

THE BARITO LINKAGE HYPOTHESIS, WITH A NOTE ON THE POSITION OF BASAP

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Abstract

Barito is a large group of languages located primarily along the Barito river, most of Central Kalimantan, western East Kalimantan, and in the case of Malagasy, the island of Madagascar. Traditionally, these languages have been regarded as a subgroup, with all members descended from what one might call Proto-Barito. It has been noted by several authors, however, that Barito languages are only loosely related, and their relationship to each other and to “Proto-Barito” are not universally agreed upon. This paper attempts to define the Barito subgroup with exclusively shared phonological innovations of high quality, but as will be shown, no such innovations exist. Instead, sound changes found in Barito are spread throughout some but not all Barito languages, and no single sound change of any quality can be cited as linking all Barito languages together. It is argued that this distribution of sound changes supports a linkage model, rather than a subgroup model. Furthermore, linkages are defined as evolving from the differentiation of dialects in a chain or network, not from a discrete proto-language. This is interpreted to mean that there was never a Proto-Barito language from which these languages developed. Finally, after presenting the evidence for the Barito linkage hypothesis, the Basap language of northern East Kalimantan is argued, based on a limited set of lexical innovations, to have been a part of an ancient dialect network which stretched from the Barito river in the south to modern Berau regency, in northern East Kalimantan.

Keywords: Barito, Basap, Linkage, Historical
ISO 639-3 codes: bdb (Glottolog: grea1283)

1 Introduction¹

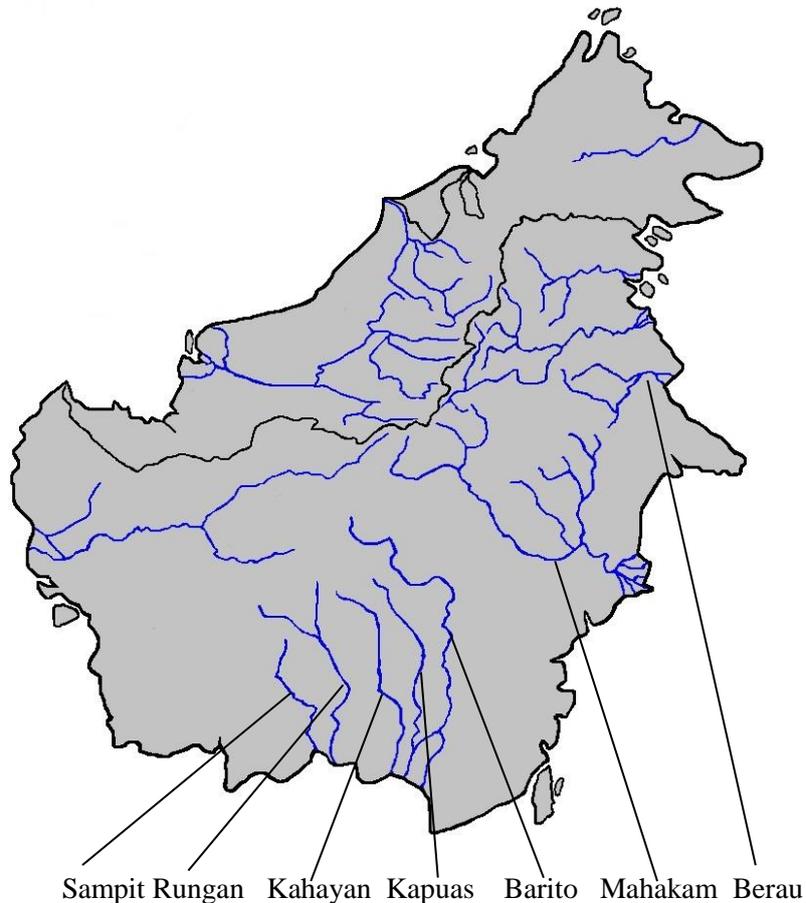
Barito is a large collection of loosely related languages with perhaps the widest geographic distribution of any lower-level Austronesian language group outside of the Pacific. It includes most of the languages of the central and western areas of Central Kalimantan, western East Kalimantan, Malagasy dialects of Madagascar off the coast of south-eastern Africa, and the numerous Sama-Bajaw groups found in small dispersed communities in the Sulu Archipelago in the Philippines, coastal Sulawesi, parts of coastal Borneo, and coastal areas in the Lesser Sunda Islands. In Borneo, the Barito languages dominate the entire stretch of the Barito river, for which they are named, as well as the Kapuas, Kahayan, Rungan, and Sampit rivers to the west. To the east, Barito languages occupy most of the interior lands between the Barito and Mahakam rivers. Tunjung, spoken in communities on the western shores of the middle course of the Mahakam river in East Kalimantan, is the most easterly Barito language of the Bornean interior (excluding coastal Sama-Bajaw groups found further east). A map of Borneo indicating the location of these rivers is provided in Figure 1.

This paper argues that the Barito languages, including Malagasy and Sama-Bajaw, form an innovation-defined linkage, not a subgroup, as defined by Ross (1988:8, 1997). It is argued that conflicting hypotheses on

¹ This paper is based on a talk given to the 27th meeting of the *Southeast Asian Linguistics Association* titled “Barito is a linkage, not a subgroup: new phonological evidence” and in my dissertation (Smith 2017). I want to thank Michael Yoshitaka Erlewine, who suggested I plot sound changes onto a map during the question and answer session, and two anonymous reviewers whose comments improved an earlier draft of this paper, although any errors are my responsibility.

the status of a Barito “family” or “subgroup” found in Hudson (1967, 1978), Durasid (1980/1981), and others need re-evaluation due primarily to the assumed status of Barito as a subgroup without clear historical evidence as support. Furthermore, the paper offers a preliminary hypothesis on the Basap languages of East Kalimantan. Although lexical evidence exists which suggests that Basap belongs to Blust’s (2010) Greater North Borneo subgroup, an equally compelling set of conflicting evidence clearly shows some type of relationship between Basap and Barito. It is argued that the Basap-Barito evidence be given more weight, considering the considerable distance between Basap and Barito, as well as the likelihood that Basap has borrowed heavily from the Greater North Borneo languages by whom it is now surrounded.

Figure 1: *Location of rivers where Barito languages are found*



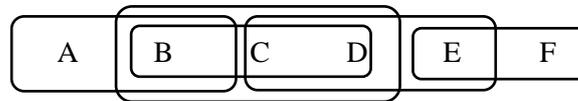
2 Subgroups and Linkages

A subgroup refers to a group of languages of a larger family which are more related to each other than any other language in the family. Subgroups are commonly defined linguistically by exclusively shared phonological innovations. Ideally, the set of innovations (or sound changes) which define a subgroup are of high quality, and can be identified in every member of the proposed subgroup. The members of a subgroup are said to be descended from a single ancestral proto-language and the sound changes which define the subgroup are said to be inherited among the daughter languages from the proto-language. Additionally, because innovations are exclusive, they should not be found in other subgroups, or at the very least, if identical sound changes are found in multiple subgroups it must be shown that they are the result of parallel innovations and not inherited from an even more distant proto-language. Malayo-Polynesian languages, for example, reflect sound changes which took place in Proto-Malayo-Polynesian, including the merger of PAN *C with *t and *N with *n (Dahl 1973, Mills 1975), the shift of *S to *h, the change of PAN *-mu ‘second person plural genitive’ to PMP *-mu ‘second person singular genitive’ (Blust 1977), and several other minor innovations. Such a set of exclusively shared innovations strongly support the hypothesis that Malayo-Polynesian languages are

descended from a single proto-language. It is expected that if Barito languages are also descended from a single proto-language, that we should be able to produce a similar list of shared innovations.

A linkage, on the other hand, refers to a group of languages which appear to be more closely related to each other than to any other language, but which cannot be grouped together by exclusively shared phonological innovations. Rather, a linkage is defined by a set of innovations which are present in many but not all languages, with no non-arbitrary point where one language separated from another. Ross (1988:8), in his landmark publication on Western Oceanic languages, was the first to explicitly define what he termed an “innovation-defined linkage”. In addition to a lack of unifying phonological innovations, linkages are assumed to have formed through the slow differentiation of dialects in a wider network or chain, not from the sharp separation of one group from the larger community, as is assumed with the subgroup model². Thus, linkages are not necessarily descended from a discrete proto-language. The distribution of sound changes in a linkage is visualized in Figure 2 (see François 2014 for additional visualizations of sound change distribution in linkages, particularly the glottometric diagram, which the simplified model below resembles), with all member languages united by sound changes that do not occur in every member, and with no internal separation.

Figure 2: *Visualization of the distribution of sound changes in a linkage*



The assumptions made under the family tree model have been criticized by some as unrealistic, with scholars pointing out that clearly defined splits rarely occur, and others going as far as to claim that linkages, and the dispersal of sound changes in a wave model (Schmidt 1872) are the most common means by which languages diversify (François 2014). Some have attempted to add to the family tree model, by using dotted lines, horizontal similarities, and contact induced change in addition to what is traditionally called “genetic” similarities (Fox 1995:124, Dixon 1997, and Bossong 2009, for example, criticize the tree model’s inability to incorporate contact, while Jackson 1983, 1986 provides examples of using dotted lines to indicate contact in Micronesia). While works like François are welcome, as they attempt to capture an aspect of genetic diversification not easily represented in the tree model, attempts at expanding the family tree model through incorporating contact-induced changes are rejected, as they fundamentally misunderstand what the family tree model is and is not meant to represent. Tree models specifically exclude contact, borrowing, sprachbund and other non-genetic effects, precisely because the family tree is only meant to be a visualization of genetic relation between languages, and nothing else.

3 Barito Languages

Barito languages have been the subject of numerous studies, with a significant number of publications focusing on Malagasy. The amount of published material dealing with Malagasy is, when compared to other Barito languages, huge. No other language in this group has received the same kind of attention as Malagasy, with dictionaries, descriptions, theoretical accounts, sociolinguistic analysis, surveys, dialectology, pedagogies, and historical linguistic accounts readily available. The link between Malagasy and Austronesian languages (specifically Malay) was published by western scholars as early as the 17th century (de Houtman 1603, Arthus 1613), although its precise placement within Austronesian remained unknown. Centuries later, Dahl (1951) put the question of Malagasy’s ultimate origin to rest when he placed it along Maanyan in the Barito group. Since then numerous articles have been published dealing specifically with Malagasy’s origins, linguistic contact, and migration to Madagascar (Dahl 1983, 1991, Adelaar 1989, 1995a, 1996, 2009, 2010, 2012). As a

² It was suggested that there are multiple “proto-scenarios” which may explain the emergence of linkages. Convergence through long-term language contact was posited by one reviewer, who asked why East and West Barito may not be “two separate but closely related languages which became part of a Sprachbund and a dialect chain as a result of long term language convergence.” Briefly, each Barito language has undergone regular sound changes, with native vocabulary showing clear reflexes of PMP phonemes. While Ngaju Dayak does have a Banjarese Malay substratum, “convergence” (where two or more languages come to resemble one another by contact, not inheritance) does not create regular sound correspondences like the type found in Barito. The complete regularity of sound correspondences would pose a problem if contact induced convergence were used to try and explain the observed similarities.

result of these efforts, there can be little doubt that Malagasy originated from the Barito river area and is most closely related to languages in what Hudson (1967) named the Southeast Barito subgroup.³

The Barito languages of Borneo have had less scholarly attention but are by no means understudied. Ngaju Dayak has perhaps the most robust descriptions available, thanks in no small part to the early works of Hardeland (1858, 1859) and numerous more recent studies (Bingan and Ibrahim, 1997, Dyen 1956, Iper et al., 1997, 1998, 1999, Kawi and Djantera 1985, Mihing and Stokhof 1977, Rus et al. 1987, Santoso et al. 1991, Schäerer, 1987, Usop, 1976, 1977). Other Barito languages have been the subject of multiple studies. A portion of these are listed here: Siang (Admojo 1999, Santoso et al. 1990), Sampit (Admojo et al. 2001), Maanyan (Gudai 1985, 1986, Gudai et al. 1994, Kawiet al. 1984, Sundermann 1913), Pasir (Gudai et al. 1979, Ibrahim 1997), Bakumpai (Ibrahim et al. 1979, 1991, 1995, Kawi 1985), Kadorih (Ot Danum) (Inagaki 2005, 2006a, b, 2007a, b, 2008, 2010, 2011a, b, c, 2013, Santoso et al. 1984-1985, Taib et al. 1990), Dusun Deyah (Kawiet al. 1983), Tawoyan (Ngabut et al. 1989, 1992). Numerous additional sources can be located in Blust and Smith (2014).

Smaller wordlists are readily available for other Barito languages, but unless otherwise noted, data for the Barito languages of Borneo are from Smith (2017). Modern work on the classification of Barito languages began with Hudson (1967) whose classification is repeated to this day. In that work, his basic subgrouping is laid out, which argues for three major Barito subgroups based on a combination of the comparative method and lexicostatistics. The proposal is found on page 14, and is reprinted in Figure 4, but first, Barito's position in the larger Malayo-Polynesian subgroup is shown. For Western Indonesian see Blust (2010) and Smith (2017a, b). For Central-Eastern Malayo-Polynesian see Blust (1983-84, 1993). Italics indicate multiple primary branches.

Figure 3: *Malayo-Polynesian higher order subgrouping*

MALAYO-POLYNESIAN

1. Western Indonesian
 - i. Greater North Borneo
 - ii. Barito**
 - iii. *Languages of Java, Madura, Bali, Lombok, western Sumbawa*
2. *Multiple primary branches of Malayo-Polynesian*
3. Central-Eastern Malayo-Polynesian

Figure 4: *Internal subgrouping of Barito after Hudson (1967)*

BARITO

1. Barito-Mahakam (Tunjung)
2. West Barito
 - i. Southwest Barito (Ngaju, Kapuas, Bakumpai)
 - ii. Northwest Barito (Kadorih, Siang, Murung)
3. East Barito
 - i. Southeast Barito (Maanyan, Malagasy, Dusun Witu)
 - ii. Central-East Barito (Dusun Malang, Dusun Bayang)
 - iii. Northeast Barito (Taboyan, Lawangan, Paser, Bentian, Benuaq)

It is important to note that while Hudson (1967) specifically claimed that these three subgroups belong to a Barito “family”, his later, more comprehensive work on the subgrouping of all languages of Borneo (Hudson 1978) did not make such a claim. That later publication (as noted in Adelaar 1995b:83) separated primary divisions into separate sections, and the Barito languages are not listed together in this regard, but neither is there any explicit statement that Hudson no longer considered Barito a valid subgroup at the time of publication. Hudson (1978) thus appears to implicitly contradict his earlier work.

Blust (2007) argued on lexical grounds that the Sama-Bajaw languages must be included in a larger “Greater Barito” subgroup. Sama-Bajaw are a widely dispersed group, with languages spoken in the Sulu

³ There is a significant amount of modern syntactic analysis published on Malagasy, which is too numerous to include here. It should also be noted that Malagasy syntax has benefited greatly from the input of native Malagasy scholars, and a larger list of syntactic publications can be found in Blust and Smith (2014).

Archipelago area of the Philippines, in small coastal settlements in northern and eastern Borneo, around the coast of Sulawesi, and scattered throughout the Lesser Sunda Islands. They are sometimes called sea-nomads, but most Sama-Bajaw today live in permanent villages built over the water, but only just off-shore (Grangé 2017). For this paper, Yakan is used as a representative of Sama-Bajaw, with data from Behrens (2002). More on Yakan is available in Brainard and Behrens (2002) and Behrens (2007). The *Ethnologue* (Simons and Fennig 2017) incorporates Blust's and Hudson's proposals into their Greater Barito classification, with a fourth node for Sama-Bajaw, equidistant from West Barito, East Barito, and Barito-Mahakam.

In addition to these works which argue explicitly or implicitly for a Barito subgroup, Durasid (1980/1981) has attempted to reconstruct the phonology of Proto-Barito. However, the linkage model (which was not available when Durasid reconstructed Proto-Barito) does not imply the presence of a proto-language for which a phonology may be reconstructed. If the linkage model is accepted as an accurate description of the inter-relatedness of Barito languages, earlier reconstructions will need to be re-evaluated.

4 The Phonological Evidence for a Barito Subgroup and Subgroups within Barito

While Hudson (1967) was important for its broad scope, its major flaw lies in its core assumption of a Barito "family", despite the absence of a linguistic argument for the existence of such a family. The manuscript, rather, jumps straight in to the task of delineating internal subgroup boundaries and leaves the question of Barito's validity unaddressed. To put to rest the issue of the validity of the Barito subgroup, one must first organize relevant sound changes and attempt to identify shared innovations. As previously mentioned, a robust set of quality sound changes is necessary to confidently defend the Barito subgroup. Smith (2017) organized Barito reflexes of PMP phonemes, which are reprinted in Tables 1 and 2.⁴ As the tables make clear, there are indeed a handful of sound changes from PMP which are found throughout Barito languages, but it is argued here that these changes are too common, and thus of too low quality, to be considered as subgrouping evidence.

⁴ Kad = Kadorih (Northwest Barito), Ngj = Ngaju Dayak (Southwest Barito), Kap = Kapuas (Southwest Barito), Yak = Yakan (Sama-Bajaw), Maan = Maanyan (Southeast Barito), DusW Dusun Witu (Southeast Barito), DusB = Dusun Bayang (Central-East Barito), Tab = Taboyan (Northeast Barito), Ben = Benuaq (Northeast Barito), Tun = Tunjung (Barito-Mahakam). Concerning the phonetic value of symbols, modern languages use the IPA, but all reconstructions use the PMP orthography, which differs from the IPA in the following symbols: *j = [gʲ], *z = [dʒ], *R = [r], *y = [j].

Table 1: Reflexes of PMP consonants in Barito languages

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

Table 2: Reflexes of PMP vowels in Barito languages

PMP	Kad	Ngj	Kap	Yak	Maan	Dus W	Dus B	Tab	Ben	Tun
*-a	o?; e?; a?	e?	e?	e	e	e	e	ə?	a?	a?
*-aC	a; o	a	a	a	a	a	a	a	a	a
*-aCVC	a; o	a	a	a	a	a	a	a	a	a
*-u	u?	u?	u?	u	u	u	u	u?	u?	u?
*-uC	u	u	u	u; o	u	u	u	u	u	u; o
*-uCVC	u	u	u	u; o	u	u	u	u	u	u; o
*-i	i?	i?	i?	i	i	i	i	i?	i?	i?
*-iC	i	i	i	i; e	i	i	i	i	i	i
*-iCVC	i	i	i	i; e	i	i	i	i	i	i; e
*-əC	o	e	e	e	e	e; (o)	e; (o)	ə	ə; a	a
*-əCVC	o	e	e	e	e; i	e; i; (o)	e; i; (o)	o	o	ə; a
*-ay	oj	ej	ej	ej	ej	ej	ej	e	e	ay
*-aw	ow	aw	aw	ew	aw	aw	aw	o	o	aw

***q > Ø word initially**

The loss of PMP *q in initial position is nearly universal in Borneo and is one of the most common sound changes in Malayo-Polynesian. It thus has no bearing on the status of Barito as a subgroup.

***d (and *j) > r word internally**

This is another quite common sound change, and occurred in Borneo in the following languages and language groups outside of Barito: Kayanic, Balingian Melanau, Kajang, Punan, Müller-Schwaner, Lowland Kenyah, Bintulu, Berawan, Dusunic, Bulusu, and Idaanic. We thus cannot rule out convergence, or parallel independent innovation, as an explanation for *d(*j) > r in Barito.

***-a > *-ə**

This change is observable through identical reflexes of schwa in non-final position with reflexes of *a in final position. Schwa did not occur in final position in PMP, so this innovation expanded the environment where schwa could be found, and simultaneously eliminated *a from final position (although word final *a* was reintroduced through various subsequent sound changes). Again, it is the fact that this change is found in so many languages outside of Barito that makes it inadmissible as quality subgrouping evidence. It is found in at least Müller-Schwaner, Punan, Lebo' Vo' Kenyah, Western Penan⁵, some Malayic languages, and several languages of Sabah.

Barito, then, cannot be defined as a subgroup by exclusively shared phonological innovations, the strongest form of subgrouping evidence available. The only three innovations which appear in all Barito languages can be easily explained as convergent, given their commonality. What's more, the three major internal divisions proposed by Hudson (1967, 1978) are also only weakly supported. As the following sections show, West and East Barito cannot be justified as large internal subgroups on phonological grounds.

4.1 Evidence for Hudson's internal divisions

4.1.1 West Barito

West Barito includes the many dialects typically referred to as Ngaju (including Kapuas and Bakumpai), as well as Kadorih (or Ot Danum) in the upriver areas, Siang, and Murung. According to the data, only one sound change, *R > *h, is attested in all languages in this proposed subgroup (but it is also found in Tunjung and numerous other non-Barito languages in Borneo, including Lowland Kenyah, Penan, Highland Kenyah, Kayan, Tanjong, Siang, Sama-Bajaw, and various Dusunic languages.). Other sound changes like *-b > *-p, deletion of intervocalic glottal stop, and closing of final vowels with glottal stop are also found in several other Barito subgroups. Thus, there are no quality sound changes which define this subgroup, and it seems necessary to reject West Barito. One may argue that West Barito languages are so homogenous, that even without quality sound changes it is still best to group them together in a single subgroup. Similar arguments have been made for Eastern and Western Penan (Smith 2015), and are in fact applicable to Southwest Barito (Ngaju, Bakumpai, Kapuas, and so forth, which all appear to be mutually intelligible). It is not, however, applicable to the Northwest Barito group, which is drastically different from Southwest in both its phonology and lexicon.

4.1.2 East Barito

The East Barito languages include Maanyan, all languages of the Barito river area whose speakers refer to themselves as "Dusun", the Barito languages of East Kalimantan which includes Taboyan, Lawangan, Bentian, Pasir, Benuaq, and Malagasy (on the island of Madagascar), but excludes Tunjung. Two sound changes define this subgroup, *z > *d and *-R > *-y. In the Northeast group, *R has become y intervocalically as well, but this change is not shared by other East Barito languages. In Maanyan and Dusun there is a split in reflexes where *-R- became either *-h- or *-y-. None of these sound changes provide particularly strong subgrouping evidence, but it is important to note that Central-East and Southeast Barito share the change *-b- > *-w-, which

⁵ Note that Lebo' Vo' and Western Penan are closely related, but the sound change *-a > *-ə occurred independently. Lebo' Vo' raised inherited *-a but not derived *-a, as in PMP *dua 'two' > *lui* but *salaR 'nest; den' > *sala*, while Western Penan closed final *-a with *h, and only raised derived *-a as in *dua > *duah* but *salaR > *sala*.

is found in no other Barito language, and may provide evidence that at least these two groups are more closely related to each other than to other Barito languages.

4.1.3 Barito-Mahakam

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

Figure 5: *Phonological evidence for Hudson's three Barito subgroups*

West Barito:	No strong phonological evidence, but *R > *h is attested.
East Barito:	*z > *d and *-R > *-y
Barito-Mahakam:	*-y- > *-j-, *-w- > *-g-, and *-əC > *-aC

Essentially, there is a lack of solid phonological evidence for either Barito as a whole or for the separation of Barito languages into three primary divisions. The next step, after failing to find support for Barito, is to re-evaluate the data in an effort to identify important sound changes which Hudson might have overlooked. If important sound changes can be found, they will shed more light on the internal divisions of Barito. The following section highlights several such sound changes, and makes note of their distribution throughout Barito, and how this compares to Hudson's proposed three-way split model of Barito internal subgrouping.

4.2 evidence for a linkage model

Several apparently high-quality sound changes which are found in some but not all Barito languages were not discussed by Hudson (1967, 1978) nor were they discussed as subgrouping evidence in subsequent publications (Durasid 1980/1981, Blust 2007) which dealt with Barito reconstruction and subgrouping. In the sections below, specific sound changes are defined, and their distribution throughout Barito is noted. It is concluded that these sound changes support the Barito linkage hypothesis because of their distribution.

4.2.1 Reflexes of *-b

Barito languages reflect *-b as either -p or -w. Neither the languages which reflect *-b with -p nor those which reflect *-b as -w conform to Hudson's three major Barito subgroups. *-b became -p in Kadorih, Ngaju, Kapuas, Maanyan, and Dusun Witu, but -w in Dusun Bayang, Taboyan, Benuaq, and Tunjung, as shown in the following examples.

*kələb 'turtle'

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

*ələb 'knee'

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

***huab ‘yawn’**

Kadorih	<i>ɲuap</i>
Kapuas	<i>ɲuap</i>
Taboyan	<i>ɲoaw</i>
Benuaq	<i>moaw</i>
Tunjung	<i>moaw</i>

Table 3 compares the distribution of *p* and *w* reflexes of PMP *-b in Barito. Note the lack of conformity between Hudson’s main Barito subgroups (plus Sama-Bajaw) and the distribution of reflexes.

Table 3: *Distribution of reflexes of *-b in Barito languages*

	West Barito			S-B	East Barito					B-M
	Kad	Ngj	Kap	Yak	Maan	DusW	DusB	Tab	Ben	Tun
*-b	p	p	p	p	p	p	w	w	w	w

4.2.2 Reflexes of *-l

Word-final *-l is reflected with *-l*, *-r*, and *-n* in modern Barito languages. Ngaju and Kapuas reflect *-l with *l*, a retention with no subgrouping value. In many languages of Borneo, *-l became *-n*, as in several Kayan dialects, Ngorek and Merap, Modang and Long Gelat, Kajang, some Melanau languages, Kenyah, and several others. In Barito, Maanyan, Dusun Witu, Dusun Bayang, Malagasy, and Kadorih reflect *-l with *-n*. Because this is a common sound change, it is not considered as subgrouping evidence here. Less common, however, are languages where *-l > *-r*. No other languages in Borneo that I know of show this change, but it is found in two separate but geographically contiguous groups of Barito languages, Northeast Barito (Taboyan and Benuaq plus Lawangan, Bentian, and Paser) and Barito-Mahakam (Tunjung).

***gatəl ‘itchy’**

Kadorih	<i>ka^htin</i>
Ngaju	<i>gatel</i>
Kapuas	<i>bəgatel</i>
Maanyan	<i>məkaten</i>
Malagasy	<i>hatina</i>
Tunjung	<i>katar</i>

***kapal ‘thick’**

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

Table 4 compares the distribution of *l*, *n*, and *r* reflexes of *-l in Barito languages with the traditional subgrouping boundaries. Again, there is a mismatch.

Table 4: *Distribution of reflexes of *-l in Barito languages*

	West Barito			S-B	East Barito					B-M
	Kad	Ngj	Kap	Yak	Maan	DusW	DusB	Tab	Ben	Tun
*-l	n	l	l	l	n	n	n	r	r	r

4.2.3 Reflexes of *-d-

All Barito languages weakened *-d-. There is a clear phonetic motivation for this, as it is essentially an assimilative change which allows for continuous airflow between vowels. In word-initial position, however,

this phonetic motivation for *d > *r is lost, yet Maanyan, Dusun Witu, Dusun Bayang, Malagasy, and Tunjung extended *d > r to initial *d-.

***dua ‘two’**

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

***daRaq ‘blood’**

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

Table 5 compares the distribution of *d* and *r* reflexes of *d- in Barito languages with the traditional subgrouping boundaries.

Table 5: *Distribution of reflexes of *d- in Barito languages*

	West Barito			S-B	East Barito				B-M	
	Kad	Ngj	Kap	Yak	Maan	DusW	DusB	Tab	Ben	Tun
*d-	d	d	d	d; l	r	r	r	d	d	r

4.2.4 *Reflexes of *-d*

Word-final *d either devoiced and became *-t* or it is reflected with *-r*. Ngaju, Kapuas, Taboyan, Benuaq, and Tunjung reflect *d with *-r* while all other Barito languages have *-t*. Note that in the following examples, PMP *j had already merged with *d. This merger probably occurred in a common ancestor to all languages of Borneo, as the *d/*j distinction is preserved in no Western Indonesian language on Borneo. Malagasy *-tra* is from earlier **-t* with a later support vowel.

***quləj ‘maggot; worm’**

Kadorih	<i>urot</i>
Maanyan	<i>ulet</i>
Malagasy	<i>olitra</i>
Dusun Witu	<i>ulet</i>
Dusun Bayang	<i>ulet</i>
Paser	<i>ulor</i>

***pusəj ‘navel’**

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

***luluj ‘shin’**

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

The Ngaju and Kapuas data are contradictory, as both reflect *-d with *t* and with *r*. Some examples are Ngaju *ulet* ‘worm’ from *quləj, Ngaju *likut* ‘back’ but Kapuas *likur* from *likud, and Ngaju and Kapuas *laut* ‘the ocean’ apparently from *lahud ‘towards the sea’. It has been noted (Dyen 1956) that Ngaju and dialects thereof have been under particularly heavy Banjarese Malay influence, with two sets of reflexes for many phonemes, one native, one Malay. Where *-d is reflected with *-t*, one must assume that the words were borrowed from a Malay source, as all dialects of Malay devoiced word final stops. The distribution of reflexes of *-d are plotted on table 6.

Table 6: Distribution of reflexes of *-d in Barito languages

	West Barito			S-B	East Barito					B-M
	Kad	Ngj	Kap	Yak	Maan	DusW	DusB	Tab	Ben	Tun
*-d	t	r	r	t	t	t	t	r	r	r

4.2.5 Reflexes of *ə

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

***dua ‘two’**

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

***kaRəm ‘capsize’**

Kadorih	<i>kahom</i>
Taboyan	<i>kajəm</i>
Paser	<i>kajom</i>
Ngaju	<i>kahem</i>
Kapuas	<i>kahem</i>
Maanyan	<i>kajem</i>
Dusun Witu	<i>kajem</i>
Dusun Bayang	<i>kajem</i>

***pusəj ‘navel’**

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

Table 4 compares the distribution of *o*, *ə*, *e* and *a* reflexes of *ə in Barito languages with the traditional subgrouping boundaries.

Table 7: *Distribution of reflexes of *ə in Barito languages*

	West Barito			S-B	East Barito				B-M	
	Kad	Ngj	Kap	Yak	Maan	Dus W	Dus B	Tab	Ben	Tun
*-a	oʔ; eʔ; aʔ	eʔ	eʔ	e	e	e	e	əʔ	aʔ	aʔ
*-əC	o	e	e	e	e	e; (o)	e; (o)	ə	ə; a	a
*-əCVC	o	e	e	e	e; i	e; i; (o)	e; i; (o)	o	o	ə; a

4.2.6 The distribution of relevant sound changes

From the data presented above, the most relevant sound changes (those of the highest quality) found in various Barito languages are as follows.

*ə	>	<i>e</i>
*-b	>	<i>w</i>
*-d	>	<i>r</i>
*-l	>	<i>r</i>
*d-	>	<i>r</i>
*b-	>	<i>w</i>

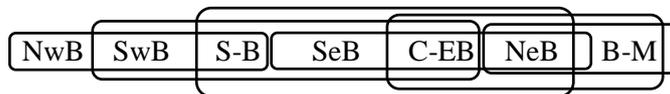
These sound changes have been arranged in Table 8 to highlight their distribution throughout Barito. Also included in this table are the changes *R > *h*, *z > *d*, and *-R > *j*, which were identified as relevant in Hudson (1967). As the table makes clear, these sound changes appear spread throughout Barito, but no single sound change is found in all Barito languages and there is no nonarbitrary way to separate the subgroups because of the “step-ladder” distribution of the sound changes.

Table 8: Step-ladder distribution of sound changes in Barito

	NWB	SwB	Yakan	SEB	C-EB	NEB	Tunjung
*R > h	+	+	+				+
*ə > e		+	+	+	+		
*z > *d > (r)			+	+	+	+	
*-R > j				+	+	+	
*-b > w					+	+	+
*-d > r		+				+	+
*-l > r						+	+
*d- > r				+	+		+
*b- > w				+	+		

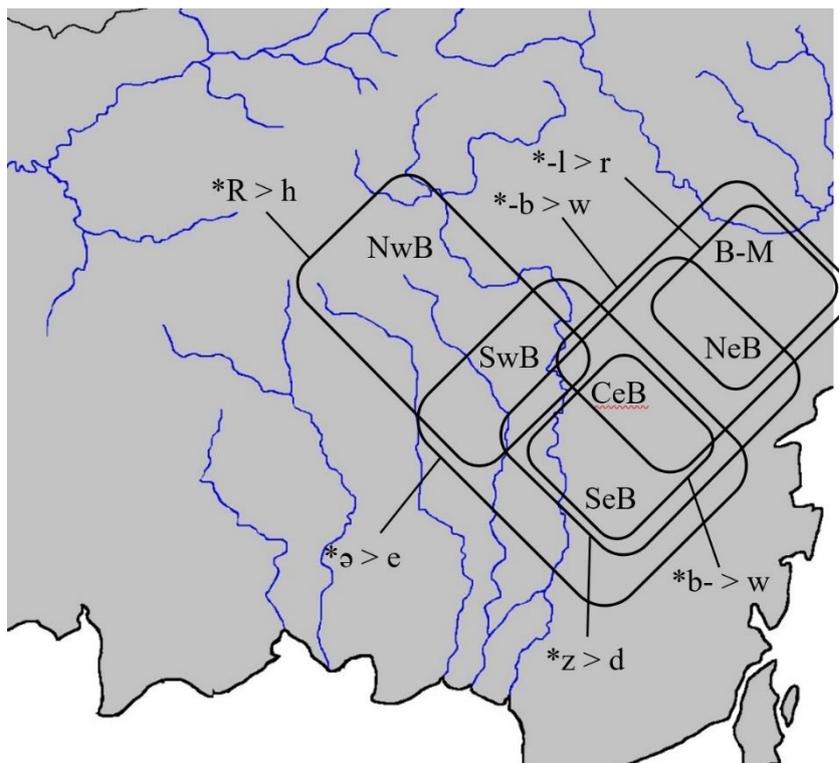
A general schematic on how sound changes are spread through linkages in a chain was presented in Figure 2. When we arrange the distribution of sound changes shown above in the same manner in Figure 5, there is a striking resemblance.

Figure 5: Linkage schematic of sound changes in Barito



Furthermore, the distribution of these sound changes follows the geographic distribution of Barito languages, apart from Sama-Bajaw which is spoken outside of the Barito area (and Malagasy, but because Malagasy is most closely related to Southeast Barito languages, we can place Malagasy in the same area as SEB, historically). Figure 6 outlines where sound changes are found on a map of southern Borneo, noting the approximate locations of major subgroups. Note that the subgroup locations are not meant to represent the locations of specific languages, nor are they meant to be specific. They are approximations for the task of placing sound changes in geographical context.

Figure 6: Geographic distribution of Barito languages and sound changes



Since the geographic distribution of Barito languages aligns with the geographic distribution of sound changes in the Barito linkage, it is also possible to propose a more accurate placement of the Sama-Bajaw homeland. Using Yakan as a point of reference, Sama-Bajaw shares the sound change $*\text{ə} > e$ with Southwest Barito, Central-East Barito, and Southeast Barito. It shares the change $*z > d$ with Southeast Barito, Central-East Barito, and Northeast Barito. It also shares the sound change $*R > h$ with Southwest and Northwest Barito, although this sound change is of only low quality. Nevertheless, Sama-Bajaw's placement between Southwest and Southeast Barito suggests that the homeland of the Sama-Bajaw was in fact along the shores of the Barito river, closer to the sea than to the interior, in an area that was adjacent to Southeast Barito, the subgroup to which Malagasy belongs. This only lends more support to the hypothesis that the Sama-Bajaw were encouraged to take to the seas by the same forces which eventually brought the Malagasy to Madagascar.

5 The Position of Basap

So far, this paper has dealt with languages which, despite disagreements in the details are widely considered to be more closely related to each other than to any other Austronesian language. In general, the linguistic positions of most languages of Borneo are well understood. A major exception, however, are the so-called Basap languages (referred to as Lebo' by some speakers) of East Kalimantan. This group of isolects remains the least understood of any group in Borneo, and their wider linguistic position has remained essentially unknown, despite a handful of attempts at classification. In this section I present linguistic evidence, in the form of exclusively shared lexical replacement innovations, which suggests at the very least a history of contact between Barito and Basap, but which may even indicate a distant genetic relationship. This data was first organized in Smith (2017), but it is re-examined here to make this discussion of the Barito linkage more complete. The data presented below will surely be met with some scepticism, but it is necessary to present as much of the relevant material as possible, since Basap remains so poorly understood.

5.1 Basap and the history of the Mahakam river area

Throughout Borneo, major subgroups have developed along major river systems; the North Sarawak subgroup developed along the Baram river, Central Sarawak (including Melanau, Punan, Kajang, and Müller-Schwaner, Smith 2017) developed along the Rejang river, the Malayic group developed along the Kapuas river, the Kayanic languages developed in the far reaches of the Kayan river and its major tributaries which originate in the Apo Kayan highlands, and the Barito languages originate from the large Barito river basin. Two major rivers, however, do not appear to be the homeland of any major subgroup. One, the Kinabatangan river of Sabah, was likely the victim of a levelling event which occurred with the expansion of Southwest Sabah (Blust 1998, 2010). The other, the Mahakam river of East Kalimantan, lacks any large subgroup whose homeland cannot be traced elsewhere. Language groups which are found along the Mahakam river and its major tributaries are listed in Table 9, with their homelands noted after (from Smith 2017).

Table 9: *Language groups along the Mahakam river*

Kayan	Originate from the Apo Kayan area which is the source of the Kayan river and its tributaries.
Kenyah	A small group of Kenyah can be found in various parts of the Mahakam. Kenyah speakers migrated from the Apo Kayan, but ultimately come from the Baram river in Sarawak.
Müller-Schwaner	Müller Schwaner languages seem to have developed in the highland areas between the source of the Mahakam and Kapuas rivers, although their ultimate homeland, along with other Central Sarawak languages, is the Rejang river of Sarawak.
Punan	The Punan are found in small numbers near the Mahakam river and its north-eastern tributaries. They originate from the Baleh river area of Sarawak.

Because the groups listed in Table 9 originate from elsewhere, it is likely that their movement into the Mahakam displaced speakers of some other language who must have previously inhabited this area. Note that Tunjung, which is part of the Barito linkage, does have a small presence on the western shores of the middle Mahakam. With the current distribution in mind, the presence of Basap in Berau, on the north-eastern edge of

territory today occupied by Kayanic languages, is conspicuous. If the Basap at one point occupied a wider area to the south, then the expansion of Kayanic languages into the Mahakam and Berau areas is likely responsible for their current contracted distribution and small numbers. To test this hypothesis, it is necessary to determine the linguistic position of Basap.

5.2 Works which deal with Basap subgrouping.

At least two widely available publications address the subgrouping of Basap; Hudson (1978) and Guerreiro (2015). Smith (2017) offers the most recent attempt, and this discussion is based on this slightly earlier work. Before getting into the present hypothesis of Basap, however, I will first discuss the two earlier works, and show how they fall short in two respects 1) they fail to recognize that Sajau and Latti, groups often associated with the Basap, speak a Punan dialect and thus cannot be used in arguments regarding the history of Basap, and 2) the evidence put forward in those publications deviates from what is typically deemed methodologically sound in comparative linguistics.

5.2.1 Sajau and Latti

Both Hudson and Guerreiro include Sajau in their discussions of Basap subgrouping. Guerreiro includes an additional group, Latti, which appears to be a mutually intelligible dialect of Sajau. Hudson (1978) used lexical data from Sajau to place Basap in his Rejang-Sajau subgroup, while Guerreiro lists Latti data as evidence for a northern and southern split in Basap. To his credit, Guerreiro saw the differences in Sajau and Latti from the rest of Basap and proposed a primary split between the two, but he failed to see that Sajau and Latti share unmistakable characteristics with Punan, and instead claimed that Sajau, Latti, and the more southern Lebo dialects shared an immediate common ancestor. Tables 10 and 11 show the Sajau and Latti lexemes which appear in Hudson and Guerreiro, and demonstrates how these words are better interpreted as evidence for including Sajau and Latti in the Punan subgroup. The tables should be read as follows: English glosses are given with Basap words immediately to the right (Lebo' Basap is used to represent Basap as a whole). Sajau and Latti words for the same gloss are given next to the Basap examples, followed again by Punan words from Smith (2017). The tables show that Sajau, Latti, and Punan appear to form a group, and that this group has different, innovated words for each gloss than Lebo' Basap.

Table 10: *Sajau lexemes mistakenly used to argue for Basap inclusion in Hudson's Rejang-Sajau subgroup*

English	Lebo' Basap	Sajau/Latti	Punan
'bird'	pəmpulu	jani	jani (Bah and Tubuh Punan)
'snake'	təduŋ (PMP *təduŋ)	asaj	esaj (Bah), asaj (Beketan, Lisum)

Table 11: *Sajau lexemes mistakenly used by Guerreiro for Basap internal subgrouping.*

English	Lebo' Basap	Sajau/Latti	Punan
'head hair'	bulu (PMP *bulu 'body hair')	ihuk	ifuk (Tubuh), ivuqʔ (Bah), ivuk (Lisum, Aput, Ukit, Buket)
'ear'	teləŋ/tulək	tuniŋ	tuniŋ (Tubuh), tuniŋɣ (Bah)
'die'	mate (PMP *matay)	makaho	kəfoh (Tubuh), makovo (Bah), kavo (Beketan, Aput), kavə (Lisum, Ukit, Buket)

From this short list alone, it is clear that Sajau and Latti are Punan dialects and are not part of Basap. Most telling is the innovated support vowel on reflexes of PMP *buhək, reflected in modern Punan dialects as *ivuk* (or some variation, with regular sound correspondences). In fact, innovated high-front support vowels are found *only* in Punan and Müller-Schwaner languages, which forms part of the argument for a wider Punan-Müller-Schwaner subgroup in Smith (2017). Sajau and Latti *makaho* is a clear reflex of Central Sarawak *kəbəs (Smith 2017), while *asaj*, *tuniŋ*, and *janaj* are found only in Punan languages, with *janaj* and *tuniŋ* further restricted to Punan Bah and Punan Tubuh. Because of this, Sajau and Latti should be placed in the Tubuh-Bah subgroup of Punan, at least preliminarily, after Smith (2017). Critically, none of these lexemes are located in Basap, which in many cases retains PMP words where Sajau and Latti have innovations. Any

evidence presented which attempts to link Basap to another group based on Sajau or Latti data is thus rejected. In doing so, the majority of Hudson and Guerreiro's arguments fail.

Guerreiro further attempts to link the Basap languages to Melanau, spoken on the opposite side of the island, by providing a list of lexical "affiliations" (Guerreiro 2015:157). That list is reprinted in Table 12.

Table 12: *Apparent lexical affiliations between Basap and Mukah from Guerreiro (2015)*

English	Mukah Melanau	Lebo' Basap
house	ləboʔ	ləbboʔ
good	diaʔ	pia
medicine	ubat	wat
return	puleʔ	pule
sick	pədəh	pədəs
true	tuʔu	tuʔu (really; very)
name	ŋadan	ŋadan
mother	ina-k/tina	inaʔ, sinaʔ
that	jən	ijon 'there'
ancestor	tipow (also 'grandparent')	dipuj 'grandparent'
parents	tina-tama	sinaʔ-tamaʔ
below	dibak	diwah, dibɛ 'do down'
go upriver	juʔai	juʔaj 'go'

An important shortcoming in this list of supposed lexical affiliations between Mukah and Basap are the large number of retentions from PMP or PAN. The most important rule when proposing subgroups is that retentions cannot be used as evidence, yet the above table contains reflexes of PMP *ləbuq 'village, house', *ma-pia 'goodness', *diqɑq 'good', *uliq 'return home', *hapəjiq 'smarting pain', *tuqu 'true; real; truly; really', *ŋajan 'name', *ina-q 'mother (vocative)', and *tina-tama 'parents'. Shared retentions between these languages only demonstrate that they are indeed Austronesian. The retentions do not provide evidence of an immediate common ancestor. Further, Mukah *jən* and Lebo *ijon*, Mukah *tipow* and Lebo *dipuj*, and Mukah *dibak* and Lebo *diwah* do not display regular sound correspondences and must be considered chance resemblances. Mukah *ubat*, as Guerreiro himself admits, is a Malay borrowing and thus also has no subgrouping value. These proposals, which claim that Basap subgroups with languages in Sarawak, are thus methodologically flawed, and a fresh attempt to determine Basap's wider position is needed.

5.3 *The Linguistic Position of Basap*

There are two sets of inherently contradictory evidence suggesting that Basap is either 1) a member of the Greater North Borneo (GNB) subgroup with an indeterminate relationship to other GNB languages or 2) Basap is more closely related to Barito languages than to other languages of Borneo. Because it is assumed that GNB⁶ and Barito form two separate branches of Western-Indonesian (Blust 2010, Smith 2017), these data sets are incompatible. Both are presented below. First, the apparent lexical replacement innovations which support placing Basap in GNB are presented, followed by a contradictory list of innovations that support placing Basap in Barito. Later, there is an extended discussion on the significance of each set, and how the geographical position of Basap must be taken into consideration when weighing the evidence. Once geographical evidence is taken into consideration, it becomes clear that the Basap-Barito evidence is most significant, as there is considerable distance between Basap and Barito communities, and no known history of contact which might explain their linguistic similarities.

5.3.1 *Basap and Greater North Borneo*

There is lexical evidence placing Basap in at least Greater North Borneo. In all, six lexical innovations support placing Basap in GNB. These data have been organized in Table 13. The table shows PMP reconstructions

⁶ Greater North Borneo includes the languages of Sabah, Sarawak, and Malayic languages of West Kalimantan. This large subgroup, as originally proposed, thus includes all languages of Borneo to the exclusion of Barito (Blust 2010).

followed by PGNB replacement innovations (with a single semantic shift), and Basap words which appear to reflect the PGNB replacement innovations.

Table 13: Apparent reflexes of PGNB lexical replacement innovations in Basap

PMP reconstruction	PGNB replacement innovation/shift	Apparent reflex of PGNB replacements in Basap
*tuzuq ‘to point; index finger’	*tuju? ‘seven’	tujo? ‘seven’
*bakbak ‘frog with loud croak’	*saʔay	sai
*qabaŋ ‘canoe’	*alud	alun
*ipəs ‘cockroach’	*lipəs	lepəs
*palu ‘hammer’	*tukul	tukul
no reconstruction	*cəRaʔuŋ ‘large-brimmed sun-hat’	sərauŋ

At face value, then, it appears that Basap may belong to Greater North Borneo because of shared lexical replacement innovations and semantic shifts, although there is no clear subgrouping relationship between Basap and any other branch within GNB. As the following sections make clear, however, the history of Basap is not so straightforward. A long list of contradictory evidence is available suggesting a shared history between Basap and Barito, and great care must be taken while attempting to interpret this data.

5.3.2 Basap and Barito

Although it is true that there is evidence for placing Basap within GNB, there are also some intriguing lexical innovations that appear to be shared between either Basap and Tunjung, or between Basap and Barito. These Basap-Barito shared lexical innovations are difficult to explain, as there is considerable distance between the two groups and no known history of contact. The sound correspondences between the forms are regular, and there is no evidence, other than implausibility, that they are not directly inherited.

The following list of lexical replacement innovations are found exclusively between Basap and Tunjung. Tunjung is a unique language within the Barito linkage, so much so that Hudson (1967) placed it in its own subgroup. It is also the most easterly Barito language, spoken along the Mahakam river. Geographically it is the Barito language closest to Basap, which might explain the number of lexical similarities.

PMP *walu	>	*kaluŋ ‘eight’
Lebo		<i>kalon</i>
Segai Basap		<i>kalon</i>
Batu Putih		<i>kalon</i>
Tunjung		<i>kalukŋ</i>
PWIN *kuñiw/ñaRu	>	*bunia? ‘eagle’
Lebo		<i>bunia?</i>
Tunjung		<i>bənia</i>
PMP *qinəp	>	*tidi? ‘lie down’
Lebo		<i>tide?</i>
Tunjung		<i>tiri?</i>
PMP *baŋun	>	*pukaw ‘wake up’
Segai Basap		<i>pukaw</i>
Tunjung		<i>pokaw</i>

Although the data is limited, it is of rather high quality, especially the word for ‘eight’ which is difficult to explain as anything but a shared innovation. The sound correspondences between Tunjung and Basap are also regular, which makes analysing this material difficult. There are four innovations, *kaluŋ ‘eight’, *bunia? ‘eagle’, *tidi? ‘lie down’ and *pukaw ‘wake up’. They are basic vocabulary items, and one would have to imagine an intense contact situation in order for these words to be borrowed. To complicate matters, only six lexical innovations that define Greater North Borneo are also found in Basap, *tuzuq ‘seven’, *saʔay ‘frog

with loud croak’, *alud ‘canoe’, *lipəs ‘cockroach’, *tukul ‘hammer’ and *cəRaʔuŋ ‘sunhat’. Of these, *tuzuq ‘seven’ has been widely borrowed, even Tunjung reflects *tuzuq as ‘seven’ (an apparent borrowing), so Basap *tujɔʔ* is not very strong. The question then becomes, which set should be given more weight? The four lexical innovations exclusively shared between Basap and Tunjung; two languages with no known history of contact or the six Greater North Borneo lexical innovations found in Basap, one of which is known to have been widely borrowed outside of GNB? The following section, which highlights shared lexicon between Basap and Barito as a whole may shed some light on this puzzle.

The following list expands upon the Basap-Tunjung lexical innovations and demonstrates a greater-than-chance set of lexical innovations found between Basap and Barito. The data here is particularly powerful given the considerable distance between Basap and Barito, and a lack of any known historical contact.

PMP *hawak	>	*kaRaŋ ‘waist’
Lebo		<i>karaŋ</i>
Segai Basap		<i>kahaŋ</i>
Tunjung		<i>kahakŋ</i>
Bakumpai		<i>kahaŋ</i>
Kapuas		<i>kahaŋ</i>
Ngaju		<i>kahaŋ</i>
Kadorih		<i>kahaŋ</i>
PMP *jipən	>	*kəsiŋ ‘tooth’
Segai Basap		<i>kəsiŋ</i>
Tabalar Basap		<i>kəsiŋ</i>
Tunjung		<i>kəsikŋ</i>
Kadorih		<i>kosiŋ</i>
Ngaju		<i>kasiŋaʔ</i>
Kapuas		<i>kəsiŋeʔ</i>
PMP *ma-Raqan	>	*mə-Rian ‘light weight’
Lebo		<i>rean</i>
Paser		<i>mean</i>
Kapuas		<i>məhian</i>
Ngaju		<i>mahian</i>
Kadorih		<i>mahian</i>

The connection between modern forms is not obvious. *R > r in Lebo’ Basap, and the form above appears without the *ma- stative prefix (See entry for *ma- in Blust and Trussel ongoing). Paser reflects *-R- as y, so *məRian > *məyian > *məian > *mean*. In eastern Barito languages *R > h, and the modern forms are thus more transparent.

PMP *pagi	>	*dilaw ‘tomorrow’
Lebo		<i>dilo</i>
Segai Basap		<i>dilaw</i>
Tabalar Basap		<i>dilaw</i>
Batu Putih		<i>dilaw</i>
Tunjung		<i>dilaw</i>
Paser		<i>dilo</i>
PMP *saləR	>	*dasəR ‘floor’
Lebo		<i>dasar</i>
Benuaq		<i>dasaj</i>
Taboyan		<i>dasəj</i>
Bentian		<i>dasəj</i>

5.3.3 More on the Basap-Barito connection

There can be no doubt that the lexical data above suggests a shared history between Basap and Barito. However, it is not as clear what the nature of that history was. It may be that these two groups share a common ancestor, but it may also be that the Barito linkage and Basap were at one point adjacent. Under those circumstances, contact explains the lexical similarities. The most critical task is to determine whether these similarities are, beyond a reasonable doubt, more likely to be the product of inheritance than borrowing.

The list of exclusively shared innovations linking Basap with Barito is greater than the list linking Basap with Greater North Borneo, but both lists contain basic vocabulary and are thus of similar quality. What remains is a sort of double bind, where evidence can be presented to support either placing Basap in GNB or in Barito. Both pieces of evidence are valid, but because of the primary distinction between Barito and GNB, Basap cannot be both a GNB and Barito language. To reach a decision on this, extra-linguistic factors need to be considered. 1) Basap is currently surrounded by GNB languages, including North Sarawak languages, Kayanic languages, and Tidung (part of the Southwest Sabah subgroup). 2) Basap is currently quite a distance from Barito languages, and it is unclear what kind of history of contact Basap has had with Barito. 3) Even if Basap were part of the Barito linkage, it is impossible to point to any single sound change which would support this, because as a linkage, there is no single sound change which unites all Barito languages.

Considering the facts about Basap's geographical position and the languages which currently surround it, it seems appropriate to place more weight on the Barito evidence than the GNB evidence which implies that the GNB words in Basap are borrowings. While keeping in mind the classification of Barito as a linkage it would be inappropriate to propose a discrete Basap-Barito subgroup, but at the same time, it does appear that Basap and Barito have more in common with each other than either does to GNB. It is thus necessary to place Basap and Barito outside of GNB, with an equidistant relationship to one another as part of an ancient dialect network that stretched from the Barito river in the south towards the mouths of the Kayan river in North Kalimantan where Basap is currently located. This dialect network should be referred to as Basap-Barito. Although this may be a controversial proposal, given the realities of where Basap is located and the quality of Basap-Barito lexical innovations, there is currently no strong alternative.

6 Conclusion

This paper has dealt primarily with the Barito languages of Borneo, Malagasy, and Sama-Bajaw. While numerous works have referred to Barito as a subgroup, which is descended from a Proto-Barito language, this paper put forth evidence that the Barito languages in fact form an innovation-defined linkage. As such, there is no single sound change of high quality which unites all Barito languages, and the relevant sound changes found in Barito are spread through the linkage in such a manner that no non-arbitrary separation of the major Barito subgroups can be made. The Barito languages descended from a dialect network which slowly differentiated in-situ, not from the expansion of a single language. Furthermore, lexical evidence was provided which shows that the small and still poorly understood Basap language of northern East Kalimantan has an ancient connection with Barito languages farther to the south. The downriver movement of Kayanic languages was probably responsible for separating Basap and Barito, severing what is hypothesized to have been a long dialect chain which stretched from the Barito river basin throughout eastern Borneo towards the mouths of the Kayan river. This differs greatly from previous hypotheses on the linguistic position of Basap, which placed it with languages in Sarawak based on the false assumption that Sajau and Latti were part of the Basap group. This paper showed that these languages are in fact dialects of Punan, and any attempt to use them as evidence for Basap linguistic relations is fundamentally flawed. Future work is needed on the Basap languages, as their ultimate relationship to the Barito linkage remains tenuous.

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