

Proto-Batanic *L: a clue to the linguistic prehistory of the Philippines

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The Batanic (also known as Bashiic) languages are a small group of closely related Malayo-Polynesian languages spoken in the northern Philippines and southern Taiwan. A top-down comparison of lexical items shows regular sound correspondences between Proto-Malayo-Polynesian (PMP) and the Batanic languages, while a bottom-up reconstruction of Proto-Batanic (PBAT) phonology reveals that the phonemes inherited directly from PMP do not account for the entire phoneme inventory of PBAT. Specifically, it is necessary to reconstruct at least one PBAT phoneme which was not present in PMP. Investigating the source(s) of this innovative phoneme has the potential to broaden our understanding of the linguistic prehistory of the Batanes.

1. INTRODUCTION.¹ The Batanic languages (Yami, Itbayaten², Ivatan, and Ibatan) are spoken on the Batanes Islands and Babuyan Claro island, between northern Luzon and the southern tip of Taiwan, an area that was likely the bridge for the Austronesian migration out of Taiwan (Bellwood and Dizon 2005, 2008). The region is therefore important to our understanding of the linguistic prehistory of not just the Philippines, but also of the wider Malayo-Polynesian world, and the forces that shaped the early history of Malayo-Polynesian.

Although there is consensus that the Batanic languages belong to the Malayo-Polynesian branch of Austronesian, there is disagreement about how they are related to other languages of the Philippines. Zorc (1986) and Blust (1991, 2005) list Batanic as one branch of a Philippine subgroup of Malayo-Polynesian, which includes the majority of languages in the Philippines. Ross (2005) concludes that there is not enough evidence to confidently group Batanic with other Philippine languages, and others (Reid 1982 and 2017, Pawley 1999) dispute the existence of a coherent Philippine subgroup. The debate over Proto-Philippines stems from the observation that the few phonological innovations distinguishing Proto-Philippines from PMP are of minimal significance, and the strength of proposed lexical innovations has been disputed³.

Regardless of the nature of their relationship to other languages of the Philippines, it is quite clear that the Batanic languages are closely related to each other. Although to my knowledge there have not been any studies on the mutual intelligibility of these languages, their vocabularies clearly share a high percentage of cognates, which are typically not very phonetically divergent. For example, notwithstanding the problems inherent with lexicostatistics, Hidalgo's (1996) figure of a 87% lexicostatistical match between Ivatan and Itbayaten gives a good idea of the similarity of these two languages. While Yami has generally been regarded as a distinct language, scholars have varied in where they draw the line between language and dialect for the other Batanic varieties. Tsuchida, Yamada and Moriguchi (1987) consider Itbayaten, Ivatan and Ibatan separate languages, while Cottle & Cottle (1958) describe Itbayaten, Ivatan and Ibatan as dialects of a single 'Ivatan' language. Ethnologue lists Itbayaten and Ivatan as dialects of 'Ivatanen', and lists Ibatan as a separate language (Simons and Fennig 2018). Other works (Scheerer 1926, Reid 1966, Hidalgo 1996) follow this same division. Since there are important phonological differences between Itbayaten, Ivatan and Ibatan, I follow Tsuchida, Yamada, and Moriguchi's division of Batanic into four languages.

As discussed in Blust (2005), the linguistic diversity of the Philippines is surprisingly low considering that archaeological and linguistic evidence suggests that this area has been inhabited by Austronesian speakers since around 4,500 BP (Bellwood & Dizon 2008, Bellwood et al 2011). Blust argues that there have been at least two major language extinction events in the linguistic prehistory of the Philippines. The first was the expansion of Proto-Philippines, leading to the leveling of whatever languages were previously spoken in the Philippines. The second was the more localized expansion of Proto-Greater Central Philippines in the Bisayas and southern Luzon.

It is likely that another, smaller and more recent linguistic leveling/expansion has taken place in the Batanes region. Two pieces of evidence suggest this. The first is the particularly low

1. I want to thank to Robert Blust, Bradley McDonnell, and Gary Holton for their valuable feedback on this paper. Portions of this research were presented at the 25th meeting of Austronesian Formal Linguistics Association, and I am grateful to the audience for their helpful comments.

2. This language is referred to variously as 'Itbayaten' and 'Itbayat'. Itbayat is also the name of the island where it is spoken.

3. See Smith (2017; 461-472) for a recent summary of the debate and evaluation of the lexical evidence.

level of linguistic diversity in the region. Given that the Batanes islands were almost certainly the gateway for the Austronesian expansion out of Taiwan, Blust's observation about the relatively low level of linguistic diversity given the time depth of Austronesian presence is doubly true for the Batanes. All else equal, we should expect more linguistic diversity relative to other areas of the Philippines, not less, as this area must have been inhabited first when Austronesians left Taiwan and spread into the Philippines. The actual situation, with closely related languages spread out over the islands, suggests that the breakup of Proto-Batanic occurred relatively recently, much later than the initial population of this area by Austronesian speakers.

The second piece of evidence is a sound correspondence which necessitates the reconstruction of a Proto-Batanic phoneme *L, which has no PMP or PAN counterpart. While the precise source of this phoneme remains unclear, I argue that it is most plausibly accounted for as the result of contact between Proto-Batanic and a now extinct language (or languages) previously spoken in the Batanes region.

The goals of this paper are to propose the reconstruction of PBAT *L, and to demonstrate that it was not directly inherited from PMP, but must have some other source.⁴ I suggest that PBAT *L was most likely borrowed into Proto-Batanic from an extinct language(s) that was spoken in the Batanes, and which has since been supplanted by the Batanic languages.

The structure of this paper is as follows: Section 1 provides background on the Batanic languages. Section 2 presents evidence for the reconstruction of Proto-Batanic *L. Section 3 illustrates the reflexes of several PMP phonemes in the Batanic languages, with the aim of demonstrating that PBAT *L was not inherited from PMP. Section 4 discusses possible sources of PBAT *L, and its implications for our understanding of the linguistic prehistory of the Philippines. Section 5 summarizes and concludes.

1.1 PREVIOUS SCHOLARSHIP AND SOURCES OF DATA. The main source of lexical data for this study is Tsuchida, Yamada and Moriguchi (1987) (hereafter TYM), an 851-item wordlist with data from six Batanic language varieties: the Imorod and Iralalay dialects of Yami, Itbayaten, the Isamorong and Ivasay dialects of Ivatan, and Babuyan. Tsuchida, Constantino, Yamada and Moriguchi (1989) also published a comparison of elicited sentences in these same six varieties, except that the Iralalay dialect of Yami was replaced with the Iranomilek dialect. In neither of these works do the authors reconstruct any aspect of Proto-Batanic.

Although a number of scholars, such as Ross (2005) and Li (2000) make reference to a Proto-Batanic, I am aware of only two that reconstruct any aspect of this protolanguage in detail. These are M.A. theses, Yang (2002) and Gallego (2014), both of which reconstruct Proto-Batanic phonology and lexicon.⁵

I list below the sources which provided the lexical data for each language. Throughout the paper, I have changed the data from the source material to a consistent, broad phonemic orthography. Most symbols correspond with their IPA equivalents, with the exception of <e>,

4. The symbol *L has been chosen to represent this protophoneme to avoid confusion with any PAN phoneme.

5. My own reconstructions largely agree with Gallego's. She reconstructs a PBAT *y, which largely aligns with my PBAT *l (< PMP *l), and a PBAT *l which largely aligns with my PBAT *L. However, under her PBAT *l she also includes a correspondence deriving from PMP *l, which has a different reflex adjacent to a high front vowel and in consonant clusters (see section 3.1). Since she does not compare her PBAT reconstruction to a higher-order reconstruction, she does not address the issue of her PBAT *l (my *L) lacking a PMP/PAN counterpart. Both Yang and Gallego reconstruct three liquids, none of which match with my PBAT *L. In my own PBAT phoneme inventory, *L is the only liquid.

which represents schwa, and <y>, which represents a palatal glide. Proto-Malayo-Polynesian and Proto-Austronesian forms are from Blust's online *Austronesian Comparative Dictionary* (Blust & Trussel ongoing).⁶ The following subsections outline the sources of lexical data for each language.

1.1.1 Yami. Yami is the language of Orchid Island off the southern tip of Taiwan and is the only Malayo-Polynesian spoken in Taiwan. TYM include data from two Yami dialects, Imorod and Iraralay. Since the lexical and phonological differences between these dialects are few, throughout the paper I only specify the dialect when the lexical items differ. The Yami data in TYM was corroborated and expanded upon with data from Rau and Dong's (2006) Yami reference grammar and dictionary, as well as Dong, Rau and Chang's (2008) larger online Yami dictionary.

1.1.2 Itbayaten. Itbayaten is spoken on Itbayat Island, the northernmost inhabited island in the Philippines, located about midway between mainland Taiwan and Luzon. My main source of Itbayaten lexical data was again TYM, and was corroborated and expanded upon with Yamada's (1966) Itbayaten vocabulary and more extensive (2002) Itbayat-English dictionary. I also consulted Yamada (1973), a discussion of Itbayat swidden agriculture that includes a substantial wordlist, and Yamada (1995), a glossary of fish names in Itbayaten and the Sabtang dialect of Ivatan.

1.1.3 Ivatan. Ivatan is spoken on Batan and Sabtang islands, south of Itbayat. Basco, the provincial capital and socioeconomic center of the Batanes, is located on Batan (Yamada 2002). There are two main dialects of Ivatan: the Ivasay dialect spoken in Basco, and the Isamorong dialect spoken on Sabtang Island, as well as southern municipalities on Batan Island (Hidalgo & Hidalgo 1971). The bulk of the Ivatan data used in this study comes from TYM, which contains lexical data for both the Isamorong and Ivasay dialects. I also consulted Scheerer (1914), a 550-page Spanish-Ivatan dictionary compiled by Dominican missionaries stationed on Batan Island.

1.1.4 Ibatan. Ibatan is the language spoken on Babuyan Claro Island, and is the southernmost Batanic language, lying closest to Luzon. The original inhabitants of Babuyan Claro were evacuated by the governing Spanish in 1681, in part because of the eruption of one of the island's volcanos, and in part to facilitate their conversion to Christianity. The island remained uninhabited until 1869, when small groups of settlers began to arrive, including both descendants of original Babuyans, as well as people originally from the Batanes (Maree 2005). It is thus not clear whether a Batanic language was spoken here prior to the 19th century.

Maree, Tomas and Maree (2012) report that while around 1,000 of the 1,300 people living on Babuyan Claro are native speakers of Ibatan, there are many recent immigrants who have learned it as a second language. The other four Babuyan Islands are inhabited primarily by Ilocano speakers. Due to recent heavy contact with speakers of Ilocano, Ibatan has acquired a growing number of Ilocano loans, and the corresponding Batanic terms are sometimes considered archaic (Maree 2012). The sources of Ibatan data for this study are TYM and Maree, Tomas and Maree's (2012) Ibatan dictionary.

6. Throughout the paper, I occasionally make reference to Proto-Western-Malayo-Polynesian (PWMP) and Proto-Philippines (PPH) reconstructions as well. Although the validity of both of these proposed subgroups is disputed, the arguments presented here do not hinge on them, and can stand on the comparison of Pbat with just PMP and PAN reconstructions. See Smith (2017) for an evaluation of PWMP, and a summary of the debate over PPH.

2. PROTO-BATANIC *L. In this section, I demonstrate the sound correspondences used to reconstruct PBAT *L. All Proto-Batanic reconstructions are my own. Table 1 lists the PBAT phonemes with their corresponding PMP phonemes. As can be seen in the table, there is no PMP phoneme corresponding with PBAT *L. In Section 2.1 below, I justify the reconstruction of PBAT *L, and in Section 3, I demonstrate that it is not likely to be derived from any PMP source.

TABLE 1. CORRESPONDING PBAT AND PMP PHONEMES⁷

PBAT	PMP
*p	*p
*t	*t
*k	*k
*ʔ	*q
*b	*b
*d	*d, *z, *j
*g	*g
*m	*m
*n	*n, *ñ
*ŋ	*ŋ
*l	*l
*y	*R, *y
*h	*h
*w	*w
*s	*s
*L	N/A
?	*c
?	*r

2.1 EVIDENCE FOR PROTO-BATANIC *L. I reconstruct PBAT *L based on the regular correspondence of an alveolar trill /r/ in Yami and Itbayaten with a lateral approximant /l/ in Ivatan and Ibatan. In Yami, Ivatan, and Ibatan, PBAT *L has not merged with any other phoneme. In Itbayaten, however, PBAT *L and *d (< PMP *d, *z, *j) have merged in word-initial and intervocalic positions, where both are reflected as an alveolar trill /r/. However, they remain distinct word-finally and in consonant clusters, where *L is reflected as /r/ and *d is reflected as a voiced alveolar stop /d/. Therefore *L maintains its status as a distinct phoneme synchronically in all four Batanic languages.

Table 2 lists some of the lexical correspondences containing reflexes of PBAT *L.⁸ I have reconstructed a total of 125 lexical correspondences containing *L. The complete set of lexical items is in the Appendix.

7. I do not list a reflex of PMP *c, as I was not able to identify a clear reflex in any Batanic forms. However, as distinct reflexes for PMP *s and *c have only been identified in a handful of languages in western Indonesia and mainland Southeast Asia (Blust 2013, p.563) it is likely that PMP *s and *c had already merged in Proto-Batanic. The reflex(es) of PMP *r is unclear; this is discussed in 3.4.

8. In all tables, the form given for verbs is an unaffixed root. An empty cell indicates that no cognate form has been identified for that language. Forms in parentheses appear to be cognate, but have an irregular reflex in some part of the word.

TABLE 2. CORRESPONDENCE SET FOR PBAT *L

PBAT	Yami /r/	Itbayaten /r/	Ivatan /l/	Ibatan /l/
*aLday 'crumble down, collapse'	arday	arday	Isa: alday	alday 'landslide, to erode'
*aLkem 'old' (of people)		arkem	alkem	alkem
*aLtek 'calf (of leg)'	artek	artek	altek	altek
*kaLajaŋan 'chest'	karaŋaŋan		kalaŋaŋan	kalaŋaŋan 'pit of the stomach, solar plexus'
*Lagaw 'neck'	ragaw	ragaw	lagaw	lagaw
*Lapos 'dirty'		rapos	lapos	lapos
*Lasa 'cut down'	rasa	rasa	lasa	lasa
*LeLiak 'to speak'	riyak		liliak	liyak
*LipLip 'tick'	riqip	riqip	liqip	liqip
*oLib 'hide oneself'	orib	orib	olib	olib
*paLaŋ 'pull'	paraŋ	paraŋ	palaŋ	palaŋ
*saLap 'front'	sarap	sarap	salap	salap
*saLawsaw 'wind'	Ira: sarawsaw Imo: sarawsaw	sarawsaw	salawsaw	salawsaw
*tawoL 'heart'	tawor	tawor	tawol	tawol

As can be seen from the data in Table 2 and the Appendix, Yami and Itbayaten /r/ regularly correspond with Ivatan and Ibatan /l/ in numerous lexical items, including basic vocabulary, such as terms for body parts ('neck', 'chest', 'heart', 'ribs', 'calf'), basic adjectives ('old', 'skinny', 'dirty', 'rough'), verbs ('speak', 'pull', 'cut', etc), and nature terms ('wind', 'horn', 'tick', 'low tide'). Straightforward application of the comparative method necessitates the reconstruction of a PBAT phoneme for this correspondence.

In some cases, the reconstructed PBAT term is similar in form to a PMP or PAN reconstruction with the same meaning. Although there are a fair number these resemblant forms, the sound correspondences between these and the PBAT reconstructions are not regular. Many PBAT terms also resemble forms in Ilocano, spoken on nearby Luzon. These are likely borrowings, either into PBAT or the individual Batanic languages. PBAT reconstructions with resemblant Ilocano words or resemblant higher-order reconstructions are illustrated in Table 3.

TABLE 3. PBAT RECONSTRUCTIONS RESEMBLING PAN/PMP/ILK FORMS

Resemblant forms	PBAT	Yami /r/	Itbayaten /r/	Ivatan /l/	Ibatan /l/
PAN *beNuC	*boLnot 'pull out, extract'	vornot	vornot	Isa: volnot	
PAN *tageRaŋ	*tagLaŋ 'ribs'	tagraŋ	tagraŋ	taglaŋ	taglaŋ
PAN *tebaS 'to cut, clear vegetation'	*tavaL 'to cut'	tavar	tavar	Isa: taval 'cut animals feet'	
PAN *SaRuŋ	*ahLeŋ 'snore'	areŋ	ahreŋ	aleŋ	aleŋ
PMP *re(n)zak	*Laʔsag 'step on'	rasag	raʔsag	Iva: (laʔsag) Isa: lasag	lasag
PMP *bekelaj 'unfold'	*voLay 'unfold, unfurl'	veray	voray	volay	bolay
PAN: *uReŋ	*oLoŋ '(animal) horn'	oroŋ	oroŋ	oloŋ	oloŋ
ILK: na-lintég 'straight'	*taLineŋ 'straight'	tarineŋ	tarineŋ	talineŋ	talineŋ
PAN *pariuk 'earthenware cooking pot'	*paLiok 'wok'	pariok	pariok	palyok	paliyok
ILK: pariók					
ILK: íro	*aLiw 'soot on the ceiling of the kitchen'	ariw	ariw	aliw	aliw
ILK siplót 'attack'	*sipLot 'hit with club'	siprot	siprot	siplot	
ILK: pirák	*peLak 'silver'	perak	perak	polak	pelak

Looking at the Batanic lexical data in a top-down way by attempting to match the PBAT reconstructions with PMP or PAN forms yields no clear correspondence between PBAT and higher-order reconstructions. Although some of the PBAT forms bear a striking resemblance to PMP or PAN forms, PBAT *L does not consistently correspond with any one higher-order

protophoneme. For example, PBAT *L appears to match with PAN *R in the forms for ‘snore’ (PBAT *ahLeŋ, PAN *SaRuŋ), ‘ribs’ (PBAT *tagLaŋ, PAN *tageRaŋ), and ‘horn’ (PBAT *oLoŋ, PAN uReŋ). However, PBAT *L also appears to match with PMP *r in ‘step on’ (PBAT *Laʔsag, PMP *re(n)zak) and ‘wok/cooking pot’ (PBAT *paLiok, PMP *pariuk), PAN *S in ‘cut’ (PBAT *tavaL, PAN *tebaS), and a *Ln cluster matches with PAN *N in ‘pull out’ (PBAT *voLnot, PAN *beNuC). Furthermore, as I demonstrate in Section 3, these PAN (or PMP) phonemes all clearly have regular reflexes in Batanic that are not the same as the *r-l* correspondence.

Some of the reconstructed PBAT forms containing *L resemble Ilocano words, as listed in Rubino's (2000) Ilocano dictionary. For example, ILK *pariók* : PBAT *paLiok ‘wok’; ILK *siplot* ‘attack’ : PBAT *sipLot ‘hit with club’; ILK *pirák* : PBAT *peLak ‘silver’. These are likely loans from Ilocano into individual Batanic languages or Proto-Batanic, but Ilocano cannot be the ultimate source of PBAT *L, as the majority of PBAT forms containing *L have no corresponding form in Ilocano (or any other language I have been able to identify). Positing Ilocano as the sole source for PBAT *L, would entail that PBAT subsequently innovated numerous basic vocabulary items using a marginal loan phoneme, an unlikely scenario. A more likely explanation is that *L entered PBAT from another source, and was employed in the Ilocano borrowings as the closest phoneme matching Ilocano /l/. I take up the question of the source of PBAT *L again in Section 4.

3. REFLEXES OF PAN PHONEMES IN BATANIC. In this section I illustrate the Batanic reflexes of PAN phonemes relevant to the discussion of PBAT *L. These are PAN *d, *z, *j, *R, *y, *l and *r. I focus on these PAN phonemes for two reasons. First, they are commonly reflected as liquids in other Austronesian languages, making them the first place we should look for the source of PBAT *L. Second, they are all reflected as some kind of liquid in at least one of the Batanic languages. It is therefore important to demonstrate that the correspondence sets for the reflexes of these phonemes are distinct from the /r-/l/ correspondence set used to reconstruct Proto-Batanic *L. Batanic reflexes of these PAN phonemes are previewed in Table 3 below, and discussed in more detailed in sections 3.1-3.4.

TABLE 4. PAN PHONEMES WITH LIQUID REFLEXES IN BATANIC

PAN	PBAT	Position in word	Yami	Itbayate n	Ivatan	Ibatan
*l	*l	/i_, / i_, /C_	l	l	d	d
		elsewhere	ɸ	ɸ	h	h
*d, *z, *j, (*r)	*d	_#, C_, _C	d	d	d	d
		elsewhere	ɟ	r	r	r
*R, *y	*y	a a	l	y	y	y
		elsewhere	y	y	y	y
N/A	*L	all	r	r	l	l

3.1 PMP *l > PBAT *l. PBAT *l⁹ derives from PMP *l, and is reflected in most environments as /ɸ/¹⁰ in Yami and Itbayaten, and /h/ in Ivatan and Ibatan. In each of the daughter languages

9. I have adopted the symbol <*l> for the sake of continuity with PMP, even though it was probably not an alveolar lateral in PBAT, given its reflexes in the daughter languages (see section 3.5).

10. In Yami, the phonetic realization of /ɸ/ is an unrounded back high vowel [u] in word-final position. This phoneme has also occasionally been lost word-initially and intervocalically, but this change does not appear to be regularly conditioned, or restricted to a particular dialect.

there is a different reflex of PBAT *l adjacent to a high front vowel /i/ and in consonant clusters, where *l is reflected as /l/¹¹ in Yami and Itbayaten, and as /d/ in Ivatan and Ibatan. Synchronically, these reflexes are no longer allophones of a single phoneme, as loanwords have introduced /l/ (in Yami and Itbayaten) and /d/ (in Ivatan and Ibatan) in all phonotactic positions. Furthermore, in Ivatan and Ibatan, PBAT *l has undergone a partial merger with PBAT *d, as both are reflected as /d/ in consonant clusters. Table 5 illustrates the reflexes of PMP *l in Batanic.

TABLE 5. REFLEXES OF PMP *l IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
PWMP *la(n)taw	*lataw 'to float'	ɤataw	ɤataw	hataw	hataw
*lanjit	*lanjit 'sky'	Imo: anjit Ira: ɤanjit	ɤanjit	hanjit	hanjit
*lujan 'cargo, load a canoe'	*lodan 'to load'	ɤoɤan, oran	ɤoran	horan	
*balay 'public building, community house, guest house'	*balay 'house'	vaɤay, vaɤey	vaɤay	vahay	bahay
PAN *talaw	*talaw 'coward'	taɤaw	taɤaw	tahaw	tahaw
PAN *qalad	*alad 'fence'	aɤad	aɤad	ahad	ahad
*suluq	*solo 'torch'	soɤo	soɤo	soho	soho
PAN *bulaN PMP *bulan	*bolan 'moon'	voɤan	voɤan	vohan	bohan
PPH *dakel	*dakol 'big'	ɤakoɤ	ɤakoɤ	rakoh	rakoh
PPH *bulbul	*bolbol 'body hair'	boɤoɤ	vuɤbuɤ	bubuh	bo:boh
PAN *likud	*likod 'back'	likod	liɥɔd	diɥɔd	diɥɔd
PAN *lima	*lima	lima	lima	dima	dadima

11. In Yami, this is phonetically a lateral fricative [ɣ] preceding a high front vowel, and a lateral approximant [l] following one.

PAN *la-lima (in counting people) 'five'	'five'				
*tilu 'earwax'	*tilo	t̃ilo	tilo	tido	t̃ido
*kilat 'lightning'	*kilat	t̃it̃ilat	t̃ilat	t̃idat	
*piliq 'choose'	*pili	pili	pili	pidi	pidi
*taliŋa 'ear'	*taliŋa	taliŋa	taliŋa	tadiŋa	tajiŋa
*telu PAN *ta-telu 'three (of humans)' 'three'	*tatlo (of humans) *atlo (of non- humans)	tatlo (of humans), atlo (of non- humans)	atlo	tatdo	tatdo

3.2 PMP *R, *y > PBAT *y. The reflexes of PAN *R are phonetically very diverse across the Austronesian languages, even within the Philippines (Conant 1911, Blust 2013:588). In Proto-Batanic, PAN *R and *y merged, and are almost always reflected as a palatal glide /y/ in all daughter languages. The single exception is in Yami, where PBAT *y developed into a lateral approximant /l/ between two low vowels, as in *ɣala* 'blood' < PMP *daRaŋ, *nala* 'to wait' < PAN *ma-naRaŋ, and *kalaŋ* 'crab' < PMP *kaRaŋ.

TABLE 6. REFLEXES OF PMP *R IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
*Ramut 'root'	*yamot	yamot	yamot	yamot	yamot
*Ratus 'hundred'	*yatos		yatos	Iva: asaayatos, omyatos Isa: sayatos	
PWMP *kuRaw 'edible marine fish'	*koyaw threadfin (fish sp.)	koyaw		Isa: koyaw	koyaw
*zaRum	*dayem 'needle'	ɽayom, ɽayem	rayem	rayem	rayem
PPH *baRat 'to meet'	*bayat 'to meet each other'		vayat	vayat	bayat
PAN *kaRaŋ 'small edible freshwater crab'	*kayaŋ 'crab'	kalaŋ	kayaŋ	kayaŋ	kayaŋ
*daRaq	*daya	ɽala	raya	raya	raya
PAN *naRa	*naya 'to wait'	nala, nanala	(naya)	naya	nanaya
*uRat	*oyat 'blood vessel, sinew'	oyowyat	oyat	oyat	oyat
*taRuq store away, hide valuables	*tayo 'hide'	tayo	tayo	tayo	tayo
PAN *buRaw	*boyaw 'drive away'	voya	voyaw	voyaw	boyaw
PMP *huRas	*oyas 'wash utensils'	oyas	oyas	oyas	oyas
PAN *aRi	*ayi 'come'	ai	ayi	Isa: ay	ay
*diRus	*diyos 'bathe'	ɽies, ɽiyos	rios	rios Isa: riyes	riyos
PPH *ma- bihaR	*ma-bihay 'be alive'	maviay	mavihay	maviay	mabiyay
*deŋeR	*adŋey 'to hear'	madŋey	madŋey	/madŋey Isa: manŋey	adŋey

*timuR 'SE monsoon'	*timoy 'rain'	t̄imoy	timoy, timuy	timuy, timoy Isa: t̄imoy	t̄imoy
PAN *CuSuR PMP *tuhuR	*tohay 'to string beads'	attoy	tohey, tohay	tooy/tooy Isa: to:oy	to:oy
PAN *ma- besuR	*absoy 'full (of stomach)'	(m)absoy	(m)absoy	/(m)absoy	(m)absoy
*wakaR 'root'	*wakay 'sweet potato'	wakay, wakey	wakay	wakay	wakay

TABLE 7. REFLEXES OF PMP *y IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
PWMP *qayam	*ayam 'toy'	yalalam	ayam	ayayam Isa: ya:yam	ya:yam
*duyuy 'dugong'	*doyoy 'whale'		royoy	royoy	royoy
*balay 'public building, community house, guest house'	*balay 'house'	vaḡay, vaḡey	vaḡay	vahay	bahay
*kiray/kiday	*kiday 'eyebrow'		t̄iray	t̄iray	t̄it̄iray
*qatay PAN *qaCay	*atay 'liver'	atay	atay	atay	atay
PAN *qenay	*aʔnay 'sand'	anay	aʔnay	anay	anay
PAN *pajay	*paday 'plant sp. (rice)'		paray	paray	paray
*sakay	*sakay 'ride, get on a boat'	sakay	sakay	sakay	sakay
PAN *aNay <i>insect</i> of the order Isoptera: termite, white ant	*anay 'termite, white ant'	Imo: anay Ira: aney	anay	Isa: anay	anay
PAN *Sapuy	*hapoy	apoy	hapoy	apoy	apoy

*hapuy	'fire'				
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Some word sets suggest that PMP *R may sometimes be reflected as something other than a palatal glide in consonant clusters. For example, PMP *R seems to correspond with PBAT *l in the word for 'dust', PMP *Rabuk : PBAT *albek (Itbayaten *aɾbek*, Ivatan and Ibatan *ahbek*). Two word sets where PMP *R appears to correspond with PBAT *L were already mentioned in Section 2.1: PMP *tageRaŋ 'ribs' : PBAT *tagLaŋ, and PMP *haRuŋ 'snore' : PBAT *ahLeŋ. However, another set of words shows PMP *R reflected as *y in PBAT consonant clusters. PMP *haReMaŋ, 'eel': PBAT *haymaŋ (Itbayaten *haymaŋ*, Ivatan and Ibatan *aymaŋ*); PMP *baqeRu 'new': PBAT *baʔyo (Yami and Ivatan *vayo*, Itbayaten *vaʔyo*, and Ibatan *bayo*); and PMP *kuRita 'octopus': PBAT *koyta (*koyta* in all modern Batanic languages). It is not clear which of these words are directly inherited. The different reflexes of *R may depend on the adjacent consonant, or some of these forms may have entered PBAT as borrowings from other Austronesian languages.

Note that these three forms where PMP *R corresponds with PBAT *y are all trisyllabic in PMP, but have undergone a vowel deletion rule in PBAT (V>Ø/VC_CV), resulting in a medial consonant cluster. The vowel deletion rule may or may not have taken place after PMP *R, *y > PBAT *y, but this cannot explain the difference between the PBAT forms with *L and the forms with *y, as PBAT *tagLaŋ also corresponds with a PMP form containing a medial vowel. If all these forms were directly inherited, then we should expect the same reflex of PMP *R throughout. Even if we assume PBAT *L developed language-internally as a conditioned reflex of PMP *R, we are again left with the question of how a marginal new phoneme would have been widely used in numerous innovated forms.

TABLE 8. BATANIC REFLEXES OF PMP *R IN CONSONANT CLUSTERS

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
*Rabuk	*albek 'dust'		aɾbek	ahbek	ahbek
*tageRaŋ	* tagLaŋ 'ribs'	tagraŋ	tagraŋ	taglaŋ	taglaŋ
*haRuŋ	*areŋ 'snore'	areŋ	ahreŋ	aleŋ	aleŋ
*kuRita	*koyta 'octopus'	koyta	koyta	koyta	koyta
*baqeRu	*baʔyo 'new'	vayo	vaʔyo	vayo	bayo
*haReMaŋ	*haymaŋ 'eel'		haymaŋ	aymaŋ 'sea snake'	aymaŋ

3.3 PMP *d, *z, *j > PBAT *d. PMP *d, *z and *j have merged into Proto-Batanic *d. In all Batanic languages, PBAT *d has both stop and liquid reflexes, with the liquid reflex occurring word-initially and intervocally. In Yami, this is a retroflex alveolar approximant /ɟ/, and in the other languages it is an alveolar trill /r/. Word-finally and adjacent to another consonant, PBAT *d

is reflected as a voiced alveolar stop /d/ in all daughter languages. In Yami, Ivatan, and Ibatan, PBAT *d is also reflected as a stop word-initially in some words with reduplicated monosyllabic roots, maintaining identity between both repetitions of the root. For example, PMP **demdem* ‘cloudy, overcast’ > Yami and Ivatan *demdem*, but Itbayaten *remdem* ‘cloud, cloudy’; PMP **daŋdaŋ* ‘to warm’ > Yami and Ivatan **daŋdaŋ*, Itbayatan **raŋdaŋ*.

TABLE 9. REFLEXES OF PMP *d IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
PPH *dakel	*dakol 'big'	ɭako	rakoɔ	rakoh	rakoh
PWMP *dateŋ	*dateŋ 'arrive'	ɭateŋ	rateŋ	Iva: rateŋ	
*danum	*danom 'water'	ɭanom	ranom	(danum /danom) Isa: ranom	ranom
*diRus	*diyos 'bathe'	ɭies, ɭiyos	rios	rios /ryos Isa: riyes	riyos
PWMP *ŋadas	*ŋades 'gums, palate'	ŋaɕes	ŋares	ŋares	ŋares
*tuduq	*todo 'leak'	toɭo	toro	toro	toro
*kiray/kiday	*kiday, *kiray 'eyebrow'		ʔjiray	ʔjiray Isa: ʔjɪʔjiray	
*deŋeR	*adŋey 'to hear'	(m)adŋey	(m)adŋey	/(m)adŋey (Isa: (m)anŋey)	adŋey
PAN *sedu	*asdo 'hiccup'	asdo	aso (masdo, om'asdo)	asdo	asdo
PAN *demdem 'dark, overcast'	*demdem 'cloudy, cloud'	demdem	remdem	demdem	demdem
PWMP *sujud	*sodod 'comb'	soɭod	sorod	sorod	sorod
PAN *qalad	*alad 'fence'	aɕad	aɕad	ahad	ahad
*timid	*tomid 'chin'	tomid	tomid	tomid	tomid

PAN *likud	*likod 'back'	likod	liŋʃod	diŋʃod	diŋʃod
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Like PMP *d, PMP word-initial and intervocalic *z is reflected in Yami as a retroflex alveolar approximant /ɹ/, and in the other languages as an alveolar trill /r/. PAN *z does not occur word-finally (Blust 2013:213), but Ivatan *tatadmen* ‘whetstone’, likely derived from PMP *tazem ‘sharp’, contains a reflex of *z in a consonant cluster, where, as expected, it is reflected as a voiced alveolar stop.

TABLE 10. REFLEXES OF PMP *z IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
*zaqit	*dayit 'sew'	ɹayit	rayit	rayit	rayit
*zaRum	*dayem 'needle'	ɹayom, ɹayem	rayem	rayem	rayem
*za-zalan	*da-dalan 'road'	ɹaɹawan	raɹan, raɹawan	rarahan	rarahan
*tazem	*tadem 'sharp'	taɹem	tarem	tarem 'sharp' tatadmen 'whetstone'	tarem

PMP *j does not occur word-initially in any reconstructed PMP words. However, it is clear that it follows the same pattern as PMP *d and *z: Intervocalically, it is reflected as /ɹ/ in Yami, and /r/ in Itbayaten, Ivatan and Ibatan. In consonant clusters and word-finally, it is reflected as /d/.

TABLE 11. REFLEXES OF PMP *j IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
*pijax	*pidah 'how much'	piɹa	pirah	pira	
*ɲajan	*ɲadan 'name'	ɲaɹan	ɲaran	ɲaran	ɲaran
PAN *qujiŋ	*odiŋ 'charcoal, soot'	oriŋ	oriŋ	orin	orin
*lujan ‘cargo, load a canoe’	*lodan 'load'	ɸoɹan, oran	ɸoran	horan	
*qulej	*oled	aowed	oɸed	ohed	ohed

	'small worm'				
*pusej	*posed 'navel'	pesed	posed	posed	posed
*sejep	*asdep 'enter'	asdep	asdep	asdep	asdep
PAN *qapejux	*apdo 'gall bladder'	apdo	apdo	apdo	
PMP *bejbej	*bedbed 'wrap, bind, bundle'	bedbed		bedbed	

3.4 STATUS OF PMP *r IN BATANIC. PMP *r is the remaining PMP phoneme which could reasonably be suggested as the source of PBAT *L. It is difficult to come to a conclusion about what became of PMP *r in the Batanic languages, as few word sets potentially containing reflexes of this proto-phoneme have been identified. Furthermore, most of these Batanic words closely resemble corresponding Ilocano terms, meaning that they were potentially borrowed into Proto-Batanic or individual Batanic languages. Those words which don't appear to have been borrowed from Ilocano provide inconclusive and conflicting evidence. This leaves the reflex of PMP *r in the Batanic languages unclear.

PMP *r seems to correspond with PBAT *L in the term for 'cooking pot, wok'. However, as mentioned in Section 2.1, this is possibly a loan from Ilocano *pariók*, so we should not take this as strong evidence that PBAT *L derives from PMP *r. Ivatan *nara* and Ibatan *nala* 'Pterocarpus indica (a tree sp.)' resemble PMP *nara, but these, too, are likely borrowings from Ilocano *narrá* into the individual Batanic languages, as Ivatan /r/ does not regularly correspond with Ibatan /l/. The same is the case for Yami and Itbayaten *orit* 'line' and Ibatan *orit-orit-an* 'striped' (ILK ulít), as the correspondence is irregular. In the case of 'eyebrow', either of the PWMP doublets *kiray or *kiday may be the source of PBAT *kiday, so this cannot be taken as evidence for what became of PMP *r.

One word set suggests that PMP *r may have merged with *d, *j, and *z in Proto-Batanic. Yami *vaɣok*, Itbayaten *varok*, Ibatan *barok* may be inherited from PMP *baruk 'fungus that grows on the sugar palm; tinder'.¹² If these sets of words are directly inherited from PMP, they indicate that PMP *r has merged with PMP *d, *j, and *z as Proto-Batanic *d. Another word set, Itbayaten *vorit*, Ivatan and Ibatan *volit* 'line', suggests that PMP *r is reflected as /r/ in Itbayaten and /l/ in Ivatan and Ibatan, the same correspondence used to reconstruct PBAT *L. There are also a handful of Itbayaten forms where /r/ corresponds to PMP *r. These are Itbayaten *garot* 'scratch' : PMP *garut 'rub, scrape, scratch'; Itbayaten *garos* 'scratch' : PMP *garus 'scratch'; and Itbayaten *garis* 'striped' : PMP *garis 'rub, scrape, draw a line'. Unfortunately, cognate terms in other Batanic languages have not been identified. Since both

12. The Batanic terms refer to a species of tree, identified by Kano and Segawa (1956) as *Zanthoxylum integrifolium Merrill*, a fibrous material from which is used as tinder and material to caulk boats. Cognate terms in other Malayo-Polynesian languages refer to various kinds of plant materials used as kindling and caulking (Blust & Trussell, ongoing).

PBAT *d and *L (and potentially *r, if it existed) are reflected in Itbayaten as /r/, these Itbayaten words are of limited use in finding out what became of PMP *r.

TABLE 12. POSSIBLE REFLEXES OF PMP *r IN BATANIC

PMP	PBAT	Yami	Itbayaten	Ivatan	Ibatan
*baruk 'fungus that grows on the sugar palm; tinder'	*badok ' <i>Zanthoxylum integrifolium</i> Merrill (tree sp.)'	vaɔok	varok		barok
PAN *pariuk 'earthenware cooking pot' ILK: pariók	*paLiok	pariok	pariok	paliuk	paliyok
*nara 'a tree <i>Pterocarpus indica</i> ILK: narrá	N/A			nara	nala
*qurit 'stroke, stripe, line' ILK ulít		orit	orit		orit-orit-an
*burit 'line, stripe'	*boLit 'line'		vorit	volit	bulit 'a furrow for planting seeds'
PWMP *kiray/kiday	*kiday 'eyebrow'		ṭjiray	ṭjiray, ṭjítjiray	ṭjítjiray

It remains unclear what became of PMP *r in Proto-Batanic. Although the hypothesis that PBAT *L < PMP *r cannot be ruled out, there is little positive evidence for it, since, excluding words that are likely Ilocano borrowings, PBAT *L seems to correspond with PMP *r only in PBAT *bolit 'line'. Furthermore, in order to claim that PBAT *L does indeed derive from PMP *r, we would be forced to assume one of two unlikely scenarios. The first possible scenario is that, by the time of the break-up of PBAT, PMP *r had become so marginal as to have nearly disappeared from inherited vocabulary, yet speakers nonetheless used this marginal phoneme in the innovation of dozens of core vocabulary items. A second possible, but unlikely, scenario is that during the stage that these core vocabulary items were innovated, there were more *r-containing words inherited from PMP still present PBAT, making *r less marginal. Then at some later stage, nearly all these inherited words were lost, yet dozens of Batanic innovations containing the phoneme were not. As neither of these scenarios is very plausible, it is unlikely that PMP *r is the source of PBAT *L.

A competing hypothesis, that PMP *r merged with *d, *z and *j into PBAT *d, is suggested by the reflexes of PMP *baruk (and possibly PMP *kiday). As there is little positive evidence for this, I leave it an open question for now what became of PMP *r in Proto-Batanic.

3.5 PHONEME INVENTORY OF PROTO-BATANIC. Now that the reflexes of the relevant PMP phonemes have been illustrated, we can ask the question of how PBAT *L fits into the overall phonology of Proto-Batanic. First, however, it is necessary to clarify what kind of phoneme PBAT *l likely was.

To make clear the continuity between the two, I have chosen to use the same symbol for the PBAT phoneme inherited from PMP *l. I do not mean to suggest, however, that this phoneme was an alveolar lateral in Proto-Batanic. It is not straightforward to determine what the likely phonetic characteristics of PBAT *l were, given that it has split into two phonetically rather disparate phonemes in each of the daughter languages: /ʙ/ and /l/ in Yami and Itbayaten, and /h/ and /d/ in Ivatan and Ibatan. The /ʙ/-/h/ correspondence suggests that PBAT *l was a back fricative. This is not straightforwardly reconciled with the /l/-/d/ correspondence, which occurs adjacent to /i/ and in consonant clusters, and suggests the protophoneme was perhaps an alveolar stop or lateral.

However, the overall sound patterns of the Batanic languages provide a clue, as the split of PBAT *l into two phonemes in each language parallels the behavior of PBAT velar phonemes *k, *ŋ, and *g, suggesting that *l was a velar as well. In all four Batanic languages, PBAT velars have become palatals adjacent to a high front vowel. The details of this process are different in each language, and are illustrated in Table 13. Like the velars, the reflex PBAT *l has a back place of articulation in most environments, but a more forward place of articulation adjacent to /i/. In Yami, this is a palatal fricative [ç] before /i/, and an alveolar lateral [l] after (both allophones of /l/). In Itbayaten, PBAT *l became /l/ next to /i/, and in Ivatan and Ibatan it became /d/. This parallel suggests that PBAT *l had a back place of articulation, probably velar. The manner of articulation is less clear, but it was likely a fricative or lateral.

TABLE 13. PALATALIZATION OF VELARS IN BATANIC

Yami	Itbayaten	Ivatan	Ibatan	examples
*k>ç/i_ , k/_i	*k>ç/i_ %	*k > ç/i_ %	*k>ç/i_ %	*likod, *kilat
*ŋ > ɲ/i_ , ŋ/_i	*ŋ > ɲ/i_ %	*ŋ > ɲ/i_ % (but > n/i_ %)	*ŋ > ɲ/i_ % (but > n/i_ %)	*laŋit, *taliŋa, *odiŋ, *taLiŋ, *Liŋaw
	*g > j/i			
*l > ç/_i, l/_i	*l>l/i_ %	*l>d/i_ %	*l>d/i_ %	*lima, *tilo, *kilat, *pili, *taliŋa

If PBAT *l was a velar fricative or lateral, then this leaves PBAT without a directly inherited alveolar liquid of any kind. Given its reflexes of /r/ and /l/ in the modern Batanic languages, PBAT *L was likely an alveolar liquid. It thus makes sense that Proto-Batanic would have adopted this phoneme through loan words, as there was a gap in the native phoneme inventory, with no similar native phoneme that it could have used in these loanwords. Table 14 shows the PBAT phoneme inventory after the introduction of *L.

TABLE 14. PROTO-BATANIC PHONEME INVENTORY

bilabial	alveolar	palatal	velar	glottal
*p *b	*t *d		*k *g	*ʔ
*m	*n		*ŋ	
	*s		*l	*h
*w		*y		
	*L			

4. WHAT IS THE SOURCE OF PBAT *L? In Sections 2 and 3, I demonstrated that it is necessary to reconstruct a Proto-Batanic phoneme *L that is not directly inherited from a higher order protolanguage. As illustrated in Table 4 (repeated as Table 15 below), the regular correspondence of /r/ in Yami and Itbayaten with /l/ in Ivatan and Ibatan, used to reconstruct PBAT *L, does not match any inherited PAN or PMP phoneme.

TABLE 15. PAN PHONEMES WITH LIQUID REFLEXES IN BATANIC

PAN	PBAT	Position in word	Yami	Itbayaten	Ivatan	Ibatan
*l	*l	/i __ %, /C __	l	l	d	d
		elsewhere	ɾ	ɾ	h	h
*d, *z, *j, (*r?)	*d	__ #, C __, C	d	d	d	d
		elsewhere	ɹ	r	r	r
*R, *y	*y	a a	l	y	y	y
		elsewhere	y	y	y	y
N/A	*L	all	r	r	l	l

There are, in my view, three possible explanations for the presence of *L in Proto-Batanic. The first possibility is that this phoneme has been retained in the Batanic languages, but lost in all other Austronesian languages. I regard this possibility as extremely unlikely, given that the probable phonetic characteristics of *L are such that it is not likely to have been the type of segment which frequently deletes entirely, as opposed to, for example, word-final PMP *h, which is retained only in a handful of languages, including Itbayaten (Blust 2018). A second possible explanation is that *L is indeed reconstructible to a higher-order protolanguage, but that the relevant correspondences have gone unnoticed. This, too, I consider unlikely, given the depth of scholarship on PAN.

The third and most reasonable possibility is that *L did not enter Proto-Batanic through direct inheritance, but was borrowed into the language. In this case, it is not clear, however, what the source language would be. As discussed in Section 2, although in a handful of cases Ilocano can be identified as the source of a particular word in the Batanic languages, positing Ilocano as the sole source of PBAT *L leaves unexplained why it is found in a large number of basic vocabulary items. In a few other cases, PBAT forms containing *L bear a resemblance to PMP/PAN forms, but there is no regular correspondance between PBAT *L and any PMP phoneme. If these resemblant forms are indeed related to higher-order reconstructions, they do not seem to be directly inherited.

Without an identifiable source language for the majority of loanwords containing PBAT *L, we cannot be entirely sure that *L did indeed enter the language as a loan phoneme.

However, it is almost certain that PBAT *L was not directly inherited. The most reasonable hypothesis is therefore that Proto-Batanic acquired a number of loanwords from an unidentified language(s), adopting a new phoneme *L along with them.

4.1 SPECULATIONS ON SOURCE LANGUAGE OF PBAT *L

Assuming the validity of the hypothesis that PBAT *L was borrowed from an unidentified language, then the distribution of *L in PBAT vocabulary may provide some clues about the source language and the nature of its contact with Proto-Batanic. In situations of only casual language contact, the adoption of a loan phoneme and the borrowing of basic vocabulary are unexpected (Thomason and Kaufman 1988, ch 4). We can therefore surmise that speakers of Proto-Batanic and the unidentified donor language were in more than casual contact (at least a 2 on Thomason and Kaufman's borrowing scale).

Out of 125 reconstructed PBAT words with *L, 28 of these are words for local flora and fauna. This suggests that the donor language was native to the Batanes, as Proto-Batanic speakers are unlikely to have borrowed such words from a language outside the area. Additionally, a number of PBAT reconstructions with *L resemble higher-order Austronesian reconstructed forms, but without regular correspondences. This suggests that the source of *L may have been Austronesian.

5. CONCLUSION

In this paper, I have attempted to demonstrate that it is necessary to reconstruct a Proto-Batanic phoneme *L that was not directly inherited from PMP. I have suggested that this phoneme was borrowed into Proto-Batanic from an as yet unidentified language.

The diversity of the Batanic languages is low, suggesting that Proto-Batanic broke up relatively recently. This is unexpected given the time depth of Austronesian presence in the area. A loan phoneme *L present in PBAT reconstructed vocabulary, including several words for native flora and fauna, suggests contact between speakers of Proto-Batanic and another language native to the area. Adding up all these clues gives us the following hypothesis: a now-extinct, probably Austronesian, language was once spoken in the Batanes islands. Its speakers were in close contact with Proto-Batanic speakers for a period of time before Proto-Batanic or its daughter languages displaced it.

Since Proto-Batanic is the only clue to this hypothesized donor language, we have no way of knowing whether it has influenced PBAT in other subsystems of its grammar. We can only hypothesize that this donor language existed because we know enough about sound change to be relatively sure that the development of PBAT *L did not have purely language-internal motivations, since languages typically do not innovate phonemes out of nothing. Our current understanding of phonological change is more advanced than our understanding of changes in other linguistic subsystems. While innovations in other areas of PBAT grammar, such as its syntax, may also be due to contact with this donor language, there is as yet no positive evidence for this. Nonetheless, investigation of innovations in PBAT grammar may provide some clues.

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APPENDIX. RECONSTRUCTED PB_{AT} FORMS CONTAINING *L

Resemblant forms	PBAT	Yami /r/	Itbayaten /r/	Ivatan /l/	Ibatan /l/
PAN *SaRuŋ	*ahLeŋ 'snore'	areŋ	ahreŋ	aleŋ	aleŋ
	*agsaL 'sturdy'	agsar 'thick'	agsar 'strong, firm'		
PWMP *halaw 'drive off'	*akLaw 'drive away'		akraw	aklaw	
	*aLat 'block, interfere'	arat 'to block'	arat 'interfering'		
PWMP ¹³ *rebaq 'collapse, fall down, as a house' [doublet: *rebas, *Rebaq]	*aLba 'fall over, topple'		arba		alba
	*aLday 'crumble down, collapse'	arday	arday	Isa: alday	alday 'landslide, to erode'
	*aLkem 'old' (of people)		arkem	alkem	alkem
ILK: iro	*aLiw 'soot on the ceiling of the kitchen'	ariw	ariw	aliw	aliw
PWMP *lecut 'squeeze out, slip out'	*aLsot 'squeeze out, squeeze through'	arsot 'squeeze'	arsot 'being let out by pressure'		alsot 'get through an opening'
	*aLtek 'calf (of leg)'	artek	artek	altek	altek
	*apLeŋ 'ear mark'	apreŋ 'ear mark (used on livestock)'	apreŋ 'ear mark'		
	*baLanoy		varanoy	valanoy	balanoy

13. The ACD lists reflexes from four languages in support of *rebaq, including Itbayaten and Ilocano. As Ilocano borrowings are widespread in Batanic, and the Batanic reflex of *r is not clear, this PWMP reconstruction may not be secure.

	'type of herb'		'a species of plant. It is used for seasoning snails or vegetables.'	'basil'	'dried bay leaf/leaves or sweet laurel used for medicine or cooking'
	*baLat 'barrier'		varat		balat
	*baLentin 'fish sp.'	valenten, ' <i>Variola albimarginata</i> , grouper'	kavaranten 'several sps. of grouper and seabass'	Iva: valentin Isa: valenten 'seabass'	bolantin
PWMP *balalanti? 'tree sp.'	*baLatinok 'plant sp. (citrus kotoensis)'	varatʃinok	varatinok	valatʃinok	balatʃinok
	*baLay 'work'	varay 'job, work'	varay 'attention-diversion, activity, occupation'		ma-balay 'be busy doing something'
	*baLaybayan 'tree sp. used for boat-making'		varayvayan	valayvayan	balaybayan
	*baLit 'rattan'	varit	varit	valit	balit
	*baLogan 'east'	varogan 'right side of the village'	varogan	valogan	valogan 'NE tip of Babuyan Claro island'
	*baLoḡot 'hat which blocks'	varoḡot 'coconut string hat, worn by women to block sun or rain'	varoḡot 'handkerchief, veil'		

	*boLas 'pluck, harvest'	voras	voras	volas	bolas
	*bolaw 'wild; get loose, lost'	voraw 'get lost'	voraw 'wild, to get loose (of animal)'		bolaw 'wild'
PMP *bekelaj 'unfold'	*boLay 'unfold, unfurl'	veray	voray	volay	bolay
PMP *burit 'line, stripe'	*boLit 'line'		vorit	volit	bulit 'a furrow for planting seeds'
	*boLoŋ 'jack (fish sp.)'		voronŋ	volonŋ	bolonŋ
PAN *beNuC	*boLnot 'pull out, extract'	vornot	vornot	Isa: volnot	
PMP *bitaquR a shore tree: <i>Calophyllum inophyllum</i>	*botaLaw plant sp. (<i>calophyllum inophyllum</i>)	vataaraw		votalaw	botaalaw
	*eLsad 'bounce on buttocks'	ersad 'sit'	ersad 'slipping w/buttocks, falling w/buttocks first'		elsalsad 'bounce, as when riding a horse'
	*gaLemgem 'gnash'	garemgem 'sound made when gnawing'	garemgem 'crush food between teeth'		galemgem 'to crunch'
	*gaLoak/ *Lagoak ¹⁴ 'egret'	garoak			lagwak
	*goLaŋ 'skinny, thin'	goraŋ, (golaŋ)	goraŋ	golaŋ	golaŋ
	*kaLabokab 'dandruff'	karabkab		kalovokab	

14. I have reconstructed two possible forms, as either the Yami or Ibatan form must have undergone metathesis, but without a third witness it is not clear which one.

	*kaLaka 'tree sp.'	karaka 'Cinnamomum kotoense'		kalaka 'hardwood tree, used for floorboards, firewood'	
	*kaLamoh 'scratch'	karamo 'scratch hard'	karamoh 'scratch w/fingernails'		
	*kaLanjaan 'chest'	karanjaan		kalanjaan	kalanjaan 'pit of the stomach, solar plexus'
PMP *kuRapu 'a fish, the sea perch, giant rock cod, giant grouper: <i>Epinephelus spp.</i> ILK kurapó 'a kind of speckled marine fish'	*kaLapo	korapo	korapo	kalapo	
	*kawaL 'adze'	kawar	kawar	kawal	
	*keLdas 'cut'	kekerdas 'sickle'	kerdas 'cut w/one stroke'		
	*kiLit 'wonky-eyed'	t̃firit 'having one bigger and one smaller eye'	t̃firit 'being overtaken by sleepy spell with eyes suddenly closed'		t̃filit̃filit 'spots seen from looking at bright light'
	*koLay 'to dry clothes'	koray	koray	kolay	kolay
	*koLih 'to weed'		korih		koli
	*koLmit 'hairline'	kormit	kormitan 'part of face adjacent to ears'		

	*koLoŋ 'put into'	koronj			kolonj
	*koLtod 'snapped'	kortod	kortod	koltod	koltod
	*komboaL 'boil, abscess'		komboar	komboal	
	*loLi 'left (side)' (PAN *wiRix)	ori	(gori)	holi	holi
	*Labok 'prepare field for cultivation'	ravok 'remove weeds from a dry field'	ravok 'being friable, making the soil pulverized (as in plowing), softening the soil with cross bars	lavuk 'to cultivate a field'	labok 'loosen the soil around something'
	*Lagaw 'neck'	ragaw	ragaw	lagaw	lagaw
	*Lagi 'song'		raji	laji	
	*Lagom	ragom 'together, take everything in one handful'	ragom 'holding as many as possible'		
	*Lagpit 'get on a stone, etc'	ragpit	ragpit	Iva: lagpit-an 'stairs'	
	*Lalaw 'to dry fish'	rarawan 'fish drying rack'	raraw 'to dry fish'		
	*LaLasan 'crab sp.'	rarasan 'rock crab'	rarasan 'green sea crab'		
	*Lamit 'rag'	ramit		lamit	lamit
	*Labat 'to snap (a line)'	ravat 'snap a line'	ravat 'break chains of necklace'		

	*Laneg 'boil in seasoning' ¹⁵	raneg 'cook fish'			laneg 'boil in seasoning'
FIL: lapu-lapu	*Lapaw 'sea bass'	Imo: rapaw Ira: rapow	rapaw	lapaw	lalapaw
	*Lapaw 'sit on top of'	rapaw 'have a leg up on something'			lapaw 'sit on top of'
	*Lapos 'dirty'		rapos	lapos	lapos
	*Lasa 'cut down'	rasa	rasa	lasa	lasa
PMP *re(n)zak	*Laʔsag 'step on'	rasag	raʔsag	Iva: (laʔsag) Isa: lasag	lasag
	*Latab 'to eat raw'		ratab	latab	latab
	*Lateb 'butt, stub'	rateb 'charcoal'	rateb	lateb	lateb
PPH *rawaŋ ¹⁶ 'submarine cave'	*Lawaŋ 'low tide, passage through coral exposed by low tide'	Ira: rawaŋ 'canal'	rawaŋ	lawaŋ	lawaŋ
	*Lawoŋ 'look down from higher'	rawoŋ	lawoŋ-an		lawoŋ
	*Layid 'slimy substance'	raid 'gooey substance, mucus'			layid 'drool, slimy substance'
	*LeLak 'light'	rerak 'light'	rerak 'tomorrow, next day'		

15. Although the Yami and Ibatan meanings do not closely correspond, the photo illustration under the entry for *raneg* in the Yami dictionary shows fish being boiled together with some herbs, so the meaning of the Yami word may in fact be closer to the Ibatan than is suggested by the definition in the Yami dictionary.

16. This PPH reconstruction is based on just three languages, including Ilocano and Itbayaten. As Ilocano borrowings are widespread in Batanic, and the Batanic reflex of *r is not clear, this reconstruction may not be secure.

	*LeLiak 'to speak'	rieriak		liliar	liyak
	*Libeŋ 'screen, partition'	reveŋ 'window board, screen'	riveŋ 'shield, lee, wind break, trees in the north of a house or farm as wind break, hiding, covering'	liveŋ 'a hedge, windbreaker for plants'	liveŋ 'covering which serves as a partition or used to give privacy'
	*LikLik	rikrik 'tremble'	riḁḁ riḁḁ 'shake vigorously'		
	*Liŋaw 'bigeye (fish sp.)'	riŋaw	riŋaw, (liŋaw)	liiŋaw	
	*LipLip 'tick'	ririp	ririp	liplip	liplip
	*Lipos 'relative'	ripos	ripos	lipos	kalilipos 'relative' (may)lipos 'be related to each other'
	*Loko 'male pig for breeding'		maroko	maloko, lo:ko	lo:ko
	*Lonat 'relapse (sickness)'	ronat 'ache'	ronat 'reslapsing'		lonat 'relapse (sickness)'
	*Losok 'bottom, tail end'	rosok 'end, tail end'	rosok 'end, bottom, tail, tip'		losok 'bottom'
	*makaLat 'tree sp.'	makarāt 'tree sp. Planchonella duclitan'			makalat 'softwood tree'
	*maLabonot 'barracuda'	maravonot	maravonot	malavonot	
	*maLakay 'fish sp.'	marakay 'type of			malakay 'fish like snake

		swordfish'			mackerel'
	*maLanoso 'plant sp.'	maranoso 'plant sp. Derris oblonga'	maranoso 'vine sp'		
	*mawoL 'stingray'		mawor	maul, (pawol)	
	*moLɲi 'tree sp.'	morɲi 'tree sp. <i>Artocarpus xanthocarpus</i> '			molɲi 'hardwood tree'
	*nabeLa 'soapfish'		navera		navola
	*ɲaLab 'rim, lip, upper edge'	ɲarab	ɲarab		ɲalab
	*oLib 'hide oneself'	orib	orib	olib	olib
	*oLis 'vine sp.'	oris 'plant sp <i>Rourea microphylla</i> '	oris 'vine sp.'		olis 'hard vine sp.'
PAN: *uReɲ	*oLoɲ '(animal) horn'	oroɲ	oroɲ	oloɲ	oloɲ
	*oLoɲan ¹⁷ 'fish sp.'		oroɲan	oloɲan	
	*paLaɲ 'pull'	paraɲ	paraɲ	palaɲ	palaɲ
	*paLek 'wine'		parek 'wine'	palek 'rice wine'	palek 'sugarcane wine'
	*paLoʔpo 'tree sp.'	paropo 'tree sp. <i>Podocarpus costalis</i> '	paro'po 'plant sp. <i>ehretia microphylla Lam. Jasminum</i> '		
PAN *pariuk 'earthenware	*paLiok 'wok'	pariok	pariok	palyok	paliyok

17. This word is likely derived from *oLoɲ 'horn'.

cooking pot' ILK: pariók					
ILK: pirák	*peLak 'silver'	perak	perak	polak	pelak
	*poLodan 'spiny sea snail'		pororan	poloran	
	*poLoh 'rough' (not smooth)	poro	poroh	Iva: polo	
	*poLos 'end of tuber'	poros	poros		
	*sagal 'good luck'	sagar 'good fishing luck'	sagar 'mascot, luck-producing'		
	*sageL 'to mix'	(sagad)	sager	sagel	sagel
	*saLap 'front'	sarap	sarap	salap	salap
	*saLawsaw 'wind'	Ira: sarowsaw Imo: sarawsaw	sarawsaw	salawsaw	salawsaw
	*saLobal 'annoying, naughty'	sarovar 'not serious, naughty'	sarovar 'annoyance, hindrance'		(salobal 'babysit, look after child')
	*saLi 'pass by'	sari	sari	sali	
	*seLgag 'hair standing on end'	sergag	sergag		
	*simLod 'lash, swat'	simrod	simrod		simlod
ILK siplót 'attack'	*sipLot 'hit with club'	siprot	siprot	siplot	
	*siwaL 'get off course'	siwar 'change one's direction'	siwar		siwal
PAN *tebaS 'to cut, clear vegetation'	*tabaL 'to cut'	tavar	tavar	Isa: taval 'cut animals feet'	
	*tagaLit	tagarit	tagarit	ta:tagalit	tagalit

	'kingfisher; fish sp.'	'male of Gomphosus'	'kingfisher' natagarit 'wrasse'	'kingfisher'	'kingfisher' taatagalit 'sp. of blenny'
PAN *tageRaŋ	*tagLaŋ 'ribs'	tagraŋ	tagraŋ	taglaŋ	taglaŋ
ILK: na-lintég 'straight'	*taLineŋ 'straight'	tarineŋ	tarineŋ	talineŋ	talineŋ
	*taLiŋ 'equal in height'	tariŋ	tariŋ	Iva: talin	maŋ-talin 'sit or stand beside someone'
	*taLisiŋ 'shellfish sp.'	tariŋ 'shellfish sp. <i>Lambis lambis</i> '	tariŋ 'hermit crab'		talin 'sea crab'
	*taLokok 'bird sp.'	tarokok 'bird sp.'	tarokok 'bird sp.'		talokok 'bullfinch'
	*taLoʔgaw 'look up'	tarogaw 'look up'	taroʔgaw 'crane neck to get a view'		
	*tapeL 'butterfly fish'	taper	taper	tapel	tappel
	*tawoL 'heart'	tawor	tawor	tawol	tawol
	*toLah 'water pouring down'	tora 'have diarrhea., water running from top'	torah 'waterfall'		(tola 'collect liquid in container')
	*toLas 'to write'	toras	toras	tolas	tolas
	*toLok 'to prick'	torok	torok		tolok