
| spotted | pacək |
| spotted cat snake | gumpak |

| | |
|---------------|--------------------|
| squeeze | e keməs |
| squirrel | tabu |
| stab | lacuk |
| stairs/ladder | tukan |
| stand | məñiri (L) |
| stay; lodge | tatak |
| steal | məmuru |
| sticky | mərekət |
| stomach | bətuka |
| stone | batu |
| stop | ŋənəl |
| story | bəkesa? |
| straight | tunaŋ |
| striped | kəbəlaŋ |
| strong | kuat (L) |
| stump | tunul (L) |
| stupid | pali |
| sugar cane | nisen |
| sun hat | sərauŋ |
| sunrise | nəpətən ano ləntəm |
| sunset | nəpətən ano səmot |
| surprised | təkəjot |
| swallow | e tələn/nələn |
| sweat | ŋəsəŋan |
| sweep | məna |
| sweet | rəmis |
| swim | dəmaŋoy |
| swollen | məntuŋ |
| take | naga |
| tamp earth | məmadat |
| tasteless | hambar (L) |
| tear | micak |
| tell | tənarən |
| ten | səpuluh |
| termite | ane |
| that, near | aso? |
| there, far | tun koe |
| there, near | yo? koe |
| they | dəkayo? |
| thick | təbal |
| thigh | pa?a |

| | |
|-----------------|-------------|
| thin | kəber |
| think | mikir (L) |
| thirsty | kəroan |
| thorn | duri |
| thousand | səribu |
| three | təlu |
| throw | naliŋan |
| thumb | sinaʔ |
| thunder | mərua |
| tickle | ŋecək |
| tie | nekət |
| tight | kətət |
| tired | mangah |
| to clean | mərse |
| to dry | ŋənsiroʔ |
| to fish | məruit |
| to lean | ñaner |
| to lie | poŋar |
| to spear | taratan |
| to sting | ñərən |
| to taste | siaŋ-siaŋ |
| to wrap | məntum |
| toad | goŋoŋ |
| today | ano ini |
| tomorrow | dilo |
| tongue | jəlaʔ |
| tooth | ñepəna |
| tortoise | baniŋ |
| touch | ŋali |
| traditional law | adat |
| tree | kayu |
| tree shrew | raŋ |
| tributary | aloran suŋe |
| true/correct | tuʔu |
| try | ñoba |
| turn | belok/palin |
| turtle | kədabəŋ |
| twig; stick | toŋkət |
| two | dua |
| ugly | jaʔat |
| uncle | səmama |

| | |
|-----------------|------------|
| under | si dibaʔ |
| understand | ŋərti (L) |
| unripe and dry | kəlat |
| upriver | pəmaŋ |
| urinate | nenteʔ |
| urine | tenteʔ |
| uvula | təŋkolaʔan |
| valley | kərimbaŋ |
| vein | orat |
| vine | wakar |
| voice | oga |
| vomit | nutaʔ |
| waist | karaŋ |
| wait | mintar |
| wake up | buat |
| walk | pano |
| wall | diniŋ |
| want | mat |
| wash clothes | ñampoʔ |
| water | danum |
| waterfall | mənarasan |
| we pl ex | kami |
| we pl in | itaʔ |
| weak | pəloyoh |
| weave | mañam |
| western tarsier | pañanŋ |
| wet | bisaʔ |
| what | inon/inun |
| when | kudaʔ di |
| where | sima |
| whirlpool | ulaʔ |
| white | puteʔ |
| who | nseʔ |
| why | ŋune |
| wide | luar |
| wife | bea |
| wind | pəteʔ |
| wing | kapək |
| wipe | məlap |
| with | mpaʔ |
| woman | bəbea |

| | |
|-------------------|----------------|
| worm | olən |
| wreathed hornbill | muntuy/muntui? |
| wring | mərət |
| wrist | dəndaŋuan |
| yam | ubi kayu |
| yawn | ŋəroam |
| year | taun |

| | |
|-------------------------|-------------|
| yellow ringed cat snake | tɯŋkaru? |
| yesterday | səmaləm |
| you | iko? |
| young | muda? |
| younger siblings | sini? |
| youngest | paliŋ muda? |
| yours | əmpo? nu |

APPENDIX 9

BULUSU

| English | Bulusu |
|----------------|-----------------------|
| abandon | ŋidu? |
| above | da? sawa? |
| adam's apple | təlaguk |
| adopt | anak buñuyag |
| adult | bulok |
| aflame | sorob |
| afraid | ala? |
| after | sənaiyuno |
| afternoon | imai? |
| age | umur |
| agree | sətuju |
| alive | uyag |
| all | suaŋ |
| alone | orop |
| already | poŋo |
| also | poh |
| ancestors | yaki adu? may |
| angry | siog |
| animal | rura? |
| ankle | bəntiŋol |
| answer | jawab/janawapmu (you) |
| ant | kilaw |
| argue | ləpak guaŋ |
| argus pheasant | tuwow |
| arm | loŋon |
| arm (lower) | loŋon |
| armpit | pəlikok |
| arrive | matoŋ |
| ash | dau |
| ask | ntano |
| aunt | timinan |
| baby | anak rumot |
| baby carrier | intok ŋiba? anak |
| back | bukuruŋ |
| bad | arat |
| bail water | ñaid |
| bait | umpan |

| | |
|---------------|-------------|
| bald | butak |
| bamboo | bulu? |
| banana | punti |
| banyan | nunuk |
| barking deer | paus |
| bathe | diu? |
| bear | bəruaŋ |
| beautiful | pili? |
| because | kana? |
| bee | lawa? |
| begin | mulay |
| behind | da? bukuruŋ |
| believe | saya? |
| bent | tikuŋ |
| betel chew | ramat |
| betel nut | pindaŋ |
| between | da? antara? |
| big | tupal |
| binturong | munin |
| bird | pumpulu |
| bite | ñabut |
| bitter | pa?it |
| black | itom |
| blind | bolow |
| blink | kəriŋit |
| blood | dada? |
| blow, as wind | mujuk |
| blowpipe | sapuk |
| blue | biru |
| boar | bakas |
| body | kiriŋ |
| body hair | bulu |
| boil | mumus |
| bored | polok |
| bowl | tutuŋ |
| bracelette | galaŋ |
| brain | utok |
| branch | dan |

| | |
|-------------------|----------------|
| brave | bərani |
| breast | titi? |
| breast feed | pəniti?/niti? |
| breathe | pəñawo |
| bridge | jəmbatan |
| bridge | sunsuyon (log) |
| broom | pampas |
| burry | motoŋ |
| butterfly | taŋkalayat |
| buy | ŋolon |
| calf | tonok |
| call | nimaw |
| can; able | kalap |
| canine | biŋilin |
| canoe | padaw |
| capsize | karom |
| careful | jaga-jaga? |
| carry by handle | noŋkoy |
| carry on back | ñiba? |
| carry on shoulder | ñan |
| carry under arm | jipit |
| carry with hands | ŋibit |
| cast | mandik |
| cat | usi? |
| catch as a ball | ŋadakop |
| cave | luan batu |
| centipede | dipal |
| chair | kursi |
| cheek | ilan |
| chest | kucam |
| chew | ñipa? |
| chicken | manok |
| child | anak |
| choose | pili?/mili? |
| cicada | nenet |
| cigarette | roko? |
| clean | bərisi? |
| climb | masak |
| cloud | ambun |
| cockroach | keke |

| | |
|----------------------|-----------------------|
| coconut | piasaw |
| cold | saruy |
| collapse | rurut |
| come | matonŋ |
| cook | ŋancak |
| cooked rice | kanon |
| corpse | buntuŋ |
| cotton | kapas |
| coucal | buvut |
| cough | kukul |
| count | ŋituŋ |
| cousin | koŋondo/kəmanakon |
| crab | pua? |
| crack | rətak |
| crazy | biunon |
| cricket | luŋkuanŋ |
| crocodile | buayo |
| crush | ma?ŋancur |
| cry | naŋi? |
| cup | saŋkir |
| dance | ŋaraŋ |
| dark | rondom |
| dart | anak saput |
| dart case | taŋap |
| daughter in law | ñiwad |
| day | odow |
| day after tomorrow | duo ndow |
| day before yesterday | bianan/təluan |
| deaf | oloŋ owon |
| death | ondot |
| deep | dalom |
| deer | tambaŋ |
| defecate | tumay |
| derris root | tuwo |
| die | ondot |
| dig | gali |
| dirty | rusam |
| divide | bagi?/bənagi?mu (you) |
| divorce/separate | nsuay |

| | |
|------------|---|
| dizzy | pusiŋ |
| dog | asu |
| dom. Pig | bauy |
| door | kərobon |
| downriver | bugus |
| dragon | naga |
| dream | lupi? |
| drink | ŋinum |
| drop | datu?/ŋədatu?/danatu?mu (you dropped s.t.) |
| drown | ntolop/losod (and die) |
| drum | gəndaŋ |
| drunk | mauk |
| dry | pua? |
| dry season | kusu aban |
| dull | tumpul |
| durian | lampun |
| dust | dau |
| eagle | kanuy |
| ear | təliŋa |
| earthworm | luŋkuaŋ |
| eat | ŋakan |
| edge | ribon |
| egg | talū? |
| egret | kanaway |
| eight | laoan |
| elbow | siku |
| ember | baa |
| empty | koson |
| enemy | musuh |
| energy | kiriŋ |
| enough | sukup |
| enter | mumpos |
| estuary | ud |
| every day | tiop odow |
| excrement | titay |
| eye | mato |
| eye brow | kiroy |
| face | rabas |
| fall | datu? |
| false | sala? |
| far | alud |

| | |
|--------------------------|-------------------------------|
| fast | ligow |
| fat | lomok |
| fat (n) | lomok |
| father | yama? |
| father in law | iwan |
| feeling | rasa? |
| fell | tagad |
| fern | kujaw |
| few | kaŋ |
| fiancé | apor |
| field hut | lubuŋ |
| fight | nsu:ga? |
| fill | ŋudan |
| find | ntamu |
| finger nail | sinilu |
| finish | ponjo |
| fire | apuy |
| firefly | lilipot |
| fireplace | dəpuan |
| firewood | taun sinidu |
| firewood storage area | salan |
| fish | pait |
| fishing net | pukat (long)/lala? (throwing) |
| five | lima |
| fix | pipili? |
| flat | datar |
| flesh | anci |
| float | səmaduy |
| flood | təmpadaŋ |
| floor | lantay |
| fly | tulud |
| flying lemur | puyut |
| fontanelle | ubun-ubun |
| food | makanan |
| forget | səlawan |
| four | mpat |
| friend | daŋan |
| frighten | ŋalala? |
| frog | teget |
| from | intad |
| fruit | bua? |

| | |
|------------------|-----------------------------|
| fruit bat | lawat |
| fry | ñaña? |
| full | panu? |
| full, of food | asug |
| gall | ampadu |
| gecko | təgəgama? |
| ghost | buruo |
| gibbon | kəlawot |
| gills | asaŋ |
| ginger | layo |
| give | tinakku (I give) |
| give birth | ganak |
| go | makow |
| goiter | takuk |
| gong | aguŋ |
| good | pili? |
| grandchild | kupu |
| grandfather | yaki |
| grandmother | yadu? |
| grass | rumpu |
| grasshopper | pəmparu? |
| grave | labajan |
| green | ijow |
| grow, as a plant | tumbu? |
| hair whirl | libu |
| half | sətaŋa? |
| hammer | tutukul |
| hand/arm | limo |
| hang | gantun/ganantun (be hanged) |
| happy | sonon |
| hard | paŋkor |
| harvest | nimpun |
| hat | topi? |
| have | jampu? |
| he/she | ia |
| head | utok |
| head hair | abuk |
| headhunting | ŋayow |
| heart | pusu? |
| heavy | bagat |
| heel | tumid |

| | |
|-------------------|-------------|
| helmeted hornbill | bulun |
| help | tolon |
| here | da? ditu |
| heron | kuju? |
| hoarse | paraw |
| hold | nonkoy |
| hole | luan |
| hook | atuk kapon |
| horn | sunu |
| hot | lasu? |
| house | baloy |
| house post | ri: |
| how many | kura? |
| hundred | sə ratus |
| hungry | bitil |
| hunt with a dog | ligow |
| husband | laki |
| I | alu |
| if | okow |
| in front | da? dapan |
| index finger | pənduru? |
| insect bat | puŋit |
| inside | da? dalam |
| insult | ŋilimbut |
| intestinal worms | luŋkuo |
| intestines | muntuko |
| ironwood | tagas |
| island | pulaw |
| itchy | atol |
| jealous | giagu/gyagu |
| jump | ñamput |
| kick | ñipak |
| kill | ŋamatoy |
| kingfisher | təntəlasak |
| kiss | ŋadok |
| knee | atud |
| knuckle | buku |
| lake | danaw |
| land | tana? |
| landslide | tana? buyus |

| | |
|---------------|--------------------------------|
| large fly | boŋkolod |
| large mortar | tutuan |
| large pestle | tutu |
| last | pupus |
| laugh | gadak |
| lazy | taŋkal |
| leaf | daun |
| leak | pasut |
| learn | bəlaʒar |
| leave | mujay |
| left | kait |
| leg | paa |
| lend | ŋinam |
| leopard | mintik inon |
| lid | tutub |
| lie down | lumuid |
| lie prone | lamaub |
| lift, carry | sənaŋkat/sənaŋkatmu (you lift) |
| light weight | lampug |
| light/bright | cahaya |
| lightening | janit |
| like | guaŋ |
| lime | apug |
| lips | munuŋ |
| listen, hear | kidinog |
| liver | laŋkayaw |
| lizard | garaŋ |
| loincloth | abad |
| lonely | təraŋo |
| long | buat |
| long house | baloy buat |
| loose | luŋgar |
| loud | rebut |
| louse | kutu |
| lowland plain | rata? |
| make | buat |
| malay badger | bilud |
| man | laki |
| mantis | pəmparu? |
| married | pəŋandu? |
| mat | ayam |

| | |
|---------------|-------------|
| measure | ŋukur |
| meet | ntamu |
| meet | ntamu |
| messy | kasow |
| middle finger | pənuʒay |
| millipede | luntuy |
| mix | ŋəmpur |
| molars | bagaraŋ |
| monitor | bilaraŋ |
| monkey | baduk |
| moon | bulan |
| morning | ŋuap |
| mosquito | ŋəmuʒ |
| moss | lumut |
| mother | ina? |
| mother in law | iwan |
| mountain | muruk |
| mouse deer | pəlanuk |
| mouth | kabaraŋ |
| mud | lisak |
| mushroom | kulat |
| must | harus |
| mute | bubow |
| myna | kiow |
| naked | təlabas |
| name | karan |
| nape | ipus |
| narrow | rumot |
| navel | pusod |
| near | amad |
| neck | ilog |
| necklace | away |
| nest | kuruŋ |
| new | bagu |
| next to | da? ribon |
| night | rondom |
| nine | səmbilan |
| noon | mundok odow |
| nose | hiduŋ |
| now | gitu?tu? |
| ocean | laut |

| | |
|----------------|-------------|
| old (people) | tuo |
| old (things) | gulu |
| older siblings | aka? |
| on top | da? sawa? |
| one | satu |
| onion | bawaŋ |
| open | buka? |
| or | ataw |
| orangutan | ulun rimba? |
| otter | tiluŋ |
| outside | da? luar |
| overflow | lamabuy |
| owl | duok |
| paddle | kakabir |
| palate | aŋkuk |
| palm | palad |
| pangolin | bəlukun |
| papaya | malaw |
| parang | səpun |
| peak/top | sawat |
| peel fruit | ŋusi? |
| person | ulun |
| pigeon | təbuan |
| pigmy squirrel | basiŋ rumot |
| pile | nikodondo |
| pinch | ñadut |
| pineapple | rurusan |
| pinky | pəniŋkis |
| pit viper | dipo ulaw |
| plant | tanom |
| plate | piŋkan |
| pluck | ñatu? |
| point | nuru? |
| pond | kulam |
| porcupine | butun |
| pound rice | nutu |
| pour | mud |
| pregnant | kətian |
| primary jungle | limba? |
| print | gait |
| promise | bəjanji? |

| | |
|---------------------|---------------|
| proud | banga |
| pull | munit |
| punch | ñintuk |
| pus | nana? |
| push | sənikog/ñikog |
| put down | inak |
| put together | kənumpul |
| python | kəbatik |
| quiet | diam |
| raft | rakit |
| rafter | kasow |
| rain | dasam |
| rainbow | bəlintuŋ |
| rambutan | kalamati? |
| rapids | giram |
| rattan | owoy |
| rattan backpack | bayuŋ |
| rattan backpack | bəlanjat |
| rattan backpack | buduy |
| rattan backpack | pawaŋ |
| raw | mata? |
| receive | ñərimo |
| red | ria? |
| red-leaf monkey | bəkaro |
| remember | iŋot |
| rest | tarahat |
| return home | muli? |
| rhinoceros beetle | duyuŋ-duyuŋ |
| rhinoceros hornbill | sanaŋ |
| rice | bilod |
| rice grain | bagas |
| rice wine | burak |
| right | pi midis |
| ring | cincin |
| ring finger | pənjoron |
| ripe | ansak |
| river | suŋoy |
| river bank | ribbon suŋoy |
| road | alan |

| | |
|------------------|-------------|
| roast | ñorob |
| roll | malun |
| roof | atap |
| room | kamar |
| roots | bakod |
| rope | tali |
| rotten as meat | utonj |
| rough | kasar |
| rub | gusuk |
| run | ñimbul |
| sad | təlanjo |
| sago | natok |
| saliva | iwog |
| salty | podos |
| sand | agis |
| sap | pulut |
| sape | səkapi? |
| say | mandagu |
| scabbard | saruŋ |
| scale | sisi? |
| scar | pilat |
| scorpion | arip-arip |
| scratch | ŋukut |
| secondary jungle | jakaw |
| see | gilonj |
| seed | umi |
| seed rice | ñuan |
| sell | polon |
| send | pəbaya? |
| seven | туру? |
| sew | ñaruk |
| shade | tuduŋ |
| shadow | ləndada? |
| shallow | urut |
| sharp | ladəm |
| sharpen | ladom |
| shield | kalid |
| shin | tulaŋ tonok |
| shirt | kurub |
| shoe | səpatu |
| shoot a | ñapuk |

| | |
|--------------------|---------------------------------|
| blowpipe | |
| short | rui? |
| shoulder | lep |
| shout | ləmakuy |
| shrimp | udaŋ |
| shy | uyu? |
| sick | səmakit |
| silver leaf monkey | kara? |
| sit by fire | ntuduŋ |
| six | nam |
| skin | kulit |
| skin an animal | ŋusi? |
| skink | bilan |
| skinny | marasa? |
| skirt | tapi? |
| sky | sawat |
| slap | tampal/tanampalmu (you) |
| sleep | turug |
| slice | ŋiris |
| slip | kalanjay |
| slow | lambat |
| slow loris | luttuŋ |
| small | rumot |
| smart | pintor |
| smell (n) | utonj |
| smile | kəlanjo |
| smoke (n) | lisun |
| smooth | halus |
| snail | tuntul/tumpok (sm)/tisut (land) |
| snake | dipo |
| snap | putulnyo (he)/pənutulmu (you) |
| sneeze | barasin |
| snore | təŋkarok |
| snot | kukul |
| soft | alus |
| son in law | ñiwad |
| song/sing | ñañi |
| spider | lawa? |
| spider hunter | suit |

| | |
|----------------------|-----------------|
| spit | ñiwõg |
| splash | magu? |
| split | mial |
| square | sagi apat |
| squeeze | ɲurud |
| squirrel | basiɲ |
| stab | ɲobok |
| stairs | tukad |
| stand | ɲkiriɔd |
| star | bintaɲ |
| stay; lodge | mapuɲ |
| steal | takow |
| sticky | leɲket |
| stomach | tinay |
| stone | batu |
| stop | baranti? |
| straight | tulid |
| stranger | ulun orop-orop |
| stream | anak suɲoy |
| strong | paɲkor |
| stump | tuvod |
| stupid | ruɲu? |
| sugar cane | tabu |
| sun hat | tarauy |
| sunrise | mato dow mujay |
| sunset | mato dow rondom |
| surprised | kəriaɲ |
| swallow | nolon |
| swamp | ragar |
| sweat | umos |
| sweep | mampas |
| sweet | amis |
| swift (type of bird) | tuntuayan |
| swim | səmaduy |
| swollen | rimintuɲ |
| table | mija? |
| tail | iku? |
| take | ɲalap |
| talk | ntukit |
| tall | sawat |
| tamp earth | modot |

| | |
|-------------|-----------|
| tart | kolot |
| tasteless | palo |
| tattoo | batik |
| tear | insaɲ |
| tell | ntukit |
| ten | səpulu? |
| termite | bubuk |
| that, near | ino |
| there, far | da? dede? |
| there, near | da? dino |
| thick | kapal |
| thigh | pun paa |
| thin | dipis |
| think | pikir |
| thirsty | poyog |
| this | itu |
| thorn | dui |
| thousand | səribu |
| three | taluh? |
| throw | mandik |
| thumb | pənina? |
| thunder | təmparit |
| tickle | ñilibut |
| tie | ɲudukug |
| tiger leech | ləmudu |
| tight | kətət |
| tired | umpoy |
| to clean | bərəsi? |
| to dry | pupua?kan |
| to fish | ɲapon |
| to lean | ñadar |
| to lie | ñaluk |
| to sting | sisigod |
| to taste | marasa? |
| to whistle | ñiu? |
| to wrap | bunɲkus |
| toad | bəraɲkuk |
| today | odow itu |
| tomorrow | munsuab |
| tongue | dila? |
| tooth | dipon |

| | |
|--------------|--------------|
| tortoise | bukukaŋ |
| touch | məñəntuh |
| trap | kuruŋ |
| tree shrew | baŋiŋ |
| true/correct | monoŋ |
| try | cuba? |
| turn | dimuŋ |
| turtle | pari |
| twenty | duə pulu? |
| two | duŋai? |
| ugly | arat |
| uncle | kəməman |
| under | da? rui? |
| understand | kalati? |
| unripe | mata? |
| upriver | rayo |
| urinate | səməbu |
| urine | səsabu |
| uvula | pundila? |
| valley | tumun loncon |
| vein | urat |
| veranda | kaki lima |
| village | kampuŋ |
| vine | bakad |
| visitor | tamu |
| voice | dagu |
| vomit | lumua? |
| waist | awak |
| wait | garuŋ |
| wake up | kadat |
| walk | makow |
| wall | dindiŋ |
| want | guaŋ |
| wash clothes | popo? |

| | |
|----------------------------|----------|
| water | timug |
| waterfall | pasok |
| we pl ex | kai |
| weak | lami? |
| weave | matu |
| western tarsier | duok |
| wet | usa? |
| what | now |
| whirlpool | limbu? |
| white | purak |
| wide | tubal |
| widow | təbalu |
| widower | təgalaŋ |
| wife | dandu? |
| wind | rebut |
| wing | lep |
| wipe | ŋəlap |
| with | daŋan |
| woman | dandu? |
| wood pecker | pəmpalik |
| worm | ulat |
| wring | mikos |
| yam | sabay |
| yawn | ŋuap |
| year | payaŋ |
| yellow | silow |
| yellow ringed cat snake | mənsaloŋ |
| yesterday | dade? |
| you | kow |
| young | mulok |
| younger siblings | ari? |

APPENDIX 10

LUN DAYEH (LONG BAWAN)

| English | Lun Dayeh |
|----------------|--------------|
| abandon | məsan |
| above | yuduŋ |
| adam's apple | təgoʔ |
| adopted | anak yalap |
| adult | ŋərəg |
| aflame | nəsəh |
| afraid | taut |
| after | nəpəŋəh |
| afternoon | məso: |
| age | ulun |
| agree | məmo |
| air | bui |
| air | bui |
| alive | mulun |
| all | muŋ |
| alone | səboləŋ |
| already | pəŋəh |
| always | pasəb/gaiʔ |
| and | ŋan |
| angry | daluh |
| animal | puuŋ |
| answer | mawur |
| ant | dəraʔ |
| argus pheasant | təpiak |
| arm | tisuʔ |
| arm (lower) | tisuʔ |
| armpit | elək |
| arrive | məsiŋ |
| ash | abuh |
| ask | mitun |
| aunt | tinan piakən |
| back | kətəd |
| bad | data |
| bail water | tauk |
| bait | opan |
| bald | botal |

| | |
|------------------|-------------|
| bamboo | buluʔ |
| banana | bauŋ |
| banyan | məruŋ |
| bark | kulit kayuh |
| barking deer | təlau |
| base, origin | puun |
| bathe | diuʔ |
| bear | bəruaŋ |
| beautiful | taga |
| because | kanəh |
| become | maŋun |
| bee | təpekan |
| begin | maruʔ/muun |
| behind | lu kətəd |
| believe | mənu |
| bent | kiluʔ |
| between | bə pəraŋ |
| big | rayəh |
| big jackfruit | lakaʔ |
| big mango | kalab |
| binturong | badan |
| bird | suit |
| bite | mət:əp |
| bitter | pait |
| black | etəm |
| blind | bosər |
| blink | məkələp |
| blood | daraʔ |
| blow nose | madaul oləd |
| blow, as wind | niup |
| blow, with mouth | miup |
| blowpipe | put |
| blue | bataʔ |
| boar | baka |
| body | burur |
| body hair | buluh |
| bone | tolaŋ |

| | |
|-------------------|---------------|
| bored | mosam |
| bracelette | ləku? |
| brain | otək |
| branch | raŋət |
| brave | bərani? (L) |
| breast | iti? |
| breast feed | m-iti? |
| breathe | iat |
| bridge | tadur |
| bring | muit |
| broom | apuh |
| burp | məgəlu? |
| burry | manəm |
| butterfly | bərəfaŋ |
| buy | məlih |
| calf | bəti |
| call | mawar |
| can; able | miək |
| canoe | alud |
| capsize | tərəm |
| careful | lio-lio |
| carry on back | mabəh |
| carry with handle | mitin |
| carry on shoulder | maan |
| carry with hands | muit |
| cast | mifi? |
| cat | usiŋ |
| catch as a ball | mənəp |
| cave | bələbaŋ |
| centipede | səməpal |
| chair | pagaw (trad.) |
| cheek | piŋit |
| chest | ruuk |
| chew | məgat |
| chicken | laal |
| chief | rayəh bawaŋ |
| child | anak |
| chin | daa |
| choke | nəkər |
| choose | mili? |
| chop as meat | mətəb/məp:a |

| | |
|----------------------|----------|
| cigarette | sigup |
| circle | libuh |
| circular earring | abe |
| clean | lait |
| climb | mənad |
| cloud | laput |
| cockroach | təkabil |
| coconut | botan |
| coffin | luŋun |
| cold | tənəb |
| come | məsiŋ |
| complicated | sosa? |
| cook | məlaak |
| cooked rice | oba? |
| corpse | mutuŋ |
| cotton | kapas |
| coucal | beran |
| count | mituŋ |
| cousin | kənanak |
| cow | səpi? |
| crab | kəra? |
| crack | rəkəŋ |
| crazy | boyay |
| cricket | səkere |
| crocodile | buayəh |
| crush | mərosək |
| cry | məŋi |
| dance | marəŋ |
| dark | rəsəm |
| dart | laŋan |
| daughter in law | eban |
| day after tomorrow | səriak |
| day before yesterday | so aləm |
| deaf | baŋəlp |
| death | nədaat |
| deep | ba daləm |
| deer | payəw |
| derris root | tobəh |
| design | asuŋ |
| diarrhea | məsek |
| die | nate |

| | |
|----------------------------|-------------------|
| different | məbəkən |
| difficult | sosaʔ/ekat |
| dig | mokat |
| dirty | lotak |
| divide, pull or push apart | magiʔ |
| divorce/separate | pətad |
| dizzy | bəlewaŋ |
| dog | okoʔ |
| dom. Pig | bərək |
| door | bufuʔ |
| doubt | mərapaŋ |
| downriver | bənəh |
| dragonfly | simun |
| dream | nupih |
| drink | mirup |
| drop | məfəh |
| drown | mənəd |
| drunk | mabuk |
| dry | kəriŋ |
| dull | adəl |
| durian | buaʔ bələləh |
| dusty | bada |
| eagle | kəniw |
| ear | lalit |
| early | oka |
| earthworm | kəlatih |
| easy | məlea |
| eat | koman |
| edge | təŋəp |
| egg | tərur |
| egret | bodaʔ |
| eight | waluh |
| elbow | sikuh |
| empty | ametan |
| enemy | munuʔ |
| energy | tuəh |
| enough | miək |
| enter | səmuət |
| evening | məpit mərsən |
| every day | so |
| everyone | muŋ lun/muŋ muyuh |

| | |
|---------------------|-------------|
| excrement | taiʔ |
| eye | matəh |
| eye brow | bulu matəh |
| face | kiuŋ |
| faint | ləp:u |
| fall | məfəh |
| false | salaʔ |
| far | ado |
| fast | sagət |
| fat | ləmuh |
| fat (n) | ləmək |
| father | tamam |
| father in law | eban dəlai |
| fathom | ŋawaʔ |
| feeling | awa |
| fell | məfəŋ |
| female ear piercing | tupi |
| fern | pau |
| fever | məradəm |
| few | sədiit |
| field hut | ləpo |
| fight | pəbukut |
| fill | məpa |
| fin | lakay |
| find | nəpapuʔ |
| finger | buaʔ tisuʔ |
| finger nail | silun |
| finish | pəŋəh |
| fire | apuy |
| firefly | bələfək |
| fireplace | tətəl |
| firewood | kayuh kaba |
| first | atun |
| fish | lawid |
| fishing net | pokat |
| five | liməh |
| fix | mudut/marut |
| flat | paad |
| flesh | uaŋ |
| float | lupuŋ |
| floor | tanaʔ |

| | |
|------------------|-------------|
| flower | boŋaʔ |
| fly | tulud |
| flying lemur | kubuŋ |
| fontanelle | pəg:uŋ uluh |
| food | nək:ənən |
| foot | kukud |
| forehead | maduʔ |
| forget | kəlopan |
| four | afat |
| friend | urum |
| frighten | maut |
| frog | tit |
| from | rat |
| fruit | buaʔ |
| fruit bat | pawat |
| fry | məriki |
| full | pənuʔ |
| full, of food | baur |
| gall | pəsuh |
| gather things | məmuŋ |
| ghost | adaʔ |
| gibbon | kələbət |
| gills | asaŋ |
| ginger | liəh |
| give | məre |
| give birth | məŋanak |
| go | mee |
| goat | mek |
| gong | tawak |
| good | dooʔ |
| granary | pudur |
| grandchild | mupun |
| grandfather | təp:un |
| grandmother | puʔ |
| grass | uduh |
| grasshopper | tato |
| grave | tanəm |
| greedy | aŋa |
| grow, as a plant | mulun |
| gums | lunuk |
| hair whorl | gaiŋ |

| | |
|-------------------|------------|
| half | səkətəb |
| hammer | tono |
| hand/arm | tisuʔ |
| handspan | mərək |
| hang | osaŋ |
| happy | doʔ iat |
| hard | kokəŋ |
| have | nan |
| he/she | iəh |
| head | uluh |
| head hair | fuk |
| headhunting | pəbunuʔ |
| headwaters | ponəŋ faʔ |
| heart | pusuʔ |
| heavy | bərat |
| heel | tumid |
| helmeted hornbill | mənudun |
| here | toŋe |
| hiccup | məgəluuʔ |
| hide oneself | mapuŋ |
| hill | surud |
| hoarse | dəŋur |
| hold | memət |
| hole | lobaŋ |
| hook | aud |
| horn | ŋa |
| hot | lauʔ |
| house | romaʔt |
| house post | tuəd |
| how | kapəh |
| how many | todaʔ |
| hundred | məratu |
| hungry | mələuh |
| hunt with a dog | manup |
| husk | padək |
| I | weh |
| if | kapəh tiər |
| in front | pə batun |
| index finger | tisul |
| infection | palaw |
| insect bat | kəlit |

| | |
|------------------|------------------|
| inside | baŋ daləma |
| insult | mədaat |
| intestinal worms | kəruwəht |
| intestines | tənai? |
| ironwood | atu? |
| itchy | gatəl |
| jealous | səmuruh |
| jump | uput |
| just; recently | nəkɪh nih |
| kick | opak |
| kill | munu? |
| kingfisher | mənəŋaŋ raa? |
| kiss | məŋəp |
| knee | aləb |
| knuckle | bukuh (joint) |
| lake | tapa |
| land | tana? |
| landslide | tana? toran |
| large fly | laləd |
| large mortar | iuŋ |
| large pestle | aluh |
| last | nəpəpəd |
| laugh | mədiruh |
| lazy | kope |
| leaf | daun |
| leak | nəpau |
| learn | səbada? |
| leave | boro |
| leech | ləmatək/ləmata?k |
| left | pə-kabiŋ |
| lend | mabit |
| leopard | kuir |
| lid | məkəb |
| lie down | tubid |
| lift, carry | midin |
| light weight | raan |
| light/bright | saŋ |
| lightening | kelat |
| like | pian |
| lips | dibir |
| listen, hear | məŋər |

| | |
|---------------------|--------------|
| liver | ate |
| lizard | latək |
| log | puun kayuh |
| loincloth | far |
| lonely | dat ali |
| long | dawir |
| long-tailed macaque | kayəd |
| loose | dewar |
| lost | kala |
| loud | ria? |
| louse | kutuh |
| lowland plain | bələd |
| make | maru? |
| man | dəlai |
| many | aŋəd |
| married | nawəh |
| mat | ogam |
| measure | məlamud/mari |
| meat | uaŋ |
| meet | papu? |
| messy | masaw |
| millipede | səməkər |
| mist | dərəmun |
| monitor | siriŋ |
| monkey | bəsuk |
| moon | bolan |
| morning | bəkaak |
| mosquito | tukuŋ |
| moss | lumut |
| mother | tenam |
| mother in law | eban dəsər |
| mountain | surud/apad |
| mouse deer | pəlanuk |
| mouth | taaŋ |
| mud | lotak |
| mushroom | kolat |
| must | lotəp |
| mute | tobəm |
| naked | tələfa |
| name | adan |
| nape | podək |

| | |
|---------------|-------------|
| narrow | pəri? |
| navel | puəd |
| near | onəŋ |
| neck | diər |
| necklace | bane |
| nervous | mərapaŋ |
| nest | arar |
| new | bəruh |
| next to | iriŋ |
| niece; nephew | anak piakən |
| night | maləm |
| nine | ewa? |
| nipple | bua? iti? |
| noon | məso: |
| nose | isuŋ |
| now | neginih |
| old (things) | aun |
| old (people) | rəməra |
| one | səh |
| onion | bawaŋ |
| open | mokab |
| organized | səbuu |
| otter | dəŋən |
| overflow | məfir |
| owl | uək |
| paddle | gabil |
| painful | may tuaŋ |
| palate | yaŋ kərad |
| palm | palad tisu? |
| pangolin | arəm |
| papaya | basan |
| parang | karit |
| peak/top | yuduŋ |
| peel fruit | mulit |
| person | ləmulun/lun |
| pile (n) | bufun |
| pimple | muah |
| pinch | metəl |
| pineapple | kabər |
| pinky | kəliŋkiŋ |
| pit viper | alaw |

| | |
|------------------|------------|
| place, noun | kənan |
| plant | mibu |
| plate | bəgan |
| plateau | tana? lun |
| pluck | mətu? |
| point | misul |
| pond | takuŋ |
| porcupine | tərutuŋ |
| pour | mukit |
| pregnant | batək |
| primary jungle | puluŋ |
| print (foot) | sa? kukud |
| proboscis monkey | seko? |
| proud | mawaŋ niap |
| pull | menət |
| punch | mukut |
| punish | mukum |
| pus | lana? |
| push | mənul |
| put down | mərəŋ |
| put together | məmuŋ |
| python | məŋələn |
| quiet | pirud |
| raft | rait |
| rafter | dara |
| rain | modan |
| rainbow | təg:ən |
| rambutan | bua? sia? |
| rapids | oŋəb fa? |
| rat | labo |
| rattan | ue |
| rattan backpack | bəkəŋ |
| rattan backpack | riaŋ |
| rattan backpack | uyut |
| raw | mata? |
| receive | bəre |
| red | sia? |
| reflexive (self) | burur |
| remember | mərawe |
| rest | musu? |
| return | lobəd |

| | |
|---------------------|-------------------|
| rhinoceros | kəməsʊr |
| rhinoceros beetle | bʊəŋ |
| rhinoceros hornbill | mənəŋan |
| rice | pade |
| rice grain | bəra |
| rice wine | tape (tuber wine) |
| ridge | eraŋ |
| right | pə-tewəh |
| ring | tisiŋ |
| river | fa? |
| river bank | iriŋ təŋəbt |
| river mouth | luŋ |
| road | nalan |
| roast | məsəb |
| roll | mədulun |
| roof | apo |
| room | takəp |
| roots | uat |
| rope | abət/dotər |
| rotten as meat | matəŋ laa? |
| rough | data ayu? |
| rub | mosa |
| run | mupun |
| sad | sosa? |
| saliva | fa? lesa? |
| same; similar | paad |
| sand | bada |
| sand fly | retək |
| sap | para? |
| sape | sampe? |
| say | mala |
| scabbard | benan |
| scale | dəra |
| scar | norat |
| scratch | marome |
| see | miər |
| seed | paməra/pəra |
| sell | masiw |
| send | mirim |
| seven | tudu? |
| sew | mədərut |

| | |
|------------------|-------------|
| shade | pərusuŋ |
| shadow | sa? |
| shallow | tutun |
| sharp | tadəm |
| sharpen | miər |
| shield | otab |
| shirt | bakat |
| shoe | səpatu? (L) |
| shoot a blowpipe | məput |
| short | bənəh |
| short | kəmu? |
| shoulder | tuduŋ |
| shout | morod |
| shrimp | odaŋ |
| shy | migu? |
| siblings | kianak |
| sick | data kəlit |
| simple | do? ləb |
| six | ənam |
| skin | kulit |
| skin an animal | məlanit |
| skink | ale |
| skinny | rugu? |
| skirt | təkkip |
| sky | laŋit |
| sleep | rodap |
| sleep talk | nədəpo |
| sleep walk | nədəpo |
| slice | misil |
| slip | səlianŋ |
| slow | olay |
| slow loris | pog:əh |
| small | diit (dirt) |
| smart | mələh |
| smell, noun | buən |
| smile | rimud |
| smooth | laitd |
| snail | akəp |
| snake | ələŋun |
| snap | mutul |
| sneeze | məriək |

| | |
|--------------------|-----------------|
| snore | mərok |
| snout | osəd |
| soft | laya? |
| some | sətoda? |
| son in law | eban |
| song/sing | mənani |
| sour | laam |
| speak | buri? |
| spicy | ladəh |
| spider | kəlawə? |
| spider hunter | bəkəru?/ mənəi? |
| spit | mə-lesa? |
| splash | mətəsək |
| split | mopa |
| spotted | buli |
| spouse | awan |
| squeeze | mərama |
| squirrel | labo puər |
| stab | məfək |
| stairs | esan |
| stand | topəd |
| star | təguən |
| stay; lodge | təsan |
| steal | məno |
| step on; crush | mərosək |
| sticky | pəəkət |
| stomach | batək |
| stone | batuh |
| stop | musu? |
| story | muay |
| straight | siri |
| stranger | lun bəruh |
| striped | barit-barit |
| strong | tuəh |
| stupid | bəse |
| sugar cane | təfuh |
| sun hat | rauŋ |
| supernatural storm | odan bariu |
| surprised | nəkədot |
| swallow | mələn |
| swamp | raa/obon (bog) |

| | |
|--------------|------------------|
| sweat | pana |
| sweep | mapuh |
| sweet | pəsi? |
| sweet potato | ubih |
| swim | məpaŋuy |
| swollen | bara? |
| table | məja |
| tail | iur |
| tall | deta? |
| tasteless | təlam |
| tattoo | bət:ik |
| tear | mədərək |
| tell | malap/muay |
| ten | pulu? |
| termite | dəra? |
| that, near | kənəh |
| there, far | aŋe |
| there, near | lonəh |
| they | dəh |
| they dual | dewəh |
| they trial | dəh təluh |
| thick | kapal |
| thigh | paa/tepan |
| thin | lipi |
| think | mərawe |
| thirsty | pəriŋ |
| this | kənih |
| thorn | təfa? |
| thousand | məribuh |
| three | təluh |
| throw | mifi? |
| thumb | bua? tisu? rayəh |
| thunder | rəgu? |
| tickle | məresək |
| tie | mabət |
| tight | pərit |
| time | kərəb |
| tired | mərur |
| to clean | məligan |
| to fish | maat |
| to lean | mosad |

| | |
|-----------------|---------------|
| to lie | balih/ ləpau? |
| to sting | nərəd |
| to trap | fuj/toŋ |
| to wrap | məŋa |
| today | so sinih |
| tomorrow | nəfa: |
| tongue | dela? |
| tooth | lepən |
| touch | mətuk |
| traditional law | ayu? |
| tree | kayuh |
| tributary | arur |
| true/correct | tuu |
| try | mutun |
| turn | sərewəd |
| turtle | bəladan |
| twenty | duəŋ pulu? |
| twig; stick | rukud |
| twins | rapid |
| two | duəh |
| ugly | data bəruh |
| uncle | tamam piakən |
| under | aŋe lian |
| understand | kəli? |
| upriver | luun |
| urine | bəfa? |
| uvula | butu? dela? |
| valley | ləba:? |
| veranda | sekaŋ |
| village | bawaŋ |
| visitor | səroma? |
| vomit | m-ota? |
| waist | awa? |
| wait | mudu? |
| wake up | tui |
| walk | məŋalan/malan |
| wall | alad |
| want | pian |
| wash clothes | mapu? |
| water | fa? |

| | |
|-----------------|---------------|
| waterfall | fa? ruəb |
| we dual ex | kuəh/kuəh mo |
| we dual in | tetəh |
| we pl ex | kai |
| we pl in | tau |
| we trial ex | kai təluh |
| we trial in | tau təluh |
| weak | laya? |
| weave | manuh |
| wedge | baji? |
| western tarsier | kau |
| wet | baa? |
| what | non |
| when | edan |
| where | ya pəh |
| which | kəppəh dih |
| whirlpool | fa? pədepər |
| white | boda? |
| who | ide |
| why | modəh |
| wide | bəlad |
| widow | teola?/tiola? |
| wind | bui |
| wing | elat |
| wipe | miid |
| with | ŋan |
| woman | dəsur |
| worm | oləd |
| worried | mərəpaŋ |
| wring | məpəg |
| yawn | m-uab |
| year | laak |
| yesterday | naləm |
| you | koo |
| you dual | muəh |
| you plural | muyuh |
| you trial | muyuh təluh |
| young | adi? |
| youngest | sia? |

APPENDIX 11

KENYAH

| English | a long time ago | Adam's apple | adopted | afraid | alive | all | always |
|----------|-----------------|--------------|-----------|--------|--------|-------------|---------|
| PKEN | | *bəlaŋ uʔaŋ | *amuŋ | *takut | *mudip | *muŋ | |
| E. Penan | | təgorok | anak amuŋ | takut | murip | kətəm loʔoŋ | |
| W. Penan | | təgoroʔ | anak amuŋ | məday | murip | bəluʔ nan | |
| Vo | liray iray | bəŋoʔaŋ | imon | takut | murep | ketoʔ | səlau |
| Pawe | mət naʔaʔ | bəŋuʔ aŋ | mamoŋ | takut | murip | muŋ | tudəp |
| Gah | majoʔ ləpa | balan uʔaŋ | amuŋ | takut | mudip | moŋ | tajən |
| Laang | cən naʔaʔ | bəlaŋoʔaŋ | amuŋ | takut | mudip | moŋ | patajən |
| Sawa | cən tadin | bəlaŋ uʔaŋ | | takut | mudip | mukun | tajən |
| Tau | maja lan | bəla koroʔ | mamoŋ | takut | mudip | kətoʔ | maga |
| Badeng | sanaʔa da | bəkorok | mamoŋ | takut | mudip | moŋ | poto |

| English | and | angry | ant | argus pheasant | aristocrats | arm | arm (lower) | armpit |
|----------|------|---------|--------|----------------|-------------|--------|-------------|--------|
| PKEN | *ŋan | *miʔah | *sanam | *kuay | *kətaʔu | *liʔip | *ləŋən | *itək |
| E. Penan | ŋan | | sanam | kuay | | leʔep | | itək |
| W. Penan | ŋan | miah | sanam | kuay | | leep | pəŋuan | itək |
| Vo | ŋan | miʔah | sanam | kuay | kətaʔu | liʔep | ləŋi | itək |
| Pawe | | miʔa | sanam | kuay | kətaʔu | liʔip | ləŋən | itək |
| Gah | ŋan | miʔa | sanam | kuay | kətaʔu | liʔip | ləŋən | itək |
| Laang | ŋan | miʔa | sanam | kuay | parən | liʔip | ləŋən | ləkuan |
| Sawa | ŋan | tələseʔ | sanam | kuay | kətaʔu | liʔip | liŋən | |
| Tau | | miʔa | sanam | kuay | dətaʔu | liʔip | ləŋən | itək |
| Badeng | ŋan | meʔa | sanam | kuay | parən | liʔip | ləŋən | etək |

| English | arrive | ash | ask | aunt; uncle | axe | baby | baby carrier | back |
|----------|--------|-------|----------|-------------|-------|-------------|--------------|--------|
| PKEN | *abiʔ | *abu | *mutu | *əmbiʔ | | *anak balah | *baʔ | *likut |
| E. Penan | aveʔ | avəwʔ | nətəŋ | veʔ | pasəŋ | anak siʔik | | likot |
| W. Penan | aviʔ | avəwʔ | mutəwʔ | viʔ | kapaʔ | anak bali | | lekot |
| Vo | abeʔ | ayo | mutu | veʔ | kapaʔ | anak bala | ʒaʔ | likot |
| Pawe | aviʔ | avəw | mutəw | mbiʔ | kapuʔ | | bəniŋ | |
| Gah | | ayo | mutu | mbeʔ | kapak | anak lumit | baʔ | likut |
| Laang | abiʔ | | putok | mbeʔ | kapak | | baʔ | likut |
| Sawa | | abu | mutok | mbeʔ | kapak | anak bala | baʔ | likut |
| Tau | | abu | (lə)mutu | mpeʔ | kapaʔ | anak bala | baʔ | likot |
| Badeng | abiʔ | abu | mutu | mpeʔ | kapak | anak bala | baʔ | likut |

| English | bad | bait | bamboo | bamboo cup | banana | banyan | bark (tree) | barking deer |
|----------|--------|------|--------|------------|--------|-----------|-------------|--------------|
| PKEN | *jaʔət | *pan | *buluʔ | *suŋ | *pəti | *nunuk | *kulit kayu | *təlaʔuh |
| E. Penan | saʔət | pan | boloʔ | | balak | | | təlaʔo |
| W. Penan | saat | pan | ləpək | | balak | nonok | ipəʔ | təlau |
| Vo | jaʔat | pan | buloʔ | sap | pəti | lunok | kulit kayu | təlaʔo |
| Pawe | jaʔət | | buluʔ | suŋ | | lunok | kulit kayəw | tələʔo |
| Gah | jaʔət | pan | buloʔ | soŋ | pəti | lunok | kulit kayu | təlaʔo |
| Laang | jat | pan | buloʔ | soŋ | pəti | aka lunok | kulit kayu | təlaʔo |
| Sawa | jaʔat | | buloʔ | suŋ | pəti | lunok | kulit kayu | kəlaʔo |
| Tau | jaʔat | pan | buloʔ | soŋ | pəti | | kulit kayu | təlaʔo |
| Badeng | jaʔat | | buloʔ | soŋ | pəti | | kulit kayu | təlaʔo |

| English | base, origin | bathe | bear | beautiful | because | bee | behind | bent |
|----------|--------------|--------|-------|------------|----------|--------|-----------|---------|
| PKEN | *puʔun | *ənduʔ | *buaŋ | *magat | *ubən | *layuk | *ta likut | *kiləŋ |
| E. Penan | puʔun | məroʔ | buaŋ | jian naʔan | jin/uban | layuk | salikot | |
| W. Penan | puun | məruʔ | buaŋ | jian naat | dəkuʔ | layuk | laʔ murin | bekok |
| Vo | puʔon | roʔ | buaŋ | maʔat | ubən | layok | likot | kiləŋ |
| Pawe | puʔun | nduʔ | buaŋ | gap | uvan | layok | be likut | kəlikoʔ |
| Gah | puʔon | dnoʔ | buaŋ | magat | uban | layok | taʔ bayaʔ | |
| Laang | puʔun | | buaŋ | magat | uban | layok | ka likut | |
| Sawa | puʔun | ndoʔ | buaŋ | magat | ubən | layok | cən likut | kiləŋ |
| Tau | puʔun | ntoʔ | buaŋ | magat | | layok | taʔ bayaʔ | kiləŋ |
| Badeng | puʔon | ntoʔ | buaŋ | gap | oban | layok | təbayaʔ | keləŋ |

| English | betel chew | betel nut | between | big | binturong | bird | bite | bitter |
|----------|------------|------------|----------|-------|-----------|-------|-------------|--------|
| PKEN | *səpaʔ | *pinaŋ | *aəŋ | *biuʔ | *kitan | *sui | *maʔat | *paʔit |
| E. Penan | səpaʔ | buaʔ səpaʔ | bəlah | jaʔaw | pasuy | juhit | katəp/gaʔat | pətuh |
| W. Penan | səpəʔ | pinaŋ | bəlah | jau | pasuy | juit | ŋətəp | pətəm |
| Vo | səpaʔ | buʔan | taəŋ | bioʔ | pasoy | sui | ŋasay | paʔit |
| Pawe | səpaʔ | gaat | nəŋ naəŋ | jaʔaw | kitan | manok | maʔət | paʔit |
| Gah | səpaʔ | pinaŋ | ka aəŋ | biyoʔ | kitan | suwi | ŋaʔat | paʔit |
| Laang | səpaʔ | buʔan | ba luʔan | biyoʔ | kitan | suwi | maʔat | |
| Sawa | səpaʔ | pinaŋ | taŋ | | kitan | suwi | jəmaʔat | paʔit |
| Tau | səpaʔ | pinəŋ | kaəŋ | biyoʔ | kitan | suwi | ŋəmaʔat | paʔit |
| Badeng | səpaʔ | boʔan | kaəŋ | biyoʔ | ketan | suwi | ŋəmaʔat | paʔit |

| English | black | blind | blood | blow nose | blow | blowpipe | blue | boar |
|----------|--------|--------|--------|--------------|-------|----------|-------------|--------|
| PKEN | *saləŋ | *butaʔ | *dahaʔ | *məmbih inat | *put | *kələput | | *babuy |
| E. Penan | padəŋ | pəsəwʔ | dahaʔ | | gahaŋ | kələput | | babuy |
| W. Penan | padəŋ | pəsəwʔ | dəʔ | məsu kuvaŋ | məgaŋ | kələput | | mabuy |
| Vo | padəŋ | bəŋ | laaʔ | məve inat | məfop | | biro | babuy |
| Pawe | saləŋ | butəʔ | laaʔ | məmbe | put | kələput | mirəm | bavuy |
| Gah | saləŋ | butaʔ | daaʔ | məmbe inat | | kaləput | siləm | babuy |
| Laang | saləŋ | buraw | laaʔ | məmbe | | paləput | bilaʔ | babuy |
| Sawa | saləŋ | butaʔ | daaʔ | məmbe inat | put | kələput | biləŋ lanit | babuy |
| Tau | saləŋ | butaʔ | daaʔ | məmpe inat | put | kələput | | babuy |
| Badeng | saləŋ | butaʔ | daaʔ | məmpe enat | put | kələput | | babuy |

| English | body | body hair | bone | bracelette | brain | branch | brave | breast | breathe |
|----------|-------|-----------|--------|------------|-------|--------|--------|--------|----------|
| PKEN | *usah | *bulu-n | *tulaŋ | | *utək | *daʔan | *makaŋ | *itiʔ | *ŋələsət |
| E. Penan | usah | bulun | tulaŋ | səluŋan | utək | daʔan | jələŋ | eteʔ | ñebot |
| W. Penan | usə | bulun | tulaŋ | basah | utək | daan | makaŋ | etiʔ | ŋələsət |
| Vo | usah | bulu | tulaŋ | sələŋ | utək | laʔan | makaŋ | iteʔ | ŋalasət |
| Pawe | use | buləw | tulaŋ | gələŋ | utək | laʔan | makaŋ | itiʔ | ŋələsət |
| Gah | usa | bulu | tulaŋ | sələŋ | utək | daʔan | makaŋ | iteʔ | ŋələsət |
| Laang | usa | bulu | tulaŋ | sələŋ | ukək | laʔan | makaŋ | iteʔ | ŋalasət |
| Sawa | usa | bulu | tulaŋ | | utək | daʔan | makaŋ | iteʔ | ŋələsət |
| Tau | usa | bulu | tulaŋ | ləkoʔ | utək | daʔən | makaŋ | iteʔ | ŋələsət |
| Badeng | osa | bulu | tolaŋ | ləkoʔ | otək | daʔan | makaŋ | iteʔ | ŋələsət |

| English | bridge | bring | broom | burn | burp | burry | but | butterfly |
|----------|---------|-------|-------|--------|---------------|-------------|--------|---------------|
| PKEN | *titay | | *paa | *nutuŋ | *səkaʔ/*sədaʔ | *nanəm | *tapiʔ | *bələmbaŋ |
| E. Penan | tajo | mihin | paʔ | tonŋ | | tutup/tavun | tapiʔ | ləgaŋ |
| W. Penan | | min | paa | məñəwʔ | | mənavun | tapiʔ | kəbavaʔ/ləgap |
| Vo | tafo | jen | paa | məfən | sədaʔ | nanəm | tapeʔ | bələvaŋ |
| Pawe | titay | | | nutuŋ | sələkəʔ | nanəm | tapiʔ | pələki bali |
| Gah | lawat | | paa | nutuŋ | sədaʔ | nanəm | tapeʔ | bələmbaŋ |
| Laang | luat | | | nutuŋ | dak | nanəm | | suan bali |
| Sawa | lawat | ŋgin | paa | nutuŋ | kətan | nanəm | tapeʔ | pələki bali |
| Tau | titay | | | nutuŋ | sərəkaʔ | nanəm | | ulut |
| Badeng | ləmatan | ŋkin | | nutuŋ | sərəkaʔ | nanəm | boka | ulut |

| English | buy | calf | call | can; able | canine | canoe | capsize | carry on back |
|----------|-------|--------|-------|-----------|------------|-------|---------|---------------|
| PKEN | *bəli | *bətiḥ | | *sukat | | *alut | *kaham | *baʔ/biʔ |
| E. Penan | | bəte | | | ñakit | alut | kaham | biiʔ |
| W. Penan | | bəti | məgah | sukat | | | pəkaam | məbiʔ |
| Vo | məli | bəte | bilən | sukat | jipi asu | alot | kaam | baʔ |
| Pawe | bələy | bəte | | sukat | jipən asəw | alut | kaam | ḡəʔ |
| Gah | məli | bəte | bilin | sukat | jipən sip | alut | kaam | baʔ |
| Laang | bəli | bəte | məŋin | sukat | jipən sip | alut | kaam | baʔ |
| Sawa | bəli | bəte | məŋin | sukat | jipən sip | alut | kaam | baʔ |
| Tau | bəli | bəte | | sukat | | alut | kaam | baʔ |
| Badeng | ñuaʔ | bəte | | sokat | | alut | kaam | baʔ |

| English | carry by handle | carry on shoulder | carry under arm | carry w/ hands | cast |
|----------|-----------------|-------------------|-----------------|----------------|---------|
| PKEN | *ŋəlidiŋ | *ñuʔun/*suʔun | | | *miwət |
| E. Penan | ŋamit | ñuʔun | mekeŋ | nəki vap | ŋəjalaʔ |
| W. Penan | məŋən | suun | mekiŋ | nəki vap | ŋəjalaʔ |
| Vo | ŋəlidiŋ | | ñəkivet | ñakaloŋ | miwət |
| Pawe | ŋayaŋ | ñiʔun | ñikivit | ŋəliŋgəm | miwət |
| Gah | ŋaridiŋ | ñuʔon | natip | ñakapu | miwət |
| Laang | ŋalidiŋ | ñuʔun | mənatip | | |
| Sawa | ŋəlidiŋ | ñuʔun | | ñəkapu | miwət |
| Tau | ŋəredəŋ | ñuʔon | nəgee | | |
| Badeng | ŋaridiŋ | ñuʔun | ŋkin | ñəkapu | meywət |

| English | cat | cataract | catch | centipede | cheek | chest | chew | chicken |
|----------|------|--------------|---------|------------|--------|-------|--------|---------|
| PKEN | *mew | *jələy | *makəp | *lipan | *piŋah | *usok | *məñaʔ | *yap |
| E. Penan | mew | | ñagəm | lipan | piŋa | kəbəh | məñaʔa | yap |
| W. Penan | mew | ŋəjələy | məŋən | lipan | piŋə | osok | məñaʔ | dek |
| Vo | mew | mati ʃələy | makəp | lipan buat | piŋa | usok | məñaʔ | yap |
| Pawe | seəŋ | jələy | ñələpət | jəlipan | piŋa | usok | məñəʔ | yap |
| Gah | meyo | ŋəjələy mata | | lipan | piŋa | usok | məñaʔ | yap |
| Laang | mew | ŋəjələy | | lipan | piŋa | usok | məñaʔ | yap |
| Sawa | mew | ŋəjələy | makəp | ləlipan | piŋa | usok | miñaʔ | yap |
| Tau | mew | sukən | | lipan | piŋa | usok | məñaʔ | yap |
| Badeng | mew | buraw | | ləlipan | peŋa | usok | məñaʔ | yap |

| English | child | chin | choke | choose | chop | cicada | cigarette | circle | clean |
|----------|-------|---------|---------|---------|---------|----------|-----------|-----------|-------|
| PKEN | *anak | *jaʔa-n | *kədʰan | *miliʔ | *-tək | | | *bəliliŋ | *buiʔ |
| E. Penan | anak | jaʔan | | | mətək | suhaw | | bəleleŋ | boheʔ |
| W. Penan | anak | kop | kədan | ŋəvəliʔ | mətək | ñit/tiaŋ | | bəleleŋ | bueʔ |
| Vo | anak | jaʔi | dān | mileʔ | nətək | ñet | lukoʔ | liliŋ | bueʔ |
| Pawe | anak | | kədan | miliʔ | nətək | | bəkoʔ | bəli leaŋ | bueʔ |
| Gah | anak | jaʔa | kətan | mileʔ | ŋərət | | jakoʔ | bəliliŋ | bueʔ |
| Laang | anak | jaʔa | kətan | mileʔ | nətək | tiliŋ | jakoʔ | bəliliŋ | busok |
| Sawa | anak | jaʔa | | mileʔ | nətək | | jakoʔ | bəliliŋ | bueʔ |
| Tau | anak | jaʔa | kətan | | pəkənta | tiliŋ | jakoʔ | bəlileŋ | bueʔ |
| Badeng | anak | jaʔa | kətan | mileʔ | nətək | | jakoʔ | bəliliŋ | bueʔ |

| English | cloud | cockroach | coconut | coffin | cold | come | cook | cooked rice |
|----------|-------|-----------|-------------|--------|-------|------|-------------|-------------|
| PKEN | *abun | *lipah | *ñuh/*bətan | *luŋun | | *nay | *mana | *kanən |
| E. Penan | avun | lipah | | bənaŋ | gənin | tuay | kanin/matok | |
| W. Penan | aput | lipah | ño/bətan | saluŋ | gənin | tuay | matok/mana | |
| Vo | abun | lipah | bətan | luŋon | mənin | tuay | mana | kanən |
| Pawe | avun | lipe | ño | luŋun | səŋim | nay | | kanən |
| Gah | abun | lipa | bətan | luŋun | səŋim | nay | mana | kanən |
| Laang | abun | lipa | bətan | | | | mana | kanən |
| Sawa | abun | lipa | ño | luŋun | səŋim | nay | mana | kanən |
| Tau | abun | lipa | ño | luŋun | səŋim | nay | mana | kanən |
| Badeng | abun | nepa | ño | luŋun | səŋim | nay | mana | maʔ |

| English | cough | count | cousin | crab | crack | crocodile | cry | dance | dark |
|----------|--------|---------|-------------|-------|-----------|-----------|--------|--------|---------|
| PKEN | *mikət | *pəjʰap | | *iu | | *baya(?) | *naŋih | *sagaʔ | *məndəm |
| E. Penan | mikət | puruŋ | padeʔ pata | | juk bilaʔ | kəvəwʔ | maŋaʔ | sayaw | mərəm |
| W. Penan | mikət | məjap | padiʔ sak | yəwʔ | | bayah | maŋəʔ | sagaʔ | mərəm |
| Vo | nikət | pəfap | ade sak | kətep | ŋubəŋ | bayi | naŋe | sagaʔ | mərəm |
| Pawe | nikət | | | iyəw | ŋəluvan | bayəʔ | naŋe | ŋanjət | məndəm |
| Gah | mikət | pəcap | səŋanak sak | yu | ŋuban | baya | naŋe | sagaʔ | məndəm |
| Laang | mikət | pəcap | səŋanak sak | yu | peʔ | baya | naŋe | sagaʔ | məndəm |
| Sawa | mikət | pəcap | səŋanak sak | iyu | kubən | baya | naŋe | sagaʔ | məndəm |
| Tau | muʔa | pəcap | səŋanak sak | yu | kaat | bayaʔ | naŋe | | məntəm |
| Badeng | moʔa | pəcap | səŋanak sak | yu | | bayaʔ | naŋe | | məntəm |

| English | dart | dart case | day | day after tomorrow | day before yesterday | deaf |
|----------|-------|-----------|---------------------|--------------------|----------------------|-------|
| PKEN | | *təluʔ | *əd ^h aw | | | *dəŋ |
| E. Penan | tahat | | daw | | | rəŋən |
| W. Penan | taat | təluʔ | laŋit | | | butək |
| Vo | | təloʔ | daw | vam ini | daw ariŋ ray | uɓoʔ |
| Pawe | laŋan | | daw | daw siti | daw si də | madəŋ |
| Gah | laŋan | təloʔ | taw | oina | ŋap jare | dəŋən |
| Laang | laŋan | təloʔ | taw | taw o ina | ŋap ja | aŋək |
| Sawa | | | taw | o ləmbam | ŋap ca re | dəŋən |
| Tau | laŋan | | taw | oʔo ina | ŋao ca lan | dəŋən |
| Badeng | | | taw | oʔo nəmpam | ŋap ca da | dəŋən |

| English | deer | derris root | dew | die | different | difficult | dig | dirty |
|----------|--------|-------------|--------|--------|-----------|-----------|---------|--------|
| PKEN | *payaw | *tuba | *jimah | *matay | | *maan | *məkat | *sigut |
| E. Penan | payaw | tuvah | | matay | kəsalaʔ | maʔan | ŋalek | səgit |
| W. Penan | payaw | tuvah | | matay | kəjah | maan | məŋakun | səgit |
| Vo | payaw | tubi | jimah | matay | təkəfa | maan | məkāt | səgit |
| Pawe | payaw | tuve | jima | matay | sənaʔan | maan | məkāt | sigut |
| Gah | payaw | tuba | jima | matay | takajaʔ | maan | məkāt | sigut |
| Laang | payo | tuba | jima | matay | canan | maan | məkāt | mano |
| Sawa | payaw | tuba | jima | matay | təkajaʔ | tusa | məkāt | sigut |
| Tau | payaw | tuba | jima | matay | | maan | məkāt | mano |
| Badeng | payaw | toba | jima | matay | təkajaʔ | man | məkāt | |

| English | divorce | dog | dom. pig | door | downriver | dragon | dream | drink |
|----------|---------|-------|----------|--------|-----------|-------------|-------------|-------|
| PKEN | *pətat | *asu | *buʔin | *pamən | *kabaʔ | *bali suŋay | *lupi/*nupi | *isəp |
| E. Penan | | asəwʔ | | ukap | baʔeŋ | | supin | məsəp |
| W. Penan | pətat | asəwʔ | | | baay | | məŋupəyʔ | səp |
| Vo | pətat | asu | buʔen | basək | kabaʔ | bali suŋay | ŋənpupi | nəsəp |
| Pawe | pətat | asəw | avaw | pamən | | bali suŋay | ŋələpəy | mədūʔ |
| Gah | pətat | asu | buʔen | pamən | | bali suŋay | ŋanupi | mədəp |
| Laang | pətat | asu | buʔin | pamən | | bali suŋay | nupi | isəp |
| Sawa | pətat | asu | buʔin | pamən | | bali suŋay | nupi | isəp |
| Tau | pətat | asu | buʔin | | kabaʔ | bali suŋay | ŋənpupi | nisəp |
| Badeng | pətat | asu | buʔin | pamən | kabaʔ | bali suŋay | nupi | nesəp |

| English | drop | drown | drunk | dry | dull | durian | dust | eagle |
|----------|------------|-------|--------|--------|--------------|-------------|-------|----------|
| PKEN | *l<əm>abu? | | *mabuk | *muəŋ | *najən/kajən | *duhian | *abu | *pəlaki |
| E. Penan | pəloho | məñit | | toʔo | kajən | duyan/bəla? | avəw? | |
| W. Penan | ŋəlu? | məñit | mabuk | maəŋ | məkajən | pakən | dək | pəlakəy? |
| Vo | mabo? | ləji | mabok | moəŋ | ŋəfən | lian | abu | pəlaki |
| Pawe | labu? | | mavuk | məŋgaŋ | ŋasən | dian | avəw | pəlakəy |
| Gah | lamabo? | | mabok | muəŋ | ŋajən | dian | abu | pəlaki |
| Laang | | | mabok | muəŋ | ŋajən | dian | abu | pəlaki |
| Sawa | labo? | | mabok | məgaŋ | ŋajən | dian | abu | pəlaki |
| Tau | pələbo? | lənca | mabuk | muəŋ | ŋajən | dian | abu | pəlaki |
| Badeng | | məñət | | muəŋ | ŋajən | | abu | pəlaki |

| English | ear | earthworm | easy | eat | egret | eight | elbow | empty | evening |
|----------|---------|-----------|-------|--------|---------|-------|---------|----------|-----------|
| PKEN | *təliŋa | *lati | | *kuman | *kundan | *aya | *siku-n | *kəlaŋan | *taup |
| E. Penan | kəliŋən | latəy? | murah | kuman | kujəw? | ayah | sikun | usan | diva? |
| W. Penan | iŋən | latəy? | məluŋ | kuman | kudan | ayah | sikun | usan | taup |
| Vo | kəliŋi | lati | məloy | kuman | payan | ayi | siku | kəlaŋan | ŋətaup |
| Pawe | təliŋe | laŋ atəy | məlay | uman | kundan | ai | sikəw | kəlaŋan | ləvi? dāw |
| Gah | təliŋa | lati | ləbo | kuman | kundan | aya | siku | kəlaŋan | tey taw |
| Laang | andiŋ | lati | ləbo | kuman | kundan | aya | siku | kəlaŋan | taup |
| Sawa | təliŋa | waŋ | lua? | kuman | kundan | aya | siku | kəlaŋan | liba? taw |
| Tau | təliŋa | lati waŋ | ləbo | uman | kuntan | aya | siku | kəlaŋan | tay taup |
| Badeng | təliŋa | lati | ləbo | oman | kontan | aya | siku | kəlaŋan | taup |

| English | every | excrement | eye | eye brow | face | fall | far | fast | fat |
|----------|--------|-------------|-------|-----------|-------|---------|-----|---------|---------|
| PKAY | *siŋət | | | | | | | | ləmbu? |
| E. Penan | siŋət | ani? | matən | likaw | daʔin | pəloho? | ju? | | ləmæk |
| W. Penan | siŋət | ani? | matən | likaw | dain | pəlu? | ju? | məgəsi? | mələmæk |
| Vo | siŋət | ani? | mati | likaw | siləŋ | labo? | fo? | laña? | ləmæk |
| Pawe | siŋət | | mate | səp likaw | siləŋ | labu? | su? | | ləmbu? |
| Gah | siŋət | taʔi | mata | likaw | siləŋ | labo? | co? | laña? | ləmbo? |
| Laang | siŋət | taʔi | mata | likaw | siləŋ | labo? | co? | muat | ləmbo? |
| Sawa | siŋət | taʔi | mata | likaw | | labo? | co? | niʔan | ləmbo? |
| Tau | siŋkət | taʔi | mata | likaw | siləŋ | labo? | co? | | ləmpo? |
| Badeng | | taʔi təliŋa | mata | likaw | | labo? | co? | muat | ləmpo? |

| English | father | father in law | fathom | feeling | fell | fever | few | field hut |
|----------|--------|---------------|---------|---------|----------------------|--------|-----------|-------------|
| PKEN | *tamən | *iban | *dəpa | *kimət | *təb ^h əŋ | *dadəm | *kəl-iʔut | *ləpaw |
| E. Penan | tamən | kivan | dəpah | | təbəŋ | mayuŋ | kərat | lamin |
| W. Penan | tamən | kivan | dəpah | kənəp | təbəŋ | | goʔ | lamin |
| Vo | tamən | veʔ iban | ləpi | kimət | nəvəŋ | mayoŋ | kawaʔ | ləpaw |
| Pawe | tamən | tamən divan | | kimət | nəbəŋ | mayuŋ | kələʔot | ləpaw |
| Gah | tamən | mbeʔ iban | dəpa | kimət | nəpəŋ | dadəm | kadiʔut | ləpaw |
| Laang | tamən | mbeʔ | dəpa | kimət | nəpəŋ | ladəm | kaliʔut | ləpaw |
| Sawa | tamən | | dəpa | kimət | nəpəŋ | mayuŋ | kədiʔut | ləpaw |
| Tau | tamən | | ca dəpa | kimət | nəpəŋ | dadəm | kəriʔot | lumpuŋ kətu |
| Badeng | tamən | | dəpa | | nəpəŋ | dadəm | kəliʔut | ləpaw |

| English | fill | fin | find | finger nail | finish | fire | firewood | drying rack |
|----------|----------|--------|--------|-------------|---------|--------|-------------|-------------|
| PKEN | *ñanjan | *ambij | *taʔan | *silu-n | *muʔuh | *lutən | *kayu ənduk | *paha |
| E. Penan | | | pitah | silun | | lutən | | paha |
| W. Penan | məñanjan | ayəŋ | pitah | silun | | pərok | kayəwʔ rok | paah |
| Vo | ñanjan | aviŋ | piti | silu | moʔo | lutən | kayu rok | pai |
| Pawe | | saviŋ | taʔan | siləw | pələpək | apuy | kayəw ndok | |
| Gah | ñanjan | ambij | | silu | muʔo | lutən | kayu ndok | paa |
| Laang | mənoʔ | ambij | taʔan | silu | muʔo | lutən | kayu əndok | |
| Sawa | | ambij | | silu | moʔo | lutən | kayu ndok | paa |
| Tau | | asaŋ | taʔan | silu | moʔo | lutən | kayu ntok | paa |
| Badeng | | asaŋ | | silu | moʔo | lutən | kayu ntok | paa |

| English | first | fish | five | flesh | float | flood | forehead | four | friend |
|----------|-------|--------|-------|-------|---------|-----------|----------|------|--------|
| PKEN | *adiŋ | *atuk | *ləma | *si-n | *latup | *suuh | *anaŋ | *pat | *tuyaŋ |
| E. Penan | buʔun | səluəŋ | ləmah | sin | patut | bat jaʔaw | tuguk | pat | kəruah |
| W. Penan | mənin | bətəlu | ləmah | sin | patut | suun/vat | anaŋ | pat | bakeh |
| Vo | ariŋ | təlo | ləmi | sin | pələtop | soo/bat | anaŋ | pat | tuyaŋ |
| Pawe | ariŋ | atok | ləme | səy | | | anaŋ | pat | tuyaŋ |
| Gah | adiŋ | atok | ləma | sin | | soo | banəŋ | pat | tuyaŋ |
| Laang | adiŋ | atok | ləma | sin | pələtop | soo/nəmba | anaŋ | pat | tuyaŋ |
| Sawa | adiŋ | atok | ləma | sin | latop | soo tələn | anaŋ | pat | tuyaŋ |
| Tau | adeŋ | atok | ləma | sin | | so tələn | anaŋ | pat | tuyaŋ |
| Badeng | adiŋ | atok | ləma | sin | | lətiŋ | anaŋ | pat | toyaŋ |

| English | frog | from | fruit | fruit bat | fry | full | full moon | full, of food |
|----------|------------|---------|-------|-----------|--------|--------|-----------------|---------------|
| PKEN | *saʔay | *jin | *buaʔ | *mawat | *ñagah | *pənuʔ | *bulan kamət | *bəsu |
| E. Penan | saʔay | jin | buaʔ | | | pənoʔ | | bəso |
| W. Penan | sai/gəneʔ | jin | buaʔ | mawat | | pənuʔ | bəlelek bəlasuŋ | bəsu |
| Vo | saʔay ataʔ | ʃən | buaʔ | mawat | ñagah | saŋan | bulan kamət | bəso |
| Pawe | saʔay | | buaʔ | mawat | ñage | saŋan | kamət | bəso |
| Gah | saʔay | jin | buaʔ | mawat | ñaga | saŋan | bulan kamət | bəso |
| Laang | | | buaʔ | mawat | ñaga | pənoʔ | kamət | bəso |
| Sawa | saʔi | | buaʔ | mawat | ñaga | saŋan | bulan kamət | bəso |
| Tau | saʔi | ləsibət | buaʔ | mawat | ñaga | mubeʔ | kamət | bəso |
| Badeng | saʔay | | buaʔ | mawat | ñaga | pənoʔ | amət | bəso |

| English | gall | gather things | ghost | gibbon | gibbous moon | gills | give | give birth |
|----------|-----------------------|---------------|--------|----------|---------------|-------|-------|------------|
| PKEN | *pəd ^h u-n | *limbun | *bali | *kəlabət | *salap | | *naʔ | *ŋanak |
| E. Penan | pədun | | | kəlavət | | saŋe | naʔ | ŋanak |
| W. Penan | pədun | | baləyʔ | kəlavət | bəlelek salap | kupi | mənaʔ | tənu |
| Vo | pədu | ñalevon | bali | kəlabət | salap sək | kuwi | naʔ | ŋanak |
| Pawe | pədəw | | bali | kəlavit | | | nəʔ | ŋanak |
| Gah | pətu | ñalimbun | bali | kəlabət | salap | | naʔ | ŋanak |
| Laang | pətu | ŋalimbun | bali | kəlabət | salap | pipi | naʔ | ŋanak |
| Sawa | pətu | | bali | kəlabət | saləp sək | pipi | naʔ | ŋanak |
| Tau | pətu | pəmoŋ | | kəlabət | loʔoŋ salap | | naʔ | ŋanak |
| Badeng | pətu | kəlimpun | | kəlabət | salap | pipi | naʔ | ŋanak |

| English | go | goiter | good | granary | grandchild | grandfather | grandmother | grass |
|----------|-------|--------|-------|----------|------------|-------------|-------------|-------|
| PKEN | *tay | *uəm | *tiga | *libun | *su | *ukuh-n | *ukuh-n | *udu |
| E. Penan | kətay | bəŋoʔ | jian | | ayam | poʔ lakəyʔ | poʔ rədo | urəwʔ |
| W. Penan | tay | bəŋuʔ | jian | | ayam | təpun | təpun | urəwʔ |
| Vo | tay | wəm | layaʔ | libun | ayam | uko | uko | uru |
| Pawe | tay | biyuk | tiga | puvuŋ | səw | akəy | də | urəw |
| Gah | tay | uwəm | tiga | libun | su | uko | uko | udu |
| Laang | tay | uwəm | tiga | libun | su | ukun | ukun | udu |
| Sawa | tay | wəm | tiga | ləpubuŋ | su | uko | uko | udu |
| Tau | tay | uwəm | tiga | ləpu boŋ | su | uko | uko | udu |
| Badeng | tay | um | tega | ləpu boŋ | su | oko biyoʔ | oko biyoʔ | udu |

| English | grave | greedy | green | gums | hair whorl | half | hammer |
|----------|-------|--------|--------|----------------|--------------|-----------|--------------|
| PKEN | liaŋ | | *biləŋ | | *bəlubuŋ ulu | *bəluaʔ | *tutuŋ/tukun |
| E. Penan | tanəm | siŋat | maruŋ | sin jipən | | bəluʔan | ragum |
| W. Penan | tanəm | | bilən | bəlaŋi | | bəluaʔ | tukun |
| Vo | liaŋ | məkom | biləŋ | takən | bəlubuŋ ulu | ʃo ton | bətutoŋ |
| Pawe | liaŋ | batuk | biləŋ | | bəluvuŋ uləw | bəluaʔ | |
| Gah | tanəm | məkom | biləŋ | bəsu lan jipən | balubuŋ ulu | bəluaʔ | bətutoŋ |
| Laang | liaŋ | maʔam | biləŋ | sulan jipən | bəlubuŋ ulu | | bətutoŋ |
| Sawa | liaŋ | maʔam | biləŋ | | bəlubuŋ ulu | bəluaʔ | |
| Tau | liaŋ | maʔəm | biləŋ | sin jipən | bəlubuŋ ulu | pa bəluaʔ | bətutoŋ |
| Badeng | liaŋ | maʔam | beləŋ | sin jepən | bəlubuŋ ulu | bəluaʔ | |

| English | hand | handspan | happy | hard | harvest | hat | have | he/she | head |
|----------|-------|----------|------------|--------|---------|--------|------|--------|--------|
| PKEN | *ujuʔ | *əŋgaŋ | *maŋi | *mahij | *m-ajaw | *tapuŋ | | *ia | *ulu-n |
| E. Penan | ojoʔ | ŋurək | muruŋ | maheŋ | | tapoŋ | | iah | ulun |
| W. Penan | ojuʔ | gaŋ | mərit | maiŋ | majaw | tapoŋ | pun | iah | ulun |
| Vo | ufo | gaŋ | maŋi | maiŋ | aʃaw | tapoŋ | ari | yi | ulu |
| Pawe | usuʔ | ŋgaŋ | baŋən | mayəŋ | masaw | tupi | un | ye | uləw |
| Gah | ujoʔ | ŋgaŋ | tiga kimət | maiŋ | majaw | tapoŋ | | ya | ulu |
| Laang | ujoʔ | ŋgaŋ | maŋi | maiŋ | majaw | tapoŋ | oən | ya | ulu |
| Sawa | ujoʔ | ŋgaŋ | ŋaŋən | maiŋ | majaw | tapuŋ | un | ya | ulu |
| Tau | ujoʔ | ca ŋkaŋ | maŋi | mayəŋ | majaw | tapoŋ | on | iya | ulu |
| Badeng | ujoʔ | ŋkaŋ | saet | maiŋ | majaw | tapuŋ | on | ya | ulu |

| English | head hair | headhunting | headwaters | heart | heavy | heel | helmeted hornbill |
|----------|---------------------|-------------|-------------|----------|--------|--------|-------------------|
| PKEN | *əb ^h uk | *kayaw | *iʔut suŋay | *pusuʔ | *bahat | *tumit | *təbun |
| E. Penan | bok | kayaw | | posoʔ | bahat | tumit | təvaʔun |
| W. Penan | ʃok | | iot | posun | baat | tumit | təbun |
| Vo | ʃok | pəkayaw | iʔot suŋay | pusoʔ | baat | tumit | təbun |
| Pawe | ʃuk | pəkayaw | ut | pusuʔ | baat | tumit | təbun |
| Gah | pok | pəkayaw | iʔot | pusoʔ | baat | tumit | təbun |
| Laang | pok | pəkayaw | iʔot | atay bop | bat | tumit | təbuy |
| Sawa | pok | pəkayaw | iʔut | pusoʔ | baat | tumit | təbun |
| Tau | pok | pəkayaw | | pusoʔ | paat | tumit | təbun |
| Badeng | pok | laki ayaw | daya soŋay | pusoʔ | bat | tumit | təbun |

| English | help | here | heron | hiccup | hide oneself | his/hers | hole | horn |
|----------|---------------------|--------|---------|---------|--------------|---------------|-------|------|
| PKEN | məb ^h uh | *-ini | *kuju | | *pəkə-lim | | lubəŋ | uhəŋ |
| E. Penan | noloŋ | sitəw? | kujəw? | | məlim | anah/anah nah | luvaŋ | uhəŋ |
| W. Penan | mipə | sitəw? | bərəsok | təkəgu? | pəlim | anah/anah nah | luvaŋ | uəŋ |
| Vo | məbo | situ | kufu | idək | sook | anuña | lubəŋ | wəŋ |
| Pawe | | kini | kusəw | sələdak | mətət | | luvaŋ | wəŋ |
| Gah | məpo | kini | kuju | saləka? | | | lubəŋ | wəŋ |
| Laang | məpo | kini | təruju | sələka? | | | lubəŋ | wəŋ |
| Sawa | | kini | uju | sələka? | pəkəlim | anuña | lubəŋ | wəŋ |
| Tau | məpo | kini | kuju | siʔət | ñook | | lubəŋ | wəŋ |
| Badeng | məpo | kaʔi | kuju | sərəkən | pəkəlim | anun na | lubəŋ | wəŋ |

| English | horned toad | hot | house | house post | how | how many | hundred |
|----------|-------------|--------|-------|------------|-----------|--------------|---------|
| PKEN | *ŋaʔaŋ | *panah | *uma? | *suka? | | *kuda? | *atuh |
| E. Penan | kaŋ | pana | lamin | lihəy? | kinəw? | kura? kəkət | ato |
| W. Penan | kaŋ | pana | lamin | suka? | kəna? | kurəʔ kəkət | ato |
| Vo | ŋaʔaŋ | pana | uma? | suka? | məkən to? | kura? | ato |
| Pawe | ŋaʔaŋ | lasu? | uma? | sukə? | kura? | kura? kadu? | ato |
| Gah | ŋaʔaŋ | pana | uma? | suka? | umbin | kumbin kado? | ato |
| Laang | ŋaʔaŋ | pana | uma? | suka? | kumbin | kuda? kado? | ato |
| Sawa | ŋaʔaŋ | pana | uma? | suka? | kumbin | kuda? kado? | ato |
| Tau | ŋaʔaŋ | pana | uma? | suka? | | kuda? | ato |
| Badeng | ŋaʔaŋ | pana | uma? | soka? | | koda? kado? | ato |

| English | hungry | husk | I | in front | insect bat | inside | insult | intestinal worms |
|----------|--------|-------|------------|----------|------------|-----------|--------|------------------|
| PKEN | *laʔu | *ulək | *aku/*aki? | *təna | kəlīt | *daləm | *pañi | |
| E. Penan | jaʔaw | | akəw? | satənah | | ləm | | aŋat |
| W. Penan | mələu? | ulək | akəw? | tənən | kəlīt | diləm | pañi | aŋat |
| Vo | laʔu | ulək | ake? | məni | təkəlīt | laləm | pañi | aŋat |
| Pawe | laʔəw | ulək | aki? | kə jume | pəndan | kə daləm | | aŋat |
| Gah | laʔu | ulək | ake? | taʔ təna | təkəlīt | ka daləm | pañi | kua |
| Laang | laʔu | ulək | ake? | ka təna | təkəlīt | ka daləm | | gua |
| Sawa | laʔu | ulək | ake? | cən təna | təkəlīt | daləm | pañi | |
| Tau | laʔu | ulək | ake? | taʔ təna | ləsiwən | daləm | | kua |
| Badeng | laʔu | ulək | ake? | təna | təkəlīt | kaʔ daləm | taro | |

| English | intestines | ironwood | island | itchy | jealous | jump | kill |
|----------|------------|----------|--------|--------|---------|----------|---------|
| PKEN | *burih | *tahah | *liu? | *katən | *ŋəbahu | *təpəjuk | |
| E. Penan | bore | | naha | gətən | ñono? | nəkujə? | |
| W. Penan | bori | təə | nusah | səli | məñonoh | modok | məmatay |
| Vo | bure | bəŋjan | lio? | gətən | ŋələbaŋ | nəkəfok | nəmatay |
| Pawe | təna?i? | bəŋjyan | lio? | jatin | ŋəbaw | təpəjok | ñəmatay |
| Gah | tanai | bəŋjan | lio? | katən | | nəpəjok | ləmatay |
| Laang | təna? | taa | lio? | katən | ŋəbau | napəjok | lamatay |
| Sawa | təna?i | taa | lio? | jətən | ŋəpau | nəpajok | ləmatay |
| Tau | təna?i | bəli?ən | lio? | jətən | ŋəbau | nəpəjok | ləmatay |
| Badeng | təna?i | bəliŋjan | lio? | jətən | ŋəbau | puut | |

| English | kingfisher | kiss | knee | knife | land | last | laugh | lazy |
|----------|---------------|--------|-------|-------|--------|-----------|-------|--------|
| PKEN | | *pa?u? | *ələp | | *tana? | | *tawa | *ləkuh |
| E. Penan | bələŋaŋ asa? | marək | ləp | nahat | tana? | | mala? | |
| W. Penan | bələŋaŋ asa? | | lulut | pənat | tana? | la? murin | mala? | mələku |
| Vo | bələŋaŋ asa? | marək | ləp | pu?eh | tana? | ku?o | tawi | ləko |
| Pawe | təbəŋaŋ asa? | pa?o? | ləp | ilaŋ | tana? | baya? | tawe | bəlo |
| Gah | tabəŋaŋ asa? | pa?o? | ləp | pu?e | tana? | baya? | tawa | ləko |
| Laang | təbəŋaŋ asa? | ma?o? | ləp | pu?e | | baya? | tawa | ləko |
| Sawa | təbuŋaŋ asa? | ma?o? | ləp | pu?e | tana? | baya? | tawa | ləko |
| Tau | ŋaŋkasa? | ma?o? | ləp | pu?e | tana? | baya? | tawa | ləko |
| Badeng | təməŋaŋ gasa? | ma?o? | ləp | po?e | tana? | baya? | gəra? | ləko |

| English | leaf | leaf for betel | learn | leave | leech | left | leg | lend |
|----------|--------|----------------|----------|-----------|----------|--------|--------|---------|
| PKEN | *da?un | *ayəp | *pəkalay | *ləka? | *ləmatək | *kabiŋ | *takət | *pinjam |
| E. Penan | da?un | da?un | | | | kabiŋ | gəm | |
| W. Penan | daun | ayip | pakalay | | kəmatək | kabiŋ | gəm | pijam |
| Vo | la?on | awət | pakalay | ləka? | ñamatək | kabiŋ | takət | liwah |
| Pawe | la?un | ayəp | pəkalay | ləkə? | sə matək | kaviŋ | takət | pinjam |
| Gah | toŋ | ayəp | pakalay | tay ləka? | ləmatək | kabiŋ | takət | pijam |
| Laang | la?un | aep | pakalay | maoŋ | ləmatək | kabiŋ | takət | |
| Sawa | toŋ | ayəp | | ləka? | ləmətək | kabiŋ | takət | kəliwa |
| Tau | toŋ | ayəp | ŋəriŋa | kətay | ləmatək | kabeŋ | takət | |
| Badeng | toŋ | ayəp | pəkalay | məcin | ləmatəŋ | kabiŋ | takət | |

| English | leopard | lie down | life | lift, carry | light weight | light | lightening | like |
|----------|---------|----------------------|-------|-------------|--------------|--------|------------|--------|
| PKEN | *kulih | *pəg ^h ən | *udip | *magaŋ | *niʔan | *dəmah | *bəkilət | *kəluʔ |
| E. Penan | səmuran | | urip | məteʔ | kəñilah | ada | kəlaʔap | |
| W. Penan | kuli | | | mətiiʔ | mənian | rəmə | kəpəlaʔ | |
| Vo | kule | pəgən | urep | maçŋ | pidəo | ləma | bəkilət | kəloʔ |
| Pawe | kule | pəgən | urip | mənjoʔ | ñiʔan | ləma | bəkilət | kəluʔ |
| Gah | kule | pəkən | udip | magaŋ | ñiʔan | dəma | bəkilət | kəloʔ |
| Laang | kule | kəkən | udip | magaŋ | paðaŋ | dəma | bəkilət | kəloʔ |
| Sawa | kule | məkən | udip | nayan | niʔan | dəma | bəgilət | kəloʔ |
| Tau | kule | məkən | udip | ŋayaŋ | niʔan | dəma | bəkilət | kəloʔ |
| Badeng | kole | kən | udip | məjoŋ | ñeʔan | dəma | pəkilət | kəloʔ |

| English | lime | lips | listen, hear | liver | lizard | loincloth | long | long house |
|----------|-------|------------|----------------|-------|--------|-----------|--------|------------|
| PKEN | *apuh | *bibih | *ŋəniŋ/*kənaan | *atay | *takaŋ | *abət | *daduʔ | |
| E. Penan | apo | kulit ujun | məneŋ | atay | | avət | kəbit | |
| W. Penan | apo | bevi | ŋəneniʔ | atay | takaŋ | avət | aruʔ | uməʔ |
| Vo | apo | bibe | ŋəneŋ | atay | takaŋ | abət | buat | umaʔ buat |
| Pawe | apo | bive | kənaan | atay | takay | avət | laruʔ | umaʔ laruʔ |
| Gah | apo | bibe | ŋəneaŋ | atay | dakaŋ | abət | dadoʔ | umaʔ dadoʔ |
| Laang | apo | bibe | kanaan | atay | | abət | ladoʔ | |
| Sawa | apo | bibe | | atay | takaŋ | abət | dadoʔ | umaʔ dadoʔ |
| Tau | apoʔ | bibe | | atay | takaŋ | abət | dadoʔ | umaʔ dadoʔ |
| Badeng | apo | bebe | ŋəniŋ | atay | takəŋ | abət | dadoʔ | umaʔ daduʔ |

| English | lost | loud | louse | plain | make | man | mantis |
|----------|---------|-------------|--------|-------|--------------|--------|------------|
| PKEN | | *biuʔ dau | *kutu | | *ti | *laki | |
| E. Penan | tawaŋ | | kutəwʔ | | manəwʔ/suʔay | lakəyʔ | karah ayat |
| W. Penan | pətawaŋ | jauʔ piaʔ | tumah | dati | manəwʔ/suay | lakəyʔ | səkuaw |
| Vo | paru | bio lau | kutu | | ti | laki | kare paray |
| Pawe | liŋəw | jaʔaw laəw | kutəw | lata | təy | lakəy | pau gun |
| Gah | laru | biyoʔ dau | kutu | | ti | laki | pau jagut |
| Laang | liŋu | biyoʔ dau | kutu | ləkaʔ | ti | laki | pau ladok |
| Sawa | tiap | biyoʔ dau | kutu | ləkaʔ | ti/uyan | laki | pau dadoʔ |
| Tau | daru | biyoʔ da | kutu | | ti/uyan | laki | pau dadoʔ |
| Badeng | dorat | biyoʔ toyaw | kutu | ləkaʔ | oyan | laki | pau dadok |

| English | many | marry | mat | measles | millipede | mine | mix |
|----------|--------|----------------------|---------------------|---------|----------------|---------------|----------|
| | *kadu? | *pəd ^h uh | *əb ^h at | *ambun | *ulət bulan | *anuk/*aki? | *pəkələt |
| E. Penan | pina? | | mak | | səkəriŋ/kəluəm | ake?/anah ke? | pəkəlīt |
| W. Penan | pinə | pədu | bərat/mak | avun | səkəriŋ | aki?/anah ki? | pəkələt |
| Vo | suaŋ | pədo | bat | avon | ulət bulan | anuk | pəkələt |
| Pawe | kadu? | pəpədo | | avun | ulət bulan | | pəkələt |
| Gah | kado? | pəto | pat | ambun | asu bulan | | |
| Laang | kado? | pəpəto | pat | ambun | liwa asu | | |
| Sawa | kado? | pəpəto | pat | ambun | asu bulan | anuk | pəkələt |
| Tau | dako? | pəpəto | pat | pun | asu bulan | | pəjugaw |
| Badeng | kado? | pəpəto | pat | ampun | ulət bulan | one? | pəkələt |

| English | molars | monitor | moon | morning | mortar | mortar (large) | mosquito |
|----------|--------------|------------|---------|----------|------------|----------------|-----------|
| PKEN | | | *bulan | | | *ləsuŋ | *iəŋ |
| E. Penan | bəŋa?am | boho/kavok | lase? | ŋivun | son | son | iəŋ |
| W. Penan | jipən kəŋa? | paraŋ/sawi | bəlelek | saput | lalit | adip | iəŋ/pagaw |
| Vo | jipi pəŋa? | bəlelaŋ | bulan | ŋətəba | lalet | son | yəŋ |
| Pawe | jipən ŋə? | paraŋ | bulan | səmuap | wit | ləsuŋ | təluluk |
| Gah | jipən təŋgək | kabok | bulan | kanəmbam | kəbaŋ kayu | ləsoŋ | yəŋ |
| Laang | jipen paŋa? | | bulan | | kəbaŋ kayu | ləsoŋ | yəŋ |
| Sawa | jipən ŋa? | kabuk | bulan | məmbam | kiyut kayu | ləsuŋ | iyəŋ |
| Tau | | padarŋ | bulan | məmpam | tulan | ləsoŋ | yəŋ |
| Badeng | | kabok | bulan | məmpam | kəbaŋ | ləsoŋ | yəŋ |

| English | moss | mother | mother in law | mountain | mouse deer | mouth | mushroom |
|----------|--------|-------------|---------------|--------------|------------|---------------------|----------|
| PKEN | *lumut | *tinən/ina? | *iban | *buduŋ/muduŋ | *pəlanuk | *əb ^h a? | *kulat |
| E. Penan | lumut | tinən | kivan | tokoŋ | pəlanok | ujun | kuyat |
| W. Penan | | inə? | kivan | tokoŋ | pəlanok | ujun | kulat |
| Vo | lumot | ina? | ve? iban | muduŋ | pəlanok | mufu | kulat |
| Pawe | lumut | inay | sinən divan | muruŋ | pəlanok | ba? | kulat |
| Gah | lumot | uwe? | mbe? iban | muduŋ | pəlano? | pa? | kulat |
| Laang | lumot | uwe? | mbe? | buduŋ | pəlanok | pa? | ja?ap |
| Sawa | lumot | uwe? | tu?a iban | buduŋ | pəlanok | pa? | kulat |
| Tau | | uwe? | amay iban | muduŋ | pəlanok | pa? | kulat |
| Badeng | atup | we? | | muduŋ | pəlanok | pa? | kulat |

| English | must | mute | nape | narrow | navel | near | neck | necklace | nest | new |
|----------|-------|-------|-------|-----------|--------|-------|--------|----------|--------|--------|
| PKEN | *adaŋ | *aməŋ | *abit | | *pusət | | *batuk | *uləŋ | *salah | *madiŋ |
| E. Penan | | maməŋ | abit | təraŋiŋ | pusət | dani? | batok | aməŋ | salah | mariŋ |
| W. Penan | adaŋ | pali? | təguŋ | pətatiŋ | pusət | dii? | batok | təbaŋ | salə | mariŋ |
| Vo | adaŋ | aməŋ | abet | pikəp | pusət | lane? | batok | uləŋ | sala | mariŋ |
| Pawe | adaŋ | aməŋ | təkək | pəjən | pusət | dani? | batuk | uləŋ | sala | mariŋ |
| Gah | | aməŋ | abit | pikən | pusət | ŋəŋ | batok | uləŋ | sala | madiŋ |
| Laang | | aməŋ | abit | tanət | pusət | ŋəŋ | batok | uləŋ | sala | madiŋ |
| Sawa | mimaŋ | aməŋ | abit | siŋən | pusət | ŋəŋ | batok | | sala | madiŋ |
| Tau | adaŋ | | abit | pəkətatiŋ | pusət | ŋəŋ | batok | uləŋ | sala | madiŋ |
| Badeng | meməŋ | awən | abit | pəsən | posət | ŋəŋ | batok | oləŋ | sala | madiŋ |

| English | new jungle | next to | niece; nephew | night | nine | no | noon |
|----------|------------|----------|---------------|-------|--------|-------|----------------------------|
| PKEN | *bəkan | | *anak ahun | *aləm | *pi?ən | | *bəlua? əd ^h aw |
| E. Penan | | pədəhe? | anak ahon | mərəm | pi?ən | be? | pəjək |
| W. Penan | bəkan | tətəy? | aon | mərəm | piən | yəŋ | bəlua? laŋit/bəlaway |
| Vo | bəkan | lee? | anak aon | aləm | pi?ən | ŋe? | bəlua? dəw |
| Pawe | bəkan | pəlani? | anak oon | mərəm | pi?ən | ave? | bəlua? dəw |
| Gah | bəkan | ka ata | anak aon | aləm | pi?ən | na?on | bəlua? taw |
| Laang | bəkan | cin bəse | anak aon | | pi?ən | na? | |
| Sawa | bəkan | cəŋ bəse | anak awŋ | ŋau | pi?ən | na?an | bəlua? taw |
| Tau | bəkan | pətəmpeŋ | anak aon | ŋau | pi?ən | na/be | bəlua? taw |
| Badeng | bəkan | ta? bəse | anak aon | ŋau | pe?ən | | bəlua? taw |

| English | nose | nose flute | false | ocean | old (people) | old (things) | older siblings |
|----------|--------|------------|--------|--------|--------------|--------------|----------------|
| PKEN | *ənduŋ | *kəliŋut | *sala? | *baŋət | *mukun | *pu?un | *səkən |
| E. Penan | ron | | sala? | baŋət | umun | umun | pade? ja?aw |
| W. Penan | uŋit | kəriŋot | sala? | | mukun | mukun | tukən |
| Vo | ron | kaliŋot | sala? | baŋət | mokon | pu?on | ade? lata? |
| Pawe | ndon | səliŋut | bakə? | baŋət | mukun | pu?un | səkən |
| Gah | ndon | | | baŋət | mukun | pu?un | səkən |
| Laang | ndon | səliŋut | sala? | baŋət | mukun | pu?un | səkkən |
| Sawa | ndon | kəliŋut | palo | baŋət | mukun | pu?un | səkən |
| Tau | nton | kəriŋot | | baŋət | mukun | pu?on | səkən |
| Badeng | nton | kəliŋut | | baŋət | mukun | pu?un | səkən biyo? |

| English | on top | one | or | orangutan | otter | owl | paddle | palate |
|----------|----------------------|--------------------|------|-----------|--------|-------|--------|---------|
| PKEN | *əmbaw | *əj ^h a | | *kuyaŋ | *dəŋən | *wək | *bəsay | *təŋgək |
| E. Penan | bau? | jah | ataw | kuyaŋ | dəŋən | wək | | təŋək |
| W. Penan | təbaw | jah | ataw | kuyaŋ | dəŋən | koŋ | | təŋək |
| Vo | tuson/ təbaw (above) | ʃo/ʃi | ataw | kuyaŋ | ləŋən | wək | bəsay | təŋək |
| Pawe | kə? mbaw | se | ataw | kuyaŋ | | wək | | |
| Gah | | ca | ataw | kuyaŋ | dəŋən | wək | | təŋgək |
| Laang | ka toŋ | ca | ataw | kuyaŋ | dəŋən | tuwəp | bəsay | təŋək |
| Sawa | kə mbaw | ca | ataw | kuyaŋ | dəŋən | wək | bəsay | təŋək |
| Tau | ka mpaw | ca | | kuyaŋ | dəŋən | wək | bəsay | təŋkək |
| Badeng | kəmpaw | ca | ataw | oyaŋ | dəŋən | wək | bəsay | təŋkek |

| English | palm | pangolin | parang | peak/top | peel fruit | person | pestle | pestle (large) |
|----------|------------|----------|--------|----------|------------|----------|--------|----------------|
| PKEN | *palat | *aham | *baiŋ | *uñuk | *ŋulit | *kəlunan | *tun | *lu |
| E. Penan | ləpok | aham | poʔe | bərusu? | mipa? | kəlunan | uja? | uja? |
| W. Penan | palat | aam | malat | dāp | mipə? | kəlunan | tun | |
| Vo | palat | aam | baiŋ | uñok | ŋəra | kəlunan | ton | puʔak |
| Pawe | lalat | aam | malat | uñok | ŋulit | kəlunan | tun | ləw |
| Gah | palat | aam | baiŋ | uñok | ŋulit | kəlunan | tun | lu |
| Laang | lalat | aam | baiŋ | kətoŋ | mayat | kəlunan | tun | lu |
| Sawa | lalat | aam | baiŋ | uñuk | ŋulit | usa | tun | lu |
| Tau | lalat | aam | bayəŋ | uñok | ŋulit | kəlunan | tun | lu |
| Badeng | lalat ujo? | aam | baiŋ | ñip | | kəlunan | tun | lu |

| English | pig tailed mac. | pimple | pinky | place (n) | plant | plateau | pluck feather |
|----------|-----------------|--------|-----------|-----------|--------|---------|---------------|
| PKEN | *duk | *səmuə | *ikiŋ | | *tugan | *apaw | *ŋəpulu |
| E. Penan | mədok | | ojo? eŋiw | rətek | | apaw | |
| W. Penan | mədok | səmuah | eŋiw | atə | nugan | apaw | məjəp/bət |
| Vo | tilək | səmui | uʃo ikiŋ | ata | tuʃan | apaw | ñəpulu |
| Pawe | dək | səmue | usu? ikiŋ | | nəma | apaw | ŋəbuləw |
| Gah | dək | səmuə | ujo? ikiŋ | uko? | maa | apaw | ŋəpulu |
| Laang | do? | səmuə | ujo? ikiŋ | uko? | nugan | apaw | ŋəpulu |
| Sawa | dək | puu | ujo? ikiŋ | uko? | ləmaa | apaw | ŋəpulu |
| Tau | dək | səmuə | iken | uko? | nugan | apaw | ŋəpulu |
| Badeng | dək | səmuə | ujo? ikiŋ | oko? | nogan | apaw | ŋəpulu |

| English | point | poison dart | porcupine | pot gong | pound (fist) | pound food | pound rice |
|----------|---------------|-------------|-----------|----------|----------------------|------------|------------|
| PKEN | *tuju?/*nuju? | *salu? | *tətuŋ | *tawək | *məb ^h an | *mətun | |
| E. Penan | tojo? | | tətoŋ | | ban | | |
| W. Penan | | tajəm | larak | | məban | | |
| Vo | nufo? | | toŋ | tawək | məban | məton | muja? |
| Pawe | nuju? | laŋan salu? | kətoŋ | tawək | məban | məton | məse? |
| Gah | nujo? | laŋan salo? | sətoŋ | tawək | məpan | məton | məjuk |
| Laang | nujo? | salo? | sətoŋ | tawək | məpan | məton | məjak |
| Sawa | nujo? | salo? | sətoŋ | tawək | məpan | məton | məca? |
| Tau | nujo? | | | tawək | məpan | məton | məjak |
| Badeng | nujo? | | | tawək | məpan | məton | məca? |

| English | pregnant | primary forest | print (foot) | pull | punch | pus | push | put down |
|----------|----------|----------------|--------------|--------|---------|---------|--------|----------|
| | *mali? | *əmba? | *uban | *mənat | *bukut | *nana? | *məkah | |
| E. Penan | | tanak mata? | | mənat | mukut | | məjuk | pəy? |
| W. Penan | baat | va? | uban | mənat | ñəbukut | nana? | məkə | pəy? ra? |
| Vo | mamoŋ | va? | uban | mənat | bukot | lana? | məfok | məloy |
| Pawe | ñəmali? | mbə? | | mənat | bukut | kələso? | məka | |
| Gah | ləmale? | mba? | | nənat | bukut | lana? | məbeŋ | maoŋ |
| Laang | mamin | mba? | uban | mənat | bukut | bətuan | məka | maoŋ |
| Sawa | ləmale? | mba? | uban | mənat | bukut | bətuan | məbiŋ | |
| Tau | ləmale? | mpa? | uban | mənat | nəbukut | | ñəkəŋ | maoŋ |
| Badeng | nəmali? | mpa? | oban | mənat | ñagun | | ñəkəŋ | maoŋ |

| English | python | quickly | raft | rafter | rain | rainbow | rapids | rat | rattan |
|----------|----------|---------|-------|--------|-------|----------|--------------------|----------|--------|
| PKEN | *pəŋanən | *sabət | *akit | *kasaw | *ujan | *ləliwah | *əg ^h a | *bəlabaw | *way |
| E. Penan | kəmanən | rigəh | akit | | taa? | | diham | moseŋ | way |
| W. Penan | pəŋanən | | akit | kasaw | tə? | bəruŋan | ovok | bəlavaw | laki |
| Vo | paŋanən | sabət | aket | kasaw | ima? | laliwa | liam | bəlabaw | way |
| Pawe | pəŋanən | sabət | | kasaw | usan | laŋatu? | ga | bəlavaw | way |
| Gah | paŋanəm | sabət | akit | kasaw | ujan | laliwa | ka | bəlabaw | way |
| Laang | pəŋanəm | jabət | | kasaw | ujan | laliwa | ka | bəlabaw | way |
| Sawa | pəŋanən | maja? | | kasaw | ujan | ləliwa | ka | bəlabaw | way |
| Tau | pəŋanən | jəlaray | akit | kasaw | ujan | lun liwa | ka | bəlabaw | way |
| Badeng | pəŋanəm | saŋkit | akit | kasaw | ujan | laliwa | u?oŋ | bəlabaw | way |

| English | rattan backpack | rattan backpack | rattan backpack | rattan backpack | raw | receive |
|----------|-----------------|-----------------|-----------------|-----------------|--------|---------|
| PKEN | *kiba | *iṅən | *baut | *ənjat | *mata? | *ala? |
| E. Penan | kivah | iṅən | tabaw | sərut | | ala? |
| W. Penan | kivah | iṅən | | bəkuy jat | matə? | alə? |
| Vo | kibi | iṅən | baut | bəlukoy jat | ata? | ala? |
| Pawe | kive | iṅən | bayut | ḃəlañat | ata? | ala? |
| Gah | kiba | iṅən | baot | bala ñat | ata? | ala? |
| Laang | kiba | iṅən | baot | bəlañat | mata? | ala? |
| Sawa | kiba | iṅən | baut | bəlañat | mata? | ala? |
| Tau | kiba | iṅən | bayut | bəlañat ncat | mata? | ala? |
| Badeng | kiba | iṅən | gawəṅ | bəlañat ncat | mata? | ala? |

| English | reciprocal (each other) | red | red-leaf monkey | reflexive (self) | remember | return |
|----------|-------------------------|--------|-----------------|------------------|----------|--------|
| PKEN | *səlapi? | *balah | *kəlası | *lu? | *naway | *uli? |
| E. Penan | | bala | kəlası | | | |
| W. Penan | ṅana? | balə | kəlası | lo? | pətəsən | moli? |
| Vo | sələpe? apan | bala | kəlası | lo? | naway | ole? |
| Pawe | səmae? | bala | | lu? | naway | uli? |
| Gah | bisiw sələpe? | bala | kəlası | lo? | naway | ule? |
| Laang | | bala | kəlası | lo? | naway | ole? |
| Sawa | sələpe? apan | bala | kəlası | lo? | naway | ule? |
| Tau | sələpe? | bala | | təṅən | naway | ule? |
| Badeng | sələpe? | bala | kəlası | lo? | naway | ule? |

| English | rhinoceros | rhinoceros beetle | rhinoceros hornbill | field rice | rice grain | rice wine |
|----------|------------------------|-------------------|---------------------|------------|------------|-----------|
| | *təməd ^h uh | *tuṅ tuṅan | | *paday | *bahah | *burak |
| E. Penan | təmədo | tip kayəw? | bələṅaṅ | | | |
| W. Penan | təmudu | səgagaṅ/ook | bələṅan | paray | baa | |
| Vo | | toṅ tuṅan | bələṅaṅ | paray | baa | burak |
| Pawe | | | təbəṅaṅ | paray | baa | burak |
| Gah | | toṅ tuṅan | tabəṅaṅ | paday | baa | burak |
| Laang | | toṅ tuṅan | təbəṅaṅ | patira? | baa | burak |
| Sawa | | toṅ tuṅan | təbuṅaṅ | paday | baa | burak |
| Tau | təmətaw | toṅ toṅa? | təməṅaṅ | paday | ba | burak |
| Badeng | pəmato? | səkoṅa | təməṅaṅ | paday | ba | borak |

| English | right | ring | river | estuary | road | roast | roof | room | roots |
|----------|--------|-------|----------|----------|--------|---------|--------|---------|---------------|
| | *taʔu | | *suŋay | *əlunʔ | *jalan | | *sapaw | *l-amin | *lakat/*pakat |
| E. Penan | naʔaw | ləkoʔ | baʔ | lonʔ | jalan | | sapaw | tilonʔ | lakat |
| W. Penan | mənaʔu | sikit | atoŋ bəʔ | lonʔ | jalan | məbah | sapaw | lamin | lakat |
| Vo | taʔu | lagoʔ | suŋay | lonʔ | jalan | məbah | sapaw | lamin | pakat |
| Pawe | taʔu | aŋgoʔ | suŋay | baʔ lunʔ | janan | isak | sapaw | amin | pakat |
| Gah | taʔu | aŋgoʔ | suŋay | lonʔ | | maap | sapaw | amin | pakat |
| Laang | taʔu | sikit | suŋay | paʔ lonʔ | | ləmadaŋ | jaum | | |
| Sawa | taʔu | | suŋay | lunʔ | janan | maam | sapaw | amin | pakat |
| Tau | taʔu | aŋkoʔ | suŋay | lonʔ | janan | ləmap | sapaw | amin | pakat |
| Badeng | taʔu | aŋkoʔ | soŋay | lonʔ | janan | map | saŋaw | amin | pakat |

| English | rope | rotten (meat) | run | sad | sago | sago flour | saliva |
|----------|--------|---------------|----------|-------------|-------------|------------|----------|
| PKEN | *tali | | *ŋasah | *tusah | *apuh/balaw | *daluh | *ibah |
| E. Penan | taləyʔ | borok | nəkədəwʔ | tusah | apo | uvut | iʔah |
| W. Penan | taləyʔ | borok | ŋasi | tusah | apu/balaw | uvut | bəʔ ibah |
| Vo | tali | burok | ŋasah | jatuyən | balaw | lalo | iʔah |
| Pawe | taləy | maram | ŋasa | tusa kimət | balaw | | ive |
| Gah | tali | | ŋasa | tusa kimət | | dalo | julaʔ |
| Laang | tali | | ŋasa | tusaʔ kimət | | dalo | iba |
| Sawa | tali | abəŋ | ŋasa | tusa | | dalo | iba |
| Tau | tali | madam | ŋasa | kələsaw | | dalo | iba |
| Badeng | tali | madam | ŋasa | meʔa | | dalo | eba |

| English | salt | same; similar | sand | sand fly | say | scabbard | scale | scar |
|----------|-------|---------------|-------|-------------|-----------|----------|-------|-------|
| PKEN | *usən | *kuaʔ | *ait | | | *sua | *lah | *ilak |
| E. Penan | usən | kuaʔ | napun | | haʔ/baraʔ | takeŋ | laa | |
| W. Penan | usən | pəkuaʔ | napun | jamok siik | matəŋ | suah | li | ilə |
| Vo | usən | kuaʔ | aet | ʃamok lumit | pəsoy | suwi | la | ilak |
| Pawe | usən | kuwəʔ | ait | jamok lumet | laaw | | kiŋ | |
| Gah | usən | kuaʔ | aet | jamok dumit | | | la | ilak |
| Laang | usən | kuaʔ | ait | jamok lumit | | sua | la | |
| Sawa | usən | kuaʔ | ait | jamok dumit | pisu | | kiŋ | |
| Tau | usən | kuaʔ | | jamok | | sua | kiŋ | ilak |
| Badeng | osən | kuaʔ | ait | jamok | badaʔ | sua | la | elak |

| English | scold | scorpion | scratch | secondary jungle | see | seed | sell | send |
|----------|---------|---------------|---------|------------------|--------|-------|-------|-------|
| PKEN | *ŋənjah | *lipan busuŋ | *ŋamit | *jəkaw | *naʔat | *luan | *matu | *ŋatu |
| E. Penan | | | ŋərip | jəkaw | naʔat | tulin | | |
| W. Penan | manəwʔ | | məñəli | bəkan/jəkaw | naat | tulin | | |
| Vo | ŋəjah | lipan busuŋ | ŋamit | jəkaw | naʔat | sah | matu | ŋatu |
| Pawe | ŋənja | jəlipan kətip | ŋamet | kara bətiʔ | naʔat | luan | juan | ŋatəw |
| Gah | ŋənja | lipan busuŋ | ŋamit | jəkaw | naʔat | luan | matu | ŋatu |
| Laang | ŋənja | lipan busuŋ | ŋatən | jəkaw | naʔat | luan | matu | atu |
| Sawa | ŋənja | lipan busuŋ | jəmayaw | jəkaw | naʔat | luan | matu | ŋatu |
| Tau | | lipan buson | ñəmayaw | jəkaw | naʔat | luan | juan | |
| Badeng | ŋənca | ləlipan busuŋ | ñəmayaw | jəkaw | naʔat | luan | matu | ŋatu |

| English | seven | sew | shade | shadow | shake | sharp | shatter | shield | shirt |
|----------|--------|---------|---------|--------|----------------------|--------|---------|-----------|--------|
| PKEN | *tujuʔ | *mimum | *liŋaw | *liŋay | *məg ^h uh | *ñahit | *pasi | *kələmbit | *sapay |
| E. Penan | tujuʔ | ŋəripit | lihap | kuyu | məgu | ñahit | purat | kələvit | |
| W. Penan | tujək | məñulət | adə | liŋup | məgu | məñait | bilaʔ | kələvit | saŋəp |
| Vo | tuʔək | mimom | siyop | liŋay | məq̄o | ñæet | pasi | kələvet | sapay |
| Pawe | tusuʔ | ñəmot | liŋaw | liŋay | məko | ñæet | pasəy | kələvit | sapay |
| Gah | tujoʔ | mimom | lidon | liŋay | | ñait | pasi | kələmbit | sapay |
| Laang | tujək | mimum | ŋəliŋop | liŋay | | ñæet | pasi | kələmbit | sapay |
| Sawa | tujoʔ | mimum | liŋup | liŋay | məko | ñait | pasi | kələmbit | sapay |
| Tau | tujoʔ | mimom | liŋaw | liŋay | məko | ñait | pasi | kələmpit | sapay |
| Badeng | tujoʔ | ñəmulut | liŋaw | leŋay | məko | ñæet | pasi | kələmpit | sapay |

| English | shoot a blowpipe | short (length) | short (hight) | shoulder | shrimp | siblings | sick |
|----------|------------------|----------------|---------------|-------------|--------|----------|--------|
| | *ŋələput | *buʔət | *libaʔ | *liʔip/*sun | *udaŋ | | *sakit |
| E. Penan | lasət | sutiʔ | divaʔ | pəsun | | pəpadeʔ | sakit |
| W. Penan | məput | sutaʔ | divaʔ | pəsun | uraŋ | padiʔ | sakit |
| Vo | ŋələpot | buʔət | buʔət | sunan | udaŋ | padə | sakit |
| Pawe | ŋələput | buʔət | buʔət | liʔip | uraŋ | səŋanak | sakit |
| Gah | | buʔət | buʔət | liʔip | udaŋ | saŋanak | sakit |
| Laang | ŋələput | buat | tənəŋ | liʔip | ñaton | | sakit |
| Sawa | ŋələput | buət | libaʔ | liʔip | udaŋ | | paleʔ |
| Tau | məmpo | buʔət | libaʔ | liʔip | udaŋ | | sakit |
| Badeng | ŋələput | boʔət | | liʔip | | | sakit |

| English | sit | six | skin | skin (v) | skink | skinny | skirt | sky | slap |
|----------|-------|------|--------------|---------------|----------|--------|--------|--------|--------|
| PKEN | | *nəm | *kulit/*anit | *ŋulit/*manit | *kəliʔap | *mahih | *taʔah | *laŋit | *təpap |
| E. Penan | ñun | nəm | kulit | ŋulit | kəliʔap | magooʔ | tiʔah | laŋit | təpap |
| W. Penan | məñun | nəm | kulit | mipəʔ | kəliap | maguʔ | tiah | laŋit | təpap |
| Vo | məñon | nəm | anit | | | muyu | taʔah | laŋit | nəpap |
| Pawe | ukoʔ | nəm | anit | manit | savo | mipon | təʔe | laŋit | nəbep |
| Gah | madoŋ | nəm | anit | manit | kəliʔap | mae | taʔa | laŋit | nəpap |
| Laang | madoŋ | nəm | anit | | | mae | taʔa | laŋit | nəpap |
| Sawa | maduŋ | nəm | anit | manit | kəliʔap | mae | taʔa | laŋit | nəpap |
| Tau | madoŋ | nəm | anit | | kəliʔap | mae | taʔa | laŋit | nəpap |
| Badeng | adoŋ | nəm | anit | | təliʔap | mae | taʔa | laŋit | nəpap |

| English | slaves | sleep | slice | slow | slow loris | small | smart |
|----------|-------------------|---------|-----------|--------|--------------|-------|-----------|
| PKEN | | *lunduʔ | *midih | | *duk talun | *iʔut | |
| E. Penan | ripən | pəgən | mərip/pah | | bəkikəyʔ | siʔik | noʔeʔ |
| W. Penan | | pəgən | məñeri | daway | kət | siik | məŋitaŋ |
| Vo | pañən lamin/lipən | luroʔ | mire | momo | kəlabət apoʔ | jiʔik | məjam |
| Pawe | lipən | lunduʔ | mire | luməʔ | | iʔut | tuʔe |
| Gah | pañən amin | luroʔ | lamaja | kəno | dok talun | iʔot | məŋjam |
| Laang | pañən | lundoʔ | mətəp | mambaʔ | jok talun | iʔut | malay ley |
| Sawa | pañən | lundoʔ | miyuk | malun | dok talun | iʔut | məŋjam |
| Tau | pañən | luntoʔ | mide | | dok talun | iʔot | tiga aleʔ |
| Badeng | | luntoʔ | ŋiyo | sain | dok talun | iʔut | gap |

| English | smoke (n) | smooth | snake | snap | sneeze | snot | soft |
|----------|-----------|--------|-------------|---------------|---------|-------|--------|
| PKEN | *saap | *pilaw | *tuduk | *mələt | | *inat | *ləmaʔ |
| E. Penan | | lañah | torok | putuy | | kuvəŋ | bəbut |
| W. Penan | saap | mələw | torok | məməlīt/putuy | kəvusih | | məru |
| Vo | sap/məsap | pilaw | ñəmulay | mələt | sivən | inat | ləmaʔ |
| Pawe | sap | | juŋ ulay | mələt | simbən | inat | ləməʔ |
| Gah | | | tudok | mələt | aci | inat | ləmaʔ |
| Laang | | | juŋulay | mələt | aci | inat | ləmaʔ |
| Sawa | sap | | joŋulay | nəmələt | aci | inat | ləmaʔ |
| Tau | | pilaw | ŋjoŋulay | mutun | aci | inat | ləmaʔ |
| Badeng | | laña | tudok/todok | mələt | aci | inat | ləmaʔ |

| English | some | sing | sour | spider | spider hunter | spit | spit food | split |
|----------|------------|---------|--------|----------|---------------|---------|-----------|----------------------|
| PKEN | *palay | *bəlian | *məsəm | *kəlawə? | *isit | *jula? | *mua? | *məb ^h i? |
| E. Penan | jəlua? | | məsəm | kəlawə? | sit | jula? | | bila? |
| W. Penan | jah kəlua? | pəsinuy | səm | kəlawə? | tasit | məñula? | | məbə? |
| Vo | palay | bəlian | məsəm | kəlawə? | iset | ñəmula | mua? | məbɔŋ |
| Pawe | palay | ŋətəŋə? | səm | kəlawə? | | ñula? | mua? | məbi? |
| Gah | palay | bəlian | məsəm | kəlawə? | | ñəmulo? | mua? | məpe? |
| Laang | palay | ŋətəna? | məsəm | talawə? | | ñəmula? | ŋətəmbu | məpe? |
| Sawa | palay | bəlian | məsəm | kəlawə? | | ñula? | mua? | |
| Tau | palay | bəliyan | məsəm | kəlawə? | isit | ləmula? | mua? | məpe? |
| Badeng | palay | bəlian | məsəm | təlawə? | isit | ñəmola? | | məpe? |

| English | squeeze | squirrel | stab | stairs | stand | star | steal | stomach |
|----------|---------|-------------|----------------------|---------------------|---------|----------|--------|---------|
| PKEN | *məmah | *puʔan | *təb ^h ək | *əj ^h an | *kədiŋ | *bətʉʔən | *ŋələw | *batək |
| E. Penan | ŋəromek | puʔan | təbək | jan | nəkədəŋ | kəñuhay | təkaw | bətukən |
| W. Penan | məməjəŋ | puan | mənəbək | ukat | deŋ | kəñaoy | nəkaw | bori |
| Vo | məmah | puʔan | nəbək | ʃan | nəkədəŋ | bətʉʔən | nəkaw | batək |
| Pawe | məme | puʔan | nəbək | san | kədiŋ | bətʉʔən | ŋələw | batək |
| Gah | məma | puʔan | nəbək | can | nəkəjəŋ | bətʉʔən | ŋələw | batak |
| Laang | məma | səpuʔan | nəbək | can | nəkəjəŋ | bətʉʔən | ŋələw | batək |
| Sawa | | səpuʔan | nəbək | can | nəkəjəŋ | idaŋ | ŋələw | batək |
| Tau | məma | bələkareŋ | nəbək | can | nəkəjəŋ | bətʉʔən | ŋələw | batək |
| Badeng | məma | bələbo asiŋ | nusok | can | nəkəjəŋ | bətoʔən | ŋələw | batək |

| English | stone | straight | strong | stump | stupid | sugar cane | sun hat |
|----------|--------|----------|--------|--------|--------|---------------------|---------|
| PKEN | *batu | *təlīt | *muat | *tuʔət | *paluy | *təb ^h u | *saʔuŋ |
| E. Penan | batəw? | | gahan | tuʔət | paluy | təbəw? | |
| W. Penan | batəw? | tələjək | məgan | tuət | paluy | təbəw? | saŋ |
| Vo | batu | təlīt | muat | tuʔət | pəŋoh | təbu | saʔŋ |
| Pawe | batəw | təlīt | muat | | paluwi | təbəw | saʔŋ |
| Gah | batu | | muat | tuʔət | paluy | təpu | saʔŋ |
| Laang | batu | | muat | tuʔət | paluy | təpu | saʔuŋ |
| Sawa | batu | təlīt | muat | tuʔət | paluwi | təpu | saʔŋ |
| Tau | | təlīt | pali | tuʔət | jaʔat | təpu | saʔŋ |
| Badeng | | təlīt | pali | toʔət | awən | təpu | saʔŋ |

| English | surprised | swallow | sweat | sweet | swim | tail | take | tall | tasteless |
|----------|-----------|---------|--------|-------|---------|-------|-------|--------|-----------|
| PKEN | *kəjʰət | *ñəluʔ | *sanah | *miih | *laŋuy | *ikuh | *alaʔ | *baway | *jəliŋ |
| E. Penan | | ñəloʔ | sana | mee | pəlaŋuy | iko | | bay | |
| W. Penan | təkəjət | məñəluʔ | sanə | mii | pəlaŋuy | iku | aləʔ | baway | |
| Vo | təkəʃət | ñəloʔ | sana | mee | pəlaŋoy | iko | alaʔ | buat | jəliŋ |
| Pawe | təkəjit | ñiluʔ | laseʔ | mee | ñatoŋ | iko | alaʔ | baw | jəliŋ |
| Gah | məba | ñəloʔ | sana | mee | ñatoŋ | iko | alaʔ | mbaw | jəliŋ |
| Laang | bulən | ñəloʔ | sana | mee | ñatoŋ | iko | alaʔ | baway | jəliŋ |
| Sawa | kəcət | ñəloʔ | sana | mee | ñatuŋ | iko | alaʔ | mbaw | jəliŋ |
| Tau | kəcət | ñəloʔ | sana | me | ñatoŋ | iko | alaʔ | mpaw | kəliŋ |
| Badeng | kətoʔ | ñəloʔ | sana | me | ñatoŋ | eko | alaʔ | | jəliŋ |

| English | tattoo | ten | termite | that, far | that, near | there, far | there, near | they |
|----------|--------|--------|---------|-----------|------------|------------|-------------|-----------|
| PKEN | *bətək | *puluʔ | *anay | | *ina | | *-ina | *ida |
| E. Penan | bətək | poloʔ | anay | itay | inah | | sitay | irah |
| W. Penan | pək | jajap | anay | etəyʔ | enəh | sitəyʔ | sinəh | irah |
| Vo | bətek | ʃap | anay | ite | ini | site | sini | iri |
| Pawe | bətik | puluʔ | anay | iti | iñi | kiti | kiñi | ira |
| Gah | bətek | puloʔ | anay | | ina | | kina | ida (pat) |
| Laang | bətik | jap | anay | | ina | | kina | ida |
| Sawa | bətik | puloʔ | anay | | ina | | kina | ida (pat) |
| Tau | bətək | puloʔ | anay | ta ina | ina | | kina | ida pat |
| Badeng | bətik | puloʔ | anay | ja iya | ja | kaʔ ja | ki | eda pat |

| English | thick | thigh | thin | think | this | thousand | three | throw |
|----------|---------|---------|--------|----------|-------|----------|--------|----------|
| PKEN | *kapan | *paʔa-n | *ñipih | *pəkimət | *ini | *ibu | *təlu | *nəkaliŋ |
| E. Penan | kapan | paʔan | nepe | səruh | itəwʔ | ibəwʔ | tələwʔ | ŋaliŋ |
| W. Penan | məkapan | paan | mənəpi | pəkənəp | etəwʔ | ibu | tələwʔ | məŋalin |
| Vo | kapan | paʔi | ñipeh | pakimət | itu | iɸu | təlu | nakaliŋ |
| Pawe | kapan | suuŋ | ñipe | pəkimət | ini | ibu | tələw | paləŋ |
| Gah | kapan | paʔa | ñipe | | ini | ibu | təlu | napaləŋ |
| Laang | kapan | paʔa | ñipe | pəkimət | ini | ibu | təlu | nakaliŋ |
| Sawa | kapan | paʔa | ñipe | | ini | ibu | təlu | nəkaliŋ |
| Tau | kapan | paʔa | ñipe | pəkimət | ini | ibu | təlu | nəbaləŋ |
| Badeng | kapan | paʔa | ñepe | pəkimət | ini | ibu | təlu | molo |

| English | thunder | tie | time | tired | to clean | to whistle | toad | tomorrow |
|----------|-------------|--------|--------|--------------|----------|------------|---------|----------|
| PKEN | | | *biʔən | *ləlat/ləmaʔ | *muiʔ | *ñəbəliw | *waŋkuʔ | *nəmbam |
| E. Penan | təlaʔ | jərət | | lamaʔ | | | kup | sagam |
| W. Penan | ləŋədu | mikah | bawah | lamaʔ/ləlat | | ŋəvot | kup | sagam |
| Vo | lau laŋit | nikah | biʔən | kaʃəŋ | mueʔ | ñəpoot | | vam |
| Pawe | bətatiʔ | | biʔən | sara | ŋəbuweʔ | səbəliw | waŋguʔ | məsut |
| Gah | ŋələŋit | məka | biʔən | ləlat | | | waŋgoʔ | nəmbam |
| Laang | lau laŋit | nəpuku | biʔən | ləlat | | | | nəmbam |
| Sawa | dau laŋit | nəməka | biʔən | sara | muweʔ | ñəput | | ləmbam |
| Tau | dau laŋit | ləməka | biʔən | ləlat | muwe | ñəbəliw | waŋkuʔ | nempam |
| Badeng | toyaw laŋit | | beʔən | ləlat | moeʔ | nəbəliw | waŋkoʔ | nəmpam |

| English | tongue | tooth | touch | tortoise | tree | tributary | true | try | turmeric |
|----------|--------|--------|-------|----------|--------|-----------|-------|-----------|------------|
| PKEN | *jəlaʔ | *jipən | *man | *sian | *kayu | *aluh | *lan | | *kuñit |
| E. Penan | jilaʔ | jipən | ŋamit | diʔah | kayəwʔ | ibaŋ | tənəŋ | | |
| W. Penan | jəlaʔ | jipən | məŋən | sian | kayəwʔ | ibaŋ bəʔ | tənəŋ | tupat | |
| Vo | jəlaʔ | jipi | kədən | sian | kayu | alo | lan | ŋinah | kuñit |
| Pawe | jəlaʔ | jipən | jəman | | kayəw | alo | lan | nəsək | kuñit |
| Gah | jəlaʔ | jipən | | | kayu | alo | lan | tən | liya bəroŋ |
| Laang | jəlaʔ | jipən | | sian | kayu | | | tən | kuñit |
| Sawa | jəlaʔ | jipən | man | sian | kayu | alo | tənəŋ | tən | kuñit |
| Tau | jəlaʔ | jipən | man | | kayu | alo | lan | niyak tən | kiyut |
| Badeng | jəlaʔ | jipən | man | sian | kayu | alo | lan | tən | kiyut |

| English | turtle | twins | two | under | understand | tart | upriver | urine |
|----------|------------|----------------|------|----------|--------------|----------|---------|----------|
| PKEN | *kələp | *pəpit | *dua | *əndaʔ | *tisən | *səpələt | *daya | *sənit |
| E. Penan | sian | padeʔ jah loho | duah | saraʔ | kəjam | səpələt | dayah | ivaʔ |
| W. Penan | darən/diah | pipak | duah | təraʔ | məjam/ŋərəti | pekaʔ | dayah | bəʔ ivaʔ |
| Vo | sian | təkəpet | luwi | təraʔ | sən | səpələt | kaʔiŋ | siba |
| Pawe | | pəpit | luwe | ase ndaʔ | isən | səpələt | | səŋit |
| Gah | | pəpit | dua | ka ndaʔ | tisən | səpələt | | səŋit |
| Laang | kələp | pəpit | dua | ka ndaʔ | tisən | səpələt | | səŋit |
| Sawa | kələp | pəpit | dua | kə ndaʔ | tisən | səpələt | | səŋit |
| Tau | kələp | pəpit | dua | kəntaʔ | tisən | səpələt | daya | siŋit |
| Badeng | kələp | pəpit | dua | kəntaʔ | tesən | səpələt | daya | səŋit |

| English | valley | vein | village | vine | viper | vomit | waist | wait | wake up |
|----------|---------|---------|----------------------|-------|---------|---------|-------|-------|---------|
| PKEN | *sawa? | uhat | *ləb ^h u? | *akah | *urəm | *nuta? | *akiŋ | *ŋəna | *taga |
| E. Penan | sawa? | kəluhat | ləbo? | lakat | urəm | luta? | eʔeŋ | məna | toʔot |
| W. Penan | sawa? | kəluat | lamin | laki | puniku | məluta? | ketiŋ | məni | toot |
| Vo | kaləbək | wat | uma buat | aka | toŋ dah | nuta? | iʔiŋ | ŋəna | bəreŋ |
| Pawe | abək | uat | ləbu? | aka | urəm | nuta? | akiŋ | ŋəna | tage |
| Gah | kələbək | wat | ləpo? | aka | urəm | nuta? | | ŋəna | taga |
| Laang | abək | uat | amin | aka | ləmujan | nuta? | | | taga |
| Sawa | abək | uat | ləpo? | aka | urəm | nuta? | | ŋəna | taga |
| Tau | kələbək | uat | ləpo? | aka | urəm | nuta? | akeŋ | ŋəna | bəte? |
| Badeng | sawa? | wat | ləpo? | aka | orəm | nota | akiŋ | ŋəna | bəte? |

| English | walk | wall | want | wasp | water | waterfall | we ex | we inc |
|----------|---------|--------|--------|-------|--------|------------|-----------|---------|
| PKEN | *masat | *əndiŋ | *kəlu? | *awah | *suŋay | *uʔuŋ | *ami? | *ilu |
| E. Penan | lakaw | tape | kəlo? | awa | ba? | oʔoŋ | ameʔ/itam | uləw? |
| W. Penan | məlakaw | tapi? | kəlu? | awi | bə? | ooŋ | itam | iləw? |
| Vo | masat | reŋ | kəlo? | awa | suŋay | bələson | ame? | ilu |
| Pawe | masat | gəlaŋ | kəlu? | awa | suŋay | oŋ | miʔ təw | meʔ təw |
| Gah | masat | ndeŋ | kəlo? | awa | suŋay | uʔoŋ | ame? | ilu |
| Laang | masat | ndiŋ | kəlo? | awa | suŋay | ləməsun | ame? | ilu |
| Sawa | masat | ndiŋ | kəlo? | awa | suŋay | ləmasun | ame? | ilu |
| Tau | masat | nteŋ | kəlo? | awa | suŋay | | ame? | ilu |
| Badeng | masat | ntiŋ | kəlo? | awa | suŋay | oʔoŋ suŋay | ameʔ pat | təpat |

| English | weak | weave | wedge | western tarsier | wet | what | when | where |
|----------|--------|--------|--------|-----------------|--------|-------|---------|----------|
| PKEN | *ləma? | *mañam | *pañit | *kət | *basa? | *inu | *midan | *əmbi |
| E. Penan | mataw | mañam | pañit | bəkikəy? | basa? | inəw? | hun mah | səmah |
| W. Penan | ləma? | mañam | pañit | kət | basa? | inəw? | siran | səmah |
| Vo | ləma? | mañam | pañet | kət | basa | inu | miran | təmi |
| Pawe | mambə? | mañam | pañit | | basə? | inəw | miran | kuʔ mbəy |
| Gah | ləma? | mayam | pañit | kət | basa? | inu | midan | kəmbi |
| Laang | ləma? | mañam | pañit | bəkiki | basa? | inu | midan | kəmbi |
| Sawa | mamba? | bañam | pañit | kət | basa? | inu | midan | kəmbi |
| Tau | ləma? | mañam | pañit | kət | basa? | inu | midan | kəmpi |
| Badeng | ləma? | mañam | pañit | kət | basa? | yu | medan | kəŋke |

| English | which | white | who | why | widow | widower | wind | wing | wipe |
|----------|-----------|--------|------|-----------|--------|---------|-------|--------|--------|
| PKEN | *yaʔ əmbi | *putiʔ | *aiʔ | *uban inu | *balu | *amban | *bayu | *kapit | *miʔit |
| E. Penan | emah | məbeŋ | seeʔ | kinəwʔ | baləwʔ | aban | kəpuʔ | pawit | mitit |
| W. Penan | yaʔ emah | potiʔ | siiʔ | koriʔ | baləwʔ | aban | kəpuʔ | pawit | miit |
| Vo | yaʔmi | puteʔ | aeʔ | uban inu | balu | avan | bayu | pawit | miʔet |
| Pawe | yəʔ mbəy | putiʔ | iʔ | uvan inəw | baləw | avan | bayu | kapit | miʔit |
| Gah | yaʔ ŋgi | puteʔ | eeʔ | uban inu | balu | amban | bayu | kapit | miʔit |
| Laang | mbi | puteʔ | eeʔ | | balu | amban | bayu | kapit | |
| Sawa | yaʔ mbi | puteʔ | aeʔ | uban inu | | | bayu | kapit | miʔit |
| Tau | | puteʔ | aeʔ | bənu | balu | ampan | bayu | kapit | ləmasa |
| Badeng | | puteʔ | eeʔ | baniyoʔ | balu | ampan | bayu | kapit | moso |

| English | woman | wood pecker | worm | yawn | year | yellow/black snake | yes |
|----------|----------------------|---------------|-------|---------|--------------|--------------------|------|
| PKEN | *ləd ^h uh | *bəlatuk | *ulət | *nuap | *taʔun/*uman | *ñatəŋ | *aaʔ |
| E. Penan | rədo | juhīt mobəʔ | ulət | tewap | taʔun | təlun ñatən | ooʔ |
| W. Penan | rədu | təvatok | ləŋat | pətəwap | uman | jəlivan kaməŋ | ooʔ |
| Vo | lədō | bətəleʔ | ulət | nuap | uman | ñatəŋ | aʔah |
| Pawe | lədō | bəlatok | ulət | nuap | uman | | əəʔ |
| Gah | ləto | keu | ulət | nuap | uman | sili | aaʔ |
| Laang | ləto | bəlatok | lanap | nuap | uman | ñatəŋ | aaʔ |
| Sawa | ləto | təkuduk daʔan | ulət | nuap | uman | ñatəŋ | aaʔ |
| Tau | ləto | tudok daʔən | ulət | nuap | uman | ñatəŋ | aaʔ |
| Badeng | ləto | suwi boʔ | ulət | nuap | oman | cərebən inuk | |

| English | yesterday | you | you pl | young | younger siblings | yours |
|----------|-----------------|--------|------------|---------|------------------|----------------|
| PKEN | | *ikuʔ | *ikəm | *-manay | *sadin | *anum |
| E. Penan | daw tənah maləm | kaʔauʔ | kaʔah | ləmanay | pade siʔik | akoʔ/annah koʔ |
| W. Penan | maləm | kaauʔ | kah | danak | tadin | akuʔ/annah kuʔ |
| Vo | daw taop | ikoʔ | | nəmanay | adəʔ jiʔik | anum |
| Pawe | mət maləm | ikuʔ | kəm təw | nəmanay | sərin | anum |
| Gah | ñap de | ikoʔ | | nəmanay | sadin | anum |
| Laang | ñap de | ikoʔ | ikəm | dəmanay | sadin | anom |
| Sawa | ñap de | ikoʔ | ikəm (pat) | dəmanay | sadin | anum |
| Tau | ñao də | ikoʔ | | dəmanay | sadin iʔot | |
| Badeng | ñap da | ikoʔ | ikəm pat | dəmanay | sadin | onoʔ |

REFERENCES

- Adelaar, K. Alexander. 1989. Malay influence on Malagasy: linguistic and cultural-historical implications. *Oceanic Linguistics* 28:1-46.
- Adelaar, K. Alexander. 1992a. *Proto-Malayic: the reconstruction of its phonology and parts of its lexicon and morphology*. Canberra: Research School of Pacific Studies, Department of Linguistics, Australian National University.
- Adelaar, K. Alexander. 1992b. The relevance of Salako for Proto-Malayic and for Old Malay epigraphy. *Bijdragen tot de Taal-, Land-, en Volkenkunde* 148: 381-408.
- Adelaar, K. Alexander. 1994. The classification of the Tamanic languages (West Kalimantan). In *Language contact and change in the Austronesian world*, ed. by Tom Dutton and Darrell T. Tryon, 1-41, Trends in Linguistics Studies and Monographs 77. Berlin: Mouton de Gruyter.
- Adelaar, K. Alexander. 1995a. Problems of definiteness and ergativity in Embaloh. *Oceanic Linguistics* 34:375-409.
- Adelaar, K. Alexander. 1995b. Borneo as a cross-roads for comparative Austronesian linguistics. In *The Austronesians: historical and comparative perspectives*, ed. by Peter Bellwood, James J. Fox, and Darrell Tryon, 75-95. Canberra: Research School of Pacific and Asian Studies, Australian National University.
- Adelaar, K. Alexander. 2004. Where does Malay come from? Twenty years of discussions about homeland, migrations and classifications. *Bijdragen tot de Taal-, Land-, en Volkenkunde* 160:1-30.
- Andriastuti. 1992. *Morfologi dan sintaksis bahasa Lawangan*. Jakarta: Pusat Bahasa.
- Astar, Hidayatul, Buha Aritonang, Non Martis and Wati Kurniawati. 2002. *Kosakata dasar Swadesh di kabupaten Kutai*. Language Mapping Series, PT 2. Jakarta: Pusat Bahasa.
- Bailey, D.J.S. 1963 [1901]. The Sru Dyaks (2nd Division). In *The Sea Dyaks and other races of Sarawak*, ed. by Anthony Richards, 331-340. Kuching: Borneo Literature Bureau (originally published in *The Sarawak Gazette* for 1901).
- Barth, J.P.J. 1910. *Boesangsch-Nederlandsch woordenboek*. Batavia: Government Printer.
- Behrens, Dietlinde. 2002. *Yakan – English dictionary*. Manila: Linguistic Society of the Philippines.

- Behrens, Dietlinde. 2007. *Yakan texts*. Manila: Linguistic Society of the Philippines.
- Bellwood, Peter. 1988. *Archaeological research in south-eastern Sabah*. Kota Kinabalu: Sabah Museum and State Archives.
- Bellwood, Peter. 1989. Archaeological investigations at Bukit Tengkorak and Segarong, south-eastern Sabah. *Bulletin of the Indo-Pacific Prehistory Association* 9:122-162.
- Bellwood, Peter. 1990. From late Pleistocene to early Holocene in Sundaland. In *The world at 18,000 BP*, vol. 2, ed. by C. Gamble and O. Soffer. 255-263. London: Unwin Hyman.
- Bellwood, Peter. 1992. Southeast Asia before history. In *The Cambridge history of Southeast Asia* vol 1(1), ed. by Nicholas Tarling, 55-136. Cambridge: Cambridge University Press.
- Bellwood, Peter. 2007. *Prehistory of the Indo-Malaysian Archipelago*, revised edition. Canberra: Australian National University E Press.
- Benjamin, Geoffrey. 1976. Austroasiatic subgroupings and prehistory in the Malay peninsula. In *Austroasiatic studies, part 1*, ed. by Philip N. Jenner, Laurence C. Thompson, and Stanley Starosta, 37-128. Honolulu: University of Hawaii Press.
- Benjamin, Geoffrey. 1985. On pronouncing and writing Orang Asli languages: a guide for the perplexed. *Orang Asli Studies Newsletter* 4:4-16.
- Blust, Robert. 1969. Some new Proto-Austronesian trisyllables. *Oceanic Linguistics* 8:85-104.
- Blust, Robert. 1972. Report on linguistic fieldwork undertaken in Sarawak. *Borneo Research Bulletin* 4(1):12-14.
- Blust, Robert. 1973. The origins of Bintulu *b, d*. *Bulletin of the School of Oriental and African Studies* 36(3):603-620.
- Blust, Robert. 1974a. *The Proto-North Sarawak vowel deletion hypothesis*. Ph.D. dissertation. Honolulu: Department of Linguistics, University of Hawai'i.
- Blust, Robert. 1974b. A Murik vocabulary, with a note on the linguistic position of Murik. In *The peoples of central Borneo*, ed. by Jérôme Rousseau. Special issue of the *Sarawak Museum Journal* 22(43) (n.s.):153-189.
- Blust, Robert. 1977. Sketches of the morphology and phonology of Bornean languages 1: Uma Juman (Kayan). *Papers in Bornean and western Austronesian languages* no. 2, ed. by Hein Steinhauer, 7-122. Canberra: Pacific Linguistics.
- Blust, Robert. 1981. The reconstruction of Proto-Malayo-Javanic: an appreciation. *Bijdragen tot de Taal-, Land en Volkenkunde* 137:456-469.

- Blust, Robert. 1984. The Tring dialect of Long Terawan. *Sarawak Museum Journal* 33(54) (n.s.): 101-135.
- Blust, Robert. 1984-85. The Austronesian homeland: a linguistic perspective. *Asian Perspectives* 26:45-67.
- Blust, Robert. 1988a. Sketches of the morphology and phonology of Bornean languages 2: Mukah Melanau. In *Papers in western Austronesian linguistics no. 3*, ed. by Hein Steinhauer, 151-216. Canberra: Research School of Pacific Studies, Department of Linguistics, Australian National University.
- Blust, Robert. 1988b. Malay historical linguistics: a progress report. In *Rekonstruksi dan cabang-cabang Bahasa Melayu Induk*, ed. by Mohd. Thani Ahmad and Zaini Mohamed Sain, 1-33. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Blust, Robert. 1988c. *Austronesian root theory: an essay on the limits of morphology*. Studies in Language Companion Series 19. Amsterdam; Philadelphia: John Benjamins Publishing Company.
- Blust, Robert. 1991. The Greater Central Philippines hypothesis. *Oceanic Linguistics* 30:73-129.
- Blust, Robert. 1993. Kelabit-English vocabulary. *Sarawak Museum Journal* 44(65) (n.s.):141-226.
- Blust, Robert. 1994. The Austronesian settlement of mainland Southeast Asia. In *Papers from the Second Annual Meeting of the Southeast Asian Linguistics Society*, ed. by Karen L. Adams and Thomas John Hudak, 25-83. Tempe, Arizona: Program for Southeast Asian Studies, Arizona State University.
- Blust, Robert. 1997. Nasals and nasalization in Borneo. *Oceanic Linguistics* 36:149-179.
- Blust, Robert. 1998. The position of the languages of Sabah. In *Pagtanáw: Essays on language in honor of Teodoro A. Llamzon*, ed. by Ma. Lourdes S. Bautista, 29-52. Manila: Linguistic Society of the Philippines.
- Blust, Robert. 2000a. Low vowel fronting in northern Sarawak. *Oceanic Linguistics* 39:285-319.
- Blust, Robert. 2000b. Why lexicostatistics doesn't work: the 'universal constant' hypothesis and the Austronesian languages. In *Time depth in historical linguistics*. ed. by Colin Renfrew, April McMahon, and Larry Trask, 311-332. Cambridge: McDonald Institute for Archaeological Research.

- Blust, Robert. 2001. Language, dialect and riotous sound change: The case of Sa'ban. In *Papers from the Ninth Annual Meeting of the Southeast Asian Linguistics Society*. ed. by Graham W. Thurgood, 249-359. Tempe: Program for Southeast Asian Studies, Arizona State University.
- Blust, Robert. 2002a. Formalism or phoneyism? The history of Kayan final glottal stop. In *Between worlds: Linguistic papers in memory of David John Prentice*, ed. by K. Alexander Adelaar and Robert Blust, 29–37. Canberra: Pacific Linguistics.
- Blust, Robert. 2002b. Kiput historical phonology. *Oceanic Linguistics* 41:384-438.
- Blust, Robert. 2003. *A short morphology, phonology and vocabulary of Kiput, Sarawak*. Canberra: Pacific Linguistics.
- Blust, Robert. 2005. The linguistic macrohistory of the Philippines: some speculations. In *Current issues in Philippine linguistics and anthropology: Parangal kay Lawrence A. Reid*, ed. by Hsiu-chuan Liao and Carl R. Galvez Rubino, 31-68. Manila: Linguistic Society of the Philippines and SIL International.
- Blust, Robert. 2006. The origin of the Kelabit voiced aspirates: a historical hypothesis revisited. *Oceanic Linguistics* 45:311-338.
- Blust, Robert. 2007a. Òma Lóngh historical phonology. *Oceanic Linguistics* 46:1-53.
- Blust, Robert. 2007b. The linguistic position of Sama-Bajaw. *Studies in Philippine Languages and Cultures* 15:73-114.
- Blust, Robert. 2010. The Greater North Borneo hypothesis. *Oceanic Linguistics* 49:44–118.
- Blust, Robert. 2011. The problem of doubletting in Austronesian languages. *Oceanic Linguistics* 50:399-457.
- Blust, Robert. 2013. *The Austronesian languages*, 2nd edition. Canberra: Pacific Linguistics.
Online: <http://pacling.anu.edu.au/materials/Blust2013Austronesian.pdf>
- Blust, Robert. 2014. Some recent proposals concerning the classification of the Austronesian languages. *Oceanic Linguistics* 53:300-391.
- Blust, Robert. 2015. Longhouses and Nomadism: is there a connection? *Borneo Research Bulletin* 46:194-221.
- Blust, Robert. n.d. Fieldnotes on 41 languages of northern and central Sarawak.
- Blust, Robert, and Alexander D. Smith. 2014. *A bibliography of the languages of Borneo (and Madagascar)* Reference Series No. 2. Phillips, Maine: The Borneo Research Council.

- Blust, Robert, and Stephen Trussel. ongoing. *Austronesian comparative dictionary*. Online: <http://www.trussel2.com/ACD>
- Bock, Carl. 1985 [1881]. *The headhunters of Borneo: a narrative of travel*. Oxford: Oxford University Press
- Brainard, Sherri, and Dietlinde Behrens. 2002. *A grammar of Yakan*. Manila: Linguistic Society of the Philippines.
- Bryant, Carmen J. 1990. A descriptive analysis of the Bakatiq-Sara/Riok language of the Sanggau-Ledo District of West Kalimantan, Indonesia. Paper presented at the Borneo Research Council First Biennial Meeting.
- Burkhardt, J.M. 2014. *The reconstruction of the phonology or Proto-Berawan*. Ph.D. dissertation. Institute for South-East Asian Studies, Faculty of Language and Cultural Sciences, Johann-Wolfgang-Goethe-University, Frankfurt/Main.
- Burkhardt, J.M. 2016. How did Long Terawan Berawan develop sixteen vowel phonemes? *Oceanic Linguistics* 55(2):588-619.
- Césard, Nicolas, Antonio Guerreiro, and Antonia Soriente, compilers. 2015. *Petualangan Unjung dan Mbui Kuvong. Sastra Lisan dan Kamus Punan Tuvu' dari Kalimantan*. Jakarta: Efeo.
- Čhanthrupant, Thanan, and Chāthchāi Phromčhakkarin. 1978. *Photčhanānukrom Khamen (Surin)-Thai-Angkrit = Khmer (Surin)-Thai-English Dictionary*. Bangkok, Thailand: Indigenous Languages of Thailand Research project, Chulalongkorn University Language Institute.
- Chhabra, B. Ch. 1947. Yūpa inscriptions. In *India Antiqua. A volume of oriental studies presented by his friends and pupils to Jean Philippe Vogel, C.I.E. on the occasion of the fiftieth anniversary of his doctorate*, 77-82. Leyden: Kern Institute.
- Chou, Shu Hsiu. 2002. A reconstruction of Proto-Melanau. MA thesis, Universiti Kebangsaan Malaysia.
- Clayre, Beatrice, and L. Cubit. 1974. An outline of Kayan grammar. Special issue of the *Sarawak Museum Journal* 22(43):43-91.
- Clayre, Beatrice. 1991. Focus in Lun Dayeh. *Sarawak Museum Journal* 42(63):413-435.
- Coedès, G. 1968. *The Indianized states of Southeast Asia*, 2nd edition. Translated by Susan Brown Cowing, ed. by Walter F. Vella. Honolulu: University of Hawai'i Press.
- Collins, James T. 1987. *Dialek Melayu Sarawak*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

- Dahl, Otto Chr. 1951. *Malgache et Maanjan: une comparaison linguistique*. Studies of the Egede Institute, no. 3. Oslo: Egede Instituttet.
- Dahl, Otto Chr. 1991. *Migration from Kalimantan to Madagascar*. Oslo: Norwegian University Press.
- Douglas, R.S. 1911. A comparative vocabulary of the Kayan, Kenyah, and Kelabit dialects. *Sarawak Museum Journal* 1(1):75-119.
- Dreba, Anna, Filisia Beddie, Cyril John Naming, and Margarate Dreba. 2007. *Buk bang piminyuu bigambar – Kamus bergambar – Picture dictionary Piminyuu Biatah – Bahasa Melayu – English*. Kuching: Dayak Bidayuh National Association.
- Dyen, Isidore. 1956. The Ngaju-Dayak 'Old speech stratum'. *Language* 32: 83-87.
- Dyen, Isidore. 1965. *A lexicostatistical classification of the Austronesian languages*. Indiana University Publications in Anthropology and Linguistics, and Memoir 19 of the International Journal of American Linguistics. Baltimore: The Waverly Press.
- de, R. F. 1968 [1901]. The Sru Dyaks. In *The Sea Dyaks and other races of Sarawak*, ed. by Anthony Richards, 259-260. Kuching: Borneo Literature Bureau (originally published in *The Sarawak Gazette* for 1901).
- Galvin, A.D. 1967. *Kenyah vocabulary*. Privately circulated.
- Guerreiro, Antonio J. 1983. A note on pronouns in the Long Gelat and Busang languages (Upper Mahakam, Kalimantan Timur). *Borneo Research Bulletin* 15(2):98-105.
- Guerreiro, Antonio J. 1989. Entités, rhétorique et intention dans le discours rituel Modang Wehèa (Bornéo). In *Anthropologie de la prière: rites oraux en Asie du Sud-Est*, ed. by Stephen C. Headley, 89-124. Paris: Études du Centre de l'Asie du Sud-Est.
- Guerreiro, Antonio J. 1996a. The Lebbo and Basap peoples of Berau and Kutai: linguistic and cultural affinities (East Kalimantan, Indonesia). *Working Paper/Document de travail*. Aix-en-Provence: IRSEA CNRS-Université de Provence, Programme PIBOR.
- Guerreiro, Antonio J. 1996b. Homophony, sound changes and dialectal variation in some central Bornean languages. *Mon-Khmer Studies* 25: *Special volume dedicated to Professor André-Georges Haudricourt*, 205-226.
- Guerreiro, Antonio J. 2015. The Lebbo' language and culture: a window on Borneo's ancient past. In *Language Documentation and Cultural Practices in the Austronesian World*.

- Papers from 12-ICAL, Volume 4*, ed. by I Wayan Arka, Ni Luh Nyoman Seri Malini, and Ida Ayu Made Puspani. 149-177. Canberra: Asia-Pacific Linguistics.
- Hamer, C. den. 1889. Proeve eener vergelijkende woordenlijst van zes in de Z. O. afdeeling van Borneo voorkomende taaltakken. *Tijdschrift v. Indisch Taal*. 32.
- Hardeland, August. 1859. *Dajaksch-Deutsches Wörterbuch*. Amsterdam: Frederik Muller.
- Harms, Robert T. 1968. *Introduction to phonological theory*. Englewood Cliffs: Prentice-Hall.
- Headley, Robert K. Jr. 1985. Proto-Pearic and the classification of Pearic. In *Southeast Asian linguistic studies presented to André-G. Haudricourt*, ed. by S. Ratanakul, 428-478. Institute of Language and Culture for Rural Development, Mahidol University.
- Hoffman, Carl. 1983. *The Punan: Hunters and gatherers of Borneo*. Ph.D. dissertation, Department of Anthropology, University of Pennsylvania.
- Hudson, Alfred B. 1967. *The Barito isolects of Borneo: A classification based on comparative reconstruction and lexicostatistics*. Data Paper no. 68, Southeast Asia Program, Department of Asian Studies, Cornell University. Ithaca, N.Y.: Cornell University.
- Hudson, Alfred B. 1970. A note on Salako: Malayic Dayak and Land Dayak in West Borneo. *Sarawak Museum Journal* 18(36-37) (n.s.):301-318.
- Hudson, Alfred B. 1978. Linguistic relations among Bornean peoples with special reference to Sarawak: An interim report. *Studies in Third World Societies* 3:1-44.
- Jacq, Pascale, and Paul Sidwell. 2000. *A comparative West Bahnaric dictionary*. Languages of the World/Dictionaries 21. Munich; Lincom Europa.
- Jakobson, Roman. 1960. Why mama and papa? In *Perspectives in psychological theory dedicated to Heinz Werner*, ed. by B. Kaplan and S. Wapner, 124-134. New York: International Universities Press, Inc.
- Kaboy, Tuton. 1974. The Penan Aput. In *The peoples of Central Borneo*, ed. by Jérôme Rousseau. Special issue of the *Sarawak Museum Journal* 22(43) (n.s.):287-293.
- Keppel, Henry. 1846. *The expedition to Borneo of H.M.S. 'Dido' for the suppression of piracy: with extracts from the journal of James Brooke, Esq., of Sarawak*. London: Chapman and Hall.
- Kessel, O. von. 1850. Statistieke aantekeningen omtrent het stroomgebied der rivier Kapuas, Wester-afdeeling van Borneo. *Indisch Archief (Tijdschrift voor de Indien, Batavia)* 1(2): 165-204.

- King, Victor. 1974. Notes on Punan and Bukat in West Kalimantan. *Borneo Research Bulletin* 6(2):39-42.
- King, Victor. 1976. The Maloh language: a vocabulary and summary of the literature. *Sarawak Museum Journal* 24(45) (n.s.):137-164.
- King, Victor. 1985. *The Maloh of West Kalimantan. An ethnographic study of social inequality and social change among an Indonesian Borneo people*. Dordrecht, Holland / Cinnaminson, USA: Foris Publications.
- Lees, Shirley P. 1965. An introduction to the sound system of Lépu' Tau. *Sarawak Museum Journal* 11:574-577.
- Lewis, M. Paul, Garry F. Simons, and Charles D. Fennig, eds. 2016. *Ethnologue: languages of the world*. 19th ed. Dallas: SIL International.
- Lobel, Jason William. 2013a. Philippine and North Bornean languages: issues in description, subgrouping, and reconstruction. Ph.D. dissertation, Department of Linguistics, University of Hawai'i.
- Lobel, Jason William. 2013b. Southwest Sabah revisited. *Oceanic Linguistics* 52:36-68.
- Lobel, Jason William. 2016. *North Borneo Sourcebook: vocabularies and functors*. PALI Language Texts. Honolulu: University of Hawaii Press.
- Majid, Zuraina. 1982. *The West Mouth, Niah, in the prehistory of Southeast Asia*. Sarawak Museum Journal Special Monograph no. 3. Kuching: The Sarawak Museum.
- Mamung, Dollop. 1998. *Kamus Punan-Indonesia: bah nguh Punan Tufu': Kamus Bahasa Punan Tubu*. Samarinda: Pusat Kebudayaan dan Alam Kalimantan, WWF Indonesia Proyek Kayan Mentarang.
- Martin, Peter W., and Peter G. Sercombe. 1992a. An update on the Penan of Brunei. *Borneo Research Bulletin* 24: 86-92.
- Martin, Peter W., and Peter G. Sercombe. 1992b. The Penan of Brunei: patterns of linguistic interaction. In *Shifting patterns of language use in Borneo. Papers from the 2nd Biennial International Conference, Kota Kinabalu, Sabah, Malaysia, July 1992*, 165-178. Borneo Research Council Proceedings Series, vol. 3. Williamsburg, Virginia: Department of Anthropology, College of William and Mary in Virginia.
- Martin, Peter W., and Peter G. Sercombe. 1995. Penan Sukang: suatu gambaran ringkas. *Beriga* 46:42-47.

- Martin, Peter W., and Peter G. Sercombe, eds. 2009. *Languages in Borneo: diachronic and synchronic perspectives*. Proceedings Series, vol. 8. Phillips, Maine: Borneo Research Council.
- Metcalf, Peter. 1974. The Baram district: a survey of Kenyah, Kayan, and Penan peoples. In *The peoples of Central Borneo*, ed. by Jérôme Rousseau. Special issue of the *Sarawak Museum Journal* 22(43) (n.s.):29-42.
- Morris, Stephen. 1991. *The Oya Melanau*. Kuching: Malaysian Historical Society (Sarawak Branch).
- Myers, Susan. 2009. *Birds of Borneo: Brunei, Sabah, Sarawak, and Kalimantan*. Princeton and Oxford: Princeton University Press.
- Nais, William. 1988. *Daya Bidayuh – English dictionary*. Kuala Lumpur: Persatuan Kesusasteraan Sarawak.
- Needham, Rodney. 1954. Penan and Punan. *Journal of the Straits Branch of the Royal Asiatic Society* 27:73-83.
- Needham, Rodney. 1972. Penan. In *Ethnic groups of insular Southeast Asia*, vol 1: *Indonesia, Andaman Islands, and Madagascar*, ed by Frank Lebar, 176-180. New Haven: Human Relations Area Files Press.
- Nothofer, Bernd. 1988. A discussion of two Austronesian subgroups; Proto-Malay and Proto-Malayic. In *Rekonstruksi dan cabang-cabang Bahasa Melayu Induk*, ed. by Mohd. Thani Ahmad and Zaini Mohamed Sain, 34-58. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Nothofer, Bernd. 1991. The languages of Brunei Darussalam. In *Papers in Austronesian Linguistics*, no. 1, ed. by Hein Steinauer, 151-176. Canberra: Pacific Linguistics.
- Nothofer, Bernd. 1995. The history of Jakarta Malay. *Oceanic Linguistics* 34:86-97.
- Nothofer, Bernd. 1997. *Dialek Melayu Bangka*. Bangi: Penerbit Universiti Kebangsaan Malaysia.
- Nyipa, Hang. 1956. Migrations of the Kayan people. *Sarawak Museum Journal* 7:82-88.
- Pallesen, A.K. 1985. *Culture contact and language convergence*. Manila: Linguistic Society of the Philippines.
- Pigeaud, Theodore G. 1962. *Java in the 14th century: a study in cultural history. The Nāgara-Kĕrtāgama by Rakawi Prapanca of Majapahit, 1365 A.D.* vol. 3., 3rd ed. The Hauge: The Netherlands Institute for International Cultural Relations.

- Ray, Sidney H. 1913. The languages of Borneo. *The Sarawak Museum Journal* 1(4):1-196.
- Reid, Lawrence. 1971. *Philippine minor languages: word lists and phonologies*. Oceanic Linguistics Special Publication No. 8. Honolulu: University of Hawai'i Press.
- Reijffert, Fr. A. 1956. *Vocabulary of English and Sarawak Land Dyak (Singhi tribe)*. Kuching: Sarawak Government Printing Office.
- Rensch, Calvin R. 2012. *Melanau and the languages of central Sarawak*. Dallas: SIL International.
- Rensch, Calvin R., Carolyn M. Rensch, Jonas Noeb, and Robert Sulis Ridu. 2012. *The Bidayuh language: yesterday, today, and tomorrow* (revised and expanded). SIL E-Books, 33. Kuching: SIL International.
- Revel-Macdonald, Nicole. 1982. Synchronical description at the phonetic and syllabic level of Modang (Kalimantan Timur) in contrast to Kenyah, Kayan, and Palawan (Philippines). In *FOCAL I: papers from the Fourth International Conference on Austronesian Linguistics 2*, ed. by Paul Geraghty, Lois Carrington, and Stephen A. Wurm. 321-331. Canberra: Pacific Linguistics.
- Richards, Anthony. 1981. *An Iban-English dictionary*. Oxford: Clarendon.
- Ross, Malcolm. 1988. *Proto Oceanic and the Austronesian languages of western Melanesia*. Canberra: Department of Linguistics, Research School of Pacific Studies, The Australian National University.
- Rousseau, Jérôme. 1974a. The Baluy area. In *The peoples of Central Borneo*, ed. by Jérôme Rousseau. Special issue of the *Sarawak Museum Journal* 22(43) (n.s.):17–27.
- Rousseau, Jérôme. 1974b. A vocabulary of Baluy Kayan. In *The peoples of Central Borneo*, ed. by Jérôme Rousseau. Special issue of the *Sarawak Museum Journal* 22(43) (n.s.): 93–152.
- Rousseau, Jérôme. 1990. *Central Borneo: ethnical identity and social life in a stratified society*. Oxford: Clarendon Press; New York: Oxford University Press.
- Rubenstein, Carol. 1990. "Like early mist...": five songs of the Penan Urun. *Sarawak Museum Journal* 41(62) (n.s.): 153-188.
- Sabang, Clemment Langet. 2015. *English-Sebop vocabulary*. Miri: privately published.
- Sandin, Benedict. 1980. *The living legends: Borneans telling their tales*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

- Sandin, Benedict. 1994. *Sources of Iban traditional history*. Sarawak Museum Journal Special Monograph no. 7, 46(67) (n.s.).
- Sellato, B. 1980. The upper Mahakam area. *Borneo Research Bulletin* 12(2):40-46.
- Sellato, Bernard. 1981. Three-gender personal pronouns in some languages of central Borneo. *Borneo Research Bulletin* 13:48-49.
- Sellato, Bernard. 1982. A double polarity in Aoheng terminological systems of direction. *Borneo Research Bulletin* 14:24-27.
- Sellato, Bernard. 1986. *Les nomads forestiers de Bornéo et la sédentarisation; Essai d'histoire économique et sociale*. Ph.D. thesis, EHESS, Paris.
- Sellato, Bernard. 1994. *Nomads of the Bornean rainforest: the economics, politics, and ideology of settling down*. Translated by Stephanie Morgan. Honolulu: University of Hawai'i Press.
- Sellato, Bernard. 2001. *Forest, resources and people in Bulungan. Elements for a history of settlement, trade, and social dynamics in Borneo, 1880-2000*. Bogor: Center for International Forestry Research.
- Sellato, Bernard, and Pierre Le Roux. 2004. A note on intervals, space and time, and the colors of vowels in the Aoheng language of Borneo. In *Poids et mesures en Asie du sud-est systèmes métrologiques et sociétés [Weights and measures in Southeast Asia, metrological systems and societies], vol. 1, L'Asie du sud-est austronésienne et ses marches. Études Thématiques, no. 13*, ed. by Pierre Le Roux, Bernard Sellato, and Jacques Ivanoff, 259-265. Paris: École française d'Extrême-Orient, Institut de recherches Asiatiques.
- Sellato, Bernard, and Antonia Soriente. 2015. The languages and peoples of the Müller Mountains: a contribution to the study of the origins of Borneo's nomads and their languages. *Wacana* 16(2):339-354.
- Sercombe, Peter G. 1996. Ethnolinguistic change among the Penan of Brunei: some preliminary observations. *Bijdragen tot de taal-, land- en Volkenkunde* 152:257-274.
- Sercombe, Peter G. 2000. Language and identity regarding the Penan of Brunei. In *Borneo 2000: Language, management and tourism. Proceedings of the Sixth Biennial Borneo Research Conference, Vol 3*, ed. by Michael Leigh, 21-33. Kuching: Universiti Malaysia Sarawak.

- Sercombe, Peter G. 2002a. Linguistic continuity and adaptation of Penans in Negara Brunei Darussalam. Ph.D. dissertation, Universiti Kebangsaan Malaysia.
- Sercombe, Peter G. 2002b. Language maintenance and shift: a review of theoretical and regional issues with special reference to Borneo. In *Methodological and analytical issues in language maintenance and shift studies*, ed. by M. K. David, 1-19. Berlin: Peter Lang.
- Sercombe, Peter G. 2003. Multilingualism among the Penan of Brunei. *International Journal of Bilingualism* 7(2):153-175.
- Sercombe, Peter G. 2006. The Eastern Penan language of Borneo. In *Reflections in Southeast Asian seas: essays in honour of Professor James T. Collins (Book 2)*, ed. by Shin Chong, Karim Harun, and Yabit Alas, 1-34. Pontianak: STAIN Pontianak Press.
- Sercombe, Peter G. 2007. Small worlds: the language ecology of the Penan in Borneo. In *Encyclopedia of language and education: ecology of language*, vol. 9, ed. by Angela Creese, Peter W. Martin, and Nancy H. Hornberger, 183-193. New York: Springer.
- Sercombe, Peter G. 2010a. Language and education: the experience of the Penan in Brunei. *International Journal of Educational Development* 30(6):625-635.
- Sercombe, Peter G. 2010b. To be or not to be: challenges facing Eastern Penan in Borneo. In *Language endangerment in the Austronesian world: challenges and responses*, ed. by Margaret Florey, 191-203. Oxford: Oxford University Press.
- Sidwell, Paul. 2000. *Proto South Bahnaric: a reconstruction of a Mon-Khmer language of Indo-China*. Canberra: Pacific Linguistics.
- Sidwell, Paul. 2005. *The Katuic languages: classification, reconstruction and comparative lexicon*. LINCOM Studies in Asian Linguistics 58. Munich: Lincom Europa.
- Skeat, Walter William, and Charles Otto Blagden. 1906. *Pagan races of the Malay peninsula*. vol 2. London: Macmillan.
- Smith, Alexander D. 2015a. On the classification of Kenyah and Kayanic languages. *Oceanic Linguistics* 53(2):333-357.
- Smith, Alexander D. 2015b. Sebop, Penan, and Kenyah internal linguistic classification. *Borneo Research Bulletin* 46:172-193.
- Smith, Alexander D. 2017. Merap historical phonology in the context of a central Bornean linguistic area. *Oceanic Linguistics* 56:143-180.

- Smith, Alexander D. to appear. Reconstructing Proto-Kenyah pronouns and the development of a true five number system. *Journal of the Southeast Linguistics Society (JSEALS)*.
- Soriente, Antonia. 2003. *A classification of the Kenyah languages in East Kalimantan and Sarawak*. Ph.D. dissertation, Universiti Kebangsaan Malaysia.
- Soriente, Antonia. 2006a. *Mencalèny & Usung Bayung Marang: a collection of Kenyah stories in the Òma Lónggh and Lebu' Kulit languages*. Jakarta: Atma Jaya University Press.
- Soriente, Antonia. 2006b. Uma' Kulit: A Kenyah or Kayan language? Linguistic classifications and local epistemology. *Linguistik Indonesia* 24(1):71-81.
- Soriente, Antonia. 2008. The classification of Kenyah languages: A preliminary assessment. In SEALS XIV(2): *Papers from the 14th Meeting of the Southeast Asian Linguistics Society (2004)*, ed. by Wilaiwan Khanittana and Paul Sidwell, 49–62. Canberra: Pacific Linguistics.
- Soriente, Antonia. 2010. Voice and focus system in Penan and Kenyah languages of East Kalimantan. In *Proceedings of the Workshop on Indonesian-type Voice Systems*: 45-62. Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.
- Soriente, Antonia. 2013. Undergoer voice in Borneo Penan, Punan, Kenyah, and Kayan languages. In *Voice variation in Austronesian languages: Linguistic studies of Indonesian and other languages in Indonesia*, ed. by K. Alexander Adelaar, NUSA 54: 175–203.
- Soriente, Antonia. 2015. Mbraa: a Modang-Bahau language? Paper presented at 13-ICAL, July 18th-21st, 2015, Academia Sinica, Taipei, Taiwan.
- Southwell, C. Hudson. 1990. *Kayan-English dictionary, with appendices*. Kuching: Sarawak Literary Society.
- Suryadikarta, Fudiat, Darmansyah, and M. P. Lambut. 1985. *Struktur bahasa Lawangan*. Jakarta: Pusat Bahasa.
- Sutlive, Vinson. 1978. *The Iban of Sarawak*. Arlington Heights, Illinois: AHM Publishing.
- Sutlive, Vinson, and Joanne Sutlive, eds. 2001. *The encyclopedia of Iban studies*. Kuching; The Tun Jugah Foundation.
- Swadesh, Morris. 1952. Lexicostatistic dating of prehistoric ethnic contacts. *Proceedings of the American Philosophical Society* 96:452-463.

- Swadesh, Morris. 1955. Towards greater accuracy in lexicostatistic dating. *International Journal of American Linguistics* 21:121-137.
- Tsuchida, Shigeru, Yukihiro Yamada, and Moriguchi Tsunekazu. 1987. *Lists of selected words of Batanic languages*. Tokyo: University of Tokyo, Faculty of Letters.
- Thurgood, Graham. 1999. *From ancient Cham to modern dialects: two thousand years of language contact and change: with an appendix of Chamic reconstructions and loanwords*. Oceanic Linguistics Special Publication, no. 28. Honolulu: University of Hawaii Press.
- Vogel, Jean Ph. 1918. The Yupa inscriptions of King Mulavarman: from Koetei (east Borneo). *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië* 74:167-223.
- Wadley, Reed L., and F. Andrew Smith. 2001. Dayak kings, Malay sultans, oral histories, and colonial archives: a comment on Djuweng (1999) and Sellato (1999). *Borneo Research Bulletin* 32:57-67.
- Wati Kurniawati, Non Martis, Buha Aritonang, and Hidayatul Astar. 2002a. *Kosakata dasar Swadesh di Provinsi Kalimantan Selatan*. Language Mapping Series PT 07. Jakarta: Pusat Bahasa.
- Wati Kurniawati, Non Martis, Buha Aritonang, and Hidayatul Astar. 2002b. *Kosakata dasar Swadesh di kabupaten Berau, kotamadya Samarinda, dan kotamadya Balikpapan*. Language Mapping Series PT 08. Jakarta: Pusat Bahasa.
- Whittier, Herbert L., and Patricia R. Whittier. 1974. The Apo Kayan area of East Kalimantan. In *The peoples of Central Borneo*, ed. by Jérôme Rousseau, Special issue of the *Sarawak Museum Journal* 22(43) (n.s.):5-16.