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The lexicons of the Papuan languages of the Onin Peninsula and their influences

Timothy USHER^a and Antoinette SCHAPPER^b

Santa Fe Institute^a, LACITO-CNRS^b & University of Cologne^b

Mbaham and Iha are two closely related Papuan languages spoken on the Onin Peninsula in Northwest Bomberai, New Guinea. The prominent position of Onin in the seascape of the region means that groups in Onin were almost certainly involved in the formation of the Wallacean Linguistic Area. Applying the comparative method, we present a reconstruction of the lexicon of their common ancestor, proto-Mbaham-Iha, and identify Austronesian lexical influences on them. This work represents a small but important first step towards understanding the position of these languages of Onin within Linguistic Wallacea.

1. Introduction¹

Onin Peninsula on mainland New Guinea is home to several Austronesian languages and two Papuan languages. Constituting the north-west part of the larger Bomberai peninsula, the Onin Peninsula juts westward into the Sea of Seram. It is only narrowly separated by sea from the well-known Bird's Head of New Guinea and Seram itself. The historical record makes clear that Onin was heavily involved in local trade networks at the time of the arrival of Europeans in the region in the 16th and 17th centuries. However, the prehistorical position of Onin is in need of investigation. The prominent position of Onin in the seascape of the region means that groups in Onin were almost certainly involved in the ancient maritime interactions that led to the formation of the Wallacean Linguistic Area (Schapper 2015). Yet, so little is known about the languages of Onin that the extent to which they have participated in and contributed to Linguistic Wallacea is yet to be established.

This paper represents a small but important first step towards understanding the position of the languages of Onin peninsula in Linguistic Wallacea. We focus on elucidating the history of the closely related Papuan languages of Onin peninsula, Mbaham and Iha. In contrast to some other parts of the circum-New Guinea region, there are many more materials on the Papuan languages than on the Austronesian languages. Reliable grammatical materials are, however, still widely lacking such that we restrict ourselves here to an analysis of the lexicon. We take a bottom-up approach, applying the comparative method to reconstruct 141 lexical items to proto-Mbaham-Iha and identify influences from the Austronesian languages of Onin and surrounds. With a reconstruction of proto-Mbaham-Iha in hand, we will then be in a position to assess longer distance connections that have been proposed between Papuan languages in

¹ We would like to thank Mark Donohue for sharing unpublished word lists on the Austronesian languages of Onin with us as well as a range of terms from the Papuan languages of the region. There is a large corpus of Iha located at the CELD in Manokwari but we were not able access to it to advance this reconstruction. Schapper's research was supported by a Netherlands Organisation for Scientific Research VENI project "The evolution of the lexicon. Explorations in lexical stability, semantic shift and borrowing in a Papuan language family" and by the Volkswagen Stiftung DoBeS project "Aru languages documentation".

Wallacea and thereby better understand the prehistorical situation in which Linguistic Wallacea formed.

This paper is structured as follows. Section 2 overviews the historical significance of Onin as a trading entrepôt and what is known about the interactions between groups within Onin and surrounding islands. Section 3 provides an overview of what is known about the languages of Onin, both Papuan and Austronesian. Section 4 presents the reconstruction of the proto-Mbaham-Iha lexicon, while section 5 identifies Austronesian borrowings in Mbaham-Iha. Section 6 concludes the paper with a discussion of the wider questions of Wallacean prehistory which can be pursued on the basis of the reconstruction of proto-Mbaham-Iha. An appendix is included with proto-Mbaham-Iha reconstructions made in the present paper.

2. Historical significance of Onin

The earliest mention of Onin we have comes from the 14th century lontar-palm manuscript of the *Nagarakretagama*, also known as *Desawarnana*. This Old Javanese document contains detailed descriptions of lands over which the Majapahit Kingdom of East Java claimed suzerainty. In the 13th and 14th cantos, placenames from the eastern part of the Malay archipelago are listed (Robson 1995):

- (1) *Bali, Badahulu, Lwa-Gajah, Gurun, Sukun, Taliwang, Dompò, Sapi, Sanghyang Api, Bhima, Seran, Hutan Kadali, Gurun, Lombok-Mirah, Saksak, Bantayan, Luwuk, Uda, Makasar, Butun, Banggawi, Kunir, Galiyao, Salaya, Sumba, Suraba, Solot Solor, Muar, Wandan, Ambwan, Maloko, Wwanin, Seran, Timur.*

Rouffaer (1908) identified Wwanin in this list with the Onin peninsula, observing that Rumphius records Woni to be the Ternate name for Onin. The rendering of /o/ with {wa} is also consistent with Old Javanese orthography. Van Fraassen (1976) further points out that the position of Wwanin on the list between the Moluccas (*Maloko*, an indigenous collective name for the islands of Ternate, Tidore, Moti, Makian, Bacan and Halmahera) and Seram (*Seran*) also supports identifying Wwanin with Onin.

Why a sliver of land at the far eastern margin of the Malay Archipelago would be worthy of mention in such a significant document of a Javanese Kingdom is a question answered by later historical sources.² The earliest European source on Onin is the Portuguese adventurer Miguel Roxo de Brito who in 1581 stayed with the *raja* of Wage in the Raja Ampat islands (Sollewijn Gelpke 1994). Here he heard stories of great wealth in a land called One (Onin) which lay to the south through a narrow passage between Salawati and the Bird's Head. De Brito then set out in an expedition to Onin and into the McCluer Gulf. On the island of Ugar just to the north of the Onin peninsula in 1582, he noted large amounts of gold gathered by people from the nearby rivers and mountains and populous communities with intensively travelled shipping passages.

Throughout the seventeenth and eighteenth centuries, Dutch sources report Onin as the centre of a slave market where slaves were collected and sold to the East Seramese in exchange for cloths and axes. For example, in 1678 the Dutchman Johannes Keyts visited Onin and described it as a trading hub blessed with plentiful supplies of Papuan laborers and close connections to Seram (Sollewijn Gelpke 1997). Even in the 19th

² This is a topic that has been treated from various perspectives in O'Hare (1986), Goodman (2006), Widjojo (2007), Ellen (2003) and Warnk (2010). The reader is referred to these works for full coverage of the issues and sources at play.

century, Alfred Russel Wallace remarked on the reputation of the Onin people as slavers:

“[S]ome of the more warlike coast tribes, especially those of Onin in McCluer's inlet, have been accustomed to attack the villages of other tribes, and to capture their inhabitants, in order to sell the women and children to the Malays.” (Wallace 1869:445)

Whilst slaves appear to have most regularly been taken from the highlands of Onin and the New Guinea hinterland, fleets of boats known locally as *rak* would also raid neighboring islands and coastlines in the MacCluer Gulf for slaves to sell on the Onin markets (Goodman 1996:59).

Apart from slaves, Onin exported birds of bright plumage, nutmeg, and massoi during the same period. Whilst the bird of paradise plumes of Aru were better known (Valentijn 1726:306–308) and the longer nutmeg of New Guinea named *pala onin* was considered inferior to the Bandanese type (Goodman 1996:121), Onin was renowned as a supplier of massoi. The outer bark of massoi (*Cryptocarya massoy*) was prized in Java where it was used in warm poultices (Soepardi 1967:58), in *jamu* medicines (Heyne 1927:673–674), as a spice in curries, and as a fixative for batik dyeing (Swadling 1996:133). Rumphius (1750:63–64) reported in 1684 that massoi trees flourished in the well-drained, alkaline limestone soil of the mountainous foothills of Onin and Bomberai. He describes how the Seramese trade arranged with middlemen on the coasts of Onin to have highlanders to gather the bark of the massoi for extraordinarily low prices. In a month, these highlanders could gather enough bark to fill one or two cargo vessels to be sent to Java.

The historical sources dealing with Onin note that there was contact between peoples of Onin peninsula and traders from the East Seram, the Seram Laut group, Gorom and Geser. According to these sources, trading relationships across the narrow corridor was reinforced through intermarriage and acculturation from an early time. Nicolaas Burgomaster Witsen (1705), for instance, writes that the Seramese had intermarried with coastal peoples of Onin and transferred cultural practices to them:

“The Ceramers are subjects, and likewise allies, of the Dutch Company, and for the most part expert sailors; and it is by them, and none else, that the coast of New Guinea is visited. The inhabitants of New Guinea have for many years suffered from the treachery and murders of these people, who, not by force of arms but by cunning, have subdued the Papoos. Under the cloak of friendship they take their women (in which they are not very choice) for wives, and the children thus born, being very carefully instructed in the Mahomedan faith, are easily able to control these simple inhabitants of the woods.” (Burgomaster Witsen 1705:163)

On his visit to southern coastline of the Onin Peninsula in 1876, the Italian adventurer and ornithologist Luigi D’Albertis similarly observed that this calculated strategy of intermarriage and cultural influence on the peoples of Onin had resulted in a highly fusional population:

“I observed great variety of type, which may be accounted for by there being slaves of several different tribes among these people, and also because the Malay element prevails here. Their chiefs are Malays or of mixed race; and the mixture of Malay which began a long time ago is on the increase, as

many of the natives have been converted to Islamism, and on the coast they have Mussulman priests and mosques.” (D’Albertis 1880:409)

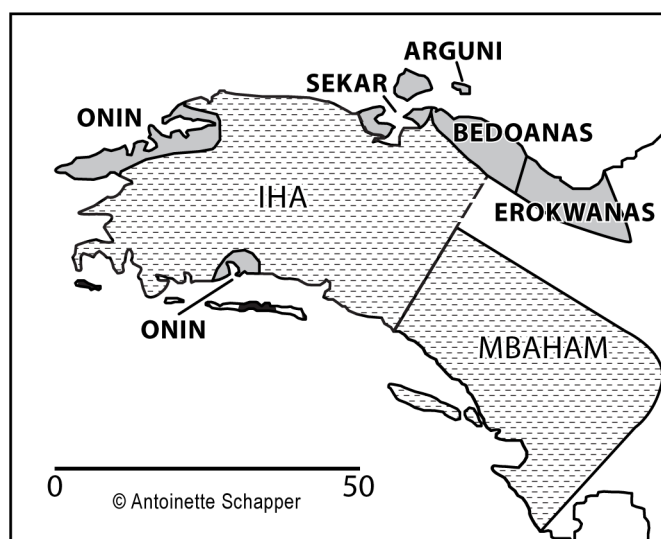
Van Hille visited Onin in 1905 and observed similar mixtures in the coastal peoples that distinguished them from the highlanders of Onin:

“The coastal population of the Onin peninsula with its strong influence from Seramese blood refers to itself as Papua and is Muslim. In accordance with this they wear more clothes than the people of the interior and wear head cloths; they also do not have the stiff curly hair of the people of the interior and they are lighter in colour. The latter are known to the immigrants by the name *Halifuru*. They do not call themselves that (their language does not possess *l* and *f*), but *mih-ma-ni*, that is, mountain people. However, not all of them live in the mountains; in Kapaur, for example, they are also found on the coast.” (van Hille 1905:254)

These sources elucidate the position of the Onin Peninsula as a significant entrepôt connecting the vast trade networks of the Malay archipelago with New Guinea’s wealthy hinterland. In the following sections we use evidence from language to further connect and provide clues to the multiple and overlapping connections between Onin and the wider maritime world of Wallacea.

3. Languages of Onin

In the previous section, we saw that Onin was home to coastal peoples acting as trade intermediaries and the highlanders collecting forest products to be sold to the Seramese. The partition of Onin also reflects a linguistic divide. Traditionally, speakers of the two Papuan languages of Onin were forest-oriented and resided in villages inland at higher altitudes. Speakers of the Austronesian languages lived in villages scattered, chiefly, along the northern coast of Onin and nearby islands. The seven languages spoken on the Onin Peninsula are presented cartographically in Map 1.



Map 1. Languages of Onin peninsula

Little is known about the Austronesian languages of Onin. Numerous short word lists have been recorded by early travelers to Onin and later linguists (e.g., Marsden 1834,

Earl 1853, Müller 1857, Strauch 1876, Robidé van der Aa 1879, Grube 1882, de Clercq 1893, 1889, Bastian 1885, Kühn 1888, Ribbe 1903, Cowan 1953, Galis 1955, de Vries 2004), but nothing more. It is nonetheless clear from the data in these word lists that the languages divide into two groups (as observed in Blust 1993): Onin [iso 639-3 code: oni] and Sekar [iso 639-3 code: skz], on the one hand, and Arguni [iso 639-3 code: agf], Bedoanas [iso 639-3 code: bed] and Erokwanas [iso 639-3 code: erw], on the other.³ Their wider affiliations within the Austronesian family is unresolved. A definitive answer on their subgrouping within Austronesian awaits the languages' fuller documentation and the bottom-up reconstruction of their ancestral states as well as those of surrounding Austronesian groups.

Observations of visitors to the region at the beginning of the 20th century indicate that the Onin language was affected by the prominent role of its speakers in trade:

“The Onin language is a bastardisation of the Seram language and is spoken in the actual village of Onin [as opposed to the Onin peninsula] and with some differences in Kowiai; along the coast it serves as a lingua franca [...] The mountain language is spoken throughout the peninsula up to, but not including, Patimuni...” (van Hille 1905:254)

“The residents of the old colonies have their own language, which they themselves call the Onin language (*basa onin*) or the coastal language (*basa pantei*), and which the Papuan people call *heboe(h)-maak* after the district of the same name. The largest portion of the Onin language is Seramese with a somewhat bastardized pronunciation; it has also adopted Papuan and Malay words.” (van Dissel 1904:642–643)

These accounts suggest that historically the Onin language was heavily influenced by Eastern Seram languages.⁴ These accounts from historical descriptions remain to be verified through comparative linguistic study.

The Papuan languages of Onin are Iha [iso 639-3 code: ihp] (also known as Kapaur) and Mbaham [iso 639-3 code: bdw] (also known as Patimuni). The main descriptive materials are: for Iha, Flassy & Animung (1992), Narfafan (2009), Donohue (2015), and; for Mbaham, Flassy, Ruhukael & Rumbrawer (1984, 1987), Flassy (2002), Husin (2009), and Cottet (2015). Comprehensive modern descriptions and extended lexical materials underpinned by complete phonological analysis are badly needed.

As for many other Papuan languages, the possible genealogical relationships of Mbaham and Iha have been the source of significant speculation. A close relationship between Mbaham and Iha was suspected early on. Cowan (1953: 33) already surmises that the two group together while Karas (iso 639-3 code: kgv), spoken to the south of Bomberai, is more distant:

³ Uruangnirin [ISO 639-3 code: urn] appears to belong in a subgroup with Onin and Sekar. Because it is not spoken on the Onin Peninsula but off the coast of Bomberai Peninsula, it is not dealt with in this paper. For the same reason, we do not deal with the Papuan language, Karas.

⁴ Ethnologue lists an Iha-based pidgin (iso 639-3: ihb), but gives no further information about it. Aside from this listing of its existence, we have not been able to locate any information on this language. It seems possible that there may have been misidentification of Onin in the sources mentioned here (or others) with Iha. We find no mention in print of Iha being used as a trade language such that would warrant it being called a pidgin, though there does appear to be a morphologically reduced Iha spoken by younger people (Mark Donohue pers. comm.).

“To the southwest and south of Sekar, there are three languages spoken in the district of Fak-Fak for which wordlists are available. These are the Kapaur, Patimuni and Karas languages. Of these, the first two are without doubt related to one another; there is probably a more distant relationship between these first two and the Karas language. These three languages are without doubt Papuan languages; some Austronesian elements are present, but these are few in number and probably loanwords.”

This view is echoed in Anceaux (1958) and in Voorhoeve (1975:432–434).

Beyond the widely credited relationship with Karas, the wider affiliations of Mbaham and Iha are contested. In a series of articles, Cowan (1957, 1958, 1960, 1963, 1965) included them in the now abandoned West Papuan family of the Bird’s Head. Voorhoeve (1975:434–437) includes Mbaham and Iha in his vast Trans-New Guinea Phylum as a “family-level stock” along with Karas. In recent times, three works (Hull 2004, Holton & Robinson 2014, Cottet 2015) have focussed on possible connections of Mbaham and Iha with the Papuan languages of Timor, Alor and Pantar located in southeast Indonesia. The inadequate understanding of sound correspondences within both Timor-Alor-Pantar and Mbaham-Iha has meant that these works, despite the authors’ best efforts, go little beyond pointing out pronominal and lexical resemblances, as is typical of much of the higher level work on Trans-New Guinea.

In this work, we take the thorough application of the comparative method to establish regular sound correspondences across cognate vocabulary between even obviously related languages as the first step in any historical linguistic work, including the study of loan words.

4. Reconstruction of Proto-Mbaham-Iha

The reconstruction of Proto-Mbaham-Iha, the common ancestor of Mbaham and Iha, is based on Iha materials drawn from Flassy and Animung (1992) and Mbaham drawn from Flassy, Ruhukael and Rumbrawer (1984, 1987).⁵ In this section, we present an overview of the reconstructed phonemes of Proto-Mbaham-Iha and the sound correspondences that underpin the reconstructions. The appendix contains the reconstructed vocabulary of proto-Mbaham-Iha to the exclusion of loans (discussed in section 5). The reader is referred to Usher’s Newguineaworld website for more detailed discussion of the reconstruction of proto-Mbaham-Iha, including topics such as syllable structure and stress which are beyond the scope of the present paper.

Based on the current reconstruction, Proto-Mbaham-Iha had 14 consonants (Table 1) and 5 vowels plus three diphthongs (Table 2). There is marginal evidence for two palatalised consonants; these are bracketed in Table 1 and represented as *tj and *ndj.

⁵ Cottet (2015) contains only a fraction of the number of lexical items compared to the various sources penned by Flassy. As such it was of limited use for this reconstruction. We have, however, often relied on her work to understand details of Mbaham phonology and phonetics.

Table 1 Proto-Mbaham-Iha consonants

*p	*t	(*tj)	*k	*k ^w
*mb	*nd	(*ndj)	*ŋg	*ŋg ^w
*m	*n			
	*s			
	*r			
*w		*j		

Table 2 Proto-Mbaham-Iha vowels, diphthongs†

*i	*ie		*u
*e			*o
	*ei	*a	*ou

† It is an open question whether *ie and *ei should be treated as diphthongs or vowel sequences. We assume diphthong status here.

This analysis constitutes a near complete reconstruction given the data currently available to us. The remaining problems will be outlined below in the discussion of the sound correspondences we identify.

4.1 Consonant correspondences

Table 3 provides the consonant correspondences across the different positions in the word. Details of these correspondences are discussed, where necessary, below. Much of the discussion here centres on Mbaham, because of the availability of Cottet's (2015) phonology clarifying some of the issues presented by Flassy's word lists.

While Iha has only /h/, Mbaham has a phonemic contrast medially between /s/ and /h/, though the functional load of the contrast appears to be low. Cottet (2015) distinguishes, for instance, instances of medial /h/, such as /sehere/ [se.he.re] 'sick', from instances of medial /s/, such as /asuran/ [a.su.ran] 'pincer, tongs' (< Onin *asuran* 'tongs'). We find no reconstructable items with a medial s in Mbaham at this stage, only h is found medially. Most likely medial /s/ in Mbaham indicates a loan word.

It is notable that *p and *t have voiceless reflexes non-medially and voiced reflexes medially. Cottet (2015) notes for Mbaham that /p/ is realized intervocalically as [β], represented in the transcription of Flassy that we adopt here as b. The /t/, however, surfaces intervocalically as a geminate, as in /atap/ [attap] 'string bag' corresponds to the phonological form. In our reconstruction of Proto-Mbaham-Iha (Pmb-Ih) instances of Mbaham medial /t/ have irregular correspondences with Iha and can in many cases be shown to be borrowings (e.g., 'corpse': Mbaham *ni:ti*, Iha *nidi* < Proto-Malayo-Polynesian (PMP) *qanitu).

Reflexes of *k are variable in both Mbaham and Iha. This is almost certainly the result of allophonic variation captured by inconsistent transcription in the data used for this reconstruction. While Flassy considers /k/ and /q/ as phonemes whose contrast is neutralized in codas, Cottet (2015) found no such contrast, but only /k/ with an intervocalic [ɣ] allophone. Instances of medial /k/ realized as [k] in Mbaham and Iha are rare and can be identified as borrowings.

Table 3 Mbaham-Iha consonant correspondences†

	Initial		Medial		Final	
	Mbaham	Iha	Mbaham	Iha	Mbaham	Iha
P Mb-Iha	Mbaham	Iha	Mbaham	Iha	Mbaham	Iha
*m	m	m	m	m	m	m
*n	n	n	n	n	n	n
*p	p	p	b	b	p	p
*t	t	t	d	d	t	t
*s	s	h	h	h	s	h
*k	k ~ q	k ~ q	k ~ q	k ~ q ~ g	k	k
*k ^w	kp ^w ~ ku	p	q	p	q	p
*mb	mb	mb	mb	mb	--	--
*nd	nd	nd	nd	nd	--	--
*ŋg	ŋg	ŋg	ŋg	ŋg	ŋ	ŋ
*ŋg ^w	ŋg	mb	ŋg ^w ~ ŋgu	mb ~ ŋ(m)b	--	--
*w	w	w	w	w	--	--
*r	(r)	(r)	r	r	r ~ ø	r
*j	j	j	(j)	(j ~ ø)	--	--

† Brackets around segments marks that they are the correspondents are only marginally represented in the data and reconstructed tentatively in these positions.

Flassy transcribes a consonant cluster {pkw} for Mbaham, which we represent in the transcription we use as *kp^w*. This is an unusual consonant and more recent work on Mbaham by Cottet (2015) did not find this consonant, but only *k^w*. Flassy's transcription {ku} appears to also represent *k^w*. Similarly, Flassy's {ŋgu} appears to be an alternative transcription for *ŋg^w*. Iha reflexes of *ŋg^w show some variation medially, with *ŋmb* in one case and *ŋb* in another:

- (2) *moŋg^wo 'banana' > Mbaham *munguɔ*, Iha *nɔɲbɔ*
 *toŋg^won 'elbow' > Mbaham *tung^wɔn* ~ *tunguɔɔn*, Iha *tɔŋmbɔn*

The phoneme *r is only tentatively reconstructed in initial position. There is only one example of an (apparently) native lexeme with initial *r, PMb-Ih *r[ɔ/u]s 'drink': Mbaham *ru:s*, Iha *rɔh*. Comparison of Flassy's wordlists superficially suggests an irregular correspondence between final *r* in Mbaham and Iha. This reflects the ongoing loss of final *r* in Mbaham. Cottet (2015) explains that, in her data, the final rhotic is unstable and often not produced by speakers. Instead there may be compensatory lengthening of the preceding vowel, such that /war/ 'stone' can be produced as [wa: ~ war].

Medial glides are only tentatively reconstructed; it may be that these vowels are not phonemic. In the case of *w, it is clear that at least some of the segments transcribed by Flassy with {w} medially are epenthetic (as in, e.g., Mbaham 'elbow' which is rendered both as *tung^wɔn* and *tunguɔɔn* < *toŋg^won). As can be seen in (3), only three instances

of *w actually are stably reflected in the reconstruction; other instances only appear in one of the two languages. Epenthesis may be at play here.

- (3) *n[o/a]wa ‘eat’ > Mbaham *nɔwa*, Iha *nɔwa* ~ *nawa*
 *ŋgawarambuk ‘snail’ > Mbaham (*ŋ*)*gʷa:rambuk*, Iha *ŋgawarambuk*
 *ŋguwas ‘raft, vessel’ > Mbaham *ŋgu:was*, Iha *ŋguwah*
 *ka[jiw]or ‘torch’ > Mbaham *kajɔ:r*, Iha *kɛ(i)wɔr*
 *mbi[w]oŋ ‘white’ > Mbaham *mbwɔŋ-mbwɔŋ*, Iha *mbiɔŋ*
 *ko[w]ar[a/o]p ‘kin term’ > Mbaham *kɔwarap* ~ *kɔwara:p*, Iha *kɔrɔp*

Similar issues exist for *j. Consider the examples of *j in (4). There is only one clear example of a staple correspondence of *j* in Mbaham with *j* in Iha with *mbajer ‘bat’. In the remainder of the reconstruction, Mbaham *j* corresponds with Ø in Iha. Most instances of medial *j are neighbouring a front vowel, indicating that we may be dealing with an epenthetic glide rather than a properly reconstructable phoneme here.

- (4) *mbajer ‘bat’ > Mbaham *mbajɛ:r*, Iha *mbajer*
 *sejir ‘fish’ > Mbaham *sɛjir*, Iha *hɛir*
 *kajam ‘slave’ > Mbaham *kaja:m* ~ *kija:m*, Iha *kiam*
 *sirijet ‘earth, world’ > Mbaham *sirjɛ:t*, Iha *hidiet* ~ *hiriet*
 *seji[m/n] ‘navel’ > Mbaham *sɛ:jn*, Iha *hɛin* ~ *heim*
 *sap[ij]ok ‘remainder’ > Mbaham *sa:bjɔ:q*, Iha *hap-habɔk*
 *ka[j]i[r] ‘cook(ed)’ > Mbaham *qaj* ~ *kaj*, Iha *keir*
 *[i]k^wi[j]aren ‘nut’ > Mbaham *pk^wja:rɛn*, Iha *ipiarɛn* ~ *piar*
 *ka[jiw]or ‘torch’ > Mbaham *kajɔ:r*, Iha *kɛ(i)wɔr*

The status of orthographic {j} in consonant clusters such as those given in (5) is also unclear. It may be that these represent palatalised consonant, or in the case of {dj} and {tj}, affricates. Work is needed to clarify the phonological form of these items.⁶

- (5) Iha *djon* ‘field, wide’
 Iha *tjɔn*, Mbaham *tjuɔn* ‘thigh’
 Mbaham *tjet* (*pres-pres*) ‘diarrhea’
 Mbaham *tjɔ:n* (*pra:m*) ‘sole of foot’
 Mbaham *sjɔ:r* ‘earth’

Possible reconstructed phonemes that are bracketed in Table 1 and that do not appear in Table 3 are *tj and *ndj. We see in the examples in (6) that Mbaham medial /j/ in three cases corresponds to Iha /nd/ and /d/. We tentatively suggest reconstructions for this correspondence with *ndj and *tj, but recognise that the evidence for them is very slim at this stage.

- (6) *kendjep ‘eye’ < Iha *kɛndɛp*, Mbaham *kijɛp*⁷
 *mandja ‘child’ < Iha *manda*, Mbaham *maja*⁸
 *watjar ‘bay’ < Iha *wadar*, Mbaham *wɛja:r*

⁶ In the case of Flassy et al.’s (1984, 1987) *njie* ‘name’ for Mbaham, we assume that the {j} represents phonetic palatalization before the high front vowel /i/. This interpretation is confirmed by Cottet’s (2015) phonological representation of the lexeme as /nie/ ‘name’ (where the accent marks a stressed syllable).

⁷ Cottet (2015) gives this as /kijɛp/ [kijɛp].

⁸ Cottet (2015) gives this as /majá/ [ma.já].

4.2 Vowel correspondences

Table 4 provides the correspondences for the PMb-Ih vowel system. The reconstruction of the vowel system is less developed than that for the consonants. This is mainly because clarity about many descriptive details is lacking at this stage. For instance, while Flassy & Animung (1992) give only 5 vowel phonemes for Iha, Donohue (2015) states that it has a 7 vowel system with two heights of mid-vowels. Cottet (2015) states that Mbaham has a system of phonemic stress, Donohue & Gregory (2014) claim a pitch accent system for Iha. A proper understanding the synchronic vowel systems and their suprasegmentals will contribute significantly to clarifying PMb-Ih vowels. Flassy, Ruhukael & Rumbrawer (1987) transcribe long vowels for Mbaham, but Cottet (2015) finds no phonemic length. Flassy, Ruhukael & Rumbrawer's (1987) long vowels correlate with Cottet's (2015) stressed syllables in Mbaham.

Table 4 Mbaham-Iha vowel, diphthong correspondences

pMb-Ih		Mbaham	Iha
*i		i	i
*u		u	u
*e		ɛ	ɛ
*a	/_Ci	a	ɛ
	/_C ^w w	a ~ ɔ	a ~ ɔ
	elsewhere	a	a
*o	/C ^w w_	uɔ	ɔ
	elsewhere	ɔ	ɔ
*ie		iɛ	ɛ
*ei		i	ɛi
*ou		ɔu	ɔu

The vowels *i, *u and *e in simple environments are retained as such in both Mbaham and Iha. Reflexes of *a are mostly *a* in Mbaham and *a* or *ɛ* in Iha. When *a is followed by *i, *ie (perhaps also *ei) in the next syllable, it is fronted and raised to merge with *ɛ* in Iha:

- (7) *nami-sar ‘man’ > Mbaham *nami-ha* ~ *nami-hɛ*, Iha *nɛmɛ-har*
 *warik ‘bite’ > Mbaham *wari:k*, Iha *wɛrik*
 *taŋgier ‘heavy’ > Mbaham *taŋgi:jer*, Iha *tɛŋger*
 *sarei[k] ‘trade’ > Mbaham *sri:*, Iha *hɛɛik*

We observe that in Iha *ɛ* is subject to some harmony effects in the presence of a back vowel in an adjacent syllable. For instance:

- (8) *tumbur-sar ‘woman’ > Mbaham *tamb-hara* ~ *tɔmbɔ-har*, Iha *tumbu-hɛr* ~ *tumbu-hɔr*
 *kɔmen ‘hear’ > Mbaham *kɔmɛna:*, Iha *k(ɔ)mɔn*

The proto-phoneme *ɔ is retained as such in both languages in most environments. The exception is when *ɔ is preceded by *k^w, *ŋg^w or *w, it is often realized as *uɔ* in Mbahaam, as in (9).

- (9) *mɔŋg^wɔ ‘banana’ > Mbaham *mʉŋguɔ*, Iha *nɔŋbɔ*
 *tɔŋg^wɔn ‘elbow’ > Mbaham *tʉŋg^wɔn ~ tʉŋguɔɔn*, Iha *tɔŋmbɔn*
 *wɔŋg ‘sky’ > Mbaham *wuɔŋ*, Iha *wɔŋ*
 *wɔr ‘tail’ > Mbaham *wuɔr*, Iha *wɔr*

Of the diphthongs, *ie is merged with *ɛ* in Iha (10), while *ei is merged with *i* in Mbahaam (11).

- (10) *nie ‘name’ > Mbaham *niɛ*, Iha *nɛ*
 *wiek ‘blood’ > Mbaham *wijek*, Iha *wɛk*
- (11) *mein ‘louse’ > Mbaham *mi:n*, Iha *mɛin*
 *kemeir ‘face’ > Mbaham (*kɔm~*)*kmi:r*, Iha *kɛmɛir*

5. Austronesian borrowings in Mbaham and Iha

Nothing has been written on borrowing in these languages with the exception of Anceaux’s (1958:112) statement that Iha “shows a number of loanwords from Austronesian languages, mainly from Malay.” In this section, we make a first attempt at identifying loans and analyzing their significance for understanding the external influences on Mbaham and Iha from surrounding Austronesian languages. The number of loan words we deal with is small and many more are present in the word lists used for the reconstruction. We deal with what we consider to be a set that is likely indicative of overall borrowing patterns. We use the following materials on the Austronesian languages on Onin: Donohue (2010a, 2010b, 2010c), Narfahan (2011a, 2011b) and Smits & Voorhoeve (1992).

In the previous section, we outlined the proto-phonemes of the ancestral language of Mbaham and Iha, pointing out some ways in which loan words were identifiable on the basis of irregular correspondences. Loans in Mbaham and Iha can be divided into several layers. Differences in the sound changes displayed by the languages indicate different sources and different timings for the borrowing. An example of how these can be distinguished is given for the appearance of the fricatives *h* and *s* in Mbaham-Iha in Table 5.

Table 5. Example of layers in borrowing as represented by fricative adaptation

Phoneme in borrowing	Phoneme in AN	Source	Timing
initial h	s	Local	Distant
initial s	s	Regional	Recent
medial h	s	Local	Distant
medial s	s	Regional	Recent

Where Austronesian languages have *s*, Mbaham and Iha variably show *s* or *h*. Borrowings in which *s* is adapted to the phonology of Mbaham and Iha with *h* can

typically be traced to local Austronesian languages, such as Onin and Sekar. By contrast, borrowings in which *s* is not adapted to Mbaham-Iha phonology but remain as *s* tend to be words from Indonesian/Malay or regional terms that are widely diffused. For example, Iha *selat* ‘sea’ maintains initial *s* borrowed from Malay *səlat* ‘passage, strait’ (< PMP *səlat), but has adapted Iha *hira* ‘salt’ with *h* when borrowing it from a local source, presumably Onin/Sekar *sira* (< PMP *qasiRa). Similarly, Mbaham tends to have medial *h* for borrowings adapted from local Austronesian languages, such as *rohūm* ‘mortar’ probably from Arguni-Kambran (< PMP *ləsuŋ; see below on the sound changes here), while medial *s* is found in loan words widely found in Maluku, such as Mbaham *maresa* ‘pepper’ (Cottet 2015) from Sanskrit via Malay/Javanese *mārica* (Stevens & Schmidgall-Tellings 2010). Because Malay has only been used widely in Onin peninsula in the last few hundred years, it is relatively safe to assume that borrowings from them are more recent than those from local Austronesian languages such as Onin.

The most significant layer of identifiable borrowing comes from Onin and Sekar. Several are in Iha, but not in Mbaham, as in (12).

- (12) Mbaham *mbetu:n*, Iha *mbetun* ‘spear’ < Sekar *betun* < PMP *bətun⁹
 Mbaham *mbu:a*, Iha *mbua* ‘goanna’ < Sekar *bua* (cf. Uruangnirin *gbuka*)
 Mbaham *si:ra*, Iha *hira* ~ *tira* ‘salt’ < Onin *sira*, Sekar *sira* < PMP *qasiRa
 Mbaham *nuwɛ:*, Iha *nɔha* ‘island’ < Onin *nusa*, Sekar *nusa* < PMP *nusa
 Iha *mahi* ‘smoke’ < Onin *masi*, Sekar *masi* < PMP *ma-qasu
 Iha *pati* ‘stone’ < Onin *pati*, Sekar *bati* < PMP *batu
 Iha *piawa* ‘crocodile’ < Onin *p^waja*, Sekar *biawa* < PMP *buqaja¹⁰

On the basis of certain indicative sound changes we can assume an Onin-Sekar source for several borrowings, even though we do not have the lexeme in the currently available materials. For example, Onin, Sekar and the closely-related Uruangnirin of Karas island are the only ones in the immediate region that show the sound change PMP *l > /n/ (e.g. PMP *lima ‘five’ > *nima*). In the two cases where Mbaham-Iha have *n* for PMP *l, we infer an origin from these Austronesian languages:

- (13) Mbaham *u:ni*, Iha *uni* ‘rudder’ < PMP *qulin
 Mbaham *nununa*, Iha *nununa* ‘headrest’ < PMP *qalunan

Similarly, the change PMP final *u > i characterises Onin and Sekar, as seen in ‘smoke’ and ‘stone’ above. Using this sound change, we can infer an intermediate Onin-Sekar source.

- (14) Mbaham *ni:ti*, Iha *nidi* ‘corpse’ < PMP *qanitu
 Mbaham *tamba:ki* ‘tobacco’ < Onin *tabaki*, Sekar *tabaki* (Smits and Voorhoeve 1992:197–198) < Malay *tembakau*

Some borrowings can be attributed immediately to Onin because *b, as in ‘stone’ above, regularly becomes *p* in Onin but not in Sekar, while other loans with original *b appear as *mb* or *mp* in Mbaham-Iha (e.g. Iha *mpuher* ‘bow’ < PMP *busuR.) The last of these terms is itself a latter-day borrowing into Onin, probably from Malay:

⁹ The meaning ‘spear’ as opposed to ‘bamboo sp.’ appears to be a local change. All the known CMP reflexes suggest initial *mb rather than Blust’s *b.

¹⁰ It is difficult to say which language the Iha word is from, since the metathesis is found in Sekar where the change of *b to *p* does not occur.

- (15) Mbaham *pejɛ:r*, Iha *pejer* ‘pay’ < PMP *bayaD
 Mbaham *paŋgala*, Iha *paŋgalah* ‘cassava’ < Onin *paŋgala* < Malay *benggala*¹¹

Several roots have no established PMP etymologies, but Onin and Sekar or a language ancestral or related thereto are thought their immediate source because cognate forms are found in Austronesian languages of southern Maluku and Timor. For example:

- (16) Mbaham *tək(-tək)*, Iha *tək-təkəm* ‘blocked, deaf’ < Onin *to:k*, cf. Yamdena *toke*,
 Fordata *tok:a*, Tetun *tuka*, Waima’a *tuko*.
 Mbaham *ki-ki:bən*, Iha *ki-kibən* ‘mosquito’ < Onin *ifiər*, Sekar *kifm*, cf.
 Yamdena *kifin*.
 Mbaham *titi:r*, Iha *titir* ‘drum’ < Sekar *titir*, cf. Kambran *titir*, Yamdena *titir*,
 Fordata *titir*.

The Austronesian languages in the east of Onin peninsula have had much less discernable influence on Mbaham-Iha. There is only one known loan from Arguni in Mbaham and Iha at this stage:

- (17) Mbaham *nɔur*, Iha *nɔwr* ~ *nɔur* ‘coconut’ < Arguni *nawur* < PMP *niuR

However, several more are suspected. Arguni-Kambran is characterized by PMP *l > r (e.g., Arguni-Kambran *rim* ‘five’ < PMP *lima; Arguni *ragit*, Kambran *raʔit* ‘sky’ < PMP *laŋit). This sound change is not found in Onin or Sekar.¹²

- (18) Mbaham *rɔhum* ~ *rɔhu*, Iha *rɔhum* ‘mortar’ < PMP *ləsuj
 Mbaham *tare* ~ *tare:*, Iha *tare* ‘rope’ < PMP *talih
 Mbaham *ma:r*, Iha *mar* ‘cloth’ < PMP *malaw
 Mbaham *(pa)rɛ:r*, Iha *rar* ‘sail’ < PMP *(pa-)layaR¹³

It may be that some words have been introduced into Mbaham and Iha from the north, where families of the South Halmahera-West New Guinea subgroup are spoken (Kamholz 2014). An example is Mbaham *ma:jm* ~ *mɛ:jm*, Iha *main* ‘fat, grease, oil’ < PMP *mǎñak (Kamholz 2014:183–184). It is more obvious that the Mbaham and Iha words reflect a northern form than it is that these regularly continue Blust’s PMP reconstruction. Similar northern influence is likely for Mbaham *wamɔ:r*, Iha *wamar* ‘hornbill’ and Mbaham *kəkək*, Iha *kəkar* ‘chicken’. These two animal terms are found throughout the Papuan languages of Onin, the Bird’s Head and Cenderawasih Bay and in the Austronesian languages of Raja Ampat and Cenderawasih Bay (Smits and Voorhoeve 1992:239–240, 1998:120–121, Kamholz 2014:241, 224).¹⁴

¹¹ *Ubi benggala* is still found in some dialects of Malay in Malaysia, but is lost in Molluccan Malay where *kasbi* now dominates (David Gil pers. comm.). According to Blust & Trussel (ongoing), *benggala* ultimately comes from Bengal.

¹² Note that this sound change is found in Irarutu, but because that language is outside Onin and at a much greater distance than Arguni-Kambran, we assume the latter is the source for borrowings with the *l > r sound change.

¹³ Alongside *layaR, Blust also reconstructs *pa-layaR with causative *pa-, as seen in Drabbe’s (1932a:53, 1932b:48) Tanimbar forms; this is the origin of Mbaham’s initial segment.

¹⁴ Clark (2011:283–285) states the “Red Jungle Fowl, *Gallus gallus*, spread as a domesticate along with Oceanic speakers throughout almost all the Pacific islands”, and reconstructs Proto-Oceanic *kokorako ‘fowl, *Gallus gallus*, especially male’.

There are also numerous instances of Austronesian etyma in Mbaham-Iha where no precise source language can be as yet identified. For instance:

- (19) Mbaham *dulan*, Iha *dulan* ‘durian’ cf. PMP *duRi-an
 Mbaham *kabʷər*, Iha *kəbuk* ~ *kəbɔuŋ* ‘lime’ cf. PMP *qapuR
 Mbaham *pa:ri*, Iha *pari* ‘stingray’ cf. PMP *paRih
 Mbaham *suwɛ:r*, Iha *huwer* ‘long-tooth comb’ cf. PMP *suat
 Mbaham *tɔwɔ:*, Iha *tɔwɔ* ‘old’ cf. PMP *tuqah
 Iha *puhar* ‘navel’ cf. PMP *pusəj
 Iha *hihir* ‘comb’ cf. PMP *sisir
 Iha *wɛna* ‘honey’ cf. PMP *wani

Loan words may also be identifiable on the basis of morphology. The common CMP 3rd person verbal prefix *na- is often the sign of a loan in the languages of West Bomberai.¹⁵ There are two Mbaham-Iha lexemes in the available data which have this morpheme:

- (20) Mbaham *na-sula*, Iha *na-hula* ‘dance’
 Mbaham *na-ki.ra*, Iha *na-kira* ‘deceive’¹⁶

The extensive wordlists provided in Flassy and Animung (1992:79–110) and Flassy, Ruhukael and Rumbrawer (1987:108–148) contain many more Austronesian borrowings than have been presented here. This treatment has only provided an initial look at borrowings in Mbaham-Iha. Descriptive work on the Austronesian languages of the region will greatly assist in further understanding of the Austronesian element in the Mbaham-Iha lexicon.

6. Discussion

This paper has presented an historical analysis of the lexicons of Mbaham and Iha, the two Papuan languages of the Onin peninsula. Our treatment consists of a reconstruction of the lexicon of proto-Mbaham-Iha and the identification of borrowings from Austronesian languages spoken in Onin Peninsula. On the basis of the available materials, we could not yet perceive much influence from the languages of Eastern Seram/Seram Laut, a connection which has been set out by historical eyewitness accounts of the Onin Peninsula. Documentation of both the Austronesian languages of Onin Peninsula and those of East Seram/Seram Laut is needed to verify whether Seram had a significant linguistic impact on Onin.

This study has shown that, despite a not insignificant number of Austronesian borrowings from different sources, Mbaham and Iha have an inherited core of non-Austronesian vocabulary. With this reconstructed lexicon of Mbaham-Iha in hand, we are now in a position to take further steps to understand their position in the Wallacean Linguistic Area, in particular, a systematic appraisal of the proposal that Mbaham-Iha are related to the Papuan languages of Timor region (Usher & Schapper in preparation). Future work on the grammars of Mbaham and Iha will also be useful in facilitating understanding that a possible expansion from New Guinea into Timor may have had on the linguistic landscape of Wallacea.

¹⁵ Visser (2016:73, 107–108, 139–140) identifies the morpheme as a loan verb marker and includes a number of verbs with *na-* for Karas, such as *na-sula* ‘dance’ among many others.

¹⁶ cf. Drabbe’s (1932a:47, 1932b:44) Jamdena *n-kir* and Fordata *n-kira*, the glosses of which suggest the meaning ‘trick’ or ‘tempt’. The majority of Drabbe’s verbal entries include a version with this prefix.

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Appendix: Proto-Mbaham-Iha reconstructions

	Proto-Mbahaam-Iha	Iha (Flassy & Animmung 1992: 79-110)	Mbaham (Flassy, Ruhukael & Rumbrawer 1984, Flassy, Ruhukael & Rumbrawer 1987:108-148)
1	*[a]k ^w orou	poɾuɔw	a:qɾɔw ~ a:qɾɔu ɾaɾɔru-aqɾu
	enemy/evil	musuh	marah musuh
2	*atok ^w	adɔp	adɔ:q ~ adɔq
3	*[i]k ^w ijaren	ipiaren ~ piar	obat
4	*[nd]o[u]p	indɔp	kacang-kacangan
5	*[i]piek	bək	jarum
6	*is	is	memasak; masak, matang, tua buah
	fruit/seed	paha ih nour is	bulir padi buah kelapa
7	*jambar	ke-ih	bibit tanaman; biji
8	*jembar	mbiar	anjing
9	*jerong	jember	ombak
10	*joun	je-jeɾɔŋ dʒɔn ~ jɔn	ringan padang rumput; lebar/lapang
	dog wave(s) light (weight) flat land/dry land/wide	anjing ombak ringan padang rumput; lebar/lapang	biji anjing ombak ringan daratan
11	*kajam	kiam	jɔwn wi:nda
12	*kajir	keir	kaja:m ~ kija:m
13	*kajwor	keɔwɔɾ	qaj
14	*kamar	kam-kamar	kajɔ:r
15	*kaminV	kimina	kam-kamar
16	*kambir	kambir winin	kami:ni
17	*kanda	kanda	kambi:r
	slave cook/cooked torch yawn sun war head	kiam keir keɔwɔɾ kam-kamar kimina kambir winin kanda kuwuh kanda kangap kambam kabah	luas, lebar budak; tawanan perang, budak memasak; masak (makanan) suluh menguap matahari perang kepala berlayar ke hulu tajam rumput bulan
18	*kangap	kangap	krija knda:
19	*kang ^w am	kambam	kanga:p
20	*kapas	kabah	kɔŋg ^w a:m kaba:s
	sharp grass moon	tajam rumput pematang, bedeng; bulan	berlayar ke hulu tajam rumput bulan

21	*kapasi	sneeze	kabahi	bersin	kaba.i	bersin
22	*kar	vagina	kar	puki	ka:r	puki, vagina
23	*karepot	yam (sp.)	kerəbot	umbi-umbian	kaɾəwət	kumbeli (besar dan berbulu)
24	*kemeir	face	kemeir	wajah	kmi:r	wajah
25	*kemeŋ	sweet	kemeŋ	manis	kmɛ:ŋ	manis
26	*ken[a/e][t]	see/sense	kenet	melihat	kna:	melihat
27	*kende	know	kende	tahu, kenal; tahu, mengerti	kɛŋdɛ:-qɛndɛ	pandai
28	*kendjep	eye	kendep	mata	k(i)jɛp	mata
			kara kendep	sumber air	krija k(i)jɛp	mata air, sumber air
			hon kendep ~ son	puting susu	son kjɛp	puting susu
			kendep			
29	*kira	water/river	kara	air	krija	air
30	*kis-kis[a]	star/firefly	kihkiha	unag-kunang	kiskis	bintang
31	*komen	hear/listen	komon	mendengar	komena:	mendengar
32	*kos[um]	grub	ko-kəlum	ulat	kus	ulat
33	*kowar[a/o]p	father's older sister	kəɾp	anak saudara perempuan tua ayah, anak saudara laki-laki	kəwara:p	anak perempuan, sdr. laki ibu, MIB; anak perempuan, sdr. laki ayah, FZD; sanak saudara ular; ular sawah
34	*kowus	snake	kəu	ular piton	ku:s	ular; ular sawah
35	*kuturuk	sweat	kuduruk	keringat	kuduru:k	keringat
36	*kundur	pig	ndur mundhuk	rahang babi	kunduru:r	babi
37	*k ^w ara	ten	para	seputuh		
			para pə	sebelas		
38	*k ^w arok	carry	porək	menjinjing	karə:q	mengepit
39	*k ^w ejit[s]	foot/leg/claw	peih	cakar	pk ^w ɛjt	kaki
40	*k ^w en	raw/unripe/young	pen-pen	mentah, muda	pkɛn-pk ^w ɛn ~ pk ^w ɛn-pk ^w ɛ	muda, mengkal (buah); mentah, belum matang/masak
41	*k ^w [e]r[e/i]	nest	peiri	sarang (kasar)	pk ^w ɛ	sarang
42	*k ^w tes	village	peh	kampung	pk ^w ɛs	kampung
43	*k ^w ter	ear	per ŋgɛin	(daun) telinga	pk ^w ujɛr	telinga
44	*k ^w irembus	boil (n.)	pirembuh	bisul	kurjɛ:mbus	bisul
45	*k ^w osi	good	pəhi	baik	pk ^w ɔ:hi ~ kuos	bagus, baik
46	*mak	voice/language	maq	suara	ma:q	bunyi, suara, bahasa
			iha ma:q	Bahasa Iha		
47	*mandja	child	manda	anak; anak saudara laki-laki	mɛ(j)a ~ mɛja: ~ majt ~ mɛjt	anak; istri sdr. laki-laki tertua suami, MZoH

48	*maŋ	ginger	maŋmaŋ	halia/goroka	maŋmaŋ	jahe
49	*mein	louse	mein	kutu	mi:n	kutu
50	*mejer[e]	inside	mere	di dalam	mi:r	bagian dalam
51	*[me]ŋgagam	spider web	meren	di dalam	mejren	dalam
52	*mesek	neck/throat	meŋan-ŋan-tare	laba-laba	ŋganga:m tare	sarang laba-laba
53	*mesen	sit	mehek	leher	maha-kajs	lekum, jakun
54	*[mi]sin	mouth	mehen	duduk	mehe:n	duduk (umum)
			mihin	moncong	maqena	duduk (tunggal)
			mihin pri-bri	tersenyum	sin	mulut
			mihin tap ~ mhin-tap	gigi; paruh	sin-mi:r	bagian dalam mulut
55	*mong ^{vo}	banana	nŋbo	pisang	sin-pri:	tersenyum
56	*mos	sow	keih moh	menyebar benih	sin ta:p	gigi
57	*munduk ~ *ndumuk	chin	munduk	dagu	munguo	pisang
58	*mbajer	flying fox	mbajer	keluang, kalong	mo:s	menugal, menyebar benih
59	*mbangor	thick	mbaŋ-mbaŋgor	tebal	nd(u)mu:k	dagu; geraham
60	*mbap	star/firefly	mbap	bia, kerang (kecil); bintang	mbaje:r	keluang, kalong
61	*mbes	sugarcane	mbeh	tebu	mbanggo:r	tebal
62	*mbiwong	white	mbioŋ	putih	mbab	berkelip
63	*mbuk	yellow	mbuk-mbuk	kuning	mbap-mbap	kunang-kunang
64	*naka	younger sibling	naka ~ naga	anak laki-laki saudara muda	mbe:s	tebu
65	*nami	man/male	neme-har	ayah/ibu	mbwoŋ-mbwoŋ	putih
			neme-neme-har	laki-laki, pria	mbu:k-mbuk	kuning
			neme-har-dia	jantan	pk ^{va} -naqa	adik laki-laki/perempuan; saudara
66	*nan	older sister	nan	kakak perempuan; anak perempuan saudara laki-laki tua	namije	perempuan termuda istri, Wzy
			nander	ayah/ibu	nami-ha ~ nami-he	suami
			wiri ndo nander	berdiri	narit-narit nami-he	orang laki-laki
67	*nander	stand	nander	membuat/membangun rumah	pk ^{va} -dwa nami-he	teman, sahabat laki-laki
			wiri ndo nander	berdiri	a:ni	ayah suami, HF
			nander	berdiri	nande:r	kakak laki-laki/perempuan
			wiri ndo nander	membuat/membangun rumah	kambi:r nande:ra	berperang

	*nareit	guest/friend	nere(i)t	tamu	narit	tamu
68				tamu	narit	tamu
69	*n[a/o]wa	eat	nawa	makan	narit-narit	teman, sahabat laki-laki
70	*nen	older brother	nawa-ŋge nen	makan kakak laki-laki	nawa	makan
71	*nie	name	ne	nama	a:ni	kakak laki-laki/perempuan; istri sdr. laki-laki termuda suami suami, HByW
72	*nieŋ	stairs/ladder	neŋ	nama	njie	nama
73	*ningis[i]	hide	neŋ ŋghi	tangga	qom-njie	bernama
74	*ndaram	loft/ceiling	ndaram	bersembunyi	njieŋ	tangga
75	*ndoman	sea snail	ndoman	loteng	ni:ngis	bersembunyi
76	*ndum	shoot (n.)	ndum	keong, siput (laut)	ndra:m	langit-langit rumah
77	*ndura	sleepy/nod off	wedi ndum ndura ~ ntura	pucuk	ndoman	keong, bia ketok
78	*ngambur[a]	thatch	kendep dira ngambar	pucuk bambu/rebung mengantuk	wame ntum	rebung
79	*ngawarambuk	land snail	ngawarambuk	mengantuk	kijep ndura	mengantuk
80	*ŋgeit	weave	ŋgeit	lalang	g(a)mbu:ra	lalang, alang-alang
81	*ŋgeŋgap	tongue	ŋgeŋgabung	keong, siput (tanah)	ŋgan-g(a)mbu:ra	lalang, alang-alang
82	*ŋgombor	swollen	ŋgombor	menenun; menjahit	(ŋ)ŋ ^w a:rambuk	siput, keong
83	*ŋguwas	raft/vessel	mehk ŋgombor	lidah	ŋge:jt ~ ŋgeit	menjahit
84	*ŋg ^w or[o/u]s	snore	ŋguwah	bengkak	(ŋga) ŋgambje:r	lidah
85	*ŋg ^w [o/u]n[a]	bee	mborah	gondok, gondong	mbombora:	bengkak
86	*[o]k ^w o[no]	one	mbon	rakit	ŋgu:was	kapal
87	*pak	skin/bark/covering	pə here-wu	mendengkur	ŋgru:s	menggeram, mendengkur
88	*pande[s]	ask	para pə pak adap pak kendep pak pandek	tawon, tabuhan, lebah satu satu sebelas kulit; kulit buah kulit pohon kelopak mata bertanya/menanyakan	wuəŋ ŋgru:ŋ ŋgu:na əqəno	guruh lebah satu
					pk ^w ra:əqəno pa:k adəq pa:k kijep pa:k pendeja:	sebelas kulit kulit pohon kelopak mata bertanya

	*pare	say/speak	pɾe	berkata	pare:	berbicara
89		fly (v.)	mak pɾe	berbicara		
90	*par[o/u]	earwax	pru	terbang	paro	terbang
91	*pek	fish trap	peri-bek	tahi telinga	pk ^w ujer pek-pek	anak telinga
92	*per	diarrhea	per	sero	pɛ:r	bubu
93	*peres	stingray	p(ɛ)ɾeh-p(ɛ)ɾeh	menceret	tjet pɾes-pɾes	menceret
94	*pot	wash	pot-pot	parang; menjala; ikan pari	pot-po:t	ikan pari jenis kecil
95	*pouk	ashes	pouk	mencuci	pouk	cuci
96	*poun	root	mar pan pouk	mencuci pakaian	pɔ:un	abu
97	*pur	palm/sole	poun	abu	pu:r	akar
98	*pVram	smile	pur	telapak tangan	kame:n pra:m	telapak tangan
99	*pVri	burp/belch	telapak tangan	telapak kaki	p ^w et pra:m	telapak kaki
100	*pVrus	drink	kame:n pra:m	tersenyum	tjo:n pra:m	tersenyum
101	*r[o/u]s	cockroach	mihin pri-bri	serdawa	sin-pri:	serdawa, menyemburkan
102	*sang ^w on	old/worn out	korat pruh	minum	pru:s ~ pro:s	makanan
103	*sap[ij]ok	thin/flat	roh	lipas	ru:s	minum
104	*seke[t]	sand	hambon	lipas	sang ^w ɔ:n	lipas
105	*semeng	black	hap-habok	bekas pakai	sa:bjɔ:q	bekas pakai
106	*senek	hot/warm	hege-heget ~ hege-hege	tipis; pipih/gepeng	seqe:	tipis
107	*sep	be ill/sick	hemeŋ	pasir	seqe:-heqe	datar
108	*serere	hoarse	henek	hitam	smɛ:ŋ	pasir
109	*sejin	fish	hep	panas	sne-h(ɛ)nek	hitam
110	*sejir	open	herere	sakit	se:p	hangat
111	*sengiek	earth/world	teɬɔbor herere	sakit perut	serere	merasa sakit
112	*sirijet	ground/below	heŋ	parau	tikembu:n serere	sakit perut
113	*s[iw]or		heir	ikan	ma:q se:ŋ	parau
			hengek	membuka (hal kecil)	sej(ɔ)r	ikan
			hidiet	sawah, ladang, kebun	singje:k	membuka
			hor-ange	turun	sirje:t	bumi
			hor mena	ke bawah	sjɔ:r	tanah
			hor nen	di bawah	kanumar sjɔ:r	belanga tanah
			hor nangak	dari bawah		

114	*sombi[t]	younger youngest child	no hombi manda hombi	saudara perempuan ibu anak bungsu	ne:i su.mbit meja so:mbit	bibi, MZy anak bungsu
115	*son	breast	hon ~ son hon kendeŋ ~ son kendeŋ	susu puting susu	so:n so:n kijep	susu, paudara puting susu
116	*tangier	heavy	tenger	berat	tangi:jer	berat
117	*tap	fence/teeth	mi-hin tap ~ mhin- tap	gigi; paruh	ta:p sin ta:p	pagar, deretan tonggak gigi
118	*tep	pointed	tep	runcing	te:b-teb	runcing
119	*[te]rem	cluster/bunch	rem	rangkai	te:rem	rangkai, tangkai, tandan
120	*t[iw]on	thigh	tjon	paha	nour te:rem	rangkai kelapa
121	*tokar	bone	toqar wotwot ibuh toqor mbeŋ toqor	sambungan pada tulang tulang punggung tulang belikat	tjuon to:qar toqar-toqar tukuruk to:qar	paha tulang tulang-tulang tulang tunggung, tulang ekor, tulang pantat
122	*tong ^w on	elbow/wrist/knee	tan tojmbon	pergelangan tangan	ka:re:m to:qar tunj ^w on	tulang belikat merajut, menjirat
123	*top	spit	kot kembor top	meludah	kame:n tung ^w on	siku
124	*tos	hit	toh kim	membunuh	pk ^w εjt tung(u) w ^{on}	lutut
125	*totom	sit with legs to the side	to-todom	duduk bertimpuh kaki	top to:s	ludah pukul bertimpuh
126	*t[o/u]mb[o/u]r	woman/female	to-tombor tombor nojmbor tamb-hara ~ tombor-har	betina pemuda (putri) perempuan	tumbuwo tumbu-her ~ tumbu-hor	istri orang perempuan
127	*tumbis	ridgepole/ roof	tombor tambor-har	betina	narit-narit tumbu-her	teman, sahabat perempuan
128	*tumbu	five	kokar tamba-har tum-tumbih tumbu herε tumbu tumbu po herε tumbu po	ayam betina atap lima lima enam enam	pk ^w a-dwa tumbu-hor imja.k tum-tu:m-bis tmbu tmbu: -oqono	ibu suami, HF bubungan lima enam

129	*watjar	bay	wadar	teluk	wɛja:r	teluk
130	*war	stone	war tɛtar	kerikil	wa:r	batu
131	*warik	bite	wɛrik	menggigit	wari:k	gigit
132	*[wa]rik	two	rik	dua	wri:k	dua
			hɛrɛ rik	dua		
133	*weng-weng	earthquake	tumbu rik wɛŋ-wɛŋ	tujuh gempa bumi	tmbu: -wri:k sjo:r wɔŋ-wɛ:ŋ ~ sjo:w wɔŋ- wɛ:ŋ	tujuh gempa bumi
134	*wes	go	wɛh	pergi, berlayar	wɛs ~ wɛ:s	berjalan, pergi masih dalam tujuan; pergi pergilah
135	*wiek	blood	wɛk	darah	wɛ:het	
136	*w[i]r[a]	tree	wɛrɛ	pohon/kayu	wijɛk	
137	*wong	sky	wɔŋ	langit; udara	wurja:	pohon
138	*wor	tail	wɔr	ekor	wuɔŋ	langit
			kuwu wɔr	hilir	wuɔr tarɛ	ekor
139	*wosou	breath/breath	wɔhɔ	bernapas, istirahat	krija wuɔ(ŋ)	berlayar ke hilir
			mɛɛ wɔhɔ-ndia	terengah-engah	a:t wɔhɔw	bernapas
140	*wotour	clan/relatives	wɔdɔur	suku bangsa	wɔdɔ:w	sanak saudara
			wɔdɔur pɔnɛt	sanak saudara		
141	*wun	egg	kɔkar wun	telur	u:n	telur