

# AUSTRONESIAN CULTURE HISTORY THROUGH RECONSTRUCTED VOCABULARY (AN OVERVIEW)

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## 1. INTRODUCTION

Let us take a trip backwards in time in a very special kind of time machine. Its instrument panel has but two controls, labelled RECONSTRUCTION and SUBGROUPING, and its fuel is called DATA.

We are not the first to embark on such a voyage. The first successful one was undertaken over one hundred years ago by Hendrik Kern (1889). There were not many attempts for quite some time thereafter, perhaps because of the need for more fuel – abundant DATA had been amassed by Dempwolff (1938), which have been more than doubled by Blust (1970, 1973, 1980a, 1983-84a, 1986, 1989a). Hence, the time machine has been very active over the last two decades: Isidore Dyen (1971a, 1976), Otto C. Dahl (1976) and Blust (1977a, 1984-85).

We need not rewrite the manual on how to operate both switches. There are excellent, albeit disharmonious words on SEMANTIC RECONSTRUCTION in the works by Dyen (& Aberle), Dahl and Blust. So too for SUBGROUPING, but there is even more disagreement on this one.<sup>1</sup> The Formosan languages may represent a link with the distant past (since there may be as many as three distinct groups there) or they may be more linked to languages of the Philippines. The languages of the Philippines, Malaysia and most of Indonesia represent another group (Western Austronesian or Hesperonesian).<sup>2</sup> There are also the Central and Eastern Malayo-Polynesian groups (the latter includes some languages from eastern Indonesia and all those in the Pacific islands). If a related word (cognate form) with similar meaning is found in all four, it can clearly be posited for Proto Austronesian (PAN), the protolanguage of highest order. If it is not, then we must look carefully at its distribution. If it is found, for example, only in Formosa and the Philippines, can we safely and ineluctably assume that it represents a continuation of PAN and that it did not spread by borrowing? Would not the collection of a large number of such etyma lead us to caution or even indicate a potentially contrary subgrouping?

<sup>1</sup> In general, I follow the subgrouping proposed by Blust (1980a:10-13), with one major exception, namely my treatment of innovations shared between Formosan and Western Austronesian languages (the Philippines, Malaysia or greater Indonesia) which I label as Proto Hesperonesian-Formosan (PHF). Where the subgrouping of other scholars would reinterpret any evidence constituting the assignment of a level, I put a question mark after the protolanguage (e.g. PAN?, PMP?, etc.), although the evidence is treated herein as if the reconstruction were valid.

<sup>2</sup> Some scholars reject this as a valid subgroup, but innovations (both widespread and selective) supporting it were presented in Zorc (1986:156,165-168).

We will therefore proceed on our trip through time through thirty semantic categories on a stage by stage basis *as if* the proposed reconstructions were innovations of that period. If further research raises the level of any given etymon, then the characteristics of the respective higher level will change accordingly.

There are certain areas where this procedure leads to otiose results. For example, RICE AGRICULTURE is probably attributable to early or even pre-Austronesian. Since all signs of it have been lost in Oceanic languages, the reconstructions are here labelled (and dealt with as) Proto Hesperonesian-Formosan (PHF = Western Austronesian + Formosan). Similarly, SEAFARING may have been PAN. However, the indigenous languages of Formosa generally do not have cognates (not surprising for groups that have been pushed inland and upland by foreign invasions), so much of the boating terminology is here labelled Proto Malayo-Polynesian (PMP).<sup>3</sup> Scholars who feel that such strictness is unwarranted may accordingly interpret the appropriate statements at a higher level than that assigned here.

### 1.1 PROTO AUSTRONESIAN (PAN) GEOGRAPHY AND NATURAL PHENOMENA

Coming upon the earliest settlement, some 8,000 years ago,<sup>4</sup> we note many straightforward phenomena that give us no pause, although we appreciate that we can discern what these people call them. Thus, *stone, rock* (\*batúH)<sup>5</sup> and recurring roots for *dust* (\*+bu)<sup>6</sup> and some form of *viscous fluid* (\*+teq); *sky* (\*lájit), *star* (\*bi(n)túqen), *moon* (\*búlaN), *night* (\*Rabí?iH). In some dialects, the word for *day* (\*qal(e)jáv) may have only been distinguished morphologically from the *sun* itself (\*qa(n)jaw; but cf: \*waRiH). Meteorologically there was: *monsoon wind* (\*Sa-báRat), *rain wind (south-east)* (\*tímuR), *cloud* (\*Rabun), *rain* (\*quZáN), yielding *potable fresh water* (\*d<sub>2</sub>a+Núm), which may also be obtained from a *drip, leak* (\*túd<sub>2</sub>uq).

The sea is a point of reference for the natives (\*daya towards the interior and \*laHúd towards the sea) where there is *low tide, exposed reef* (\*ma-qaCi) and where *breakers, surf* (\*Nabek) roll upon the *sand* (\*qěnay), leaving behind *foam, bubbles* (\*bujaq). The terrain includes *hill, mound* (\*búki) and *lake, pond* (\*dánaw). There is also a clearly identified *path or trail* (\*Zálan).

<sup>3</sup> The Proto Malayo-Polynesian level is posited for any reconstruction that does not have a Formosan cognate but is otherwise distributed among the Western, Central and Eastern (Oceanic) subgroups.

<sup>4</sup> These dates are my estimates based on the migrations and the kinds of linguistic changes that have occurred and the furthest reaches of the lexicostatistical method. Blust (1984-85:54f.) proposes a time-depth of 6,500 years (c.4500 B.C.), while Bellwood (1985:106) more conservatively suggests 5,000 years ago.

<sup>5</sup> Space does not permit the presentation of supporting data for these reconstructions. However, the glossary in the appendix directs the reader to studies which contain such evidence. Conventions include the following:

(a) Consonant and vowel symbols in these reconstructions follow those proposed by Dyen (1971a:22f.), with the exception of \*d with subnumerals (\*d<sub>2</sub>, \*d<sub>3</sub>), which are based on principles outlined in Dahl (1976, 1981); see Zorc (1987) for some scepticism on my part for the distinction between \*d and \*D (or \*d<sub>2</sub>);

(b) Accented vowels are determined on the basis of conventions established in Zorc (1978, 1983);

(c) Parentheses are put around ambiguously-determined elements, usually the facultative nasal.

<sup>6</sup> A plus sign indicates a proposed submorphemic monosyllabic root, as discussed and exemplified in Blust (1988a, 1988b) or Zorc (1990).

## 1.2 EARLY WESTERN AUSTRONESIAN (PHF = PAN?)

Over the next millenium, the ecological zone has become higher (*peak of a mountain* (\*qa-pucuk)) and more active (*earthquake* (\*lɪnuR), *typhoon, storm, hurricane* (\*baRiuS), and *north wind* (\*qamɪS-an)). We can also discern early vocabulary for *lightning* (\*kilát), *open-air, outdoors, midst of* (\*CaSaw), *opposite shore* (\*Si(m)paR), and *channel, flow(ing)* (\*á+luR). At least two original words have developed alternate forms: *sand* (\*benaqi) and *foam, froth* (\*puCaq; cf: PMP \*budaq).

## 1.3 PROTO MALAYO-POLYNESIAN (PMP) TIMES

Within another millenium (c.3500 B.C.) the group dispersed and was now well aware of numerous maritime phenomena (see sections 2 - 3): *littoral sea* (\*dáRat), *island* (\*nusa), *estuary, river mouth* (\*naŋa (dbl: \*binaŋa)<sup>7</sup>), *lagoon, harbour* (\*namaw), *channel* (\*sawaq), *high tide* [cf: 'yawn'] (\*Ruab), *flow* (\*qa+liR, \*sa+liR), *current* (\*qáRus), yet another word for *wave* (\*qáluŋ), and *saltwater* (\*tasik) as opposed to *fresh water* (\*wáhiR).

These people recognised an *inhabited territory/human ecosystem* (\*banua), which included *woods, forest* (\*qútan) and very rough terrain (*mountain* (\*bulud), *mountain range* (\*qilih), *mountain peak, elevated ground* (\*bunduk)) in contrast with *plain, level ground* (\*dʒá+taR), a knowledge of *cave* (\*lian) and *echo* (\*-niŋal).

The weather was capable of being both *cold* (\*ma-diŋ+diŋ) and *warm, hot* (\*ma-panas), which yielded *fog* (\*kabut). Weather of this period or place was *windy* (\*děRes; cf: *wind, air* \*háŋin) and *overcast, darkened* (\*gu(n)+dʒem) with perhaps more than a usual amount of *lightning* (\*qu-silaq), *lightning that strikes s.t.* (\*ge+lap), *thunder* (\*du+du, \*ku+dʒug, \*le(ŋ)+gur, \*rü(ŋ)guŋ), and *flood* (\*baháq). Either these or earthquakes (encountered previously) made the world *shake, tremble, rock* (\*ninih).

There were preoccupations with *dust* (\*qa+búk, \*qa+puk, \*sa+puk, \*debu; cf: PHN \*a+búg) as well as one process that formed it, *decay, crumble* (\*+bek, \*+buk), and forms of *light: bright light* (\*ni+law), *flash, sparkle* (\*+lap), *radiance, ray of light* (\*baná?ar), *shine brightly* (\*dadʒaŋ), and the *morning/evening star (Venus)* (\*(man)talaq).

## 1.4 LATER WESTERN AUSTRONESIAN (PHN) DEVELOPMENTS

As numerous groups left on journeys to the south and east across the Pacific, those left behind continued to spread out in the west experiencing more *earthquake* (\*lindʒuR) and *thunder storm, lightning bolt* (\*lentiq), *thunder* (\*duR+duR), but perhaps with a lessening in the severity of the weather: *cloud* [not a raincloud] (\*ram+bun),<sup>8</sup> *aftermath of a storm* (\*renáy), *dew, drizzle* (\*am+bun), *drizzle* (\*ri+nis), and *south wind* (\*salátan).

Their home continued to be near the sea with new words for *high tide* (\*tá?eb), *flow* (\*sa+luR), *current* (\*seleR), *swell, waves* (\*humbak), and *deep water* (\*túbiR). However, they were drawn inland as well: *swampy ground* (\*latiq), *slime* (\*ban()lik), *valley*,

<sup>7</sup> Doublets (dbl), which Dempwolff (1938) called "Nebenformen", are reconstructions that are phonologically similar to one another (see Blust 1980a:25).

<sup>8</sup> This reconstruction (PHN \*ram+bun) is a disjunct of PAN \*Ra+bun presented in section 1.1. Like many reconstructions, it is subject to scrutiny and re-evaluation, especially given Wolff's (1974) objections against \*r; it is here taken at face value.

*watercourse between hills* (\*le(m)bak, \*le(m)baq, \*lě(m)béŋ), *river* (\*suŋay), *creek*, *ravine* (\*bawáŋ, open expanse of land or water), and *primary forest* (\*tuan) as opposed to *forest* (\*halás).

### 1.5 PROTO PHILIPPINE (PPH) TERMS

The following forms are mentioned here in the hopes of finding earlier etyma rather than as proposals for first encounters: *tidal wave* (\*dǎlúyun), *seashore* (\*bay+bay), *rocky ground* (\*bakúlud), *water well* (\*bubún), *waterfall* (\*běsáy), and *rainbow* (PSP \*baluŋtu, PNP \*buŋlun, which seems to have spiritual significance, see Blust 1983). It is also noteworthy that these languages replaced earlier words with the following: *island* (\*pujuq), *dew* (\*ha?+muR), *earthquake* (\*Ridu?), *heat of the sun* (\*ma-qínit), *windy* (\*dejes), *forest* (\*kǎlásan, \*gúbat).

## 2. PROTO AUSTRONESIAN BOATING AND SEAFARING TERMINOLOGY

Certainly, with the diversity of the terrain just encountered, we might well wonder how they got to these places. The Austronesians are famous for their Oceanic voyages: spreading out from Formosa in the north to New Zealand in the south, Madagascar in the west and Easter Island in the east. Alas, on our present journey, there is not a lot to see at this time-depth. While it may be simply due to the lack of fuel (cognates in the upland Formosan languages), we may genuinely have discovered a prenaautical stage in early Austronesian history. Only four terms which may relate to this sphere of activity are well-attested: *move away*, *transfer* (\*SaliN), *drift with current* (\*qáñud), *turn*, *veer to the side* (\*liu-2),<sup>9</sup> and possibly *string*, *rope* (\*CalíS), which would obviously have been involved in activities other than navigation. Ferrell (1969) indicates that all Formosan groups are known to use some form of *raft*; although we cannot reconstruct a word at this level, it plays an important role in subsequent stages and will be discussed in sections 2.2 - 2.4. Paul Li (pers.comm.) believes that PMP \*bangka? *canoe*<sup>10</sup> may be raised to this level on the basis of a cognate in Ketagalan (now extinct).

### 2.1 PHF

At this stage, there is one term relating specifically to *dugout canoe*; *boat* (\*qabaŋ). One form represents a synonym for an earlier word, *turn*, *veer to the side* (\*ileŋ). Another, *noose*, *loop* (\*sílLiw) fits nicely with *rope* (above). Lastly, an unsuccessful venture into the sea might result in *submerge* (\*te+neb), from which *swim* (\*laŋuy, dbl: \*daŋuy, \*naŋuy) would be the only recourse.

### 2.2 PMP

Ocean travel was now not only possible, but well advanced. Everything necessary for inter-insular and trans-Pacific travel was available: *canoe* (\*waŋkaŋ,<sup>10</sup> \*balútu), *load a*

<sup>9</sup> This convention indicates full reduplication; using the number two after a hyphen (-2) is followed in the orthography of Malay and Indonesian.

<sup>10</sup> PMP \*bangka? (in section 2) and PMP \*waŋkaŋ (in section 2.2) are etymologically distinct.

canoe; cargo (\*lújan), go to sea (\*pa-laHud), outrigger (\*kátíR, \*saRman), mast; post; pillar (\*tiqan), sail (\*láyaR), canoe paddle, oar (\*beRsay), paddle [v], row (\*aluja, \*paluja), punt, boat pole (\*těkén), rudder; steer (\*quliŋ), turn, veer to the side (\*biliŋ), bail, water-bailer (\*limás), cross-seat in a boat (\*seŋkar), rollers for beaching a canoe (\*layen), board, ride (\*sakáy), join along the length, which also applied to a raft (\*da+kit), putty, caulking substance (\*+lit, \*bu+lit), float (\*a(m)puŋ), sink, disappear under water (\*tělém), fathom [measure of depth] (\*d₂ěpáh), sheltered (as from wind or rain) (\*d₂uŋ+d₂uŋ), and dive, plunge; drown (\*ke+ñej).

### 2.3 PHN

Perhaps not surprisingly, after the successful innovations of Malayo-Polynesian times, there are not many new developments. We find alternate forms for raft (\*Rá+kit) and float (\*lě(n)+táw), a term for bring up (a boat to shore) (\*u-dahik), and a name for prow, bow (\*zúlun).

### 2.4 PPH

Again, for the most part, synonyms have appeared for artefacts or actions known much earlier: oar (\*gáʔud), sink (\*lúnud), and drown (\*lěmés). In the Philippines, yet another term for raft (\*alud; PSP \*arur) has arisen, probably attesting to its importance over the canoe (xbaróto, xbarangay,<sup>11</sup> which forms are widespread, but with so many irregular reflexes that they must be taken with caution) as the basic means of navigation.

Similarly there are widespread forms in Western Austronesian languages, such as xpadáw sail boat and xkápál ship (both from Tamil), which indicate that our Austronesian seafarers were open to innovation in design and lexicon.

## 3. PAN FISHING AND SEALIFE

Given the importance of and orientation to the sea, there is abundant evidence that the earliest Austronesian people drew their subsistence from it. The generic word for fish (\*Si-káʔen) literally means *used for eating*, a morphological combination that persisted over the millenia (cf: PPH \*i-sedaʔ fish; eaten with the staple). They obtained such catches by means of derris root fish poison (\*túbaH) and the fish hook (\*kawíl). The earliest diet probably included: roe (\*biRaS; cf: PHN \*piRah), goatfish (\*Ciqaw), adult mullet (\*kaNasay), rayfish, stingray (\*páRiS), shark (\*qíSu), and freshwater eel (\*tuNa). The cowrie shell (\*tu(m)bak) was known and may have been used (e.g. as a horn or in the manufacture of fishhooks).

### 3.1 PHF

The PHF level adds but three terms to the above inventory: bait (\*paʔén), which complements hook (above), the swamp or land crab (\*kaRaŋ), and the turtle (\*qanCipa).

<sup>11</sup> The raised x indicates a spurious (invalid) reconstruction.

## 3.2 PMP

As with the growth of their boating technology, so too was there a vast increase in methods of fishing. Two roots appear in forms replacing the original word for *hook* (\*+bit, \*+wit); there is another word for *bait* (\*baŋi). Braiding techniques (see section 13) allowed the introduction of the *bamboo basket trap for fish* (\*bú+bu) and of a *fish net* (\*saruk) and *dragnet* (\*puket). The use of the *weir* (\*qem+peŋ) was accompanied by a *fish drive; churn water* (\*kebur), undoubtedly a communal activity.

Equally impressive is the knowledge of numerous species of fish: barracuda, *Sphyræna obtusata* (\*qalu), *big-eyed scad* (\*qatulay), *damsel fish* (\*mutu), *dolphinfish* (\*lajih), *grouper* (\*keRteŋ), *milkfish*, *Chanos chanos* (\*qawa?), *perch* (\*kurapu), *pilotfish*, *Remora* (\*kemi, \*gemi), *pufferfish*, *porcupinefish* (\*taRutuŋ), *sailfish* (\*saku-layaR), *Spanish mackerel* (\*taŋŋi), *squirrelfish* (\*taRaqaŋ), *stonefish* (\*nepuq), *trevally*, *Caranx* spp. (\*bilu), *tuna*, *bonito* (\*qatun), *unicornfish* (\*qumay), *wrasse*, *Cheilinus* sp. (\*mamin), *young mullet*, *Neomyxus chaptalii* (\*qaRuas), *Scomberoides* sp. (\*daRi), *marine-eel* or *fish* sp. (\*aRemaŋ), and an unidentified fish sp. (\*turiŋ). The term for *gills* (\*hásaŋ; cf: PNP \*hadaŋ) has persisted.

The Malayo-Polynesians knew of at least five species of *crab*: *coconut* (\*qayuyu), *hermit* (\*qumaŋ), *mangrove* (\*qali-máŋu, \*qali-maŋaw), *rock* (\*kaRakap) and *sand* (\*kaRuki). Other forms of sealife encountered were: *dugong*, *seacow* (\*d2uyuŋ), *starfish* (\*saŋa-2), *green sea turtle*, *tortoise* (\*pěñúh), *octopus* (\*kuRíta), *octopus tentacles or arms* (\*gaway), *squid*, *cuttlefish* (\*nuʔus; cf: PHN \*kanuʔus), *crustacean* (shrimp, lobster) (\*qud2áŋ), *oyster* (\*tiRem), *catye shell* (\*qaliliŋ), *conch shell*, *triton* (\*tam-búRi, \*buliq), *giant clam* (\*kima), *coral* sp. (\*buŋa), *snail; barnacle* spp. (\*sisi[q]), *crocodile* (\*buqáya), and, of course, *seaweed* sp., *moss* (\*lúmut, \*limut, \*lamut).

## 3.3 PHN

PHN peoples also refined fishing methods with the development of more kinds of *fishnet* (\*Rambat), *large fishnet* (\*salambaw), *fish net or trap* (\*siʔud, \*tuad2), *fish trap* (\*bak()lad), *fish pen* (\*ban()lat), or they could *catch fish/shrimp with the hands* (\*gama?).

Their waters also teemed with *pufferfish* (\*butíti), *mullet* (\*balának), *murrel*, *Ophiocephalus striatus* (\*qabu-2), *seabream*, *Sparus berda* (\*bakúku), *crab* sp. (\*qaRáma), *freshwater eel* (\*kasuli; cf: PSP \*kasíli), and several unidentified *marine fish* (\*-punti, \*maŋali) or *fish* (\*bagahak, \*baŋkulis, \*bunuR, \*katambak, \*kulambar).

## 3.4 OTHER DEVELOPMENTS

The speakers of Central Malayo-Polynesian encountered the *hawksbill turtle* (CMP \*keRaŋ), while Philippine speakers did well with *roe* (PPH \*búji?; cf: PSP \*bíhed), *tiny shrimp* (\*ajamáŋ), various *shrimp* sp. (\*pasáyan, \*hí+pun), *oyster* (\*talabá), and with *land turtle* sp. (\*pagʔuŋ) or *sea turtle* (\*pawíkan).



## 4. PROTO AUSTRONESIAN PLANTS AND FLORA

Given the terrain and the tropical or near-tropical weather these people encountered in their homeland and new settlements, numerous plants could be found. Some of these proved very useful: *bamboo* sp. (\*qauR), *rattan* (generic?) (\*quáy), *thorn* (\*Cěnék, \*dúRiH), *tree*, also the word for *wood* (\*káSiw). Some were edible or yielded *fruit* (\*buáq) in a *bunch*, *cluster* (\*+puŋ), such as the mango, *Mangifera indica* (\*Suai; PMP \*wai), *Cordia dichotoma* or *myxa* or possibly the *Anona reticulata* (\*qaNúNaŋ), *Dracontomelum edule* (\*daqu), or the fern *Athyrium esculentum* (\*pahku). From the earliest times one could find the mucilaginous plant, *Urena lobata* (\*puluC), nightshade, *Solanum nigrum* (\*SamuCf), the pandanus tree, *Pandanus tectorius* (\*paŋud2áN), the hibiscus, *Gnetum gnemon* (\*báRu), a parasitic plant, *Asplenium nidus* (\*lukuC), and sword grass, *Imperata cylindrica* (\*Riaq).

## 4.1 PHF

PHF plant life included two more species of bamboo, *Bambusa spinosa* (\*kawáyan (spiny) and \*búluq (thin)). There was the palm, *Caryota* spp. (\*qanibuŋ), the shrub *Smilax* sp. (\*baNaR, \*banaw), the plant *Diospyros discolor* (\*kamaya), and a pine tree, *Pinus* sp. (\*saleŋ, yielding *resin*, which was sometimes given the same name). Fruit trees created a greater awareness of their attributes: *ripe* (\*luʔum), *tree trunk* (\*púnuq; PMP \*púqun), *stump (of a tree)* (\*tuqed2), and another word for *thorn* (\*suqaR).

## 4.2 PMP

PMP reflects a period of absolute natural bounty. Firstly, there is a plethora of terminology relating to plants: *split open*, *blossom* (\*be(ŋ)+kar, \*be(ŋ)+kaR), *bud*; *flower*; *fruit* (\*búŋah), *leaf* (\*d2áhun), *fork of a branch* (\*pe+ŋah, \*sa+ŋáh), *branch* (\*daŋan, \*daŋ+k[ae]q), *root* (\*akad2, \*wakaR, \*wakat, \*waRet; \*Ramút, cf: PFM \*RamiC), *buttress root* (\*daliŋ; cf: PHN \*dalig, PSP \*daliR), *vine*, *aerial root* (\*waRej; cf: \*Rawej), *young plant shoot* (\*taluk), *heart (of plant)*, *pith* (\*qú(m)+buj), *sap*, *syrup* (\*ZuRúq).

Secondly, more plants became known: a fern (\*aResam), another fern, *Cyathea* sp. (\*puni), a lily, *Dracaena* or *Cordyline* spp. (\*siRi), the stinging nettle, *Laportea* (\*lateŋ, \*zalateŋ), the vine *Flagellaria indica* (\*huaR), a grass sp? (\*baliji), and an unidentified plant (\*lumbu). Some were useful: *bamboo* sp. (\*teriŋ), *Schizostachyum* sp. (\*tamiŋ), *Dendrocalamus* (\*bituŋ, \*pituŋ), *Bambusa vulgaris* (?) (\*periŋ); the fern, *Lygodium circinnatum* (\*ní(n)tuq), ramie, *Boehmeria nivea* (\*rami; cf: PSP \*qadamay), *Donax caniformis* [used for making baskets] (\*niniq), *Grewia* spp. (\*qanilaw), *Leea* spp. (\*mali), *Millingtonia hortensis* (\*taŋga), *Pipturus argenteus* (\*ad2amay), *rattan* sp. (\*naŋa). More edible fruits became accessible, such as *Citrus* sp. (\*limaw, \*muntay).

Thirdly, there was a virtual forest of PMP trees: *Alstonia scholaris* (\*ditaq), *Antiaris* [with poison sap] (\*laji), *Artocarpus* sp. [breadfruit] (\*teRep), *Artocarpus elastica* (\*kuluR, \*kulu), *Barringtonia* spp. (\*butun), *Caesalpinia* sp. [thorny tree] (\*sepaŋ), *Calophyllum inophyllum* (\*bitaquR), *Cananga odorata* (\*kanaga), *Casuarina equisetifolia* [pine] (\*qaRúhuʔ), *Ceiba pentandra* [kapok tree] (\*kabu), *Ceriops* [mangrove tree] (\*těŋéR), *Rhizophora* (\*bakhaw), *Cordia* spp. (\*kanawa), *Dolichandrone spathacea* (\*tuiʔ), *Erythrina indica* (\*d2ap+d2ap, \*d2e+d2ap), *Ficus* fig sp. (\*qaRaʔ), *Ficus benjamina* (\*nunuk), *Gnetum gnemon* (\*suka), *Intsia bijuga* (\*qipil, \*teRas), *Melochia umbellata* (\*tenu),

*Morinda citrifolia* (\*ñeñu), *Murraya paniculata* (\*kamuniñ), *Nauclea orientalis* (\*bañkal), *Palaquium* spp. for timber (\*ñañuq), *Pisonia umbellifera* (\*qanuliñ), *Pterocarpus indica* (\*náRa), *Schleichera trijuga* (\*kasambi?), *Schoutenia ovata* (\*kukun), *Terminalia catappa* (\*talísay), *Trema orientalis* (\*deRuñ), *Vitex pubescens* (\*-pa(m)pa), tree sp. (\*kanarum).

#### 4.3 PHN

PHN flora were equally abundant and prolific: *bunch, cluster (of fruit)* (\*búliR), *leaf* (\*bulún), *young shoot* (\*seli, \*semi), *undergrowth* (\*samun), *young (of vegetation)* (\*bataq). More words appear for *bamboo* sp. (\*pätún, \*telañ), large sp., *Dendrocalamus* (\*bětún), *rattan* (\*apis), and mango, *Mangifera indica* (\*pahuq). Other edible species are the jackfruit, *Artocarpus* (\*nañka?, cf: PPH \*ñañka?, \*lañka?) and a tuber, *Dioscorea* spp. (\*gaDuñ) [cf: *green*].

Other species at this level include: sword grass *Imperata cylindrica* (\*eRiq), grass (\*qalámen), grass or rush sp. (\*sedsed), the flowering plant, *Crinum asiaticum* (\*bákuñ), the palm trees, *Livistona rotundifolia* (\*qanáhaw) and *Pterospermum diversifolium* (\*bayuR), pandanus, *Orania* (\*báñah), plant sp. with ceremonial uses (\*taRabas), *Cassia* sp. (\*asuntiñ), a plant used for dyestuff (\*gamat), and unidentified plant spp. (\*tanduk-2 and \*lambayun); a timber tree, *Dipterocarpus* (\*balaw), the trees *Heritiera littoralis* (\*dúñun) and *Indigofera* (\*táRum), some as yet unidentified trees (\*amaRa, \*bañkiriñ, \*kenduñ), a timber tree sp. (\*Rihuq), and a vine from which poison is obtained (\*ziteq).

#### 4.4 DEVELOPMENTS AT OTHER LEVELS

In Southern Formosa we can find: *orchid* (PSF \*SabaR) and *camphor laurel* (\*d4akeS).

In the Philippines there is *hemp* (PPH \*Rutay) and Manila hemp, *Musa textilis* (\*abaká), the molave tree, *Vitex parviflora* (\*ha(N)-bur?aw), the tree *Dipterocarpus grandiflora* (\*apítuñ), another tree sp., *Lagerstroemia* (\*banabá), the *Ficus* tree considered a spirit residence (\*balíti?), and cogon grass, *Imperata cylindrica* (\*kúRun).

In the Indonesian archipelago there is: *fennell* (\*adas), a tree similar to *breadfruit* (\*medáñ), and *plants with stinging hairs* (\*amiañ).

With regard to all of these reconstructions, we must be chary. Widespread distribution alone is not necessarily a factor of legitimacy. Some of the flora are probably later introductions since the words for them are recent borrowings: witness the almost universal distribution of peanut (< Mexican Spanish \*maní?) in the Philippines.

#### 5. PAN FARMING AND AGRICULTURE

Since there was such lush vegetation, some form of *gathering, collecting* (PAN \*qalaq; PMP \*alap) must have been practised. But even the early Austronesians were not simply gatherers – they were farmers; witness *plant* [v] (\*CaNém) and *grow* [vitr]; *plant sprout* [n] (\*Cú(m)buq). There was an awareness of *undeveloped/fallow land, field* (\*Cálun), which they would then *cut away, clear vegetation* (\*tebaS), in which a *garden, cultivated field* (\*qumáH) would be established. Irrigation was provided: *dig (out); canal, ditch* (\*kálih).



Foodcrops included *sugarcane* (\*těbúS), *taro*, *giant arum*, *Alocasia* sp. (\*bíRaḡ), and *millet*, *foxtail* sp. (\*beCeḡ). There is no proof that the *banana* was among them, but every major AN subgroup has a word for some species of this fruit (cf: PFM \*belbel, PWI \*pisaḡ, PPH \*sáRij, PNP \*báRat, and reconstructions below). Crop preparation included *pounding* (\*báyuH, with mortar and pestle?) and *winnowing* (\*taSép, \*tapeS).

### 5.1 PHF

Whether a matter of loss by the groups that ventured across the Pacific or of innovation within the next millenium, the following terms relating specifically to RICE AGRICULTURE are well-attested: *rice (generic)* (\*Sumay, \*Sěmay, \*Hemay), *seed (for sowing)*, *seedling* (\*benSiḡ), *rice plant, unhusked rice* (\*pájey), *husked rice* (\*běRas), *rice straw, stubble* (\*ZaRámi), *mortar* (\*lě+suḡ, \*lu+súḡ), *pestle* (\*qaSelu), *thresh* (\*Ri?ék, \*iRfík), *bran, chaff, rice-husk* (\*qeCá).

There are two more words for *millet*: *Setaria italica* (\*záwah), *millet* sp. (e.g. *sorghum*) (\*baCaj). Some forms relating specifically to agricultural activities have only a western distribution: *dig in the earth* (\*kar+kar), *pull out, pluck; weed* (\*guC+guC), and *harvest* (\*qániH).

### 5.2 PMP

The Malayo-Polynesians continued this predilection for agriculture: *earth, soil* (\*tanaḡ, \*taneḡ), *fertile (of soil)* (\*le+mek), *fertile soil* (\*bu(R)+taḡ), *mud* (\*pítak), *wet (of soil)* (\*lemeḡ), *obstructed (of the flow of water)* (\*se+pet), *heap up; cover with earth* (\*+bun, \*tá+bun), *hoe, digging stick* (\*suan, \*sual), *sow, scatter (seed)* (\*+buR, as in \*ha(m)+buR, \*kam+buR), *plant [v]* (\*múla), *pull out, uproot* (\*a(m)+but, \*i+but), and *weed [v]* (\*babaw). Slash and burn agriculture may have appeared: *set fire to, burn* (\*tutuḡ).

Malayo-Polynesian crops now included: *banana* (\*punti), *ginger* (\*laquya, \*laqia), *melon; cucumber* (\*timun), *sago* (\*Rambia, \*Rumbia, \*sagúh), *dry sago branches* (\*kumbal), *taro*, *Colocasia* sp. (\*tales), *turmeric, Curcuma zeodoaria* (\*kúniḡ), and *yam tuber Dioscorea alata* (\*quí(m)bi). Some of these food products were subject to *grinding, milling* (\*gfiḡ).

Attributable to PMP are the *coconut* (\*niúR) and *coconut husk* (\*bunút); COCONUT FARMING per se must have developed by PHN times: *scrape out meat from a coconut* (\*suḡ+suḡ), *coconut cream/milk* (\*getaḡ, \*ga+teḡ).

### 5.3 PHN

The Western Austronesians developed or improved upon existing farming methods: *hack a passage through* (\*ben+tas), *cut away underbrush* (\*ta+bas), *cut off, prune; cut down* (\*teb+teb), *dibble, sow (rice seedlings)* (\*ha+sék), *sow, scatter, broadcast seed* (\*sá(m)+buR, \*sa(m)+beR, \*qa(m)+bud<sub>2</sub>), *heap, pile* (\*bun+bun), *hoe, chop up soil* (\*bacuk). Irrigation was practised: *block, obstruct* (\*ha(m)+beḡ), *hollow bamboo tube* (\*buḡ+buḡ), *mud* (\*bütá?, \*+tek, \*+cak), *waterlogged (of ground)* (\*ba+cak).

Additional species of *banana* were discovered and cultivated: *plantain* (\*sabʔa), *banana* sp. (\*balat), *fell banana stalk* (\*tebaʔ). *Eggplant* (\*terúŋ), sesame, *Sesamum indicum* (\*lěŋáh), and *garlic* (\*báwaŋ) were possibly introduced.

Rice agriculture rose in importance as the staple, yielding several alternate forms for pre-existing words (*mortar* (\*e+súŋ), *pestle* (\*qahlu, \*qalhu, \*laqlu; PPH \*haqlu), *rice husk*, *bran*, *chaff* (\*qapa, \*qepah, \*padek)), use of the *millstone* (\*giliŋ-án), and the process of *separating the chaff from the grain* (\*siji) by using the *winnowing basket* (\*níRu).

## 6. PAN FAUNA – LAND ANIMALS AND THEIR CHARACTERISTICS

From the beginning, Austronesians knew of the *dog* (\*ásu), which was *tame*, *accustomed to man* (\*ma-Najam, \*ma-dajam) and figured in hunting expeditions (see section 8). The *pig* (\*bĕRĕk, \*bábuy) could be found in a *lair*, *den*, *nest* (\*Libu[ʔH]). Creepy-crawly creatures may not have been differentiated as *worm* or *snake* (\*qúlej, \*úlaR) and there was always the *rat* (\*labaw; cf: PMP \*balabaw; PHN \*ba+baw; PPH \*am+baw).

### 6.1 PHF

PHF times perhaps saw an increase in *domestic animals* (\*qáyam), one of which was the *pig* (above), now not only hunted, but kept in a *pigpen* (\*qubey). They developed another word for *tame*, *accustomed* (\*Lam+Lam), which was probably also applied to a *carabao* or *ruminant* (\*Luáŋ, \*qaNuáŋ), which was an animal with a *horn* (\*uReŋ). In the wild, there was the *scaly anteater*, *pangolin* (\*qaRem), a kind of *squirrel* (\*buHut), *male of ruminants*, *buck deer* (\*salajeŋ), which could be identified by its *bark (of a deer)* (\*de+kiŋ), as well as a *monkey* sp. (\*luCuŋ) which also had their identifying *scream of monkeys*, *chattering* (\*keriq). Another term for *snake* (\*buLay) was developed.

### 6.2 PMP

PMP speakers encountered *deer* (\*Rusa; cf: PHN \*uRsa, PSP \*usá), the *civetcat* (\*músaŋ), the *scream of a monkey* (\*keraq, \*kusiŋ), and some animals with a *growl*, *snarl* (\*eŋer) (cf: *leopard* (PSF \*likuLáw) which belonged to a different period and place): The less pleasant encounters: *fruit bat* (\*pāńiki), more species of *snake* (\*nipay), *large snake* sp. (\*anipa), *python* (\*sawáh) and *earthworm* (\*bulati, \*kalati).

### 6.3 PHN

PHN immigrants ran into a *wild ruminant* sp. (\*tamadaw) and the *tiger*; *animal that jumps* (\*qaRimʔaw), yet another species of *monkey* (\*ayuŋ; cf: PPH \*bákes) and *venomous snake* (\*depuŋ). They learned to domesticate the *goat* (\*kamdiŋ, \*kandiŋ, \*kambiŋ) for food and the *cat* (\*kutíŋ; also \*púsaʔ) as a pet.

### 6.4 OTHER DEVELOPMENTS

Central Malayo-Polynesian speakers were probably the first Austronesians to see the *bandicoot*, *marsupial rat* (\*mansar) and *cuscus* (\*kandoRa), as described in Blust (1982a).

PPH speakers seem to have a generic for *animal* (\*háyup) – or has an earlier word been lost? Surely they were not the first to encounter the *frog* (\*bak+bak, \*p/al/aká?) or to care enough to name the *puppy* (\*itu)?

A term for *horse* (PWI \*azar-an) was reconstructed by Dempwolff, which literally means *be instructed*, but this is surely a case of a local term for a recently introduced animal.

## 7. PAN BIRDS AND FOWL

PAN speakers were familiar with the *hornbill* (\*kalaw), *dove* sp., *pigeon* (\*báluj), *wild dove* (\*púnay), and therefore with *wing* (\*pánij) and *egg* (\*tělúR).

### 7.1 PHF

PHF speakers encountered the *owl* (\*qekuŋ); developed another word for *wing* (\*pak+pak), and always marvelled at the ability of birds to *fly* (\*layap; cf: PMP \*Rebek; PHN \*lě(m)pád<sub>2</sub>, \*layaŋ, \*sayap).

### 7.2 PMP

PMP travellers probably domesticated the *chicken, fowl* (\*manúk), since we find a *word used to call chickens, etc.* (\*kur). These would, of course, lay eggs with their characteristic *cackle* (\*kek+kek), then *brood, sit on eggs* (\*e+kep).

Wherever they went they saw the ubiquitous *crow* (\*kuak; cf: PHN \*gak+gak; PPH \*u+wák, \*wak+wak). They met the *omen dove* (\*-muken; PHN \*-buken). Lexical replacement continued with words such as *wing* (\*qelad<sub>2</sub>), *tail feather* (\*lawí).

### 7.3 PHN

PHN settlers got to know the quail, *Turnix* sp. (\*púRuq, \*puyuq), the *swallow* (\*kalapini), the *kingfisher* (\*bakaka), and some *bird sp. and its cry* (\*tu?aw). They continued to raise chickens who would *scratch up the ground* (\*kahiR) and *brood (of a hen)* (\*qe(n)+dem). Kern discussed the *heron* (\*baŋaw), but cognates are so far limited to Western Indonesian languages.

## 8. PAN HUNTING TERMINOLOGY

It is clear that the Austronesians used the *bow* (\*búsuR), *bowstring* (\*d<sub>2</sub>ělés), and *arrow; shoot an arrow* (\*panaq), which would *pierce* (\*Ce+sek). At night they were able to see or move about with *torch light; resin* (\*damaR; cf: PHF \*sáleŋ *resin*; PMP \*sulúq).

### 8.1 PHF

By PHF times a clearcut term for *hunt, go hunting* (\*qaNúp) developed. In this as well as fishing they used a *trap* (\*qaCeb or \*taqén) with *bait* (\*pa?én), whereby on land the prey

might be *hanging caught* (\*káwiL). If one could not *hit the mark* (\*kěNá?) with his weapon, in some cases, a lucky person might simply *snatch, grab* (\*qáRaw) a catch.

### 8.2 PMP

The PMP people used the *spear* [n/v] (\*saet) and set either *bamboo trail pitfall spikes* (\*suja) or a *snare* (\*zariŋ). *Bird lime* (\*pulut) also figured in this endeavour.

### 8.3 PHN

PHN speakers improved upon the *spear* (\*baŋkaw), developing a *bamboo spear* (\*suligi?), which made it easier to *hit the target* (\*táma?). Trapping became more skillful when they developed a *booby-trap* (\*balá(n)tik) with a *trigger, tension-set* (\*baquR) otherwise known as a *bamboo spring trap* (\*baweR).

### 8.4 PPH

PPH settlers continued this prowess at hunting: *seek, look for* (\*hánap), *look for, hunt out* (\*tiŋén), *drive away, chase* (\*á+buR), and *hunt (at night)* (\*pulaw).

## 9. PAN COOKING AND FOODSTUFFS

The Austronesians prepared their food in *fire* (\*Sapúy), either using *charcoal* (\*qújiŋ; cf: PHN \*qa+jeŋ, \*buriŋ, PPH \*úsiŋ) or *ashes* (\*qabúH; cf: PMP \*abus). Some foods they ate *raw, unripe* (\*ma-Hátaq). They could *heat s.th. or warm oneself by fire* (\*d2a(ŋ)+d2aŋ). They might *pound (prepared food)* (\*tuk+tuk) and then *smoke fish or jerk meat* (\*CapaH), *broil, roast in/over fire* (\*CuNuH), or *cook by boiling* (\*na+suk, \*Nasu), after which they would *eat* (\*ká?en, \*kaan; cf: PHN \*amaq) by *biting* (\*kat+kat, \*kaRáC; cf: PMP \*keteb, \*ketep; *nibbling* \*ket+ket, \*kit+kit, PHN \*kut+kut) or *sucking* (\*sep+sep, \*tip+tip) as appropriate.

They must also have known how to *butcher* (\*bunúq) their *pig* (see section 6) or their quarry. Food would generally have to be consumed within the day or it would get *rotten* (\*buRúk; cf: PMP \*busuk, PNP \*buyúk), although there may have been some attempt to preserve it for short periods: *cork, stopper, plug* (\*seŋ+seŋ).<sup>12</sup>

They consumed *meat, flesh* (\*Sesi, \*Sisi) from their hunting or trapping, *eggs* (\*qi-CěluR, \*qatěluR; cf: PHF \*Re+bun) and fruit from gathering, and the products of their farming. They seasoned with *salt* (\*qasiRa), but too much was *salty* (\*qasiN; cf: PPH \*ma-ádat). Another flavour they recognised was *sour* (\*qal+sem; cf: PHN \*la+sem), probably experienced from unripe fruit.

<sup>12</sup> The Oceanic reflexes of this form have to do with stopping up holes in canoes, so the assignment here may be in error for one to do with boating (see section 2).

## 9.1 PHF

PHF peoples learned that too much fire was not a good thing; it produced irritating *smoke* (\*qěbél; cf: PMP \*qasúh). Although one could *cook* (\*taNek) over or in a fire, they probably used *embers* (\*báRaH). Foodstuffs, which certainly included *vegetables* (\*NaCéŋ) and some form of *mushroom* (\*quHuŋ), could be placed in a *cooking utensil* (for scorching) (\*qaŋeliC), possibly using some *grease, fat* (\*SímaR) for a better *taste* (\*taLam, \*taNam; cf: PMP \*ñam+ñam). If there were *leftovers* (\*teda?), these could be put into an *earthenware jar* (\*balaja?; PPH \*baŋa?) and preserved with *salt* (\*timus). Another flavour now recognised was *bitter* (\*paqiC), which may have caused them to *spit (out)* (\*lupaS).

## 9.2 PMP

During PMP times, the enhancement of fire-making by using a *firebrand* (\*aluten; cf: PHN \*aliten) or *tinder* (\*bád<sub>2</sub>uk), led to the development of the *trivet, three stone fireplace* (\*dalikán) and *cooking pot* (\*kúd<sub>2</sub>en) with some kind of *cover* (\*Raŋ+kub, \*aŋ+kub) in which they could *cook over a fire* (\*baŋi) or *heat food up* (\*la(ŋ)ga?). *Cooking* (\*Zakan) could be done either with *fat, grease* (\*meňak; cf: PHN \*miňak) or *vegetable oil* (\*láñah), otherwise food might get *smoked, charred* (\*anús, \*anu?us).

Means of preparation included: *spreading out in sun to dry* (\*bi+láj, \*bě+láj), *crush by pounding* (\*bek+bek), *plucking (feathers), pulling out (entrails)* (\*but+but), *peeling* (\*ke+las), *cutting, slicing* (\*gěréť), *cutting into pieces* (\*keleŋ), or *skewering* for a barbeque (\*tuduk; cf: PHN \*te(n)+dúk).

Their diet included (among others treated above): *preserved meat or fish* (\*kenas), *insides: meat, soft-core, pith* (\*qunéj), and *milk* (\*Rátas) to *drink* (\*inúm; cf: PHN \*m-inúm). They may have learned to savour *spicy hot* (\*ha-pějes) foods.

## 9.3 PHN

In the PHN kitchen, new words were used for *cooking* (\*lú(n)tuŋ) and *putting in or over a fire* (\*alub). They had to be wary of the danger of *sparks, burning ashes in the wind* (\*lalatu). Methods included: *slicing* (\*sayad; cf: PPH \*tájip *cut, pare*) or *dicing, cut fine* (\*qiRis) done with a *knife* (\*pisáw) and *mixing foods together* (\*labuR, \*lahúk) done with a *spoon, ladle* (\*tidús). They also began to *pickle (in brine)* (\*buduh). *Soup, broth* (\*sa(m)báw), *porridge, rice gruel* (\*buR+buR), *fat* (\*tabé?), and *tripe* (\*ba(t)bat) were added to the menu. They would take *provisions* (\*bálun) for forays away from home; such food might be put into a bamboo internode *storage container* (\*tuŋ+tuŋ).

Their tastes became more discriminating, perhaps craving something *sweet* (\*e+mís; cf: PPH \*ta?+mis) and rejecting anything *tasteless* (\*qa(m)+baR) or *tainted, rotten* (\*baRiw).

There is some doubt when and how newer cooking utensils may have been developed, since the following etyma show reflexes more characteristic of borrowing rather than inheritances: *pot, frypan* (\*kăwáli?) or *frypan; cooking pot* (\*pariúk); cf: *cauldron* (\*kăwaq < Mandarin kuo).



## 9.4 PPH DEVELOPMENTS

A special word appears to have developed for *viand*, food besides main starch (\*seda?, \*sidá?; cf: PSF \*damai). Other interesting words that may prove to have a more ancient pedigree include: *fetch water* (\*sak(e)du, \*sa?(e)geb), *take from the fire* (\*há?un), *cool down* (of food) (\*báhaw), which would be eaten the next day for *breakfast* (\*pamáhaw). The *mung bean* (\*balátuŋ) was added to the menu.

## 10. PAN INSECTS – EATERS BECOME THE EATEN, HUNTERS THE HUNTED!

Besides the fauna and birdlife they knew, many of which they raised, hunted, or ate, PAN speakers had to put up with: the *house fly* (\*lá+ŋaw), *body or clothes louse* (\*túma), *head louse* (\*kúCuH), *nit*, *louse egg* (\*qa-liseSáq; cf: PMP \*leséq, \*lisáq), *cockroach* (\*Hípes), *spider* (\*láwaq), *centipede* (\*qaluHípan, \*qalipan), and *mite* (\*káRaw). They may have had some taboo concerning the *butterfly* (\*qaLi-baŋ+baŋ) (see Blust 1983).

## 10.1 PHF

By PHF times they knew the *cicada* (\*Nali), *jungle leech* (\*qaLi-mátek), *flea* (\*qatímela), some *bug*, *noxious insect* (\*bá+ŋaw), and suffered the stings of the *paddy leech* (\*qaLi-meCaq; PHN \*lintaq) in their ricefields.

## 10.2 PMP

PMP peoples had to endure the stings of the *mosquito* (\*ñamúk, \*lamúk), *gnat*, *sandfly* (\*nek+nek), *ant with venomous bite* (\*ha-me(n)tik), the continued irritation of the *fly* (\*lálej), while the *termite* (\*ánay) ate away at their various constructions (see below).

## 10.3 PHN

PHN migrants met with more species of *ant* (\*si(n)jem, \*sějém, \*lalatu), the *beetle* (\*a(m)buqaŋ), an *insect destructive to rice* (\*za+ŋaw), the *spider* (\*káwá?), and the *weevil* (\*buk+buk).

## 10.4 PPH

PPH residents had to deal with the *locust* (\*dúduŋ) and a sufficiently irritating number of *nits* (\*íRit) and *mosquitoes* (\*t/aR/enek; PSP \*tag(e)nek) to warrant the new words for them.

## 11. BEES AND APICULTURE

But even with these plagues from the insect world there was a bright side. At various times in their history, Austronesians learned of the *honeybee* (PMP \*wañi; cf: PFM \*waNuH), *bee*, *Apis indica* (PMP \*qaniRuan), and the uses of *beeswax* (PMP \*lilin). Western Austronesians learned to *drive off bees*, *smoke bees away* (PHN \*púhaR),

especially the *bumblebee* (PHN \*-buyuŋ; cf: PPH \*-búyug) to get their *honey* (compare Dempwolff's PWI \*madu to Proto Indo-European \*medhu-).

## 12. PAN BUILDING AND CONSTRUCTION

The very first structures included a *house, family dwelling* (\*Rumaŋ) in which they would *lay mats* (\*SapaR) to sleep. Additionally they had developed a *field house, hut, village granary* (\*le+paw), reflecting the importance of agriculture. To keep away vermin, they were probably elevated with entrance by a *runged ladder* (\*tukad). People lived in *hamlets; kin-based residential units* (\*kuan).

Methods of manufacture involved: *hew; plane (with adze)* (\*taRáŋ), *whet, sharpen* (\*Hásaŋ), *cut, hack* (\*tek+tek), *hammer, pound* (\*tuŋ+tuŋ), *drive in (as post, nail or wedge)* (\*pa+cek), *grate, rasp, scrape* (\*kud<sub>3</sub>+kud<sub>3</sub>; cf: PHF \*ka+rut, PMP \*ka+Rud). Materials used included: *wood, stick* (\*káyuH) and numerous useful plants such as *rattan* and *bamboo* (see section 4). There was a continuous preoccupation with some form of *adhesive, sticky substance* (\*dĕ+kéC, \*di+teŋ; cf: PHF \*Le+keC, \*takid *stick, adhere*; PMP \*ra+ket, \*da(ŋ)+ket).

### 12.1 PHF

By PHF times another *field hut* (roofed structure) (\*sa+paw) had evolved. Additionally, some special form of *door(way)* (\*qe+Neb) was built that had a corresponding verb, *close (door)* (\*qi+Neb) and a *fence* (\*qálad), possibly of *split bamboo* (\*saŋ+saŋ), could keep animals out of the *front yard; cleared area* (\*Ná+ta<sub>2</sub>).

Tools of this period included the *hammer; hit with implement* (\*dak+dák) and some form of *handle* (for a tool) (\*púlu) such as a *machete* (\*malat) (see section 18).

### 12.2 PMP

The PMP emigrants may have formalised the design of the basic living unit. It had an *erect, upright* (\*te+zek) *housepost, pillar; pile; beam* (\*ha-d<sub>2</sub>fRi, \*turus; cf: PFM \*qelud<sub>2</sub>) and a *thatched roof* (usually sago leaf) (\*qatép) with a *ridgepole/beam* (\*bubúŋ) and *rafters* (\*kásaw). There was a *hearth, stove* (\*d<sub>2</sub>apúR) with a *storage shelf, rack above hearth* (\*páRa). Entry to these raised dwellings was via a *notched log ladder* (\*haRedán). One could sleep on a *hammock* (\*dúyan).

The settlement included a *meeting house; public building* (\*baláy) and a *bachelor's quarters; shed* (\*kamáliR).

They utilised a shell or stone *adze, axe* (\*kiRam, cf: PPH \*wásay) with a *handle* (\*paRada). (Chinese \*p<sup>h</sup>uthaw *iron axe* is reasonably widespread, but clearly a loan.) Building methods now involved *attaching, joining* (\*+pil; see also: PPH \*tá+kip), *joining along the length* (\*+kit), *tying, clasping together* (\*kaput), *rasping* (\*parud); and materials included the *board, plank* (\*papan), *stake, nail* (\*páku?), *glue, paste, plaster, caulk* (\*da+lit), and *wedge* (\*kálan). People slept using a *wooden headrest, pillow* (\*qalun-an, \*quluŋa).

## 12.3 PHN

The PHN dwelling appears to have had longish *eaves* (\*surambi?) with a *bamboo gutter* or *rain shield* (\*kulub) that gave additional *protect(ion)* (\*lind<sub>2</sub>uŋ) from the elements. They could make partitions or rooms within the house by a *wall, screen* (\*d<sub>2</sub>iŋ+d<sub>2</sub>iŋ), more structural integrity with a *cross-beam* (\*átan) and a *floor beam* (\*kalasaR) on which *floor(ing)* (\*lan+tay; cf: PPH \*daqtaR) was laid with interspersed *floor slats* (\*salÉR; cf: PSP \*sa<sup>?</sup>eR). They would *cut-down/off* (\*tebá?) nipa reed, *Nypa fruticans* (\*nípaq) and other flora for both roofing and walls and *fell, topple* (\*tebéŋ) trees or bamboo for larger supports. Means of *chiselling* (\*paqét) allowed a finer, smoother touch to the finished product. The *saw* (\*lagádi?) was a later Indic innovation that made woodworking much easier, but did not figure in any early building techniques.

They made use of the *hook* (\*ka<sup>?</sup>+wit) and a *wooden tray, table* (\*d<sub>2</sub>úlaŋ) within the house, a *fence, enclosure* (\*pager) outside and possibly around their fields, and developed the *suspension bridge* (\*ki+tey, \*tey+tey) as a means of negotiating the rough terrain in which they lived (see section 1.4).

## 12.4 PPH

PPH residents made greater use of the *space under the house* (\*síduŋ) and developed additional forms of *shelter, hut* (\*há+buŋ; cf: PSP \*lawiR).

## 13. EVIDENCE FOR BRAIDING

There is at present only the evidence given by the etymologies *string, rope* (\*CalíS) (see section 2) and *rattan* (see section 4) for this technique in PAN.

Two etyma indicate the continuation of PHF *braiding* (or plant used, *Donax cannaeformis*) (\*beN+beN) and *mat* (\*Sikám).

However, there is ample support for this technique in PMP: *braid, plait, weave mat* (\*añem, \*añam), *plait, make with the hands* (\*batuR), *wind around repeatedly* (\*+bej), *mat* (\*tepiR, pos: \*tipeR) and *mat, cover(ing)* (\*hápin).

Again, by PHN times the skill was well known: *braid, weave (mat)* (\*lája), *plaitwork* (\*kalamata), *braid* (\*apíd), and *wind around, tie* (\*bed+bed). Products included: some types of *basket* (\*bákul, \*balúlaŋ), a *large basket* (\*baŋkat), a *small basket* (\*alát), another kind of *small basket* or a *woven cover* (\*súkup), the *winnowing basket* (\*bijáu, \*níRu) (see sections 5 and 5.3), a *bag of plaited palm leaves* (\*bayú<sup>?</sup>uŋ), and a few kinds of *mat* (\*a(m)bék, \*tepa).

PPH speakers also made *twine* (\*lúbid) and a *small basket or its likely contents* (\*abú+but). Similarly Indonesians have an adjective for *loosely woven* (of a mat) (PWI \*kazag).

#### 14. EVIDENCE FOR WEAVING

At the highest level, we find no universally-distributed etyma for weaving equipment. There is one reconstruction for PAN that may be indicative that the technique was known: *blanket* (\*qules) with a disjunctive doublet<sup>13</sup> *upper garment* (\*Hules).

As for the reconstruction of any PMP weaving terminology, Blust (1977a:33, 35) points out that there is no linguistic evidence that the loom was part of the Proto Oceanic cultural equipment. So we are unable to establish on etymological grounds that this trade was practised.

At the PHF level, three terms indicate that weaving was a skill in the west: *weave (cloth)* (\*tineʔun), *loom* (\*tenunan), *shuttle stick* (\*balfja).

At least 4,000 years ago, PHN weavers were applying their trade: *weave* (\*hábel), *set up warp on a loom* (\*haʔnay), *yarn*; *skein* (\*lábay), *weft* (\*pakan), and *batten of a loom* (\*li(n)ji). They kept such *woven material* (\*ha(m)bél) in a *bundle (of cloth)* (\*bantal). It is not clear when *cotton* was introduced (PHN? \*kápes) because forms like \*kápas < Prakrit kappasa and \*kapuk appear to have spread by borrowing.

In the Philippines there are several etymologies for *blanket* (e.g. PPH \*kúmut; PSP \*kayab), which indicate that the skill continued.

#### 15. AUSTRONESIAN SEWING

Woven items might need repair or enlargement, and sewing offered an opportunity to continue to utilise materials that would otherwise be discarded or put aside. For PAN, we see this process: *needle* (\*ZáRum), *thread a needle* (\*CuSuR), and *patch* (\*Capel). However, the word for *sew* is more limited (PHF \*CaSíq), since another form appears to have competed with it during PMP times: *sew, patch up (clothing)* (\*záqit). Reconstructions for *thread* (PHN \*běnán) and *thread; needle and thread* (PPH \*tanud) are even more restricted. But there can be little doubt that sewing persisted from the earliest times.

#### 16. AUSTRONESIAN CLOTHING, DRESS AND ADORNMENT

At the PAN level, we have mentioned a form that could have meant *upper garment* or possibly *covering* (\*Hules), but evidence for this overlaps with forms meaning *blanket* (see section 14).

By PHF times, people dressed in either the skin of *animal, hide, leather* (\*qaNiC, \*kaLiC) or a *skirt, sarong* (\*tápiS), and they may have had a *bracelet* (\*gelán) for a decoration.

The PMP form for *skirt, sarong* (\*tapis) is reconstructed with a different final consonant from its PHF counterpart. A word for *fabric* (\*taluki) is also found, but could as much be the product of pounding bark or fibres as of weaving. Natives carried smallish belongings (such as the ingredients for a betel-chew mixture, see section 28) in a *pouch* (\*kantup) – this word has been extended to *pocket* in several daughter languages.

<sup>13</sup> Disjunctive doublets or disjuncts (dsj) are reconstructions that share overlapping cognate sets, i.e. where given language evidence is proposed to support two or more reconstructions (see Blust 1980a:25f.).

Did PHN groups, who had expertise in weaving, step backwards with the *loincloth*, *g-string* (\*baháR), or is this form much older? They were aware of *nudity*, *exposure of the body* (\*pu+kas). Against either sun or rain they utilised an *umbrella* (\*páyun).

#### 17. EVIDENCE FOR POTTERY PRODUCTION

In this domain, the linguistic evidence lags well behind the archeological records. Although pottery dating back several millenia is found throughout Austronesian territories, and in some areas has flourished (see Blust (1977a) for references to the Lapita tradition), at the PAN level, we only encounter a word for *clay* (\*daRéq). We have already mentioned a *cooking utensil* (for scorching) (PHF \*qaŋeliC), an *earthenware jar* (PHF \*balaja?; PPH \*baŋa?) (see section 9.1), and PMP *cooking pot* (\*kúd<sub>2</sub>en) (see section 9.2). PMP groups might have eaten from a *cup*, *bowl* (\*maŋkuk).

#### 18. EVIDENCE FOR METALLURGY

At the earliest stage, there is no evidence that the Austronesians were aware of or produced metal. However, PHF speakers appear to have a word for *metal* (\*bari[]) which may have been used in producing the *machete*, *sword* (\*malat). Two forms refer to *gold* (-coloured) (\*buláwan) and *gold* (coin) (\*baLituk). They may, therefore, have known metal, although they may not have worked with it.

However, by the PMP level they probably knew how to *temper metals* (as when water and heat meet) (\*sebuH).

A word for *rust* (\*karat; cf: \*kaRáC bite) may confirm PHN knowledge of metals. By 4,000 years ago, Western-Austronesian groups were aware of *blacksmithing* (\*sal+sal) (cf: \*cal+cal *hammer*). They used the *anvil* (\*landas-an) and probably worked *iron* (\*besi), *lead*; *tin* (\*timeRaq), *gold* (above), and possibly *silver* (\*pírak). They may have produced *wire* (\*kawad), strands of which could be made into a *ring* (\*ciŋ+cin). They later learned of *copper* from Indic peoples (\*tumbága). Anyone good at this trade (or the others discussed above) was referred to as a *craftsman* (\*panday), but this is another Indic loan.

#### 19. PAN BARTER, TRADE, COMMERCE AND NUMERACY

Early Austronesians did not simply *barter* (\*báliw; cf: PHF \*sáliw), they had a specific form for *buy* (\*bělĭ), and a derivation which meant *sell* (\*pa(R)-bělĭ). These etyma do not necessarily imply the existence of a monetary unit, but based on their grammatical affixes they indicate DIRECTION OF TRADE: \*-en towards actor (\*beli-en) and \*Si- away from actor (\*Si-pa(R)-beli). With the relative bounty of their surroundings, they could *choose*, *select* (\*pĭliq) or ask for *another of a different kind* (\*dúma).

Their ability to engage in commerce was enhanced by a decimally-based number system: *one* (\*?e+sá, \*i+sá, \*a+sa, \*ta+sa), *one (unit of 10, 100)* (\*+sa), *two* (\*d<sub>3</sub>uSá), *three* (\*tělú), *four* (\*Sě(m)pát), *five* (\*limá), *six* (\*?ěném), *seven* (\*pitú), *eight* (\*walú), *nine* (\*siáw), *ten* (\*púluq), and the interrogative *how many; how much?* (\*pijáH).



## 19.1 PHF

Within PHF times there were two words for *count* (\*Hiáp, \*bɫaŋ) and derivations of some of the numerals were apparently used verbally or existentially, that is, *there are: three* (\*ta-tě́lú), *four* (\*Sa-Sěpát), *six* (\*a-eném), *seven* (\*pa-pitú), and *eight* (\*wa-walú). Items of trade could be *many* (\*Sáduq) or *all gone; to use up (all)* (\*ʔamin). One could, of course, *borrow* (\*Sedám; cf: PHN \*huzam) what one could not buy or barter.

## 19.2 PMP

PMP commerce now involved the number *hundred* (\*Ratús) and another word for *count* (\*qi(n)tuŋ). One could buy *one only* (\*ma-isá) or ask for *some, some more* (\*balu).

## 19.3 PHN

PHN counting reached the *thousand* mark (\*Rɫbu; less likely \*rɫbu). Some form of money must have been involved so that one could *pay* (\*báyad<sub>2</sub>). If funds were *lacking, not enough* (\*kúraŋ) one could ask for a *discount, reduced price* (\*táwad<sub>2</sub>) or else run up a *debt* (\*qútaŋ). If that was not paid as per the agreement, one might *forfeit* (\*le(b)+leb) the goods. By these times pawning must have been introduced since we encounter a word for *redeem* (\*tě́bús). In any event, it was not wise to *trick, cheat* (\*dáya[?]) one's clients.

Western Austronesians probably moved about considerably more to *peddle* (\*láku?, \*zazáh) their wares. Trade was probably still involved for items of *equal, equivalent value* (\*bali). Besides products of their gardens, the forest or the sea, items that they weaved, braided, potted, smelted, or otherwise manufactured, their commerce may have involved *ivory* (\*gádiŋ) or *rock crystal* (\*kinán). If one tried to get another's attention, he would *touch lightly* (\*kubít) on the shoulder.

## 19.4 OTHER DEVELOPMENTS

Other developments included the innovation of a PPH word for *nine* (\*siyám, \*sa-siám), *one unit of (10, 100, 1,000)* (\*ma-, \*saŋa-), and *count* which also meant *think; consider* (\*fsip). In Malay and related languages the numeral for *seven* (PWI \*tu(n)Zuq) was innovated, based on the word for *point; index finger*.

## 20. PAN KINSHIP AND SOCIAL RELATIONS

We are fortunate that all major terms for ascending and descending kinship patterns are available to us, and have been so since Blust (1979 and 1980b). Starting with two generations above EGO (\*akú) they called *grandfather* (\*aki; cf: PHN \*laki) and *grandmother* (\*baʔi); there was also a *VOCATIVE* for *grandparent* (\*bubu). The word for *ancestor* (\*a(m)pu; cf: PMP \*ta(m)pu) has also come to mean *master* or *owner* in some daughter languages (cf: PMP \*tumpu).

The forms for the next generation are: *father, uncle* (FB) [reference] (\*áma, \*tama; [children's VOC form] \*mama; cf: PMP \*amáy [VOC]), *aunt* (FZ), 'female father', also *nursemaid* (\*aya), *mother, aunt* (MZ) [reference] (\*ína, \*tina; cf: PMP \*na+na [children's VOC form]; \*ináy [VOC]). Similar to Aboriginal Australia and other societies it appears that

mother's side was the WIFE-GIVER: *uncle* (MB), *parent-in-law* (WF) (\*ma(n)tuqás; cf: PMP \*túRaŋ).

For one's own generation, we find that AGE mattered: *older sibling* (\*kaka; cf: PMP \*aká), *younger sibling*, which also came to mean *kinsman* (\*u-Sáji; [VOC] \*Sajf?; cf: PMP \*tua(n)ji), and a term for *twins* of the same sex (\*Sabij). There may have been but one word for *spouse, wife; husband*, which also formed the verb to *marry* (\*qasáwa), but some evidence indicates there may have been a distinguishing term for *husband*, male counterpart (\*báNaS; cf: PHF \*lakay, which also meant *old man*). The product of such a union was called *child, offspring* (\*aNák; cf: PHF \*LaLak).

### 20.1 PMP

By PMP times, they recognised a *clan* as 1/4 *social subdivision* (\*suku) with a *chief* who was either a *clan leader* or *priest* (\*dátu?), who was addressed with a *title of respect* (\*puan) and who had the power to convene an *official gathering* (\*pened). Territorial rights were now established with a *boundary, border* (\*supu).

One's *lineage* was his *bilateral kin* (\*Rumaq, the word for *house*). Great respect was shown for one's *ancestors* (\*anduŋ), with terms for REFERENCE (\*e(m)pu) vs ADDRESS (\*a(m)puy). There was a reciprocal term for *grandchild; grandparent* (\*ápu), with a specific derivation for *grandchild* (\*maka-empu).

Similarly, special words now existed for *uncle* (FB) (\*ama-en, who would serve in his role if father was absent or dead) and for *male sibling* (\*ñaRa), *female sibling* (\*betaw), and *affinal cousin* (FZS, ZH) (\*laya).

### 20.2 OTHER DEVELOPMENTS

Central Malayo-Polynesian peoples recognised the relationship of *nephew* (ZS) and *child-in-law* (DH) (CMP \*dawa).

### 20.3 PHN

PHN speakers kept most of the inherited vocabulary, but used the VOCATIVE SYSTEM more extensively which involved word-final accent with the addition of a glottal stop [-ʔ], -h, or velar nasal [-ŋ], as in: *mother!* (\*ináʔ, \*ináH, \*ináŋ), *father!* (\*amáʔ, \*amáH, \*amáŋ), *grandparent!* (\*e(m)púʔ) or the innovation of a *term of address to males* (\*azuq). Other forms that appear to be innovations at this level include *father* (\*bapaʔ) and *grandfather* (\*ábuʔ).

The affinal system appears to have become more defined: *sister-in-law* (\*hí+paR), *brother-in-law* (\*bayáw), and *sibling-in-law* (\*birás). Similarly, obligations upon the death of one's kin were recognised: *widow* (\*bálu), *orphan* (\*flu; cf: PNP \*ulfla), and *nephew, niece* (\*um-anak-en; lit. *will become one's child*).

It was socially acceptable (if not obligatory) for a woman to *have many children* (\*sanak). With a growing society it became difficult to *know, recognise* (\*kilála) everybody, and when groups became too large to survive in a *settlement, village area* (\*lebúq), it became necessary to *part, separate, divide* (\*cěray). One could *drop by, pay a visit* (\*lawah) to relatives or

friends elsewhere. Eventually, such affiliated communities may have formed a *kingdom* (\*hádi?), but this may have been relatively later in Western Austronesian history.

## 21. PAN CULTURAL TERMINOLOGY

Austronesian society was split into social halves by a *moiety*-system (\*báliw) and each person had a *name* (\*ŋájan). Akin to the distinction between inclusive *we* (\*kitá) vs exclusive (\*kamí), they appear to have recognised themselves as *person, human being* (\*Cáu; cf: PMP \*táu-matáq, PSP \*e+táw), in contrast to an *alien person; outsider* (e.g. *Negríto*) (cf: PMP \*qaRta).

Within the group, one had to correspond to social codes according to a *shame* (\*Siaq) system. To break this one might get a *pat, light slap* (\*+pik), but worst was *being ashamed, losing face* (\*ma-Siaq; cf: PSP \*ma-heyaq), a feeling of extreme emotional discomfort, such as if, for example, one committed a *sin, error, mistake* (\*saláq) such as *stealing* (\*Cákaw), which must have drawn strong disapproval. People developed bonds by *giving* (\*běRáy; cf: PPH \*tudul, \*dúlut), and one would hardly go anywhere without having a *companion* (\*duma) to *escort, convey* (\*Sa(n)téd<sub>2</sub>) him or her.

### 21.1 PHF

Blust (1977a: 33) discusses Formosan cognates of *write* (\*súrat; note disjunct \*súRat, Tag súgat *be pierced, wounded*). This etymon may be more appropriately attributed to etching or pricking associated with *tattooing* (\*be+Cik), which was practised by (or before) PHF times, cf: PAN \*+rit *scratch a line*; PMP \*tebék *pierce, stab*, \*tusi *draw* – later extended to *writing*). Since there is no supporting evidence for any Austronesian syllabary (all those currently in use are of Indic or European origin; note also *xbasa read* from Sanskrit), the products of such an art would probably have been pictographic or ideographic at best.

### 21.2 PMP

Some PMP terms relevant to interpersonal relations include: *beckon, wave* (\*qalep), *sucking noise made to signal s.o.* (\*misik), *lie, deceive* (\*baRiq, \*bali), and *beg, ask for* (\*ŋeni). Approval fell upon the *lucky* (\*ma-nuRuq) and disapproval on anyone *stubborn, obstinate, unyielding* (\*tegel, \*te(ŋ)ger).

### 21.3 PHN

PHN may have had a distinction between *custom, tradition* (\*ugali?) and a *command, order* (\*súRuq) given by someone in authority. *Disagreement* (\*tumag) was not encouraged, one was expected to *bow the head, nod* (\*tuek) and comply. If someone would *deny, refuse to accept or believe* (\*uŋkir), he was branded as *proud, haughty* (\*a(m)buŋ). Society did not appreciate anyone who would *show off, pretend* (\*asih).

## 22. RELIGIOUS BELIEF, TABOO, RITE AND RITUAL

PAN peoples believed strongly in the *spirit* (\*qanícú) world. By the PHF period a *taboo* (\*paliSi; cf: PHN \*mali?, PPN \*tabu) system arose. Blust (1983) makes a case that the prefix class \*qali-, \*kali- marked *forbidden* (\*laRaŋ) objects or phenomena.

Within PMP times, among those things feared or revered were an *apparition*, *glimpse of s.t.* (\*ilap) and possibly even a *shadow*, *reflection* (\*qaninu[ŋ]).

Some of the PHN peoples had a *transvestite shaman* (\*asug) who interpreted any *misfortune*, *catastrophe* (\*geraq). For an individual transgression there was the sign of a *swollen belly for breaking the respect taboo* (\*busuŋ) and for the community, the severe *punitive storm; hail storm* (\*baliw). There may have been a form for *prayer* other than the widespread loan \*azi, such as *ask pardon* (\*ampun).

In PPH communities they would *blame*, *find fault with* (\*básul) a transgressor, who was expected to *regret; take back* (\*báwi?) his action.

## 23. DEATH AND BURIAL

Based on current practices whereby a corpse is wrapped in a mat and put in a tree, *cave* (PMP \*liaŋ, see section 1.3) or other high place until it decomposes, we can surmise that from the earliest times, what they would *bury* (PAN \*CaNém; cf: PHN \*lěbéŋ) were the bones of the deceased. Archaeological evidence suggests that jar burial was the norm. There is a PHN etymology for *body fluid from a corpse* (\*saRu) which would indicate a tradition where the *corpse* (\*baŋkay) was kept long enough to decompose. It is not until PPH that we can reconstruct a word for *coffin* (\*luŋún).

## 24. PAN CLEANLINESS, GROOMING AND PERSONAL HYGIENE

Austronesian peoples had a definite preoccupation with personal hygiene, such as *wash*, *rinse*, *bathe* (\*Se+ñáw; cf: PHF \*Naw+Naw, \*raw+raw) to remove *body dirt*, *dandruff* (\*dakíH) or anything that was *dirty* (\*ma-qilaŋ).

PHF speakers removed *particles of food stuck in teeth* (\*tiŋás) and would *wash*, *rinse* (\*SúRas) their clothes or utensils.

PMP people had another term for *wash up (hands)* (\*bulú) which differed from *wash* (\*buRiq). They would *gargle; rinse the mouth* (\*+muR), remove *earwax, cerumen* (\*tulíh, \*tilu), and make use of various kinds of *comb* (\*saRu, \*saut, \*suat; cf: PNP \*s/ag/ay+say, PSP \*sul+day). For tidiness around the house or yard they developed the *broom* (\*sapu; cf: PSF \*?aSik *sweep*). They would *squeeze, wring out* (\*peRáq, \*peRés) wet clothing.

PHN groups had a *fine tooth comb* (\*sújud), with which they would *delouse, catch lice* (\*sik+sik; cf: PPH \*hi(N)-kutu, \*sukay), which they would then *crush with the thumbnail* (\*tedes, \*tedis). They would *bathe* (\*díRus; cf: PPH \*díRu?), after which they would *wipe* (\*páhid; cf: PPH \*púnas) themselves dry.

## 25. PAN SICKNESS, PATHOLOGY AND CURES

Among the ailments which were recognised in PAN were *goiter* (\*biqel) and a *wound; open sore* (\*ma-Nuka[H], \*LukaH), which might develop *pus* (\*nánaq). Certain conditions would cause one to *shiver, tremble* (\*+ter; cf: PHF \*keR+keR, PMP \*+tir; PHN \*gir+gir) or *hiccough* (\*se(n)+du?).

### 25.1 PHF

Some infirmities identified by PHF speakers included a *scaly skin disease* (\*kurap) which might *itch* (\*ga+Cél; cf: PPH \*katél), or a *blister; callus; corn* (\*buCu), which might *smart, sting* (\*Sa-pějfq; cf: PMP \*pějes). Physical defects noted were: *blind* (\*buCá), *lame* (\*píLay), *hunched over, bent with age* (\*be(ŋ)+kut; cf: PMP \*buŋ+kut), and *hump, hunchback* (\*bú(ŋ)kul). Those very ill would *groan, moan* (\*daRiŋ).

Not much in the form of remedies is reconstructable at these early stages apart from some form of *massage, squeeze* (\*pesél; cf: PPH \*híflut) and the use of a *cane, staff, walking stick* (\*su(ŋ)kud; cf: PHN \*tu(ŋ)ked, \*tu(ŋ)kad).

### 25.2 PMP

PMP people would rather be *healthy, feel fit* (\*se(ŋ)+ger) than be in *pain, feel sick* (\*ma-sakít). Nevertheless, they suffered from a *skin disease leaving white patches* (\*panaw), *ringworm, herpes* (\*bu?ni), and *cramp(s), stiffening of limbs* (\*+keŋ). If someone had a *swell(ing); abscess* (\*baRéq) or *boil, abscess* (\*bisul; cf: PHN \*piRsah, PPH \*peRsah), it would be *squeezed* (\*pis+pis, \*pes+pes) until the pus would *squirt out* (\*pe(R)+cit; cf: PHN \*le+sít); this often left a *scar* (\*biras; cf: PHN \*ulat, \*kulad). Some physical afflictions noted were *hoarse* (\*pá+Raw), *cataract* (\*buláR; cf: PHN \*buléR), *deaf* (\*běŋél), and *stammer, stutter* (\*gap+gap).

### 25.3 PHN

PHN groups had ear problems, *deaf(ened)* (\*běŋéR) or *deaf; mute* (\*bisu; cf: PSP \*e+máw *mute*), and some involving the eyes: *blind in one eye* (\*pisék; cf: \*+cek), and *crosseyed* (\*zeliŋ, \*zuliŋ). They realised that there were *intestinal worms* (\*gelaŋ) and that some diseases were *contagious, spreading by contact* (\*za(ŋ)+kit). A *cough* (\*íkej, \*batúk; cf: PSP \*qebúh) could leave a person *weak, tired; worn-out* (\*lumaq, \*luyah). To these they had no remedy.

More importantly, for a *bone fracture; crooked (of limbs)* (\*lepuq) they had a *bandage, wrapping* (\*bárut). For a *cut, wound, scar* (\*palí?; cf: PPH \*pí()lat, PSP \*pila?), they would *stanch, stop the flow of blood* (\*am+pet). For a *lump, bump* (\*bukél), *scab* (\*keRág; cf: PSP \*keRán), or *cracked, peeling (skin)* (\*kurisiŋ) they had some form of *medicine, poultice* (\*tambar; cf: PWI \*ubat, PPH \*udu[?] PNP \*ágas, PSP \*bulúŋ). *Alum* (\*tawas) may have been one natural product used medicinally.



## 25.4 PPH

Some PPH etymologies that probably have earlier attestations include: *groan in pain* (\*aRúy), *ouch!* (\*adáy), *pock marks; childhood illness* (\*abas), *growth in mouth of animal* (\*hábas), *swell(ing) of stomach due to gas* (\*lebág), *tropical ulcer* (\*kuyapés), *blinded by mote in eye* (\*púliŋ), and *choke on fishbone* (\*békÉR).

## 26. WARFARE

In case of an unforeseen attack, PAN speakers might *hide* (\*-buNi, \*táRuq), but *bravery* (\*RaqaNi; cf: PHN \*baRáni) was considered a high virtue. As we observed with regard to HUNTING (see section 8), however, they had the *bow and arrow* with which they could *kill* (\*paCéy, \*pa-ka-maCéy) their *enemy* (PHF \*busuR, cf: *bow*). By PHF times, some form of *pointed weapon* (\*bakál) was also available. At least some battles were based on *revenge* (\*báles).

By the PMP period, they learned how to *use a blowpipe* (\*le+put; cf: PHN \*se(m)+put, \*sumpit *blowgun*); the dart was dipped into *poison* (\*upas). Additionally they had the *spear* (8.2) with a *goat hair decoration* (\*bandaŋan) and a form of *round shield* (\*tamín). In an all-out fight, when the supply of weapons was consumed or unavailable, they might *hit* (*with stick or club*) (\*palu?) or *throw* (*stones*) (\*tuda?).

The Malayo-Polynesians in their drive across vast new territories became the aggressors. They would *run after, pursue* (\*búRaw; cf: PHN \*úsiR) those who fled, and might even *plunder, rob* (\*raŋ+pas) a defeated village. They could turn any *alien* into a *slave* (\*qata),<sup>14</sup> who might later be *set free* (\*lumbar) under conditions of faithful servitude or the acquisition of personal wealth.

Such aggression continued into PHN times as evidenced by terms such as: *annex, subject* (\*kabiR), *provoke a fight* (\*atis), *surround, besiege* (\*kepuŋ, \*kepuq), *go head-hunting* (\*kayaw), and *cruel* (\*baŋis, dsj: \*beŋis). An enemy who did not *run* (*away*) (\*laRíw), might be *allowed* (*to live*) (\*biháR) as a *slave* (\*qudíp-en *will live*; cf: PNP \*qadípen).

Western Austronesians developed a *rectangular shield* (\*kalásag). They also must have made use of a knife or sword since they had a term for *hilt* (\*daŋanan). One curious correspondence set that Dempwolff (1938:25) marked as a loan is \*bedíŋ *gun*, which again indicates that our method can only take us so far!

## 27. RECREATION AND PLAY

Several forms are found at the PHF level that imply *play* (\*qayám),<sup>15</sup> *relax, spend time* (\*pa-Súay), and *tickle* (\*Lek+Lek). This latter word is reflected by several disjuncts and doublets in PMP *tickle* (\*gidik, \*gitik, \*kitik, \*kidi, \*giri), probably reflecting some preoccupation with this as a source of amusement.

<sup>14</sup> This reconstruction (\*qata) is a doublet of \*qaRta, in section 21.

<sup>15</sup> While this form may appear to be a doublet of \*qáyam *domestic animal*, Philippine evidence suggests that it is distinguished by accent, i.e. \*qayám *to play*.

Malayo-Polynesians would *sing in unison* (\*saRup), and by – or probably well before – PHN times they would *dance* (\*sáyaw) and *whistle* (\*sihul). PHN *pinch* (\*kedút) may indicate a less pleasant form of fun.

COCK FIGHTING was probably a late development. Although there is PMP *natural cockspur* (\*tada) and *cock, rooster* (\*lalun), it was probably not until the PHN period that the sport developed: *cockfight* (\*sábuŋ), *wrap-on cockspur for cockfight* (\*bulán), *artificial cockspur* (\*tázi). Although these forms are widespread in the west, they often have reflexes associated with borrowing rather than inheritance, so the antiquity of this activity is far from established.

Although all peoples have SEXUAL TERMINOLOGY, it may be a matter of some interest how far we get in this obviously ancient activity. At the PAN level, reconstructions include: *woman, female* (\*báHi, \*ba-báHi; cf: PMP \*b/in/áHi, \*ba-b(in)áHi, PSP \*libun), *male* (\*ma-RuqaNay; cf: PMP \*láki, PHN \*la-láki, PSP \*e+séR), *penis* (\*qútiN; cf: PHN \*bú+tuq, PPH \*lúsi?), and the Austronesian *nose or sniff kiss* (\*Sajék). For PHF, we find: *sleep with* (\*Súlij), *erection* (\*qeCúR), *sexual intercourse* (\*qiút), and *pregnant* (\*maliqi) [related to *taboo* in section 22 ?]. Surprisingly, the earliest well-attested cognates for two words are PMP *vagina* (\*púki?; cf: PHN \*betíq; PNS \*bedíq) and *embrace, hold* (\*d<sub>2</sub>akép). At the PHN level we have *maiden, young girl* (\*d<sub>2</sub>-ad<sub>2</sub>áRa[h]) and the previously-mentioned *transvestite shaman* (\*asug). At the PSP level there is the affliction of *having only one testicle* (\*abíl).

## 28. OPIATES: BETEL-CHEWING AND ALCOHOLIC BEVERAGES

An early and widespread form of social or personal entertainment included PAN *betel nut* (\*buáq) and *lime (for betel quid)* (\*qápuR). A disjunct of the latter occurs in PHF *betel-chew, quid* (\*apuR). Continuing this tradition, there is PMP *chew* (but not intend to eat) (\*mamáq; cf: PPH \*ŋa?+ŋa?; PSP \*mam(a)qen *areca nut*). At the PHN level we find *betel-leaf* (\*Rawéd), *betel pepper/leaf* (\*búyu?), *betel nut case or box* (\*salapa?), and *alum* (\*tawas). In the southern Philippines there is a form for *prepared betel chew mixture* (PSP \*ti+lad).

Although we encounter PHF *intoxicated, drunk* (\*ma-buSuk), this may have referred to the mild high obtained from betel. We certainly have no solid etymology for any form of alcoholic beverage until PHN *ferment(ed)* (\*bahál), *palm toddy/wine* (\*tubá?), and *yeast; rice wine* (\*tápay). Widespread loanwords in this domain include the word for *liquor* (xarak) from Persian and *opium* (xapyan) from Hokien.

## 29. COLOUR TERMS

In their now classic monograph, Berlin and Kay (1969) outlined stages in cultural development based on the recognition of colours. PAN was clearly STAGE 1 with the recognition of *black* (\*ma-qitém) and *white* (\*ma-putíq). Variations on the former were noted as *dark(ness)* (\*d<sub>2</sub>em+d<sub>2</sub>ém, \*+Dem, \*lem). They also recognised *mottled, spotted* (\*+Cik), probably related to the etymology for tattoo (see section 21.1). Although some languages use a cognate of *raw, unripe* (\*ma-Hátaq) in the sense of *green*, it is not a true colour term (see section 9).

PHF is curious in that a word for *green* (\*ma-ilem; cf: PSP \*luhnaw) is reconstructed, suggesting STAGE 3, but no etymology is known for *red* from STAGE 2 earlier than PMP (\*ma-iRaŋ, \*purá[h]; cf: PSP \*puláh). One form indicated a *dark(ened) shade* (\*kuCem), while others continued specifications of *black: shadow; shade(d)* (\*Laŋ), *dim, obscure, dark* (\*qu+Dem).

With the introduction of terms for *red* (above) and *yellow* (\*ma-kunij), PMP could be characterised as STAGE 3. A competing form for *white* (\*burak) came into use, along with several terms referring to *pale, albino* (\*balar; \*bulan, cf: *moon; \*bulay*). Similarly darker hues were covered by forms such as *dark, obscure; black* (\*ti+Dem) and *dark* (\*d<sub>2</sub>e+d<sub>2</sub>em). Mixture of the two was designated as *striped, streaked* (\*ba+rik).

No new colours appeared to be added at the PHN level. A doublet developed for *black* (\*pitem), as well as forms for *dark, black* (\*qi(n)+Dem, \*ti+lem) and *deep black, shiny black* (\*li(n)+tem). Alternate words were also used for *red* (\*baRaŋ; \*dě+Ráŋ also *dry*). Animal colours could be characterised as *spotted, striped* (\*ba+laŋ), *spotted, dappled* (\*pan+tek); or *striped* (\*buriŋ, cf: *charcoal*). A word was also developed to describe *discoloured* (as skin over a bruise) (\*baŋ+baŋ).

### 30. PAN SMELLS AND AROMAS

If the Austronesian eye was not discerning in terms of colour, the daughter languages surely reflect an ancient and not-inconsiderable olfactory expertise, that is, PAN *smell, sniff* (\*Sajék also *kiss*). A monosyllabic root is found in many etymologies designating *smell of [x]* (\*qaŋ+), as in *stink, stench, foul-smelling* (\*qaŋ+Sit) or several of the etyma below. Another monosyllabic root is used in some words for *stench* (\*+tut). In contrast, they distinguished *fragrant* (\*baŋSiS).

At the PHF level we encounter: *stench* (\*qaŋ+suH), *stench of urine* (\*qaŋ+seR), *stench of putrid urine* (\*laŋesej), *odour, stench (of fish/blood)* (\*Laŋ+si?), *stench (as of spoiled meat)* (\*qaŋ+Ru), and *strong smell of fish* (\*qaŋ+RiS).

Within PMP times there was: *smell, odour* (\*báhuq; cf: PHN \*bahu-an), *smell vile* (\*maŋsit), *stench* (\*aŋ+(e)lem), and *fetid, foul-smelling* (\*qaŋ+eliR, \*qaŋ+iR).

PHN added to this inventory words for *having a putrid smell* (\*baŋhaw) and *stench of sweaty armpits* (\*aŋ+sej, \*aŋ+ceŋ).

### 31. CONCLUSION OF OUR VOYAGE

Our time trip has come to an end, but surely not our need for continued research and refinement. Several of the reconstructions taken at face value here are justifiably disputed by other scholars in this volume. There is still a greater task at hand for the many that survive the test of time and our method. Those natural phenomena (i.e. flora and fauna) that are correctly placed at either the Austronesian or Malayo-Polynesian level should allow us to confer with geologists, meteorologists, botanists, anthropologists, archaeologists and other such researchers as to their provenance in prehistoric times. In other words, if we can confidently assume that a corpus of reconstructions is valid, then this would be significant in isolating rather clearly the homeland for that level. For example, whichever area some six to eight thousand years ago had plants like bamboo, rattan, sugarcane, foxtail millet, *Mangifera*

*indica*, *Dracontomelum edule*, *Athyrium esculentum*, *Urena lobata*, *Solanum nigrum*, *Pandanus tectorius*, which also had a monsoon wind and was exposed to the sea with its tidal changes, and which teemed with goatfish, mullet, stingray, shark and freshwater eel, or birds such as the hornbill, dove, pigeon and wild dove – this should prove to be the Austronesian homeland. However, certain issues must be settled first, such as the appearance of words that seem to indicate an increase of geological and meteorological activity (section 1.2). Do these reflect a change in time or in zone, or are they retentions from PAN and therefore reflect the state of the original homeland? Whatever the answer, we linguists cannot reach it alone, but must rely on a broader range of expertise. The lure of etymological science, however enticing and fascinating, should not let us take another time trip with a *\*duma* from among our fellow scientists.

## ABBREVIATIONS

+	a monosyllabic root is posited
-	a morpheme boundary is posited
/	an affixed form is usually found to occur
-2	full reduplication
ACD	Blust (n.d.a)
AE1	Blust (1980a)
AE2	Blust (1983-84a)
AE3	Blust (1986)
AE4	Blust (1989a)
Bl	Blust (see references)
Ch	Mathew Charles (personal communications, data and correspondence)
CH	Blust (1976a)
CHN	Chinese
CMP	Central Malayo-Polynesian
Da	Dahl (1976)
dbl	doublet
DDO	Blust (1981a)
Dp	Dempwolff (1938)
dsj	disjunct (see Blust 1970:112f., 1980a:25f.)
Dy	Dyen (see references)
DyTs	Dyen & Tsuchida (1986)
Fer	Ferrell (1969)
Gon	Gonda (1952)
HK	Kern (1976)
Hm	Blust (1984-85)
HM	Dyen (1990)
HOK	Hokien
Hs	Blust (ed. 1981)
IND	Indic
LVWL	Blust (1982a)
McF	McFarland (1977)
MHP	Blust (1982b)
MSP	Mexican Spanish
n	note / footnote

Noth	Nothofer (1975)
NS	Blust (1974c)
PAA	Blust (1970)
PA1	Blust (1972c)
PA2	Blust (1972a)
PA3	Blust (1973)
PAN	Proto Austronesian
pc	personal communication
PD	Blust (1980c)
PER	Persian
PFM	Proto Formosan
PHF	Proto Hesperonesian-Formosan
PHN	Proto Hesperonesian (Western Austronesian)
PIN	Proto Indonesian
PKT	Prakrit
PMP	Proto Malayo-Polynesian
PNP	Proto Northern Philippine
PNS	Proto North Sarawak
PPH	Proto Philippine
PPN	Proto Polynesian
PSF	Proto South Formosan
PSP	Proto Southern Philippine
PWI	Proto West Indonesian
Root	Blust (1988a)
SKT	Sanskrit
Sn	Sneddon (1978)
SOC	Blust (1980b)
Tab	Blust (1981b)
Tam	Tamil
Tir	Blust (1992a)
Ts	Tsuchida (1976)
Tum	Blust (1992c)
Voc	Blust (1979)
VRR	Blust (1981d)
WIN	Western Indonesia
Wol	Wolff (1976)
Z=	Zorc (n.d. – fieldnotes, data sheets, file cards or computer files), but see McFarland (1977), Reid (1971), Yap (1977) for data
ZED	Zorc (1979a, 1979b)

## APPENDIX

Notes on the alphabetical ordering of this glossary:

1. Letters in parentheses are ignored, but preconsonantal nasals that are unambiguously reconstructed are found in their respective order.
2. A morpheme division (-) is ignored (e.g. \*tam-buRi is in position of «tambuRi»).
3. An infix (/ /) is ignored (e.g. \*p/al/aka<sup>?</sup> is in position of «palaka»).



4. The monosyllabic root symbol (+) is ignored.
5. A glottal stop (?) is ignored.
6. A small letter precedes its capital counterpart (except that \*H and \*h, \*L and \*l are treated identically).
7. Accent is ignored (except that in the case of pairs stress on the penult precedes that on the ultima).
8. The order of nasals is: m, n, N, ñ, ŋ.
9. In the case of homonyms, the earliest time-depth comes first.
10. Subscript numbers are ignored (e.g. \*d and \*d<sub>2</sub> are treated identically).

PPH?	*abaká	Manila hemp, <i>Musa textilis</i>	4.4. FLORA	Z=
PPH	*abas	pock marks; childhood illness	25.4 SICK	Bl-Tir,Z=
PHN	*a(m)bék	mat	13. BRAID	Bl-AE1
PSP	*abfl	having only one testicle	27. SEX	Z=
PHN	*ábu?	grandfather	20.3 KIN	Z=
PPH	*abú+but	small basket or its contents	13. BRAID	Z=
PHN	*a+búg	dust	1.3 NATR	Bl-PA3
PHN	*a(m)buŋ	proud, haughty	21.3 CULT,EMOT	Bl-AE4
PHN	*a(m)buqaŋ	beetle	10.3 INSECT	Bl-AE1
PPH	*a+buR	drive away, chase	8.4 HUNT	Z=
PMP	*abus	ashes	9. COOK	Bl-AE4
PMP	*a(m)+but	weed, pluck, pull out	5.2 FARM	Bl-AE4
PMP	*ad <sub>2</sub> amay	plant, <i>Pipturus argenteus</i>	4.2 FLORA	Bl-AE4
PWI	*adas	fennel	4.4. FLORA	Dp
PPH	*ádat / ma-	salty	9. FLAV	Z=
PPH	*adáy	ouch!	25.4 SICK	Bl-Tir,Z=
PHF	*a-eném	six	19.1 NUM	Z=
PNP	*ágas	medicine	25.3 SICK	Z=
PNP	*ajamáŋ	shrimp - tiny	3.4 SEA,FISH	Z=
PMP	*aka	sibling - older	20. KIN	Bl-Voc
PMP	*akad <sub>2</sub>	root	4.2 FLORA	Dp,Dy,Z=
PAN	*aki	grandfather [cf: PHN *laki]	20. KIN	Bl-Voc,SOC,AE3
PAN	*akú	I; 'EGO'	20. KIN,PRO	Dp,Ts,Z=
PMP	*alap	gather, collect [cf: PAN *qalaq]	5. FARM,FOOD	Dp,Z=
PHN	*alát	small basket	13. BRAID	Bl-PA3,Z=
PHN	*aliten	firebrand [dbl: aluten]	9.2 COOK,FIRE	Bl-AE3
PHN	*alub	put in or over a fire	9.3 COOK,FIRE	Bl-AE4
PPH	*alud	raft [Z = PSP *arur]	2.4 BOAT	Bl-Tir,Ch
PMP	*aluja	paddle, row [dbl: *paluja]	2.2 BOAT	Bl-AE1
PHF	*á+luR	flow(ing); channel	1.2 NATR	Dp,Dy,Noth,Z=
PMP	*aluten	firebrand [dbl: aliten]	9.2 COOK,FIRE	Bl-AE3
PAN	*áma	father (F/FB) [reference]	20. KIN	Dp,Bl-Voc,Ts
PMP	*ama-en	uncle (father's brother)	20.1 KIN	Z=
PHN	*amá?	father [address]	20.3 KIN	Bl-Voc
PHN	*amáH	father [address]	20.3 KIN	Bl-Voc,Ts
PHN	*amáŋ	father [address]	20.3 KIN	Bl-Voc
PHN	*amaq	eat	9. FOOD	Bl-AE4
PHN	*amaRa	tree sp.	4.3 FLORA	Bl-AE1
PMP	*amáy	father [address]	20. KIN	Bl-Voc
PPH	*am+baw	rat	6. FAUNA	Bl-Tir
PHN	*am+bun	dew; drizzle	1.4 NATR	Bl-AE2
PIN	*amiaŋ	plants with stinging hairs	4.4. FLORA	Bl-AE3#349n
PHF	*?amin	all (gone); to use up (all)	19.1 NUM	Bl-VRR,Z=
PHN?	*am+pet	stanch, stop the flow of blood	25.3 SICK	Bl-AE2
PHN	*ampun	ask pardon	22. RITE	Dp,Bl-Tir

PMP	*ánay	termite	10.2 INSECT	Dp,BI-Tir
PMP	*anduj	ancestors	20.1 KIN	BI-AE4
PMP	*anipa	large snake sp.	6.2 FAUNA,REPT	BI-AE3
PHN?	*anu <sup>7</sup> us	smoke, charred	9.2 COOK	Z=,BI-AE2
PMP?	*anús	smoke, charred	9.2 COOK	BI-AE2
PAN?	*aNak	child, offspring [alt: *u-aNak]	20. KIN	Ts,Z=
PMP	*añiam	plait, weave, braid (mat)	13. BRAID	BI-CH,Dy,ZED
PMP	*añem	plait, braid, weave mat	13. BRAID	BI-AE1
PHN	*añ+cej	stench of sweaty armpits	30. SMEL	BI-AE3
PHN	*añ+kub	cover [dbl: *Raŋkub]	9.3 FOOD,PROD	BI-AE3
PMP	*añ+(e)lem	stench	30. SMEL	BI-AE4
PHN	*añ+sej	stench of sweaty armpits	30. SMEL	BI-AE3
PHN	*apíd	braid	13. BRAID	BI-AE3
PHN	*apis	rattan	4.3 FLORA	BI-AE2
PPH	*apítuŋ	tree, <i>Dipterocarpus grandiflora</i>	4.4. FLORA	Z=
PMP	*ápu	grandchild; grandparent	20.1 KIN	Z=
PAN	*a(m)pu	ancestor; master [cf: *empu]	20. KIN	BI-Voc,SOC
PMP	*a(m)puŋ	float	2.2 BOAT	BI-AE4
PHF	*apuR	betel-chew, quid [cf: *qapuR 'lime']	28. BETEL	BI-AE3,Hm
PMP	*a(m)puj	ancestor [address]	20.1 KIN	BI-Voc
HOK	xapyan	opium	28. OPIATE	Z=
PER	xáarak	liquor	28. GROG,CULT	Z=
PSP	*arur	raft [cf: PPH *alud]	2.4 BOAT	Z=
PMP	*aRemañ	marine eel or fish sp.	3.2 SEA,FISH	BI-AE3
PMP	*aResam	fern	4.3 FLORA	BI-AE3
PPH	*aRúy	groan in pain	25.4 SICK	Ch,Z=
PSF	*?aSik	sweep; broom	24. GROOM	Ts
PAN	*a+sa	one	19. NUM	BI-AE1
PHN	*asih	show off; pretend	21.3 CULT,EMOT	BI-AE1,AE4
PAN?	*ásu	dog	6. FAUNA,HUNT	HK,BI-CH,Hm,Ts
PHN	*asug	transvestite shaman	22. + 27. RITE	BI-AE3
PHN	*asuntij	plant, <i>Cassia</i> sp.	4.3 FLORA	BI-AE4
PHN	*átaj	crossbeam; block, dam	12.3 BLDG	BI-AE1
PHN	*atis	provoke a fight	26. WAR	BI-AE4
PAN	*aya	female father, aunt (FZ)	20. KIN	BI-SOC
PHN	*ayuj	monkey	6.3 FAUNA	BI-AE1
PWI	*azar	instruct(ion)	6.4 CULT	Dp,Dy
WIN	xazar-an	horse [lit. be instructed]	6.4 FAUNA	Dp,HK
WIN	xazi	pray(er); praise	22. RITE	Dp
PHN	*azuq	term of address to males	20.3 KIN	BI-AE3
PAN	*ba-báHi	woman, female	27. SEX	BI-VRR,Da,Z=
PMP	*babaw	weed [v]	5.2 FARM	BI-CH,ZED
PHN	*ba+baw	rat, mouse [dbl: *balabaw]	6. FAUNA	BI-AE4
PMP	*ba-b(in)áHi	woman, female	27. SEX	BI-VRR
PAN?	*bábuy	pig	6. FAUNA,FOOD	HK,BI-Hm,Ts
PHN	*ba+cak	muddy, waterlogged (of ground)	5.3 FARM	BI-AE4
PHN	*bacuk	hoe, chop up soil	5.3 FARM	BI-AE3
PHF	*baCaj	millet sp. (e.g. sorghum)	5.1 FARM,FOOD	BI-AE3,Hm
PMP	*bád2uk	tinder, fungus on sugarpalm sp.	9.2 FLORA,FIRE	BI-AE3,Z=
PHN	*bagahak	fish sp.	3.3. FISH	BI-AE4
PHN	*bahál	ferment(ed)	28. GROG	Z=
PMP	*baháq	flood	1.3 NATR	BI-PA1;Dp,Z=
PHN?	*baháR	loincloth, g-string	16. CLOTH	BI-PAA,Z=
PPH	*baháw	cool down (of food)	9.4 FOOD	Z=
PAN	*báHi	woman, female	27. SEX	Dp,BI-VRR,Dy,Ts
PMP	*bahuq	smell, odour	30. SMEL	Dp,Dy,Z=

PHN	*bahuan	odour, stench	30. SMEL	BI-AE4
PAN	*ba?i	grandmother	20. KIN	BI-SOC
PHN	*bakaka	kingfisher	7.3 BIRD	BI-AE3
PHF	*bakál	weapon – pointed	26. WAR	DyTs
PPH	*bak+bak	frog	6.4 FAUNA	Z=
PPH	*bákes	monkey	6.3 FAUNA	Z=
PMP	*bakhaw	mangrove tree, <i>Rhizophora</i>	4.2 FLORA	ZED
PHN	*bak()lad	fish trap	3.3. FISH	BI-MHP
PHN	*bakúku	fish: sea-bream, <i>Sparus berda</i>	3.3. FISH	BI-AE1
PHN	*bákul	basket type	13. BRAID	Dp,ZED
PPH	*bakúlud	rocky ground	1.5 GEOG	Z=
PHN	*bákuŋ	flowering plant, <i>Crinum asiaticum</i>	4.3 FLORA	Dp,Noth,ZED
PMP	*balabaw	rat [cf: *labaw]	6. FAUNA	BI-AE3#32
PHN	*balának	fish: mullet	3.3. FISH	Dp,Noth,Z=
PHN	*ba+laŋ	spotted, striped	29. COLOUR	BI-AE4
PHF	*balaŋa?	earthenware jar	9.1 + 17. POT	Dp,Dy,ZED
PMP	*balar	pale, albino	29. COLOUR	BI-AE4
PHN	*balat	banana sp. [cf: PNP *baRat]	5.3 FARM,FLORA	BI-AE4
PHN	*balá(n)tik	booby-trap	8.3 HUNT,WAR	BI-PAA,ZED
PPH	*balátuŋ	mung bean	9.4 FOOD	Z=
PHN	*balaw	timber tree, <i>Dipterocarpus</i>	4.3 FLORA	BI-AE1
PMP	*baláy	public building; meeting house	12.2 BLDG	BI-CH,Hs,Dy,Z
PHF	*báles	repay, revenge	26. WAR	Ts,Z=
PMP	*bali	lie, deceive [cf: *baRiq]	21.2 CULT	BI-AE4
PHN?	*bali	equal, equivalent value	19.3 BART	BI-AE4
PHF	*balfja	shuttle stick	14. WEA V	Dp,BI-CH,ZED
PMP	*baliji	grass (sp?)	4.2 FLORA	BI-PAA
PPH	*balíti?	tree, <i>Ficus</i> (spirit residence)	4.4. FLORA	Z=
PHF	*baLituk	gold (coin)	18. METAL	Ts,Z=
PAN	*báliw	change, exchange; pay (back)	19. BART	BI-DDO,Z=
PAN	*báliw	moiety	21. SOC	BI-PD
PHN	*baliw	punitive storm; hail storm	22. RITE,CULT	BI-Tab
PMP	*balu	some, some more	19.2 BART	BI-AE4
PHN	*bálu	widow	20.3 KIN,CULT	Dp,Z=
PAN	*báluj	dove sp., pigeon	7. BIRD	BI-AE1,Hm,Z=
PHN	*balúlaŋ	basket type; skin, hide	13. BRAID	Dp,Z=
PHN	*bálun	provisions; roll up (together)	9.3 FOOD,WAR	Dp,Z=
PSP	*baluŋtu	rainbow	1.5 NATR	Z=
PMP	*balutu	canoe	2.2 BOAT	BI-AE3
PMP	*bana?aR	radiance, ray of light	1.3 NATR	BI-AE1,Z=
PPH	*banabá	tree sp., <i>Lagerstroemia</i>	4.4. FLORA	Z=
PMP	*bandaŋan	goat hair decoration on a spear	26. WAR	BI-AE3
PHN	*ban()lat	fish pen	3.3. FISH	Z=,BI-MHP
PHN	*ban()lik	slime	1.4 NATR	BI-MHP,Z=
PHN	*bantal	bundle (of cloth)	14. WEA V	BI-AE1
PMP	*banua	inhabited territory/human ecosystem	1.3 GEOG	ZED,BI-Hs,Dy
PHF	*baNaR	shrub, <i>Smilax</i> sp. [dbl: *banaw]	4.1 FLORA	BI-Hm,Ts
PAN	*báNaS	husband, male counterpart	20. KIN,SEX	BI-VRR,Z=
PHF	*baNaw	shrub, <i>Smilax</i> sp. [dbl: *baNaR]	4.1 FLORA	BI-AE1,Hm
PPH	*baŋa?	earthenware jar or vessel	9.1 + 17. POT	Z=
PHN	*báŋah	pandanus, <i>Orania</i>	4.3 FLORA	BI-AE2,Z=
PHF	*bá+ŋaw	bug, noxious insect	10.1 INSECT	BI-AE1
PWI	*baŋaw	heron	7.3 BIRD	HK
PHN	*baŋ+baŋ	discoloured (as skin over a bruise)	29. COLOUR	BI-AE4
PHN	*baŋhaw	having a putrid smell	30. SMEL	BI-AE4
PMP	*baŋi	cook over a fire	9.2 FOOD,COOK	BI-AE4

PMP	*baŋi	bait	3.2 FISH,HUNT	BI-CH,AE4,ZED
PHN	*baŋis	cruel [dsj: *beŋis]	26. WAR	BI-AE4
PAN?	*baŋka?	canoe, boat	2. BOAT	HK,Li-pc,BI-CH,Dy
PMP	*baŋkal	tree, <i>Nauclea orientalis</i>	4.2 FLORA	BI-AE4,Hm
PHN	*baŋkat	large basket [dbl: *ba(ŋ)kat]	13. BRAID	BI-AE1,ZED
PHN	*baŋkaw	spear (barbless)	8.3 HUNT,WAR	BI-AE2,ZED
PHN	*baŋkay	corpse	23. DEATH	Dp,Noth,Z=
PHN?	*baŋkirig	tree sp. [Akl,Ceb < MI?]	4.3 FLORA	BI-AE3,AE4
PHN	*baŋkulis	fish sp.	3.3. FISH	BI-AE4
PAN	*baŋSiS	fragrant	30. SMEL	BI-AE4
PHN?	*bapa?	father	20.3 KIN	Dp,Z=
PHN	*baquR	trigger of tension trap [cf: *baweR]	8.3 HUNT	Ch,BI-AE4
PPH?	*baraŋay	canoe	2.4 BOAT	Z=
PHF?	*bari[]	iron, metal	18. METAL	BI-CH,ZED
PMP	*ba+rik	striped, streaked	29. COLOUR	BI-AE3
PHN?	*barut	bandage, wrapping	25.3 SICK	BI-AE2
PPH?	*barútu	canoe	2.4 BOAT	Z=
PHF	*baRaH	embers; red hot	9.1 COOK	Dp,Noth,Ts
PHN	*baRáni	brave; hero [cf: *RaqaNi]	26. WAR	Dp,Noth,Z=
PHN	*baRaQ	red	29. COLOUR	BI-AE4
PNP	*báRat	banana [cf: PHN *balat]	5. FARM,FLORA	Z=
PMP	*baRéq	swell(ing); abscess, boil	25.2 SICK	Dp,Dy,Noth
PMP	*baRiq	lie, deceive [cf: *bali]	21.2 CULT	BI-AE4
PHF	*baRiuS	typhoon, storm, hurricane	1.2 NATR	ZED,BI-Hm,PAA
PHN?	*baRiw	tainted, rotten	9.3 FOOD,FLAV	Dp,Noth
PAN	*báRu	hibiscus, <i>Gnetum gnemon</i>	4. FLORA	Dp,BI-Hm,Dy
SKT	*basa[h]	read	21.1 CULT	Gon
PPH	*básul	blame, find fault; regret; sin	22. RITE	Z=
PHN?	*bataq	young [of vegetation]	4.3 FLORA	BI-AE4
PHN	*ba(t)bat	belly of an animal, tripe	9.3 FOOD	BI-AE4
PAN	*batúH	stone, rock	1.1 NATR	Dp,Dy,Ts
PHN	*batúk	cough	25.3 SICK	Dp,Noth,Z=
PMP	*batuR	plait, make with the hands	13. BRAID	BI-AE1
PHN	*bawáŋ	creek, ravine	1.4 GEOG	BI-AE1
PHN?	*báwaŋ	garlic, onion	5.3 FARM	Dp,Dy,Noth
PHN	*baweR	bamboo spring trap [cf: *baquR]	8.3 HUNT	Ch,ZED
PPH	*báwi?	regret; take back	22. RITE,CULT	Z=
PHN	*báyad <sub>2</sub>	pay	19.3 BART	Dp,ZED,Dy
PHN	*bayáw	brother-in-law	20.3 KIN	Dp,Z=
PPH	*bay+bay	bank, shore; (CPh) sand (NPh) sea	1.5 GEOG	Z=
PAN?	*báyuH	pound (rice); mortar; pestle	5. FARM,RICE	BI-VRR,Z=
PHN	*bayuR	palm, <i>Pterospermum diversifolium</i>	4.3 FLORA	BI-AE1,Hm
PHN	*bayú?uŋ	bag of plaited palm leaves	13. BRAID	BI-AE3,Z=
PAN?	*beCeŋ	millet, foxtail sp. (?)	5. FARM,FOOD	BI-AE1,Hm
PHF	*be+Cik	tattoo	21.1 CULT	BI-CH&PAA,ZED
PHN	*bed+bed	wind-around, tie	13. BRAID	Z=
PHN?	*bedfI	gun	26. WAR	Dp
PNS	*bedíq	vulva, vagina	27. SEX	BI-NS
PMP	*bej	wind around repeatedly	13. BRAID	BI-Root
PMP	*bek	rotten, crumbling; pulverised	1.3 NATR	BI-Root
PMP	*be(ŋ)+kar	split open, blossom	4.2 FLORA	BI-AE4
PMP	*be(ŋ)+kaR	split open, blossom	4.2 FLORA	BI-AE4
PMP	*bek+bek	crush by pounding; powder(y)	9.2 FOOD,MOVE	Dp,BI-PA1
PSP	*békéR	choke on fishbone	25.4 SICK	Z=
PAN?	*be(ŋ)+kut	hunched over; hunchbacked	25.1 SICK	BI-AE4
PMP	*bē+láj	spread out in sun to dry	9.2 FOOD,PROD	Dp,Dy,Z=

PFM	*belbel	banana	5. FARM	Bl-Hm
PAN	*bĕlí	buy	19. BART	Dp,Dy,ZED
PHN	*bĕnáŋ	thread	15. SEW	Dp,ZED
PHF	*benaqi	sand [cf: *qenay]	1.2 NATR	Bl-VRR
PHF	*benSiq	seed (for sowing), seedling	5.1 FARM,RICE	Dp,Noth,ZED
PHN	*ben+tas	hack a passage through	5.3 FARM	Bl-AE3
PHF	*beN+beN	braid	13. BRAID	Da,Z=
PHF	*beN+beN	<i>Donax cannaeformis</i> [for braiding]	13. BRAID	Da,Z=
PMP	*bĕŋél	deaf	25.2 SICK	Dp,Dy,Z=
PHN	*bĕŋÉR	deaf(ened)	25.3 SICK	Bl-AE2,Z=
PHN	*bengis	cruel [Dsj: *baŋis]	26. WAR	Dp,Noth
PHF	*bĕRas	husked rice	5.1 FARM,RICE	HK,Bl-CH,Hm,Ts
PAN	*bĕRáy	give	21. CULT,BART	Dp,Dy,Z=
PAN	*bĕRék	pig	6. FAUNA,FOOD	Bl-CH,Hm,ZED
PMP	*beRsay	canoe paddle, oar	2.2 BOAT	Dp,Bl-CH,Dy,Z
PPH	*bĕsáy	waterfall	1.5 GEOG	Z=
PHN?	*besi	iron	18. METAL	HK,ZED,Dy
PMP	*betaw	female sibling	20.1 KIN	Bl-SOC
PHN	*betŋq	vulva, vagina	27. SEX	Bl-PAA,NS,Z=
PHN	*bĕtúŋ	large bamboo, <i>Dendrocalamus</i> sp.	4.3 FLORA	Dp,HK,Bl-Hm,Z=
PHN	*biháR	alive; allow (to live)	26. WAR	Ch,Z=
PSP	*bfhed	roe	3.4 FISH	Ch,Z=
PHN	*bijáu	winnowing basket	13. BRAID	Ch,ZED
PMP?	*bi+láj	spread out in sun to dry	9.2 FOOD,PROD	Bl-PA2,Ch
PHF	*bflaŋ	count	19.1 NUM,BART	Dp,Noth,ZED
PMP	*biliŋ	turn, veer to the side	2.2 BOAT	Dp,Bl-VRR
PMP	*bilu	fish: trevally, <i>Caranx</i> spp.	3.2 FISH	Bl-AE3,Hm
PMP	*b/in/áHi	woman, female	27. SEX	Da,Bl-VRR
PMP	*binana	estuary, river mouth [dbl: minana]	1.3 NATR	Dp,Bl-AE1
PHF	*biqel	goiter	25. SICK	Ts
PMP	*biras	scar	25.2 SICK	Bl-AE4
PHN	*birás	sibling-in-law	20.3 KIN	Z=
PAN	*bfRaŋ	taro, giant arum, <i>Alocasia</i> sp.	5. FARM,FLORA	Bl-CH,Hm,Dp,Z=
PAN	*biRaS	roe, fish eggs	3. FISH	Bl-AE1
PHN?	*bisu	deaf; mute	25.3 SICK	Bl-PA3
PMP	*bisul	boil, abscess	25.2 SICK	Bl-AE3
PMP	*bit	hook	3.2 FISH	Bl-Root
PMP	*bitaŋuR	tree, <i>Calophyllum inophyllum</i>	4.2 FLORA	Bl-AE1,Hm
PMP	*bituŋ	bamboo, <i>Dendrocalamus</i> [dbl: *pituŋ]	4.2 FLORA	Bl-Hm
PAN	*bi(n)tuŋen	star	1.1 NATR	Dp,Da,Dy,Z=
PAN	*bu	dust	1.1 NATR	Bl-Root
PAN	*buáŋ	betel nut	28. BETEL	Bl-CH,Hm,ZED
PAN	*buáŋ	fruit	4. FLORA	Ts,Bl-CH,ZED
PAN	*bubu	grandparent [vocative]	20. KIN	Bl-SOC
PMP	*bú+bu	bamboo basket fish trap	3.2 FISH	Dp,Bl-CH,ZED
PPH	*bubún	water well	1.5 GEOG	Z=
PMP	*bubúŋ	ridge of roof, ridgepole/beam	12.2 BLDG	Dp,Bl-CH,ZED
PHF	*buCá	blind	25.1 SICK	Dp,Noth,Da,Z=
PHF	*buCu	blister; callus; corn	25.1 SICK	Bl-AE4
PMP	*budaŋ	foam, bubbles [dsj: *bujaŋ]	1.2 NATR	Bl-AE4
PHN	*budu[h]	pickle (in brine)	9.3 FOOD	Bl-PAA,Noth,Z=
PHF	*buHut	squirrel, rodent sp.	6.1 FAUNA	Ts
PAN	*bujáŋ	foam, bubbles [cf: *puCaŋ]	1.1 NATR	Dp,Bl-PA1,Ts
PPH	*búji?	roe	3.4 FISH	Z=,Ch
PMP	*buk	decay, crumble; powder	1.3 NATR	Z=,Bl-Root
PHN	*buk+buk	weevil	10.3 INSECT	Dp,Dy,Bl-PA1

PHN?	*bu(ŋ)kél	lump, bump	25.3 SICK	Bl-AE1,Z=
PHN	*buken/-	omen dove [dbl: *-muken]	7.2 BIRD	Bl-AE3
PAN	*bukij	hill, mound	1.1 NATR	Dp,Z=,Bl-PA1,Hm
PHF	*bú(ŋ)kul	hump, hunchback	25.1 SICK	Dp,DyTs
PMP	*bulan	albino [dbl: *bulay; cf: 'moon']	29. COLOUR	Bl-AE4
PAN	*búlaN	moon	1.1 NATR	Dp,Dy,Ts
PHN	*buláŋ	wrap-on cockspur for cockfight	27. COCK,CULT	Bl-PA2,ZED
PMP	*buláR	cataract of the eye	25.2 SICK	Bl-CH,ZED
PMP	*bulati	worm = earthworm	6.2 FAUNA	Bl-AE4
PHF	*bulaw-an	gold (-coloured)	18. METAL	Bl-CH,DyTs
PHF?	*buLay	snake	6.1 FAUNA,REPT	DyHM,Ts
PMP	*bulay	albino [dbl: *bulan]	29. COLOUR	Bl-AE4#103n
PHN	*buléR	cataract	25.2 SICK	Ch,Bl-CH
PMP	*buliq	conch shell, triton [cf: *tam-buRiq]	3.2 SEA	Bl-Hm,AE1
PHN	*búliR	bunch, cluster (of fruit)	4.3 FLORA,MEAS	Dp,Noth,Z=
PMP	*bu+lit	putty, caulking substance	2.2 BOAT	Bl-CH,AE2,ZED
PMP	*bulú	wash up (hands)	24. GROOM	Dp,Bl-PA1
PMP	*bulud	mountain	1.3 NATR	Bl-AE4
PHN	*bulúŋ	leaf	4.3 FLORA	Dp,Z=
PSP	*bulúŋ	medicine	25.3 SICK	Z=
PHF	*búluq	bamboo, <i>Bambusa</i> sp.	4.1 FLORA	Dp,HK,Bl-Hm,Ts
PMP	*bun	heap up, cover with earth	5.2 FARM	Bl-Root
PHN	*bun+bun	heap, pile	5.3 FARM	Dp,Bl-NS,Z=
PMP	*bunduk	mountain peak, elevated ground	1.3 NATR	Bl-AE3,Hm
PMP	*bu?ni	ringworm, herpes	25.2 SICK	Dp,Bl-CH,ZED
PAN	*bunúq	kill, stab, butcher	9. FOOD,HUNT	Dp,Dy,ZED
PHN	*bunuR	fish sp.	3.3. FISH	Bl-AE3
PMP	*bunút	coconut husk	5.2 FARM	Bl-AE4,Hm
PAN	*buNi/-	hide	26. WAR	Dp,Noth,Z=
PMP	*buŋa	coral sp.	3.2 SEA,FISH	Bl-Hm
PMP	*búŋah	bud, flower; fruit; [SPh] betel-nut	4.2 FLORA	Dp,Bl-PA1,ZED
PHN	*buŋ+buŋ	hollow bamboo tube	5.3 FARM,TOOL	Dp,Noth,ZED
PMP	*buŋ+kut	bent with age	25.1 SICK	Bl-AE4
PNP	*buŋlun	rainbow	1.5 NATR	Z=
PMP	*buqáya	crocodile [Bl-: non-marine]	3.2 REPT,SEA	Dp,HK,Dy,Bl-Hm
PMP	*burak	white	29. COLOUR	Bl-PAA,PA1
PHN	*buriŋ	charcoal	9.1 PROD,FIRE	Z=,Dp
PHN	*buriŋ	striped (animal) [cf: charcoal]	29. COLOUR	Bl-AE3
PMP	*buR	strew, sow, scatter (seed)	5.2 FARM	Bl-Root,Z=
PMP	*búRaw	pursue, chase, run after	26. WAR	Dp,Dy,Noth,Z=
PHN	*buR+buR	porridge, rice gruel	9.3 FOOD	Ch,Bl-NS,Z=
PMP	*buRiq	wash	24. GROOM	Bl-AE3
PAN	*buRúk	rotten	9. FOOD,FLAV	Dp,Noth,Bl-VRR
PMP	*busuk	rotten	9. FOOD,FLAV	Dp,Bl-VRR
PHN	*busuŋ	swollen belly - respect taboo	22. RITE,SICK	Bl-Tab
PAN	*búsuR	bow	8. HUNT,WAR	Bl-CH,Dy,Ts
PHF	*busuR	enemy [cf: 'bow']	26. WAR	Bl-AE3
PHF	*buSuk /ma-	drunk	28. GROG	Dp,Bl-CH,ZED
PMP?	*bu(R)+taq	mud, fertile soil	5.2 FARM	Z=,Bl-AE4
PHN	*bütá?	mud	5.3 FARM	Z=
PMP	*but+but	pluck, pull out; extract	9.2 COOK	Dp,Bl-PA1,Noth
PHN	*butíti	fish: pufferfish	3.3. FISH	Bl-AE4,Z=
PMP	*butun	tree sp., <i>Barringtonia</i> spp.	4.2 FLORA	ZED,Bl-Hm,Dy
PHN	*bú+tuq	penis	27. SEX	Dp,Z=
PHN?	*búyu?	betel pepper/leaf	28. BETEL	ZED
PPH	*búyug /-	bumblebee	11. BEE	Z=



PNP	*buyúk	rotten	9. FOOD,FLAV	Z=
PHN	*buyuy /-	bumblebee	11. BEE	BI-AE3
PHN	*cak	mud(dy)	5.3 FARM	BI-Root
PHN	*cal+cal	hammer	18. METAL	Dp
PHN	*cek	blind	25.3 SICK	BI-Root
PHN	*céray	part, separate, divide	20.3 KIN,SOC	BI-AE3
PHN	*ciq+cin	ring	18. METAL	ZED
PAN	*Cáu	person, human being	21. SOC	Dp,Ts
PAN	*Cákaw	steal	21. CULT	Dp,Z=
PAN	*CalíS	rope, cord; string	2. + 13. BOAT	BI-CH,Dy,Ts
PAN	*Cálun	undeveloped/fallow land, field	5. FARM	BI-CH,ZED
PAN	*CaNém	plant [v]	5. FARM	Ts,BI-CH,ZED
PAN	*CaNém	bury	23. DEATH	Ts,BI-CH,ZED
PAN	*CapaH	smoke fish, jerk meat; jerky	9. FOOD	Ts,BI-CH,ZED
PAN	*Capel	patch	15. SEW	BI-AE3
PHF	*CaSáw	out in the open; midst of	1.2 GEOG,LOC	BI-AE4,Z=
PHF	*CaSíq	sew	15. SEW	Dp,Dy,Ts,ZED
PAN	*Cěnék	thorn; pierce	4. FLORA	BI-AE3
PAN	*Ce+sek	pierce (a soft surface), stab	8. HUNT	BI-AE4
PAN	*Cik	mottled, spotted	29. COLOUR	BI-Root
PAN	*Ciqaw	fish: goatfish	3. FISH	Ts,BI-AE1,Hm,Z=
PAN?	*Cú(m)buq	grow [vintr]; plant sprout [n]	5. FARM	Ts,BI-AE3,ZED
PAN	*Cuma	body/clothes louse	10. INSECT	Dp,Ts
PAN	*CuNuH	roast in/over fire, broil	9. FOOD	Dp,Ts
PAN	*CuSuR	thread a needle	15. SEW	Ts
PAN	*d <sub>2</sub> a(ŋ)+d <sub>2</sub> aŋ	heat s.t., warm oneself by fire	9. FOOD,CULT	Dp,Dy,Ts
PMP	*dad <sub>2</sub> aŋ	shine brightly	1.3 NATR	Dp,BI-PA1,Dy
PHN	*d <sub>2</sub> ad <sub>2</sub> áRa[h	maiden, young girl	27. SEX	Dp,Dy
PMP	*d <sub>2</sub> áhun	leaf	4.2 FLORA	Dp,Dy
PAN	*dajam/ma-	tame, accustomed to	6. FAUNA,FARM	BI-AE3
PHF	*dak+dák	hammer; hit (with implement)	12.1 BLDG,PROD	Dp,Da
PMP	*d <sub>2</sub> akép	embrace, hold	27. SEX	Dp,Dy,BI-PA1
PSF	*d <sub>4</sub> akeS	camphor laurel	4.4. FLORA,SICK	Ts,BI-Hm
PMP	*da(ŋ)+ket	stick, adhere to	12. BLDG,PROD	BI-AE3
PAN?	*dakíH	dirty; body dirt, dandruff	24. GROOM	Dp,Ts,Z=
PMP	*da+kit	join along the length; raft	2.2 BOAT,BLDG	BI-AE3
PHN	*dalig	root = buttress root [dsj: *daliŋ]	4.2 FLORA	BI-AE3,AE4
PMP	*daliŋ	root = buttress root [dbl: *daliŋ]	4.2 FLORA	BI-AE4
PMP	*dalikán	trivet, three stone fireplace	9.2 FOOD,COOK	Ch,BI-AE3
PSP	*daliR	buttress root [cf: *dalig, *daliŋ]	4.2 FLORA	Ch,Z=
PMP	*da+lit	glue, paste, plaster, caulk	12.2 BLDG,PROD	BI-AE3
PPH	*dáluyun	tidal wave	1.5 NATR	Z=
PSF	*damai	viand, food besides main starch	9.4 FOOD	Ts
PAN	*damaR	torch, light; resin	8. HUNT	Dy,Ts,Z=
PAN	*dánaw	lake, pond	1.1 NATR	Dp,Ts,BI-Hm
PAN	*d <sub>2</sub> a+Núm	water – potable/drinking/fresh	1.1 NATR	Dp,Ts,ZED
PHN	*dajanan	hilt, handle of a knife or sword	26. WAR	BI-AE4
PMP	*daŋ+k[ae]q	branch	4.2 FLORA	BI-AE3
PHF?	*daguy	swim [dbl: *laŋuy, *naŋuy]	2.1 BOAT,MOVE	BI-AE4
PMP	*d <sub>2</sub> ap+d <sub>2</sub> ap	tree, <i>Erythrina indica</i> [dbl: *DeDap]	4.2 FLORA	Dp,BI-PA1,Hm
PMP	*d <sub>2</sub> apúR	hearth, stove	12.2 BLDG,COOK	Dp,BI-CH,Dy
PMP	*daqan	branch	4.2 FLORA	Dp,Dy
PPH	*daqtaR	floor	12.3 BLDG	Z=
PAN	*daqu	tree, <i>Dracontomelum edule</i>	4. FLORA	BI-AE3,Hm
PMP	*dáRat	littoral sea; surface of sea/land	1.3 GEOG	BI-Hm
PAN	*daRéq	clay, potting soil	17. POT	Ts,BI-AE1,Z=

PMP	*daRi	fish, <i>Scomberoides</i> sp.	3.2 FISH	Bl-AE4
PHF	*daRiq	groan, moan	25.1 SICK	Ts,Bl-AE4
PMP	*d2a+taR	plain, level ground	1.3 GEOG	Dp,Dy,Z=
PMP	*dátu?	chief, clan leader or priest	20.1 KIN,SOC	Z=,Bl-CH,SOC
CMP	*dawa	child-in-law (DH), nephew (ZS)	20.2 KIN	Bl-SOC
PAN	*daya	towards the interior [cf: *laHud]	1.1 NATR,LOC	Ts,Bl-Hm
PHN?	*dáya[?]	trick, cheat	19.3 BART	Dp,Dy,Z=
PMP	*debu	dust	1.3 NATR	Bl-VRR,Root
PMP?	*d2e+d2ap	tree, <i>Erythrina indica</i>	4.2 FLORA	Bl-Hm
PMP	*d2e+d2em	dark	29. COLOUR	Dp,Dy,Da
PPH	*dejes	windy [cf: PMP *deRes]	1.5 NATR	Z=
PAN?	*dē+kéC	sticky substance, adhesive	12. BLDG,PROD	Ts,Bl-Root
PHF	*de+kiŋ	bark (of a deer)	6.1 FAUNA	Bl-AE3,Hm
PAN	*d2éiés	bowstring	8. HUNT,WAR	Ts,Bl-AE1
PAN	*d2em	dark; overcast	29. COLOUR	Bl-Root
PAN	*d2em+d2ém	dark(ness)	29. COLOUR	Ts
PMP	*d2épaáh	fathom [measure of depth]	2.2 BOAT,MEAS	Bl-Hm,ZED
PHN	*depuŋ	snake – venomous	6.3 FAUNA,REPT	Bl-AE4
PHN	*dē+Ráŋ	red; dry	29. COLOUR	Bl-AE2
PMP	*dēRes	swift flowing [cf: PPH *dejes]	1.3 NATR	Bl-AE1,Z=
PMP	*deRuŋ	tree, <i>Trema orientalis</i>	4.2 FLORA	Bl-AE4
PMP	*diŋ+diŋ/ ma-	cold (of weather)	1.3 NATR	Dp,Bl-PAA
PHN	*d2iŋ+d2iŋ	wall, screen	12.3 BLDG	Dp,Noth,Bl-PA2
PPH?	*dRu?	bathe	24. GROOM	Z=
PHN	*dRuS	bathe	24. GROOM	Dp,Noth,Dy,Z=
PMP	*ditaq	tree, <i>Alstonia scholaris</i>	4.2 FLORA	Bl-AE4
PAN	*di+teq	sticky substance, adhesive	12. BLDG,PROD	Bl-AE4
PMP	*du+du	thunder	1.3 NATR	Bl-AE3
PPH	*dúduŋ	locust	10.4 INSECT	Ch,Z=
PHN	*d2úlaŋ	wooden tray, table	12.3 BLDG,PROD	Dp,Bl-PAA,Noth
PPH	*dúlut	give; serve (food)	21. CULT,BART	Z=
PAN?	*dúma	another of a different kind	19. BART	Ts,Z=
PAN?	*duma	companion, mate	21. CULT	Ts,Z=
PMP	*d2uŋ+d2uŋ	sheltered (as from wind or rain)	2.2 BOAT	Bl-AE3
PHN	*duŋun	tree, <i>Heritiera littoralis</i>	4.3 FLORA	Bl-Hm
PHN	*duR+duR	thunder	1.4 NATR	Bl-AE3
PAN	*dúRiH	thorn	4. FLORA	Dp,Dy,Z=
PAN	*d3uSá	two	19. NUM	Dp,Dy,Ts
PMP	*dúyan	hammock	12.2 BLDG,PROD	Dp,Z=
PMP	*d2uyuŋ	dugong, seacow	3.2 SEA	Bl-H,Dp
PMP	*e+kep	brood, sit on eggs	7.2 BIRD	Bl-AE4
PSP	*e+máw	deaf, dumb, mute	25.3 SICK	Z=
PHN	*e+mís	sweet	9.3 FLAV	Bl-AE2
PAN	*?éném	six	19. NUM	Dp,Ts
PMP	*eŋer	growl, snarl	6.2 FAUNA	Bl-AE4
PMP	*e(m)pu	ancestor [reference; cf: *apu]	20.1 KIN	Z=,Bl-Voc,SOC
PHN	*e(m)pú?	ancestor, grandparent [address]	20.3 KIN	Z=,Bl-Voc
PHN	*eRiq	sword grass, <i>Imperata cylindrica</i>	4.3 FLORA	Bl-AE3
PAN	*?e+sá	one	19. NUM	Dp,Ts,ZED
PSP	*e+séR	man, male	27. SEX	Z=
PHN	*e+súŋ	mortar	5.3 FARM,RICE	Bl-AE1
PSP	*e+táw	person	21. SOC	Z=
PHF	*ga+Cél	itch	25.1 SICK	Dp,Da
PHN?	*gádiŋ	ivory	19.3 BART	Dp
PHN	*gaDuŋ	tuber, <i>Dioscorea</i> spp. [cf: 'green']	4.3 FLORA	Bl-AE4
PHN	*gak+gak	crow	7.2 BIRD	Dp,Z=

PHN	*gama?	catch fish/shrimp with the hands	3.3. FISH	BI-AE3
PHN	*gamat	plant used for dyestuff	4.3 FLORA	BI-AE3
PMP	*gap+gap	stammer, stutter	25.2 SICK	BI-AE4
PHN	*ga+téq	coconut cream/milk [cf: *getaq]	5.2 COCO,FOOD	BI-AE4
PPH	*ga?ud	oar	2.4 BOAT	Z=
PMP	*gaway	octopus tentacles / arms	3.2 FISHBODY	BI-Hm
PHN	*gelaŋ	worm – intestinal	25.3 SICK	BI-AE4
PHF?	*geláŋ	bracelet	16. CLOTH	Dp,DyTs
PMP	*ge+láp	lightning that strikes s.t.	1.3 NATR	BI-AE4
PMP	*gemi	pilotfish, <i>Remora</i> [dsj: *kemi]	3.2 FISH	BI-Hm,AE4
PHN	*geraq	misfortune, catastrophe	22. RITE,CULT	BI-AE4
PMP	*gěréť	cut, slice	9.2 FOOD	BI-AE1,Z=
PHN	*getáq	coconut cream / milk	5.2 COCO,FOOD	Z=,BI-AE4#201n
PMP	*gidik	tickle [dbl: *gitik, *kitik]	27. PLAY	BI-AE3
PMP	*gfliŋ	grind, mill	5.2 FARM,TOOL	Dp,BI-PA1,Noth
PHN	*giliŋ-án	millstone	5.3 FARM,TOOL	ZBD
PHN	*gir+gir	shiver, tremble [dsj: *gigil]	25. SICK	BI-AE4
PMP	*giri	tickle [dbl: *kidi]	27. PLAY	BI-AE3
PMP	*gitik	tickle [dbl: *gidik, *kitik]	27. PLAY	BI-AE3
PPH	*gubat	woods, forest	1.5 GEOG	Z=
PHF	*guC+guC	pull out, pluck; weed	5.1 FARM,MOVE	BI-AE4
PMP	*gu(n)+d2em	overcast, darkened	1.3 NATR	BI-AE4
PPH	*hábas	growth in mouth of animal	25.4 SICK	Z=,BI-Tir
PHN	*hábel	weave	14. WEAV	BI-AE2,ZED
PHN	*ha(m)bél	woven material	14. WEAV	BI-AE2,ZED
PHN	*ha(m)+beŋ	block, obstruct	5.3 FARM,MOVE	BI-AE3
PPH	*há+buŋ	shelter, shed, hut	12.4 BLDG	Z=
PPH?	*ha(m)-bur?aw	molave tree, <i>Vitex parviflora</i>	4.4. FLORA	Z=
PMP	*ha(m)+buR	spread wide; sprinkle	5.2 FARM	Dp,BI-PA1
PNP?	*hadaŋ	gills [cf: PMP *hásaŋ]	3.2 FISHBODY	Z=
PWI	*hádi?	king(dom)	20.3 KIN,SOC	Dp,Dy,Z=
PMP	*ha-d2ŋri	housepost, pillar; pile; beam	12.2 BLDG	Dp,BI-PA1,CH
PHN	*halás	woods, forest	1.4 GEOG	Dp,Z=
PPH	*ha?+muR	dew	1.5 NATR	Z=
PPH	*hánap	seek, look for	8.4 HUNT	Z=
PHN	*ha?nay	set up warp on a loom; entwine	14. WEAV	Dp,Noth,Z=
PMP	*hánin	wind, air	1.3 NATR	Dp,Dy,Noth,ZED
PMP	*ha-pějes	spicy hot; pain(ful)	9.2 FLAV,SICK	Dp,Noth,Z=
PMP	*hápin	mat, cover(ing)	13. BRAID	BI-AE1,Z=
PPH	*haqlu	pestle	5.3 RICE	Z=
PMP?	*haRedán	notched log ladder, staircase	12.2 BLDG	Dp,BI-CH
PMP	*hásaŋ	gills	3.2 FISHBODY	Dp,Da,Dy,Z=
PAN	*Hásaq	whet, sharpen; whetstone	12. BLDG,TOOL	BI-CH,Z=
PHN	*ha+sék	dibble, sow (rice seedlings)	5.3 FARM,RICE	BI-PA3,Z=
PAN	*Hataq/ma-	raw, unripe [dsj: *qa(n)taq]	9. COOK	Dp,Ts,Da,Z=
PPH	*há?un	take from the fire	9.4 COOK,FOOD	Z=
PPH?	*háypu	animal	6.4 FAUNA	Z=
PHF	*Hemáy	rice (generic) [dbl: *Sumay]	5.1 FARM,RICE	HK,Dy-HM
PSP	*heyáq/ma-	ashamed, lose face [cf: PAN *Siaq]	21. CULT	BI-AE1,Z=
PHF	*Hiáp	count	19.1 NUM,BART	BI-PAA,Z=
PPH	*hi(N)-kutu	delouse	24. GROOM	Z=
PPH	*hflut	rub, massage	25.1 SICK	Z=
PHN	*hí+paR	sister-in-law	20.3 KIN	Dp,Dy,Z=
PAN	*Hípes	cockroach	10. INSECT	Dp,Z=
PPH	*hi+pun	shrimp	3.4 SEA	Z=
PMP?	*huaR	vine, <i>Flagellaria indica</i>	4.2 FLORA	BI-Hm,AE3

PAN?	*Hules	upper garment [dsj: *qules 'blanket']	14. + 16. WEAV	Ts,Z=
PHN	*humbak	swell, waves	1.4 NATR	Dp,Dy,Z=
PHN	*huzam	borrow [dbl: *Se(n)zam]	19.1 BART	BI-AE3
PMP	*i+but	pull out, uproot [dbl: *a(m)+but]	5.2 FARM,MOVE	BI-AE4
PHN	*fkej	cough	25.3 SICK	Ch,Z=
PMP	*itap	apparition, glimpse of s.t.	22. RITE	BI-AE4
PHF	*ilem/ma-	green	29. COLOUR	BI-VRR
PHF	*ileŋ	turn, veer to the side	2.1 BOAT	BI-AE2,VRR
PHN	*flu	orphan	20.3 KIN	BI-PAA,Z=
PAN	*ina	mother (M/MZ) [reference]	20. KIN	Dp,BI-Voc,SOC
PHN	*iná?	mother [address]	20.3 KIN	BI-Voc,Z=
PHN	*ináH	mother [address]	20.3 KIN	Ts,Z=
PHN	*ináŋ	mother [address]	20.3 KIN	BI-Voc,Z=
PMP	*ináy	mother [address]	20. KIN	BI-Voc,Z=
PMP	*inúm	drink	9.2 FOOD	Dp
PMP	*iRaŋ/ma-	red	29. COLOUR	Dp
PHF	*iRfŋ	thresh; [NPh] unhusked rice	5.1 RICE	Ts,Dy-HM
PPH	*frit	nits, louse eggs	10.4 INSECT	Z=
PAN	*i+sá	one	19. NUM	Dp,Da,ZED
PPH	*i-sedá?	fish; food eaten with the staple	3. FISH,FOOD	ZED
PPH	*fŋsip	count; think; consider	19.4 BART	Z=
PPH	*itu?	dog; puppy	6.4 FAUNA	Z=
PAN	*kaan	eat	9. FOOD	Da,Z=
PHN	*kábiR	annex, subject; draw towards self	26. WAR	BI-AE4,Z=
PMP	*kabu	kapok tree, <i>Ceiba pentandra</i>	4.2 FLORA	BI-AE3,Hm
PMP	*kabut	fog	1.3 NATR	Dp,BI-VRR
PAN	*ká?en	eat	9. FOOD	Dy,Ts,Z=
PHN	*kahiR	scratch up the ground (chicken)	7.3 BIRD,MOVE	BI-AE4,Z=
PAN	*kaka	sibling – older	20. KIN	Dp,BI-Voc,SOC
PHN	*kalamata	plaitwork	13. BRAID	BI-AE3
PMP?	*kálaŋ	wedge	12.2 BLDG,TOOL	Dy,ZED
PHN	*kalapini	swallow	7.3 BIRD	BI-AE3
PHN	*kalásag	shield – rectangular [cf: *tamiŋ]	26. WAR	BI-AE2
PPH	*káłasan	forest	1.5 GEOG	Z=
PHN	*kalasaR	floor beam	12.3 BLDG	BI-AE4
PMP?	*kalati	worm = earthworm	6.2 FAUNA	BI-VRR
PAN	*kalaw	hornbill	7. BIRD	Ch,BI-AE1,Hm
PHF	*kaLiC	animal hide	16. CLOTH	DyTs
PAN	*kálih	dig (out); canal, ditch	5. FARM	Dy,BI-AE4,Ts
PMP	*kamáliR	bachelor's quarters; shed	12.2 BLDG	BI-Hs
PHF	*kamaya	plant, <i>Diospyros discolor</i>	4.1 FLORA	BI-AE4
PHN	*kambiŋ	goat	6.3 FAUNA	Z=
PMP	*kam+buR	sprinkle, scatter (seed)	5.2 FARM	BI-AE4
PHN	*kamdiŋ	goat	6.3 FAUNA	Z=
PAN	*kami	we [exclusive; cf: *kitá]	21. CULT,PRO	Dp,BI-1977
PMP?	*kamuniŋ	tree, <i>Murraya paniculata</i>	4.2 FLORA	BI-AE1,Hm
PMP?	*kaŋaŋa	tree, <i>Cananga odorata</i>	4.2 FLORA	BI-AE2,Hm
PMP	*kanarum	tree sp.	4.2 FLORA	BI-AE3
PMP	*kanawa	tree, <i>Cordia</i> spp.	4.2 FLORA	BI-AE2,Hm
PHN	*kandiŋ	goat	6.3 FAUNA	Z=
CMP	*kandoRa	cuscus	6.4 FAUNA	BI-LVWL,Hm
PMP	*kantunŋ	pouch, pocket, bag	16. CLOTH	Dy,ZED
PHN	*ka-nu?us	squid, cuttlefish [cf: PMP *nu?us]	3.2 SEA	BI-AE3
PAN	*kaNasay	fish: adult mullet	3. FISH	BI-AE1,Hm
TAM	xkápál	ship	2.4 BOAT	Wolff
IND	xkapas	cotton [ < PKT kappasa ]	14. WEAV	Dp,Gon

PHN?	*kápes	cotton	14. WEAV	Ch
IND	xkapuk	cotton [widespread loan]	14. WEAV	Z=
PMP	*kaput	tie, clasp together	12.2 BLDG	BI-AE3
PHN	*karat	rust	18. METAL	BI-CH
PHF	*kar+kar	dig in the earth	5.1 FARM	BI-AE4
PHF	*ka+rut	scrape, rasp	12. BLDG	BI-AE4
PMP	*kaRakap	crab – rock / mangrove	3.2 SEA	BI-AE4
PHF	*kaRaŋ	crab – swamp / land	3.1 SEA	Z=,BI-AE4,Hm
PAN	*kaRát	bite	9. FOOD,MOVE	Dp,Ts,Z=
PAN	*káRaw	mite; scratch (an itch)	10. INSECT	Ts,BI-VRR
PMP	*ka+Rud	scrape, grate, rasp	12. BLDG	BI-AE3
PMP	*kaRuki	crab – sand	3.2 SEA	BI-Hm
PMP	*kasambi?	tree, <i>Schleichera trijuga</i>	4.2 FLORA	BI-AE4
PMP	*kásaw	rafter	12.2 BLDG	BI-CH,Dy,ZED
PSP	*kasfli	eel [cf: PHN *kasuli]	3.3 SEA,REPT	Z=
PHN	*kasuli	eel – freshwater	3.3 SEA,REPT	BI-AE4
PAN	*káSiw	tree, wood	4. FLORA,PROD	Dp,Dy,Ts,ZED
PHN	*katambak	fish sp.	3.3. FISH	BI-AE1,AE3
PPH	*katél	itch(y)	25.1 SICK	Z=
PMP?	*kátIR	outrigger	2.2 BOAT	Dp,Dy,ZED
PAN	*kat+kat	bite [cf: *kaRát]	9. FOOD,MOVE	BI-VRR,Z=
PHN	*kǎwá?	spider	10.3 INSECT	BI-AE2,Z=
PHN	*kawad	wire	18. METAL	Dp,Z=
PHN?	*kǎwali?	frypan, cooking pot	9.3 COOK	Dy,Wol
CHN	xkáwaq	cauldron [ < Mandarin kuo]	9.3 COOK	Dp,ZED,Wol
PHF	*kawáyan	bamboo – spiny, <i>Bambusa spinosa</i>	4.1 FLORA,BLDG	ZED,BI-AE1,Hm
PHF	*kawiL	hang(ing) caught	8.1 HUNT	DyTs
PAN?	*kawfL	fish hook	3. FISH,TOOL	BI-CH,Ts,ZED
PHN	*ka?+wit	hook (household)	12.3 BLDG,TOOL	Dp,ZED
PSP	*kayab	blanket	14. WEAV	Z=
PHN	*kayaw	go head-hunting	26. WAR	Dp,BI-CH,Z=
PAN	*káyuH	tree, wood, stick	12. BLDG	Dp,Z=
PWI	*kazaŋ	loosely woven (mat)	13. BRAID	Dp
PMP	*kebur	fish drive; churn water	3.2 FISH	BI-CH,ZED
PAN	*keC	adhesive, sticky substance	12. BLDG,PROD	BI-Root
PHN	*kedút	pinch	27. PLAY,CULT	Ch,Z=
PMP	*kek+kek	cackle (of fowl)	7.2 BIRD	BI-AE4
PMP	*ke+las	peel, skin off, lay bare	9.2 COOK	BI-AE3
PMP	*keleŋ	cut into pieces	9.2 COOK	BI-AE4
PMP	*kemi	pilotfish, <i>Remora</i> [dsj: *gemi]	3.2 FISH	BI-Hm
PMP	*kenas	preserved meat or fish	9.2 FOOD	BI-AE3
PHN?	*kenduŋ	tree sp.	4.3 FLORA	BI-AE3
PHF	*kěNá?	hit the mark, strike	8.3 HUNT,WAR	Dp,Ts,Z=
PMP	*ke+ñej	dive, plunge; drown	2.2 BOAT	BI-AE4
PMP	*keŋ	cramp(s), stiffening of limbs	25.2 SICK	BI-Root
PHN	*kepuŋ	surround, besiege [dbl: *kepuŋ]	26. WAR	BI-AE4
PHN	*kepuq	surround, besiege [dbl: *kepuŋ]	26. WAR	BI-AE4
PMP?	*keraq	scream of a monkey [*akerahaq]	6.2 FAUNA	BI-AE4#14,Hm
PHF	*keriq	scream of monkeys, chattering	6.1 FAUNA	BI-AE3,Hm
PSP	*keRán	scab	25.3 SICK	Z=
PHN	*keRáŋ	scab	25.3 SICK	BI-AE3,Z=
CMP	*keRaŋ	turtle: hawksbill	3.4 SEA	BI-Hm
PHF	*keR+keR	shake, tremble	25. SICK	BI-AE4
PMP	*keRteŋ	fish: grouper	3.2 FISH	BI-Hm
PMP?	*keteb	bite	9. FOOD,MOVE	BI-VRR
PMP?	*ketep	bite	9. FOOD,MOVE	BI-VRR

PMP	*ket+ket	bite, nibble	9. FOOD,MOVE	BI-PA3,Z=
PMP	*kidi	tickle [dbl: *gidik, *giri]	27. PLAY	BI-AE3
PHN	*kilála	know (person), recognise	20.3 KIN	Dp,Z=
PHF	*kilát	lightning	1.2 NATR	Z=,BI-VRR
PMP	*kima	clam – giant	3.2 SEA	ZED,Dy,BI-Hm
PHN?	*kinánj	rock crystal	19.3 BART,NATR	BI-PAA
PMP	*kit	join along the length	12.2 BLDG	BI-Root
PAN	*kitá	we [inclusive; cf: *kamf]	21. CULT,PRO	Dp,BI-1977a
PHN	*ki+tey	suspension bridge	12.3 BLDG	BI-AE4
PMP	*kitik	tickle [dbl: *gidik, *gitik]	27. PLAY	BI-AE3
PMP?	*kit+kit	bite, nibble, chew	9. FOOD,MOVE	BI-VRR,Z=
PMP	*kuak	crow; bird with a deep cry	7.2 BIRD	BI-AE1
PAN	*kuan	hamlet; kin-based residential unit	12. BLDG,SOC	BI-AE4
PHN	*kubft	touch lightly	19.3 BART,CULT	BI-PA3
PHF	*kuCem	dark(ened)	29. COLOUR	Z=,<BI-AE4#302
PAN	*kúCuH	head louse	10. INSECT	Dp,HK,Noth,Ts
PMP	*kúdzen	cooking pot; water jar	9.2 + 17. POT	BI-CH,Dy,ZED
PAN?	*kud3+kud3	grate, rasp, scrape	12. BLDG	Z=
PMP	*ku+d2ug	thunder	1.3 NATR	Dp,BI-VRR
PMP	*kukun	tree, <i>Schoutenia ovata</i>	4.2 FLORA	BI-AE3,AE4
PHN	*kulad	scar [dbl: *ulat]	25.2 SICK	BI-AE3
PHN	*kulambar	fish sp.	3.3. FISH	BI-AE3
PMP	*kulu	tree, <i>Artocarpus</i> sp. [dbl: *kuluR]	4.2 FLORA	BI-AE4
PHN	*kulub	bamboo gutter or ridge pole cover	12.3 BLDG	BI-CH,AE2
PMP	*kuluR	breadfruit, <i>Artocarpus elastica</i>	4.2 FLORA,FOOD	BI-CH,Hm,ZED
PMP	*kumbal	dry sago branches	5.2 FARM,FLORA	BI-Hm,AE3
PPH	*kúmut	blanket	14. WEAV	Z=
PMP?	*kunj / ma-	yellow	29. COLOUR	Dp
PMP?	*kúnij	turmeric, <i>Curcuma zeodoaria</i>	5.2 FARM,FLORA	Dp,Ch,BI-Hm
PMP	*kur	word used to call chickens, etc.	7.2 BIRD,FOWL	BI-AE3
PHN?	*kúraŋ	lacking, insufficient, not enough	19.3 NUM	Dp,Noth
PHF	*kurap	scaly skin disease	25.1 SICK	BI-CH,Ts,ZED
PMP	*kurapu	fish: perch	3.2 FISH	BI-Hm
PHN	*kuriŋ	cracked, peeling (of skin)	25.3 SICK	BI-AE3
PMP	*kuRfta	octopus	3.2 SEA	Dp,HK,Dy,BI-Hm
PPH	*kúRun	cogon grass, <i>Imperata cylindrica</i>	4.4. FLORA	Z=
PMP?	*kusik	scream of monkey	6.2 FAUNA	BI-Hm
PHN	*kutfŋ	cat	6.3 FAUNA	BI-PAA,Z=
PHN	*kut+kut	bite, nibble, chew	9. FOOD,MOVE	BI-VRR,Z=
PPH	*kuyapés	boil, sore, tropical ulcer	25.4 SICK	Z=
PAN	*labaw	rat	6. FAUNA,PEST	HK,Ts
PHN	*lábay	yarn; skein	14. WEAV	Z=,Dp,Noth
PHN	*labuR	mix foods together	9.3 FOOD,MOVE	BI-AE4
PMP	*la(ŋ)ga?	heat food up	9.2 FOOD,MOVE	BI-AE4
SKT	*lagadi?	saw	12.3 TOOL	Gon
PAN	*laHúd	towards the sea [cf: *daya]	1.1 NATR,LOC	Ts,BI-Hm,ZED
PHN	*lahúk	mix (together)	9.3 FOOD,MOVE	Dp,Z=
PHN?	*lája	weave (mat), braid	13. BRAID	Dp,Z=
PMP	*laji	tree with poison sap, <i>Antiaris</i>	4.2 FLORA	BI-AE3,Hm
PMP	*lajih	fish: dolphinfish	3.2 FISH	BI-AE3,Hm
PHF	*lakay	husband; old (man)	20. KIN,SEX	BI-AE3#171n.
PHN	*laki	grandfather; old (of people)	20. KIN,AGE	BI-Voc,AE3
PMP?	*láki	man, male	27. SEX	Dp,Dy,Noth,Z=
PHN	*láku?	peddle (PHN), sell (NPh)	19.3 BART	Z=,Dp,Wol
PHF	*LáLak	offspring, child	20. KIN	Dy
PHN	*la-láki	man, male	27. SEX	Dp,Z=



PHN	*lalatu	sparks, burning ashes in the wind	9.3 COOK,NATR	BI-AE3
PHN	*lalatu	ant sp.	10.3 INSECT	BI-AE3
PMP	*lálej	fly	10.2 INSECT	HK,Dp
PMP?	*laluj	cock, rooster	27. COCK,FOWL	BI-CH,Hm,ZED
PHN	*lambayuj	plant sp.	4.3 FLORA	BI-AE3
PHF?	*Lam+Lam	accustomed, tame	6.1 FAUNA	Ts
PMP	*lamu(t)	seaweed sp., moss	3.2 SEA,FLORA	BI-Hm
PMP	*lamúk	mosquito	10.2 INSECT	Dp,BI-VRR,Z=
PHN	*landasan	anvil	18. METAL	Dp,BI-CH
PHN?	*lan+tay	floor(ing)	12.3 BLDG	ZED
PMP	*láña[h]	vegetable oil	9.2 FOOD,PROD	Ch,Z=,BI-AE2
PAN	*lá+ɣaw	house fly	10. INSECT	HK,Dp,Ts
PMP	*laŋen	rollers for beaching a canoe	2.2 BOAT	BI-CH,ZED
PHF	*laŋesej	stench of putrid urine	30. SMEL	Z=, <BI-AE3
PAN	*laŋit	sky, heaven	1.1 NATR	Dp,Ts
PPH	*laŋka?	jackfruit	4.3 FLORA,FOOD	Z=
PHF	*Laŋ+si?	odour, stench (of fish/blood)	30. SMEL	Z=,BI-AE4
PHF	*laŋuy	swim [dbl: *daŋuy, *naŋuy]	2.1 BOAT,MOVE	Dp,Ts
PMP	*lap	flash, sparkle	1.3 NATR	BI-Root
PHN	*laqlu	pestle	5.3 RICE	Z=,BI-AE1,AE4
PMP	*laquya	ginger [dbl: *laqia, *lu?ya]	5.2 FARM,FOOD	BI-CH,Hm,Dy,Z
PHF	*laRaŋ	forbid	22. RITE,CULT	Dp,BI-AE4
PHN	*laRíw	run (away)	26. WAR	Dp,Noth,Z=
PHN	*la+sem	sour	9. FLAV	BI-AE3
PMP	*lateŋ	nettle, <i>Laportea</i> [Dbl: zalateŋ]	4.2 FLORA	BI-Hm
PHN	*latiq	swampy ground	1.4 NATR	BI-AE3
PHF	*Laun	shadow; shade(d)	29. COLOUR	DyTs
PHN	*lawah	drop by, pay a visit	20.3 KIN,CULT	Z=, <BI-AE4
PAN	*láwaq	spider	10. INSECT	HK
PMP	*lawí	tail feather	7.2 BIRD	BI-VRR,Dp,Ch,Z=
PSP	*lawiR	hut, house	12.4 BLDG	Z=
PMP	*laya	affinal cousin (FZS, ZH)	20.1 KIN	BI-SOC
PHN	*layaŋ	fly [v]	7.1 BIRD,MOVE	Dp,Z=
PHF	*layap	fly [v]	7.1 BIRD,MOVE	BI-AE3
PMP	*láyaR	sail	2.2 BOAT	BI-CH,ZED,Dy
PPH	*lebág	swell(ing) of stomach due to gas	25.4 SICK	Z=
PHN	*le(m)bak	valley	1.4 GEOG	BI-AE3#182
PHN	*le(m)baq	valley, watercourse between hills	1.4 GEOG	BI-AE3
PHN	*lebéŋ	bury	23. DEATH	Dp,Dy,McF,Z=
PHN	*lě(m)béŋ	valley; deep water between hills	1.4 GEOG	BI-AE4,Z=
PHN	*lebúq	settlement, village area	20.3 KIN,CULT	BI-PA3
PMP	*le(ŋ)+gur	thunder	1.3 NATR	BI-AE4
PHF	*Le+kéC	stick, adhere	12. BLDG,PROD	Dp,BI-Root,Ts
PHF?	*Lek+Lek	tickle	27. PLAY	DyTs
PHN	*le(b)+leb	forfeit	19.3 BART	BI-AE4
PAN	*lem	dark	29. COLOUR	BI-Root
PMP	*le+mek	fertile (of soil)	5.2 FARM	BI-AE1,AE3
PMP	*lemeŋ	wet (of soil)	5.2 FARM	BI-AE4
PPH	*lěmés	drown	2.4 BOAT	Z=
PHN	*lentiq	thunder storm, lightning bolt	1.4 NATR	BI-AE2,Z=
PHN?	*lěŋáh	sesame, <i>Sesamum indicum</i>	5.3 FARM,FOOD	Dp,Dy
PHN	*lě(m)pád <sub>2</sub>	fly [v]	7.1 BIRD,MOVE	BI-PAA,Z=
PAN	*le+paw	village granary, field house, hut	12. BLDG	BI-Hs
PHN	*lepuq	bone fracture; crooked (of limbs)	25.3 SICK	BI-AE3
PMP	*le+put	use a blowpipe	26. WAR	BI-AE1,AE4
PMP	*leséq	nit, louse egg	10. INSECT	BI-AE3#191

PHN	*le+sít	squeeze/squirt-out	25.2 SICK	BI-AE1
PHF	*lě+suŋ	mortar	5.1 FARM,TOOL	BI-CH,Ts,ZED
PHN	*lě(n)+táw	float	2.3 BOAT	Z=,BI-AE4
PMP	*liaŋ	cave	1.3 + 23. NATR	BI-PA2,Dp,Noth
PSP	*libun	woman	27. SEX	Z=
PAN	*Libu[?H]	lair, den, nest	6. FAUNA	Dy,Ts
PHN	*li(n)ji	batten of a loom	14. WEAV	BI-AE3
PSF	*likuLáw	leopard	6.2 FAUNA	Ts,Z=
PMP	*lilin	beeswax	11. BEE	BI-AE3
PAN	*limá	five	19. NUM	Dp,Ts,ZED
PMP	*limás	bail, canoe water-bailer	2.2 BOAT	BI-CH,Dy,ZED
PMP	*limaw	Citrus fruit	4.2 FLORA,FOOD	BI-CH,HK,ZED
PMP	*limut	seaweed sp.	3.2 SEA,FLORA	BI-Hm
PHN	*lind <sub>2</sub> uŋ	protect(ion)	12.3 BLDG,WAR	Dp,Dy
PHN	*lind <sub>2</sub> uR	earthquake	1.4 NATR	Dp,Z=
PHN	*lintaq	leech [reduction of: *qalimeCaq]	10.1 INSECT	Dp,Z=
PHF	*linuR	earthquake	1.2 NATR	Z=,BI-Hm
PMP	*liR	flow [cf: *a+liR, *sa+liR]	1.3 NATR	BI-Root,Z=
PMP	*lisáq	nit	10. INSECT	BI-PA1
PAN	*liseSáq	nit, louse egg	10. INSECT	HK,Z=,Ts
PMP	*lit	caulking; glue [cf: *bu+lit]	2.2. BOAT	BI-Root
PHN	*li(n)+tem	deep black, shiny black	29. COLOUR	BI-AE3
PAN	*liu-2	turn, veer to the side	2. BOAT	BI-VRR
PHF	*Luáŋ	carabao, ruminant	6.1 FAUNA,FARM	BI-LVWL, Da,Z=
PPH	*lúbid	twine	13. BRAID	Z=
PHF	*luCuŋ	monkey sp.	6.1 FAUNA	HK,BI-LVWL,Hm
PSP	*luhnaw	green	29. COLOUR	Z=,BI-Tir
PMP	*lújan	load a canoe; cargo	2.2 SEA,MOVE	BI-AE3,Z=
PHF	*LukaH	wound(ed) [dsj: *Nukaq]	25. SICK,WAR	Dy,Ts
PAN	*lukuC	parasitic plant, <i>Asplenium nidus</i>	4. FLORA	BI-AE1,Hm
PHN	*lumaq	weak, tired; worn-out	25.3 SICK	BI-AE4
PMP	*lumbar	set free	26. WAR	BI-AE4
PMP	*lumbu	unidentified plant sp.	4.2 FLORA	BI-AE4
PMP	*lúmut	seaweed sp., moss	3.2 SEA,FLORA	BI-Hm
PPH	*lúnud	sink	2.4 BOAT	Z=
PHN	*luŋún	coffin	23. DEATH	BI-PAA,Ch,Z=
PHF	*lupaS	spit (out)	9.1 FOOD	BI-AE4
PHN	*luR	flow [cf: *a+luR, *sa+luR]	1.4 NATR	BI-Root
PPH	*lúsi?	penis	27. SEX	Z=
PHF	*lu+súŋ	mortar [dbl: *lě+suŋ]	5.1 FARM,TOOL	Ts
PHN	*lú(n)tuq	cook	9.3 FOOD	Dp,Z=
PHF	*lu?um	ripe	4.1 FLORA	Z=,BI-AE3
PHN	*luyah	weak, wornout	25.3 SICK	Z=,<BI-AE4
PPH	*ma-	one unit (10, 100, 1000)	19.4 NUM	Z=
WIN?	xmadu	honey [cf: Pr.Indo-Europ. *medhu-]	11. BEE	Dp
PMP	*ma-isá	one, only, alone	19.2 NUM	BI-AE3
PMP	*maka-empu	grandchild	20.1 KIN	BI-SOC
PHF	*malat	machete, parang, sword	12.1+18. METAL	BI-CH,ZED
PMP?	*mali	plant, <i>Leea</i> spp.	4.2 FLORA	BI-AE3,Hm
PHN?	*malí?	taboo [cf: PHF *paliSi]	22. RITE,CULT	ZED
PHF	*malíqi	pregnant [cf: PHF *paliSi]	27. SEX	BI-AE4
PAN	*mama	father [children's vocative form]	20. KIN	Dp,BI-VRR
PMP	*mamáq	chew (but not intend to eat)	28. BETEL	Dp,BI-PA1,Dy,Z=
PMP	*mamin	fish: wrasse, <i>Cheilinus</i> sp.	3.2 FISH	BI-AE3,Hm
PSP	*mam(a)q-en	areca nut	28. BETEL	Z=
MSP	xmaní?	peanut	4.4. FLORA,FOOD	Z=

CMP	*mansar	bandicoot, marsupial rat	6.4 FAUNA	BI-LVWL,Hm
PMP	*manúk	chicken, bird, fowl	7.2 BIRD,FOWL	Dp,ZED
PHN	*magali	fish: marine sp.	3.3. FISH	BI-AE3
PMP	*magkuk	cup, bowl	17. POT	ZED,Dy
PMP	*mapsit	smell – vile	30. SMEL	BI-AE4
PIN	*medáj	tree sp. similar to breadfruit	4.4. FLORA,FOOD	BI-NS
PMP	*meñiak	fat, grease	9.2 FOOD	Dp,BI-VRR
PMP	*me(n)tik/ha-	ant with venomous bite	10.2 INSECT	BI-AE3
PHN	*minúm	drink [ <*(u)m-inúm ]	9.2 FOOD,GROG	Z=
PHN	*miñiak	fat, grease, oil	9.2 FOOD	BI-VRR,Noth
PMP	*misik	sucking noise made to signal s.o.	21.2 CULT	BI-AE3
PMP?	*muken/-	omen dove [dbl: *-buken]	7.2 BIRD	BI-AE3,Hm
PMP?	*múla	plant [v]	5.2 FARM	BI-AE2,Dp,ZED
PMP?	*muntay	<i>Citrus</i> spp.	4.2 FLORA,FOOD	BI-AE1,Hm
PMP	*muR	gargle; rinse the mouth	24. GROOM	BI-Root,Z=
PMP?	*músaj	civetcat	6.2 FAUNA	BI-Hm
PMP	*mutu	fish: damsel fish	3.2 FISH	BI-AE4
PMP	*namaw	lagoon, harbour	1.3 GEOG	BI-AE1,Hm
PMP	*na+na	mother [children's vocative form]	20. KIN	BI-VRR
PAN	*nánaq	pus	25. SICK	Dp,Dy,Ts,Z=
PMP	*naja	estuary, river mouth [dbl: *binaja]	1.3 GEOG	BI-AE1,AE4
PMP?	*naja	rattan sp.	4.2 FLORA	BI-Hm
PHN	*nañka?	jackfruit, <i>Artocarpus</i>	4.3 FLORA,FOOD	BI-Hm
PHF	*nañuy	swim [dbl: *dañuy, *lañuy]	2.1 BOAT,MOVE	BI-AE4
PMP	*náRa	tree, <i>Pterocarpus indica</i>	4.2 FLORA	BI-AE1,Hm,Z=
PAN	*na+suk	cook by boiling [dbl: *Nasu]	9. FOOD	BI-AE1,Z=
PMP	*nek+nek	gnat, sandfly	10.2 INSECT	BI-AE3
PMP	*nepuq	fish: stonefish	3.2 FISH	BI-Hm
PMP	*ni+law	bright light	1.3 NATR	BI-AE3
PMP	*ninih	shake, tremble, rock	1.3 NATR	BI-AE2
PMP	*niniq	plant for basket, <i>Donax canniformis</i>	4.2 FLORA,BRAID	BI-AE4
PMP	*niñal/-	echo	1.3 NATR	BI-AE3
PHN	*niñpaq	nipa reed, <i>Nypa fruticans</i>	12.3 BLDG,FLORA	Dp,Z=
PMP	*nipay	snake	6.2 FAUNA,REPT	BI-AE2
PHN	*niñRu	winnowing basket	5.3 RICE	Dp,Noth,Z=
PMP	*niñ(n)tuq	fern, <i>Lygodium circinnatum</i>	4.2 FLORA	BI-AE3,Hm
PMP	*niúR	coconut	5.2 FARM	HK,BI-Hm,Dy,Z
PMP	*nu?us	squid, cuttlefish [cf: *kanu?us]	3.2 SEA,FISH	BI-AE3,Hm
PMP	*nunuk	fig tree, <i>Ficus benjamina</i>	4.2 FLORA	BI-AE2,Hm
PMP	*nuRuq / ma-	lucky	21.2 CULT	BI-AE4
PMP	*nusa	island	1.3 GEOG	BI-Hm
PAN	*Nabek	surf, breakers, waves	1.1 NATR	BI-Hm,AE2
PHF	*NaCéj	vegetables	9.1 FOOD,FARM	Ts,Da
PAN	*Najam / ma-	tame, accustomed to	6. FAUNA,FARM	BI-AE1
PHF	*Nali	cicada	10.1 INSECT	BI-AE4
PAN	*Nasu	cook by boiling	9. FOOD	BI-AE1
PHF	*Ná+tad <sub>2</sub>	front yard; cleared area	12.1 BLDG,LOC	BI-PAA
PHF	*Naw+Naw	rinse, wash	24. GROOM	BI-AE3
PAN	*Nukaq / ma-	wound(ed); sore	25. SICK,WAR	BI-AE1,AE4
PMP	*ñam	savory, tasty	9.1 FLAV	BI-AE4#413n
PMP	*ñam+ñam	taste [v]; tasty	9.1 FLAV	BI-AE4
PMP	*ñamúk	mosquito	10.2 INSECT	Dp,HK,Da,Z=
PPH	*ñañka?	jackfruit tree, fruit, <i>Artocarpus</i>	4.3 FLORA,FOOD	ZED
PMP	*ñiaRa	male sibling	20.1 KIN	BI-SOC
PMP	*ñiatuq	timber tree, <i>Palaquium</i> spp.	4.2 FLORA	BI-Hm
PAN	*ñaw	wash, rinse, bathe	24. GROOM	BI-Root

PMP	*ñeñu	tree, <i>Morinda citrifolia</i>	4.2 FLORA	Bl-Hm
PAN?	*ñájan	name	21. CULT	Ts, Noth
PPH?	*ña?+ña?	betel chew	28. BETEL	Z=
PMP	*ñeni	beg, ask for	21.2 CULT	Bl-AE3
PAN	*pa(R)-bëlf	sell	19. BART	Bl-pc, Z=
PAN	*pa+cek	drive in (as post, nail or wedge)	12. BLDG, MOVE	Bl-AE3
PAN	*paCéy	kill	26. WAR	Dp, Dy, Ts
TAM	<sup>x</sup> padáw	sail boat [contrast: *pa-laHud]	2.4 BOAT	Wol
PHN	*padek	husk (of rice)	5.3 FARM, RICE	Bl-AE2
PHF	*pa?én	bait	3.1 FISH	Ts, Z=
PHF	*pa?én	bait	8.1 HUNT	Ts, ZED
PHN?	*pager	fence, enclosure	12.3 BLDG	Dp
PPH	*pag?uŋ	land turtle sp.	3.4 SEA	Z=
PHN?	*páhid	wipe	24. GROOM	Z=
PAN	*pahku	fern, <i>Athyrium esculentum</i>	4. FLORA	Z=, Ts, Bl-Hm
PHN	*pahuq	mango, <i>Mangifera indica</i>	4.3 FLORA	Bl-Hm
PHF	*pájey	rice plant, unhusked rice, paddy	5.1 RICE, FARM	HK, Bl-CH, Hm, Ts
PAN	*pa-ka-maCéy	kill	26. WAR	Bl-VRR
PHN	*pakan	weft	14. WEAV	Dp
PHF	*pak+pak	wing	7.1 BIRD	Z=
PMP	*páku?	stake; nail	12.2 BLDG	Bl-CH, ZED, Dy
PMP	*pa-laHúd	go to sea [NOT: *para[qh]u]	2.2. BOAT	Dp, Dy, Z=
PPH	*p/al/aká?	frog	6.4 FAUNA	Z=
PHN?	*palf?	cut, wound, scar	25.3 SICK, WAR	Bl-AE1
PHF	*paliSi	taboo	22. RITE	Ts, Z=
PMP	*palu?	hit (with stick or club)	26. WAR	Dp, Bl-PA1, Z=
PMP	*paluja	row, paddle [v; dbl: aluja]	2.2. BOAT	Bl-CH, ZED
PPH	*pamáhaw	breakfast; cold food [cf: *báhaw]	9.4 FOOD	Z=
PAN	*panaq	bow and arrow; to shoot an arrow	8. HUNT, WAR	Bl-CH, Dy, Ts
PMP	*panas / ma-	warm, hot (of weather)	1.3 NATR	Bl-VRR
PMP	*panaw	skin disease leaving white patches	25.2 SICK	Bl-CH, ZED
IND	<sup>x</sup> panday	craftsman	18. METAL	HK
PAN	*pánij	wing	7. BIRD	Bl-VRR, Z=
PMP	*pánfki	fruit bat	6.2 FAUNA	Z=, Bl-Hm
PHN	*pan+tek	spotted, dappled	29. COLOUR	Bl-AE3
PAN	*pagud2án	pandanus tree, <i>Pandanus tectorius</i>	4. FLORA	HK, Bl-Hm, Dy, Ts
PMP?	*pa(m)pa/-	tree, <i>Vitex pubescens</i>	4.2 FLORA	Bl-AE3, Hm
PMP	*papañ	board, plank	12.2 BLDG	ZED, Dy
PHF	*pa-pitú	seven	19.1 NUM	Z=
PHN	*paqét	chisel	12.3 BLDG, TOOL	Dp, Noth, ZED
PHF	*paqfC	bitter	9.1 FLAV	Dp, Dy, Ts, Z=
PHN?	*pariúk	frypan; cooking pot	9.3 FOOD, TOOL	Wol, Bl-NS
PMP	*parud	rasp [v]	12.2 BLDG, TOOL	Dy, Noth, ZED
PMP?	*páRa	storage shelf, rack above hearth	12.2 BLDG	Bl-CH, ZED
PMP	*pa+Raw	hoarse [dbl: *gaRaw]	25.2 SICK	Dp, Bl-AE4
PAN	*páRiS	rayfish, stingray	3. FISH	Dp, HK, Bl-Hm, Dy
PPH	*pasáyán	shrimp sp.	3.4 SEA	Z=
PHF	*pa-Súay	spend time	27. PLAY, CULT	Z=
PHN	*pátúŋ	bamboo sp.	4.3 FLORA	Bl-AE1, Z=
PPH	*pawfkan	sea turtle	3.4 SEA	Z=
PHN	*páyuy	umbrella	16. CLOTH	Dp, Noth, ZED
PMP	*pe(R)+cit	squeeze, squirt out	25.2 SICK	Bl-AE4
PMP	*pējés	pain(ful)	25.1 SICK	Dp, Noth, Z=
PMP	*pējés	spicy, hot (food) [cf: *ha-pējés]	9.2 FLAV	Z=
PHF	*pējíq	pain(ful); smart, sting	25.1 SICK	Dp, Z=
PMP	*pened	official gathering	20.1 KIN, CULT	Z=, Bl-CH

PMP	*pěñúh	green sea turtle, tortoise	3.2 SEA	HK,Dy,B1-Hm,Z
PMP	*pe+ŋah	fork of a branch	4.2 FLORA	B1-AE3
PMP	*periŋ	bamboo, <i>Bambusa vulgaris</i> (?)	4.2 FLORA	B1-AE1,Hm
PMP	*peRáq	squeeze, wring out	24. GROOM	Dp,Dy,Noth,Z=
PMP	*peRés	squeeze	24. GROOM	Dp,B1-PA1,Z=
PPH	*peRsah	boil, abscess	25.2 SICK	Z=
PHF	*pesél	squeeze, massage	25.1 SICK	Z=,B1-PAA
PMP	*pes+pes	squeeze	25.2 SICK	B1-AE2
PAN	*pijáH	how many?	19. NUM(QP)	Dp,Ts,Z=
PAN	*pik	pat, light slap	21. CULT	B1-Root
PMP	*pil	attach, join	12.2 BLDG	B1-Root
PSP	*pila?	wound; scar	25.3 SICK	Z=
PPH	*pí()lat	scar	25.3 SICK	Z=
PHF	*píLay	lame	25.1 SICK	Dy,Ts,Z=
PAN	*píliq	choose, select	19. BART	Dp,Ts,Z=
PHN?	*pífrak	silver	18. METAL	Dp,Z=
PHN	*piRah	roe, fish eggs [cf: PAN *biRaS]	3. FISH	Z=,B1-AE1
PHN	*piRsah	abscess, boil	25.2 SICK	B1-AE2
PWI	*pisaj	banana	5. FARM,FLORA	HK,Dp
PHN	*pisaw	knife	9.3 COOK,WAR	ZED
PHN	*pisék	blind in one eye	25.3 SICK	B1-PAA,Noth
PMP	*pis+pis	squeeze	25.2 SICK	B1-VRR
PMP	*pítak	mud [cf: PPH *pitek]	5.2 FARM	B1-AE2
PHN	*pitem	black	29. COLOUR	B1-pc,Z=
PAN	*pitú	seven	19. NUM	Dp,Da,Ts,ZED
PMP	*pituŋ	bamboo, <i>Dendrocalamus</i> [dbl: *bituŋ]	4.2 FLORA	B1-Hm
PMP	*puaj	title of respect	20.1 KIN,SOC	B1-AE3
PHF	*puCaq	foam, froth, lather [cf: *bujaq]	1.2 NATR	B1-AE3,Ts
PHN	*púhaR	drive off a bee, smoke bees away	11. BEE	Ch,B1-PAA
PPH	*pujuq	island	1.5 GEOG	Z=
PHN	*pu+kas	nudity, exposure of the body	16. CLOTH	B1-AE3
PMP	*puket	dragnet	3.2 FISH	B1-CH,Dy,ZED
PMP?	*púki?	vagina	27. SEX	Dp,Dy,Noth,Z=
PSP	*puláh	red	29. COLOUR	Z=
PPH	*pulaw	hunt (at night)	8.4 HUNT	Z=
PPH	*púliŋ	blinded by mote in eye	25.4 SICK	Ch,Z=
PHF	*púlu	handle	12.1 BLDG,TOOL	B1-AE3
PAN	*puluC	mucilaginous plant, <i>Urena lobata</i>	4. FLORA	B1-AE3,Hm,Dp
PAN	*púluq	ten	19. NUM	ZED
PMP	*pulut	bird lime	8.2 HUNT	B1-CH,ZED
PPH	*púnas.	wipe (off)	24. GROOM	Z=
PAN	*púnay	wild dove	7. BIRD	Ts,B1-Hm,Z=
PMP?	*puni	tree fern, <i>Cyathea</i> sp.	4.2 FLORA	B1-AE3,Hm
PHN	*punti/-	fish: marine sp.	3.3. FISH	B1-AE3
PMP	*punti	banana	5.2 FARM,FLORA	B1-CH,Hm,Dy,Z=
PHF	*púnuq	tree trunk	4.1 FLORA	Dy,Z=
PAN	*puŋ	bunch, cluster	4. FLORA,MEAS	B1-AE1,Root,Z=
PMP	*puqun	tree trunk	4.1 FLORA	Dp,Dy,Z=
PMP	*purá[h]	red [cf: PSP *puláh]	29. COLOUR	B1-AE2,Z=
PHN	*púRuq	quail, <i>Turnix</i> sp. [dbl: *puyuq]	7.3 BIRD	B1-AE3,Z=
PHN	*púsa?	cat	6.3 FAUNA	Dp,Z=
CHN	*puthaw	iron axe	12.2 METAL	ZED
PAN?	*putíq / ma-	white	29. COLOUR	Dp,Dy,Z=
PHN	*puyuq	quail [dbl: *puRuq]	7.3 BIRD	B1-AE3
PHF	*qabaŋ	canoe: dugout; boat	2.1 BOAT	B1-CH,Hm,ZED
PHN?	*qa(m)+baR	tasteless	9.3 FLAV	Z=

PHN	*qabu-2	murrel, <i>Ophiocephalus striatus</i>	3.3. FISH	Bl-AE1
PHN	*qa(m)+bud <sub>2</sub>	strew, scatter	5.3 FARM	Bl-PA3
PAN?	*qabúH	ash(es)	9. COOK	Dp,Dy,Ts,Z=
PMP	*qa+búk	dust [cf: PHN *a+búg]	1.3 NATR	Dp,Dy,Bl-VRR
PHF	*qaCeb	trap	8.1 HUNT	Ts
PAN	*qaCi/ma-	low tide; exposed reef	1.1 NATR	Bl-Hm,Ts
PSP	*qadamay	ramie, <i>Boehmeria nivea</i> [cf: *rami]	4.2 FLORA	Ch
PNP	*qadfpén	slave [cf: PHN *qudfp-en]	26. WAR	Z=
PHN	*qahlu	pestle	5.3 FARM,TOOL	Z=
PAN	*qa(n)jaw	sun	1.1 NATR	Dp
PHN	*qa+jeŋ	charcoal	9.1 PROD	Dp,Z=
PHF	*qálad	fence	12.1 BLDG	Bl-PAA,AE2
PHN?	*qalámen	grass	4.3 FLORA	Z=
PAN	*qalaq	gather, collect	5. FARM,HUNT	Bl-AE2
PMP	*qalep	beckon, wave	21.2 CULT	Bl-AE4
PHN	*qalhu	pestle	5.3 FARM,TOOL	Z=
PAN	*qaLi-baŋ+baŋ	butterfly	10. INSECT	DyTs,Dy-HM
PMP	*qaliliŋ	shell: cateye shell	3.2 SEA	Bl-AE1,Hm
PHF	*qaLi-mátek	jungle leech	10.1 INSECT	Dp,Bl-MHP,Ts,Z=
PMP	*qali-maŋaw	crab - mangrove	3.2 SEA	Bl-AE1,Hm
PMP	*qali-máju	crab - mangrove	3.2 SEA	Bl-AE1,Hm
PHF	*qaLi-meCáq	paddy leech	10.1 INSECT	Bl-AE3,Ts,Z=
PAN	*qalipan	centipede	10. INSECT	Ts,Dapc
PMP	*qa+liR	flow	1.3 NATR	Dp,Bl-VRR,Z=
PAN	*qa-liseSáq	nit	10. INSECT	Da,Ts,Bl-1983,Z=
PAN	*qal(e)jáv	day	1.1 NATR	Dp,Z=
PAN	*qal+sem	sour	9. FLAV	Dp,Dy,Noth,Z=
PMP	*qalu	barracuda, <i>Sphyræna obtusata</i>	3.2 FISH	Bl-AE1,Hm
PAN	*qaluHípan	centipede	10. INSECT	Z=
PMP	*qalun	wave	1.3 NATR	Dp,Dy,Z=
PMP	*qalun-an	wooden headrest, pillow	12.2 BLDG,PROD	Bl-AE3
PHF	*qamiS-an	north wind	1.2 NATR,LOC	Bl-Hm,Ts,Z=
PHN	*qanáhaw	palm tree, <i>Livistona rotundifolia</i>	4.3 FLORA	Dp,Dy,Z=
PHF	*qanCipa	turtle sp.	3.1 SEA	Ts
PHF	*qanibuŋ	palm, <i>Caryota</i> spp.	4.1 FLORA	Bl-Hm
PHF	*qániH	harvest	5.1 FARM	Bl-AE4,Z=
PMP?	*qanilaw	plant, <i>Grewia</i> spp.	4.2 FLORA	Bl-Hm
PMP	*qaninu[ŋ]	shadow, reflection	22. RITE	Bl-AE4
PMP	*qaniRuan	bee, <i>Apis indica</i>	11. BEE	Bl-AE2
PMP	*qanuliŋ	fruit tree, <i>Pisonia umbellifera</i>	4.2 FLORA,FOOD	Bl-AE3,Hm
PHF	*qaNiC	skin of animal, hide, leather	16. CLOTH	Bl-PAA,AE1,Ts
PAN	*qaNíCu	spirit	22. RITE	Dp,Bl-PA1,Ts
PHF	*qaNuáj	ruminant sp.; carabao	6.1 FAUNA,FARM	Bl-LVWL,Hm,Ts
PAN	*qaNúNaŋ	tree, <i>Cordia dichotoma</i> ~ <i>myxa</i>	4. FLORA,FOOD	Bl-AE4,Hm,Ts
PHF	*qaNúNaŋ	tree, fruit, <i>Anona reticulata</i>	4. FLORA,FOOD	Z=
PHF	*qaNúp	hunt, go hunting	8.1 HUNT	Bl-CH,Ts,ZED
PAN	*qañud	drift with current	2. BOAT	Dp,Ts,Bl-Tir
PAN	*qaŋ+	smell of [x]	30. SMEL	Z=
PHF	*qaŋeliC	cooking pot (for scorching); burnt	9.1 + 17. POT	Z=,Bl-AE1,MHP
PMP	*qaŋeliR	fetid, foul-smelling	30. SMEL	Bl-AE3
PMP	*qaŋ+iR	fetid, foul-smelling	30. SMEL	Bl-AE3
PHF	*qaŋ+RiS	strong smell of fish	30. SMEL	Bl-AE4
PHF	*qaŋ+Ru	stench (as of spoiled meat)	30. SMEL	Bl-AE4
PHF	*qaŋ+seR	stench of urine	30. SMEL	Bl-AE4
PHF	*qaŋ+suH	stench	30. SMEL	Bl-AE3
PAN	*qaŋ+Sit	stink, stench, foul-smelling	30. SMEL	Z=,Bl-AE4



PHN	*qapa	rice husk	5.3 FARM,RICE	Bl-Hm
PHF	*qapucuk	peak of a mountain	1.2 GEOG	Bl-AE4
PMP?	*qa+puk	dust	1.3 NATR	Bl-PA3
PAN	*qápuR	lime (for betel quid)	28. BETEL	Bl-CH,Dy,Ts
PMP?	*qaRa?	fig tree, <i>Ficus</i> sp.	4.2 FLORA,FOOD	Bl-AE3,Hm
PHN	*qaRáma	crab sp.	3.3 SEA	Bl-AE4
PHF	*qáRaw	snatch, grab	8.1 HUNT	Z=
PHF	*qaRem	scaly anteater, pangolin	6.1 FAUNA	Bl-LVWL,Hm,Ts
PHN	*qaRim?aw	tiger; animal that jumps	6.3 FAUNA	Z=,Bl-Tir
PMP	*qaRta	alien person, outsider; Negro	21. CULT	Bl-PA1,Z=
PMP	*qaRuas	young mullet, <i>Neomyxus chaptaliai</i>	3.2 FISH	Bl-AE3,Hm
PMP	*qaRúhu?	pine tree, <i>Casuarina equisetifolia</i>	4.2 FLORA	ZED,Bl-Hm,Dy
PMP	*qáRus	current, flow	1.3 NATR	Dp,Da,Z=
PAN	*qasáwa	spouse, wife; husband; marry	20. KIN,SEX	Dp,Bl-VRR,Z=
PAN	*qasfN	salt(y)	9. FLAV,FOOD	Dp,Dy,Ts,Z=
PAN	*qasiRa	salt	9. FOOD	Bl-CH,ZED
PMP	*qasúh	smoke	9.1 COOK	Dp,Dy,Z=
PHF	*qaSelu	pestle	5.1 FARM,TOOL	Bl-CH,Ts,ZED
PMP	*qata	alien person; slave [cf: *qaRta]	26. WAR	Bl-PA1
PAN	*qatěluR	egg [cf: *teluR]	9. FOOD,FOWL	Bl-VRR
PMP	*qatép	thatch roof (usually sago leaf)	12.2 BLDG	Dp,Bl-CH,Noth
PHF	*qatfmela	flea	10.1 INSECT	Ts,Bl-AE1,Z=
PMP	*qatulay	fish: big-eyed scad	3.2 FISH	Bl-Hm
PMP	*qatun	fish: tuna, bonito	3.2 FISH	Bl-Hm
PAN	*qauR	bamboo, <i>Bambusa</i> sp.	4. FLORA	HK,Dy,Bl-Hm,Ts
PMP	*qawa?	fish: milkfish, <i>Chanos chanos</i>	3.2 FISH	Bl-AE1,Hm
PHF	*qáyam	domestic animal: dog, chicken	6.1 FAUNA	Dp,Bl-Hm,Ts,Z=
PHF	*qayám	play [verbal inflection: *qayam-én]	27. PLAY	Dp,Z=
PMP	*qayuyu	crab - coconut	3.2 SEA	Bl-Hm
PHF	*qěbél	smoke	9.1 COOK	Ts,Z=
PSP	*qebúh	cough	25.3 SICK	Z=
PHF	*qecá	bran, chaff, rice-husk	5.1 FARM,RICE	Bl-Hm,Z=
PHF	*qecúR	erection	27. SEX	Ch,Z=
PHN	*qe(n)+dem	brood (of a hen)	7.3 BIRD	Bl-AE3
PHF	*qekun	owl	7.1 BIRD	Bl-AE4
PMP	*qelad <sub>2</sub>	wing	7.2 BIRD	Dp,Bl-AE4
PFM	*qelud <sub>2</sub>	pillar	12.2 BLDG	Ts
PMP	*qem+peŋ	weir; impede, obstruct, restrain	3.2 FISH	Dy,Bl-AE3
PAN	*qěnay	sand	1.1 NATR	Bl-PA3,Hm,Ts
PHF	*qe+Neb	door(way); close door [cf: *qiNeb]	12.1 BLDG	Ts,Bl-AE4
PHN	*qepah	bran, chaff, rice-husk	5.3 FARM,RICE	Dp,Ch,ZED
PAN	*qiCěluR	egg	9. FOOD,FOWL	Dp,Dy,Ts,ZED
PHN	*qi(n)+Dem	dark, black; obscured	29. COLOUR	Bl-AE3
PAN?	*qilaŋ/ma-	dirty	24. GROOM	Bl-VRR
PMP?	*qilih	mountain range	1.3 GEOG	Bl-Hm
PHF	*qfnit/ma-	heat of the sun; sun	1.5 NATR	Z=
PHF	*qi+Neb	close (door)	12.1 BLDG	Bl-AE4
PMP	*qfpil	tree, <i>Intsia bijuga</i>	4.2 FLORA	Bl-Hm,Dp,Dy,Z=
PHN	*qiRis	slice, dice, cut fine	9.3 FOOD	Dp,Dy,Z=
PAN	*qfSu	fish: shark	3. FISH	HK,Bl-Hm,Dy,Z=
PAN?	*qitém/ma-	black	29. COLOUR	Dp,Bl-PAA,Z=
PMP	*qi(n)tuŋ	count	19.2 NUM,BART	Dp,Dy,ZED
PHF	*qiút	sexual intercourse	27. SEX	Bl-AE4,Z=
PAN	*quáy	rattan (generic?)	4. FLORA	HK,Ts,Bl-Hm,Z
PHF	*qubeg	pigpen	6.1 FARM	Ts
PMP	*qú(m)bi	yam, tuber <i>Dioscorea alata</i>	5.2 FARM,FOOD	HK,Bl-CH,Hm

PMP	*qú(m)+buj	heart (of plant), pith	4.2 FLORA,FOOD	Dp,BI-PA1,Z=
PMP	*qudʒáŋ	shrimp, lobster, crustacean	3.2 SEA	HK,Dy,BI-Hm,Z
PHF	*qu+Dem	dim, obscure, dark	29. COLOUR	BI-AE3
PHN	*qudɪp-en	slave [lit. 'will live']	26. WAR	BI-CH,Z=
PHF	*quHuŋ	mushroom	9.1 FOOD	Ts,Z=
PAN	*qújiŋ	charcoal	9.1 COOK,FIRE	Dp,BI-AE3
PAN	*qúlej	worm; snake	6. FAUNA,REPT	Da,Dp,Dy,Noth
PAN?	*qules	blanket [cf: *Hules 'upper garment']	14. WEAV	Dp,Ts,Z=
PMP	*quliŋ	rudder; steer	2.2. BOAT	BI-CH,ZED
PMP	*quluŋa	wooden pillow, headrest	12.2 BLDG,PROD	BI-CH,ZED
PAN	*qumáH	garden, cultivated field, swidden	5. FARM	Dp,Ts,BI-CH,ZED
PMP	*qumaŋ	crab - hermit	3.2 SEA	BI-AE1,Hm
PMP	*qumay	fish: unicornfish	3.2 FISH	BI-Hm,AE2
PMP	*qunéj	inside(s): meat, soft-core, pith	9.2 FOOD,LOC	BI-AE2,Z=
PMP	*qu-silaq	lightning	1.3 NATR	BI-VRR
PMP	*qútan	woods, forest	1.3 GEOG	Dp,Dy,BI-VRR
PHN?	*qútaŋ	debt	19.3 BART	Dp,ZED
PAN	*qútiN	penis	27. SEX	Dp,Dy,Z=
PAN	*quZáN	rain	1.1 NATR	Dp,Dy,Ts
PMP	*ra+ket	sticky, adhesive	12. BLDG,PROD	BI-AE3
PHN	*ram+bun	cloud [not a raincloud]	1.4 NATR	Sn,Z=
PMP?	*rami	ramie, <i>Boehmeria nivea</i> [*qa-damay]	4.2 FLORA	BI-Hm
PMP	*raŋ+pas	plunder, rob	26. WAR,CULT	BI-AE3
PHF	*raw+raw	rinse [dbl: *Naw+Naw]	24. GROOM	BI-AE3
PHN	*renáy	aftermath of a storm	1.4 NATR	BI-PAA
PHN?	*rfbu	thousand [cf: *Ribu]	19.3 NUM	Dp
PHN	*ri+nis	drizzle	1.4 NATR	BI-AE3
PAN	*rit	scratch a line	21.1 CULT,PROD	BI-Root
PMP	*rũ(ŋ)guŋ	thunder	1.3 NATR	BI-AE3,Z=
PAN	*Rabi?iH	night	1.1 NATR	Dp,Ts,Z=
PAN?	*Ra+bun	cloud	1.1 NATR	BI-PA1,Ch
PHN	*Rakit	raft	2.3 BOAT	Dp,BI-CH,ZED
PHN	*Rambat	fishnet	3.3. FISH	ZED
PMP	*Rambia	sago [dbl: *rampia, *Rumbia]	5.2 FARM,FOOD	BI-CH,Hm,ZED
PFM	*RamiC	root	4.2 FLORA	Fer,Z=
PMP	*Ramút	root	4.2 FLORA	BI-VRR,Ch,Z=
PMP	*Raŋ+kub	cover [dbl: *aŋkub]	9.3 FOOD,PROD	BI-AE3
PAN	*RaqaNi	bravery, courage [cf: PHN *baRani]	26. WAR	Ts
PMP	*Rátas	milk	9.2 FOOD,BODY	BI-PAA,PA1,Z=
PMP	*Ratús	hundred	19.2 NUM	BI-PA1,Dp,ZED
PHN	*Rawéd	betel leaf	28. BETEL	BI-AE2,Ch,Z=
PMP	*Rawej	vine, aerial root [cf: *waRej]	4.2 FLORA	Ch,BI-pc
PMP	*Rebek	fly [v]	7.1 BIRD,MOVE	BI-AE2
PHF	*Re+bun	egg	9. FOOD,FOWL	Ts,Z=
PAN	*Riaq	sword grass, <i>Imperata cylindrica</i>	4. FLORA	BI-Hm,Ts
PHN	*Ríbu	thousand [less likely *rfbu]	19.3 NUM	Ch,Dp,Z=
PPH	*Ridu?	earthquake	1.5 NATR	Sn
PHF	*Ri?ék	thresh [dbl: *iRík]	5.1 FARM	ZED;BI-AE3
PHN	*Rihuq	tree sp. [lumber?]	4.3 FLORA	BI-AE3
PMP	*Ruab	tide - high [cf: 'yawn']	1.3 NATR	BI-Hm
PMP	*Rumaq	lineage, bilateral kin	20.1 KIN	BI-SOC
PAN	*Rumaq	house, family dwelling	12. BLDG	Dp,BI-CH,Hs,Ts
PMP	*Rumbia	sago [dbl: *Rambia]	5.2 FARM,FOOD	BI-Hm
PAN	*RuqaNay/ma-	male	27. SEX	BI-AE3,Ts
PMP?	*Rusa	deer [dbl: *uRsa]	6.2 FAUNA	BI-Hm
PPH	*Rutay	hemp	4.4. FLORA,PROD	Z=

PAN	*sa-	one [unit of 10, 100, 1000]	19. NUM	BI-VRR
PHN	*sabʔa	banana, plantain	5.3 FARM,FOOD	ZED
PHN	*sa(m)báw	soup, broth	9.3 FOOD	BI-AE2,Z=
PHN	*sá(m)+beR	sow, scatter, broadcast seed	5.3 FARM	BI-AE3
PHN?	*sábuŋ	cockfight	27. COCK	Dp,Noth,ZED
PHN	*sá(m)+buR	sow, scatter, broadcast seed	5.3 FARM	Z=,Dp
PSP	*saʔeR	floor	12.3 BLDG	Z=
PMP	*saet	spear [n / v]	8.2 HUNT,FISH	BI-AE3
PNP	*s/ag/ay+say	comb	24. GROOM	Z=
PPH	*saʔ(e)geb	fetch water	9.4 FOOD,CULT	Z=
PMP	*sagúh	sago	5.2 FARM,FLORA	Dp,Dy,ZED
PMP	*sakáy	ride, board	2.2. BOAT	BI-AE2,Z=
PPH	*sak(e)du	fetch water	9.4 FOOD,CULT	Z=
PMP	*sakt / ma-	be in pain; be sick	25.2 SICK	Dp,ZED,BI-Tir
PMP	*saku-layaR	sailfish	3.2 FISH	BI-AE1,Hm
PHF?	*salajeŋ	male of ruminants; buck deer	6.1 FAUNA	BI-LVWL
PHN	*salambaw	fishnet – large	3.3. FISH	BI-PAA,ZED
PHN	*salapaʔ	betel nut case or box	28. BETEL	BI-AE3
PAN	*saláq	sin, error, mistake	21. CULT,RITE	Dp,Dy,Z=
PHN	*salátan	south wind	1.4 NATR,LOC	ZED,BI-AE3
PHF	*sáleŋ	pine tree, <i>Pinus</i> sp.	4.1 FLORA	Z=,BI-Hm,Ts
PHF	*sáleŋ	resin [cf: PAN *damaR]	8. HUNT	Z=,BI-Hm,Ch
PHN?	*saléR	floor slats	12.3 BLDG	Dp,ZED
PMP?	*sa+liR	flow, current	1.3 NATR	BI-PA3,VRR,Z=
PHF	*sáliw	buy, sell; exchange [cf: *báliw]	19. BART	Z=,BI-AE4
PHN	*sal+sal	blacksmithing [cf: *cal+cal hammer]	18. METAL	Dp,Z=,BI-PAA,CH
PHN	*saluR	flow	1.4 NATR	Dp,Z=
PHN	*samun	undergrowth	4.3 FLORA	BI-AE3
PPH	*sa+n-	one [unit of 10, 100, 1000]	19.4 NUM	Z=
PHN	*sanak	to have many children	20.3 KIN	BI-AE3
PPH	*sa-ŋa-	one [unit of 10, 100, 1000]	19.4 NUM	Z=
PMP	*sa+ŋáh	fork of a branch, bifurcation	4.2 FLORA	Dp,Z=
PMP	*sanasaŋa	starfish	3.2 FISH	BI-AE3,Hm
PHF	*sa+paw	field hut (roofed structure)	12.1 BLDG	Z=,BI-AE2,Hs
PMP	*sapu	broom	24. GROOM	ZED,Dy
PMP?	*sa+puk	dust	1.3 NATR	BI-VRR
PHF	*saq+saq	split bamboo	12.1 BLDG,FLORA	BI-AE4
PMP	*saruk	fish net	3.2 FISH	BI-CH,ZED
PPH	*saRiŋ	banana	5. FARM,FLORA	Z=
PMP	*saRman	outrigger	2.2. BOAT	BI-CH,ZED
PHN	*saRu	body fluid from a corpse	23. DEATH	BI-AE4
PMP	*saRu	comb	24. GROOM	ZED,BI-AE1,CH
PMP	*saRup	sing in unison	27. PLAY,CULT	BI-AE3
PPH	*sa-siám	nine	19.4 NUM	Z=
PMP	*saut	comb [dbl: suat]	24. GROOM	BI-AE3
PMP?	*sawáh	snake, python	6.2 FAUNA,REPT	Z=,Dp,BI-Hm
PMP	*sawaq	channel	1.3 NATR	BI-Hm
PHN	*sayad	slice	9.3 FOOD,MOVE	BI-AE3
PHN?	*sayap	fly [v]; wing	7.1 BIRD,MOVE	BI-AE2,Z=
PHN	*sáyaw	dance	27. PLAY,CULT	BI-AE2,Z=
PMP	*sebúh	temper metals [water-heat meet]	18. METAL	BI-AE3,Z=
PPH	*sedaʔ	viant, food eaten with staple	9.4 FOOD	Z=
PHN	*sedsed	grass or rush sp.	4.3 FLORA	BI-AE3
PAN	*se(n)+duʔ	hiccough	25. SICK	Z=,BI-AE3
PMP	*se(ŋ)+ger	healthy, feel fit	25.2 SICK	BI-AE3
PHN	*sějém	ant	10.3 INSECT	BI-,Z=

PHN	*seleR	current, flowing water	1.4 NATR	Z=,BI-AE4
PHN	*seli	young shoot [dbl: *semi]	4.3 FLORA	BI-AE3
PHN	*semi	young shoot [dbl: *seli]	4.3 FLORA	BI-AE3
PMP	*seŋkar	cross-seat in a boat	2.2. BOAT	BI-CH,ZED
PAN	*seŋ+seŋ	cork, stopper, plug	9. FOOD,TOOL	BI-AE3,Ts
PMP?	*sepaŋ	thorny tree, <i>Caesalpinia</i> sp.	4.2 FLORA	BI-AE3,Hm
PMP	*se+pet	obstructed (of the flow of water)	5.2 FARM	BI-AE3
PAN	*sep+sep	suck	9. FOOD	Dp,Ts
PHN	*se(m)+put	blowgun, blowpipe [dbl: *sumpit]	26. WAR,HUNT	BI-PA3
PAN?	*siáw	nine	19. NUM	Dp,Ts,ZED
PPH	*sidá?	food served with rice; viand	9.4 FOOD	Z=
PPH	*sfduŋ	space under house	12.4 BLDG	Z=
PHN	*sihul	whistle	27. PLAY,CULT	BI-AE3
PHN	*si(n)jem	ant	10.3 INSECT	BI-AE2
PHN	*siji	separate the chaff from the grain	5.3 FARM	BI-AE3,Dp
PHN	*sik+sik	delouse, catch lice	24. GROOM	Ch
PHF	*sfliw	noose, loop	2.1 BOAT,HUNT	DyTs
PMP	*siRi	lily, <i>Cordyline</i> or <i>Dracaena</i> spp.	4.2 FLORA	BI-Hm
PMP	*sisi[q]	snail; barnacle spp.	3.2 SEA	BI-AE1,Hm
PHN	*si?ud	fish net or trap	3.3. FISH	BI-AE3
PPH	*siyám	nine	19.4 NUM	Z=
PMP	*sual	lever up; digging stick	5.2 FARM,TOOL	BI-CH,ZED,Dy
PMP	*suan	hoe, digging stick; plant a field	5.2 FARM,TOOL	ZED,Dy
PMP	*suat	comb	24. GROOM	BI-AE2,Z=
PMP	*suja	bamboo trail or pitfall spikes	8.2 HUNT,WAR	BI-CH,ZED
PHN	*sújud	fine tooth comb; delouse	24. GROOM	BI-AE4,Z=
PMP?	*suka	tree, <i>Gnetum gnemon</i>	4.2 FLORA	BI-AE3,Hm
PPH	*sukay	delouse; comb	24. GROOM	Z=
PMP	*suku	clan; 1/4 social subdivision	20.1 KIN,SOC	BI-SOC
PHF	*su(ŋ)kud	cane, staff, walking stick	25.1 SICK,TOOL	BI-AE3
PHN?	*súkup	small basket, woven cover	13. BRAID	Reid,Z,Bl-pc
PSP	*sul+day	comb	24. GROOM	Z=
PHN	*suligi?	bamboo spear	8.3 HUNT,WAR	Dp,Dy,Noth,ZED
PMP	*sulúq	torch	8. HUNT	BI-CH,ZED
PHN	*sumpit	blowgun, blowpipe [dbl: *se(m)put]	26. WAR,HUNT	Dp,Bl-MHP,Z=
PHN	*suŋay	river	1.4 NATR	Dp,ZED
PMP	*supu	boundary, border	20.1 KIN,CULT	BI-AE3
PHF	*suqaR	thorn	4.1 FLORA	BI-AE1
PHN	*suq+suq	scrape out meat from a coconut	5.2 COCO	BI-AE3
PHN	*surambi?	eaves	12.3 BLDG	Dp,Noth,ZED
PHF?	*súrat	write [cf: PHN *súRat]	21.1 CULT	BI-CH
PHN	*súRat	wound; etch	21.1 CULT	BI-PAA,Ch,Z=
PHN	*súRuq	command, order	21.3 CULT,RITE	Dp,Dy,Z=
PSF	*SabaR	orchid	4.4. FLORA	Ts
PAN	*Sa-báRat	monsoon wind	1.1 NATR,LOC	ZED,Bl-Hm
PAN	*Sabij	twins of the same sex	20. KIN	BI-SOC
PHF	*Sáduq	many	19.1 NUM	BI-AE2,Z=
PHF	*Sedám	borrow	19.1 BART	Dp,Dy,Ts,Z=
PAN	*Sajék	smell, sniff; kiss	30. SMEL	BI-PA2,Dp,Dy,Ts
PAN	*Sajf?	sibling - younger [cf: *ua(n)ji]	20. KIN	Z=,Bl-Voc
PAN	*SaliN	move away, transfer	2. MOVE	BI-AE3,Z=
PAN	*SamuCí	nightshade, <i>Solanum nigrum</i>	4. FLORA	Z=,Ts,Bl-Hm
PAN	*SapaR	lay mats	12. BLDG	Ts
PHF	*Sa-pejÍq	pain(ful); smart, sting	25.1 SICK	Dp,Z=
PAN	*Sapúy	fire	9. COOK	Dp,Dy,Ts
PHF	*Sa-Sěpát	four	19.1 NUM	Ch,Z=

PHF	*Sa(n)téd <sub>2</sub>	convey, escort; give	21. CULT,MOVE	Dp,Dy,Z=
PHF	*Sěmay	rice (generic): unhusked – cooked	5.1 RICE	Bl-CH,Hm,ZED
PHF	*Se+ñáw	wash, rinse	24. GROOM	Ch,Ts
PAN	*Sě(m)pát	four	19. NUM	Dp,Dy,Ts,ZED
PAN	*Sesi	meat, flesh; contents	9. FOOD	Bl-VRR,Ts
PAN	*Siáq/ma-	ashamed, lose face [cf: PSP *heyaq]	21. CULT	Z=,Bl-AE1
PAN	*Si-kaʔen	fish	3. FISH,FOOD	Dp,ZED,Bl-pc
PHF	*Sikám	mat	13. BRAID	Z=,Ts
PHF	*SímaR	grease, fat	9.1 FOOD	Ts,Bl-AE1
PHF	*Si(m)paR	opposite shore	1.2 NATR	Ts,Z=
PAN?	*Sisi	meat, flesh; contents	9. FOOD,HUNT	Dp,Dy
PAN	*Suai	mango, <i>Mangifera indica</i> [PMP *wai]	4. FLORA	Bl-AE3,Ts
PHF	*Súlij	sleep together/with	27. SEX	Z=
PHF	*Sumay	rice (generic) [dbl: *Hemay]	5.1 RICE	Dy-HM
PHF	*SúRas	wash, rinse	24. GROOM	Dp,Ts,Z=
PHN	*ta+bas	cut away underbrush	5.3 FARM	Bl-AE3
PHN	*tabéʔ	fat	9.3 FOOD,PROP	Dp,Ts,Z=
PPN	*tabu	taboo	22. RITE	Walsh & Biggs (1966)
PMP	*tá+bun	cover; fill	5.2 FARM	Bl-PA2,Dp,Z=
PMP	*tada	natural cockspur	27. COCK	Bl-AE3
PHN	*taʔeb	high tide	1.4 NATR	Z=,Bl-AE3
PSP	*tag(e)nek	mosquito	10.4 INSECT	Z=
PPH	*tajip	cut, pare	9.3 FOOD,PROD	Ch,Z=
PPHF	*takid	adhere, stick (to)	12. BLDG,PROD	Ts
PPH	*tá+kip	join (together)	12.2 BLDG	Z=
PPH	*talabá	oyster	3.4 SEA	Z=
PHF	*taLam	taste [alt: *taNam]	9.1 FLAV	Ts
PMP	*talaq/man-	morning/evening star (Venus)	1.3 NATR	Bl-AE2,Dp
PMP	*tales	taro, <i>Colocasia</i> sp.	5.2 FARM,FOOD	HK,Bl-CH,Hm
PMP	*talísay	tree, <i>Terminalia catappa</i>	4.2 FLORA	ZED,Bl-Hm
PMP	*taluk	young plant shoot	4.2 FLORA	Bl-AE3
PMP	*taluki	fabric	16. CLOTH	Bl-AE3
PAN	*tama	father	20. KIN	Bl-Voc
PHN	*tamaʔ	hit the target	8.3 HUNT,WAR	Dp,Z=
PHN	*tamadaw	wild ruminant sp.	6.3 FAUNA	Bl-AE3
PHN?	*tambar	medicine, poultice	25.3 SICK	Dp,Z=
PMP	*tam-búRi	shell: conch; trumpet [cf: *buliq]	3.2 SEA	Bl-CH,Hm,Dy,Z=
PMP	*tamiaŋ	bamboo, <i>Schizostachyum</i> sp.	4.2 FLORA	Bl-AE3,Hm
PMP	*tamŋ	shield – round [cf: *kalasag]	26. WAR	Bl-AE1
PPH	*taʔ+mis	sweet	9.3 FLAV	Ts,Z=
PMP	*tanaq	soil, earth, ground, land	5.2 FARM	Dp,Dy
PHN	*tanduk-2	plant sp.	4.3 FLORA	Bl-AE3
PMP	*taneq	earth, soil, ground, land	5.2 FARM	ZED,Dy
PPH	*tanud	thread; needle	15. SEW	Z=
PHF	*taNam	taste [alt: *taLam]	9.1 FLAV	DyTs
PHF	*taNek	cook	9.1 FOOD	Z=,Bl-AE1,VRR
PMP?	*tanga	plant, <i>Millingtonia hortensis</i>	4.2 FLORA	Bl-Hm
PMP	*taŋRi	Spanish mackerel	3.2 FISH	Dp,Bl-Hm,ZED
PHN	*tápay	yeast; rice wine	28. GROG	Dp,Noth,Z=
PHF	*tapeS	winnow	5. FARM	Bl-CH,ZED,Ts
PMP	*tapis	skirt, sarong, apron	16. CLOTH	Bl-AE3,Ts
PHF	*tápiS	skirt, cloth	16. CLOTH	Ts
PMP	*ta(m)pu	ancestor	20. KIN	Bl-Voc
PHF	*taqén	trap, snare; restrain; endure	8.1 HUNT	Bl-PA3,Noth,Z=
PHN	*taRabas	plant sp., with ceremonial uses	4.3 FLORA	Bl-AE3

PAN	*taRáq	hew, plane (with adze); cut, hack	12. BLDG,TOOL	BI-CH,ZED
PMP	*taRaqañ	fish: squirrelfish	3.2 FISH	BI-Hm
PPH	*taRenek	mosquito	10.4 INSECT	Z=
PHN	*taRum	tree, <i>Indigofera</i>	4.3 FLORA,PROD	ZED,BI-Hm
PAN?	*táRuq	hide	26. WAR	Dp,Dy,Ts
PMP	*taRutun	fish: puffer, porcupinefish	3.2 FISH	BI-AE4#52,Hm
PAN	*ta+sa	one	19. NUM	BI-VRR
PMP	*tasik	saltwater; sea, ocean	1.3 NATR	BI-Hm,ZED
PAN	*taSép	winnow	5. FARM	BI-Hm,Ts,ZED
PHF	*ta-tělú	three	19.1 NUM	Z=
PMP	*táu-matáq	person [cf: PAN *Cáu]	21. CULT,SOC	Dp,BI-VRR
PHN	*táwad <sub>2</sub>	discount, reduced price	19.3 BART	Dp,ZED
PHN	*tawas	alum	25.3 SICK	Dp,Z=
PHN	*tawas	alum	28. BETEL	Dp,ZED
PHN?	*tázi	artificial cockspur; cockfight	27. COCK	Dp,BI-AE3#337n
PHN	*teba?	cutdown/off	12.3 BLDG,MOVE	BI-NS
PHN	*teba?	fell banana stalk	5.3 FARM	Z=
PAN	*tebaS	cut away, clear vegetation	5. FARM	BI-AE3
PMP	*tebék	pierce, stab	21.1 CULT,WAR	BI-NS
PHN	*tebéŋ	fell, topple	12.3 BLDG,MOVE	Z=,BI-NS
PHN	*teb+teb	cut off, prune; cut down	5.3 FARM	BI-AE3
PHN	*těbús	redeem	19.4 BART	Dp,Z=
PAN	*těbúS	sugarcane	5. FARM,FLORA	HK,BI-CH,Hm,Ts
PHF	*teda?	leftovers; remainder	9.1 FOOD	Z=,BI-AE3
PHN	*tedés	crush with the thumbnail (as lice)	24. GROOM	Dp,Z=
PHN	*tedis	crush with the thumbnail	24. GROOM	BI-AE3
PHN	*te(n)+dúk	skewer, pierce [cf: PMP *tuduk]	9.2 FOOD,WAR	BI-AE2
PMP	*tegel	stubborn, obstinate, unyielding	21.2 CULT,EMOT	BI-AE3
PMP	*te(ŋ)ger	stubborn, obstinate, unyielding	21.2 CULT,EMOT	BI-AE3
PHN	*tek	mud	5.3 FARM,NATR	BI-Root
PMP	*těkén	punt, boat punting pole	2.2. BOAT	Dp,BI-CH,ZED
PAN	*tek+tek	cut, hack	12. BLDG,TOOL	BI-VRR
PHN	*telaŋ	bamboo sp.	4.3 FLORA	BI-AE3
PMP	*telem	sink, disappear under water	2.2. BOAT	BI-AE3
PAN	*tělú	three	19. NUM	Dp,Da,Ts,ZED
PAN	*tělúR	egg	7. BIRD,FOOD	Dp,BI-VRR
PHF	*te+neb	submerge	2.1 BOAT	BI-AE3
PMP	*tenu	tree, <i>Melochia umbellata</i>	4.2 FLORA	BI-Hm
PHF	*tenun-an	loom	14. WEAV	BI-CH
PMP	*těŋéR	mangrove tree, <i>Ceriops</i>	4.2 FLORA	ZED,BI-Hm,Dy
PHN	*tepa	mat; woven material	13. BRAID	BI-AE3
PMP	*tepiR	mat [pos: *tipeR]	13. BRAID	Z=,BI-AE3
PAN	*teq	sap, gummy secretion, viscous fluid	1.1 NATR	BI-Root
PAN	*ter	shiver, tremble	25. SICK	BI-AE1,Root
PMP	*teriŋ	bamboo sp.	4.2 FLORA	BI-Hm
PHN?	*terúŋ	eggplant	5.3 FARM,FOOD	Z=
PMP	*teRas	tree, <i>Intsia bijuga</i> (?)	4.2 FLORA	BI-Hm
PMP	*teRep	breadfruit, <i>Artocarpus</i> sp.	4.2 FLORA	BI-Hm
PHN	*tey+tey	suspension bridge; [CCr] ladder	12.3 BLDG	Dp,Z=
PMP	*te+zek	erect; upright	12.2 BLDG	BI-AE3
PMP	*ti+Dem	dark, obscure; black	29. COLOUR	BI-AE3
PHN	*tidús	spoon, ladle	9.3 COOK,TOOL	BI-AE3#74b
PSP	*ti+lád	prepared betel chew mixture	28. BETEL	Z=
PHN	*ti+lem	dark, black	29. COLOUR	BI-AE3
PMP	*tilu	earwax	24. GROOM	BI-AE3
PHN	*timeRaq	lead; tin	18. METAL	BI-PA3,MHP



PMP	*timun	melon; cucumber	5.2 FARM,FOOD	HK,BI-CH,Hm
PAN?	*timuR	rain wind: S/E	1.1 NATR	BI-Hm,ZED
PHF	*timus	salt	9.1 FOOD	BI-VRR,Dy
PAN	*tina	mother	20. KIN	BI-Voc
PHF	*tineʔun	weave (cloth) [cf: *tenun]	14. WEAV	BI-CH,Ts,ZED
PHF	*tiŋás	particles of food stuck in teeth	24. GROOM	Ts,Z=
PHH	*tiŋén	look for, hunt out	8.4 HUNT	Z=
PAN	*tip+tip	suck	9. FOOD,MOVE	BI-VRR
PMP	*tiqaŋ	pillar, post; mast	2.2. BOAT,BLDG	Dy,ZED
PMP	*tir	shiver, tremble, quiver	25. SICK	BI-Root
PMP	*tiRem	oyster	3.2 SEA	Dy,BI-Hm,ZED
PHN	*tuʔaw	bird and its cry	7.3 BIRD	BI-AE3
PHN	*tuad <sub>2</sub>	fish net or trap	3.3. FISH	BI-AE3
PMP	*tua(n)ji	sibling – younger	20. KIN	BI-Voc
PHN	*tuan	primary forest	1.4 NATR	BI-AE3
PPH?	*tubáʔ	palm toddy/wine	28. GROG	Dp,Z=
PAN	*túbaH	derris root fish poison	3. FISH,FLORA	HK,BI-CH,Hm
PAN	*tu(m)bak	cowrie shell	3. SEA	Ts
PHN	*túbiR	deep water	1.4 NATR	Dp,Z=
PMP	*tudaʔ	throw	26. WAR	BI-AE3
PMP	*tuduk	skewer [cf: PPH *túdek 'pierce']	9.2 FOOD,COOK	Z=,BI-AE3
PPH	*tudul	give	21. CULT,BART	Z=
PAN	*tud <sub>2</sub> uq	drip, leak	1.1 NATR	Dp,Dy,Ts
PHN	*tuek	bow the head, nod	21.3 CULT	BI-AE3
PMP	*tuiʔ	tree, <i>Dolichandrone spathacea</i>	4.2 FLORA	BI-AE3,Hm
PAN	*tukád	runged ladder	12. BLDG	BI-AE1,AE3#400n
PHN	*tu(ŋ)kad	prop, support, staff	25.1 SICK,TOOL	BI-AE3
PHN	*tu(ŋ)ked	prop, support, staff	25.1 SICK,TOOL	Dp
PAN	*tuk+tuk	pound (prepared food); knock	9. COOK,FOOD	Ts,Z=
PMP	*tulŋh	earwax, cerumen	24. GROOM	Dp,Z=
PHN	*tumaŋ	disagreement	21.3 CULT	BI-AE3
IND	*tumbága	copper	18. METAL	BI-Tum
PMP	*tumpu	ancestor; lord, master, owner	20. KIN	Dp,BI-SOC
PAN	*tuNa	eel – freshwater	3. SEA	HK,Dy,BI-Hm,Ts
PHN	*tuŋ+tuŋ	bamboo internode storage container	9.3 COOK,TOOL	BI-AE3
PAN	*tuqás / mā(n)-	parent-in-law (WF); unclé (MB)	20. KIN,AGE	BI-SOC
PHF	*tuqed <sub>2</sub>	stump (of a tree)	4.1 FLORA	BI-AE1,Ts
PAN	*tuq+tuq	hammer, pound; crush	12. MOVE	BI-AE3
PMP	*turiŋ	fish sp.	3.2 FISH	BI-AE3
PMP	*turus	house post	12.2 BLDG	ZED,Dy
PMP	*túRaŋ	parent-in-law	20. KIN	Z=,BI-PAA
PMP	*tusi	draw; etch; write	21.1 CULT	BI-CH,ZED
PAN	*tut	stench	30. SMEL	BI-Root,Z=
PMP	*tutuŋ	light, kindle, set fire to, burn	5.2 FARM,COOK	BI-VRR,Dp
PWI	*tu(n)Zuq	seven	19.4 NUM	BI-NS
PWI?	*ubat	medicine (powder)	25.3 SICK	Dp,Z=
PHN	*u-dahik	bring up (e.g. boat to shore)	2.3 BOAT	Z=,BI-AE3
PPH	*udu[ʔ]	medicine; charm	25.3 SICK	Z=
PHN	*ugaliʔ	custom, tradition	21.3 CULT	BI-AE3
PAN?	*úlaR	snake, worm	6. FAUNA,REPT	Dp,Dy
PHN	*ulat	scar [dbl: *kulad]	25.2 SICK	BI-AE3,Z=
PNP	*ulŋla	orphan [cf: PHN *flu]	20.3 KIN	Z=
PHN	*um-anak-en	nephew, niece	20.3 KIN	Ch,Z=
PHN	*uŋkir	deny, refuse to accept or believe	21.3 CULT	BI-AE3
PMP	*upas	poison(ous)	26. WAR	BI-AE3
PHF	*uReŋ	horn [Iv *uruŋ]	6.1 FAUNA	BI-LVWL

PHN	*uRsa	deer [dbl: *Rusa]	6.2 FAUNA	BI-PAA,Z=
PSP	*usá	deer	6.2 FAUNA	Z=
PPH	*úsiŋ	charcoal	9. PROD	Z=
PHN	*úsiR	pursue, chase	26. WAR	Dp,Z=
PAN	*uSaji[H]	younger sibling; kinsman	20. KIN	Z=,BI-Voc,SOC
PPH	*u+wák	crow [PMP 'harsh ~ loud cry']	7.2 BIRD	Z=,BI-ACD
PMP	*wáhiR	fresh water	1.3 NATR	Dp,ZED,BI-ACD
PMP	*wai	mango sp. [cf: PAN *Suai]	4. FLORA	BI-Hm,ACD
PMP	*wakaR	root	4.2 FLORA	BI-VRR,ACD
PMP?	*wakat	root	4.2 FLORA	BI-VRR,ACD
PHF	*wak+wák	caw; crow [cf: PPH *u+wák]	7.2 BIRD	BI-ACD,Z=
PAN	*walú	eight	19. NUM	Dp,Da,Ts,ZED
PMP	*wanŋaŋ	canoe	2.2. BOAT	BI-CH,ZED
PFM	*waNuH	honeybee [cf: PMP *wafi]	11. BEE	Ts
PMP	*wafi	honeybee [cf: PFM *waNuH]	11. BEE	BI-AE3
PMP	*waRej	vine, aerial root [cf: Rawej]	4.2 FLORA	BI-AE3#434n
PMP	*waRet	root	4.2 FLORA	BI-AE3
PAN	*waRiH	sun	1.1 NATR	Ts,Dp
PPH	*wásay	adze, axe	12.2 BLDG,TOOL	ZED
PHF	*wa-walú	eight	19.1 NUM	Z=,BI-ACD
PMP	*wit	hook(shaped)	3.2 FISH,TOOL	BI-Root,Z=
PHN	*za(ŋ)+kit	contagious, spreading by contact	25.3 SICK	BI-AE3
PMP	*zalateŋ	stinging nettle, <i>Laportea</i> sp.	4.2 FLORA	HK,Dp,BI-Hm
PHN	*za+ŋaw	insect destructive to rice	10.3 INSECT	BI-AE3
PMP	*záqit	sew, patch up (clothing)	15. SEW	BI-CH,ZED,Dp
PMP	*zariŋ	snare	8.2 HUNT	BI-CH,ZED
PHF	*záwah	millet, <i>Setaria italica</i>	5.1 FARM,FOOD	BI-CH,Hm,ZED
PHN	*zazáh	carry around (items for sale)	19.3 BART	Z=
PHN	*zeliŋ	crosseyed [dbl: *zuliŋ]	25.3 SICK	BI-AE3
PHN	*ziteq	vine from which poison is obtained	4.3 FLORA	BI-AE3
PHN	*zuliŋ	crosseyed	25.3 SICK	BI-AE3#439
PHN	*zúluŋ	prow, bow	2.3 BOAT	ZED
PMP	*Zakan	cook	9.2 FOOD	BI-VRR
PAN	*Zálan	path, trail	1.1 GEOG	Dp,Dy,Ts
PHF	*ZaRámi	rice straw, stubble	5.1 FARM,RICE	BI-CH,Hm,ZED
PAN	*ZáRum	needle	15. SEW	Dp,Dy,BI-CH,Z=
PMP	*ZuRúq	sap, syrup	4.2 FLORA,PROD	Dp,Z=