

A Descriptive Study of the Kelabit Bario Dialect

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1 Introduction

Today, “globalization” is one of the biggest movements in the world, and international languages, such as English, have a more important role than the languages of minorities. Some languages which only have a few remaining speakers are in danger of “language death” (Miyaoaka2002). Especially Malaysia, which is a multi-cultural country in South East Asia, has a variety of languages. In this study, we will take a closer look at one of those languages spoken by the indigenous people, Kelabit. This paper will attempt to clearly describe the phonological system of the Kelabit language. The goal of this study is to describe linguistically the Bario dialect of the Kelabit language, which will henceforth be referred to as the Kelabit Bario dialect.

2 Kelabit Bario dialect

In this section, you will see the features of Kelabit as outlined in previous studies. The Kelabit language is the language spoken by the Kelabit people, the indigenous inhabitants living in Sarawak, Borneo Island, and East Malaysia (see Figure 1).

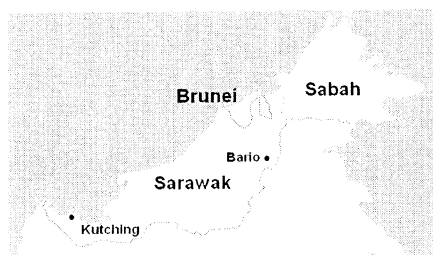


Figure 1 : Map of Bario, Northern Sarawak, Malaysia

The language family Kelabit belongs to is still not yet been made clear, but according to Lewis (2014), it belongs to the Austronesian language family and can be classified as a member of the Malayo-Polynesian language sub-family (see Figure 2).

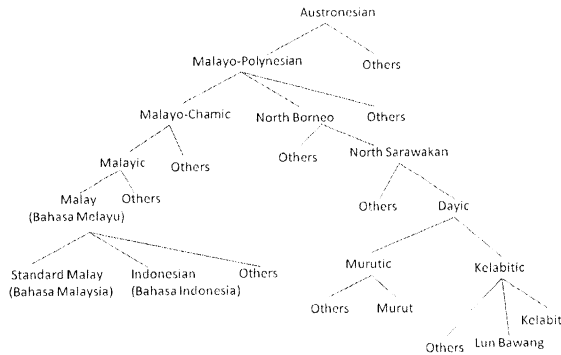


Figure 2 : Language tree based on Ethnologue

In Borneo, there are some Kelabit villages and one of the villages, named Bario is considered as the origin of the Kelabit. Thus the fieldwork performed in this study is set in Bario and this study is aimed specifically at the Kelabit Bario dialect. As seen in Figure 1, Bario is located in the highlands in north Sarawak, very close to the border of Brunei Darusalaam and Indonesia. The population of Bario is about 900. The flights from Miri town to Bario takes 45 minutes.

3 Previous Studies

3.1 Studies about Austronesian Languages

Unfortunately, the study about Kelabit has very little progress and in fact has just started. As Norazuna Norahim says in *A Preliminary Review of Research on Languages and Dialects* (2013), we suffer from a lack of researchers who study languages and dialects in Sarawak in any linguistic fields. Including languages related to and from the surrounding areas of Kelabit, we have no published works relating to any of the indigenous languages. The only exception is being the bible translated into Lun Bawang but the orthography has not yet established.

However, Austronesian Languages including Kelabit are now beginning to develop a descriptive linguistic study. The number of studies on these languages are still limited, but we can find some useful studies about the characteristic features of those languages to utilize in a descriptive study of Kelabit. This study will suggest a new phoneme inventory of Kelabit and discuss problems in the present orthography. Now we will take a look at an important previous study of Kelabit.

3.2 Kelabit/ English English/ Kelabit Glossary A concise Guide to the Kelabit Language

The *Kelabit/English English/Kelabit Glossary* is a glossary which contains Kelabit basic words researched by Matthew H. Amster. It is published by Rurum Kelabit Sarawak, a community of the Kelabit who work to preserve their culture. The number of the words in this glossary is big enough to encompass everything you would need to go about daily life in the Kelabit language. However, this glossary does not show the systematic phoneme inventory and environments where vowels have

allophones. It also ignores the functions of personal pronouns and gives no information which forms the Kelabit use in the sentences. Therefore it is important to figure out those language features which have not yet been determined. Although Amster (1995) does not mention these sounds are phonemes, he says that the Kelabit has 8 vowels and 20 consonants (see Figure 3). The number of the vowels is too big for Austronesian languages. Thus he seemed to describe all the sounds he could hear. In this paper, some of those sounds are considered as allophones and divided into the phonemes they belong to. Some sounds which only appear in the specific environment will be discussed later.

	Bilabial		Alveolar		Hard Palatal	Soft Palatal	Glottal	
Plosive	p	b	t	d		k	g	ʔ(')
Nasal		m		n			ŋ	
Trill				r				
Fricative				s				h
Approximant		w			j			
Lateral approximant				l				
Others		b ^h		d ^h , dʒ			g ^h	

Vowels: i, ɪ, u, ɛ, ə, ʌ, ɔ, o

Figure 3 : Phoneme Inventory set by Amster(1995)

3.3 The Austronesian languages

The Austronesian languages was written by Robert Blust and published in 2013. In this work, he mentions some features, such as sound system of Austronesian languages on the whole, morphological characters, syntactic structures and etc. He describes the sound system and the syntax system of Austronesian languages with other specific languages such as Kelabit. In chapter 4, he discusses the sound system of the languages in Borneo Island. According to the study, the Kelabit Bario dialect has 6 vowel and 20 consonant phonemes (see Figure 4). However this phoneme inventory is still too big for Austronesian languages as well.

	Bilabial		Alveolar		Hard Palatal	Soft Palatal	Glottal	
Plosive	p	b	t	d		k	g	ʔ
Nasal		m		n			ŋ	
Trill				r				
Fricative				s				h
Approximant		w			(j)			
Lateral approximant				l				
Others		b ^h		d ^h			g ^h	

Vowels: i, u, e, ə, o, a

Figure 4 : Phoneme Inventory set by Blust(2003)

Comparing these previous studies, the vowel system is controversial. I almost agree with the consonant system. The problem is the sounds called “voiced aspirates”, which is set in the phoneme inventory of Kelabit in these previous studies.

4 Methodology

This chapter will tell you the methodology used for the descriptive study on Kelabit. To describe Kelabit, I performed fieldwork on two separate occasions in 2014. For setting the phoneme inventory, I collected recordings of Kelabit words and analyzed them. The Kelabit word list is made with Kelabit original words based on Asia Africa-lab’s basic word list and Swadesh’s word list. This time the list has only 400 words. Some suspicious words, the words with [b^h, d^h, g^h] sounds, are consciously added into the list to examine if the phoneme setting of the previous study is appropriate. Based on the Kelabit basic word list, the fieldwork was done in Bario with help from Kelabit informants.

5 Result

5.1 Introduction

Here we will analyze the phonemes of the Kelabit language revealed by the fieldwork research. This paper suggests a new phoneme inventory. Thus there are disagreements with the transcription offered by Amster(1995). The points which we disagree with will be in brackets (). And these brackets show the orthography by Amster(1995). The Kelabit Bario dialect has 4 vowel phonemes, /a/,/i/,/u/,/ə/, and 15 consonant phonemes.

5.2 Vowel Phonemes

These are the four vowel phonemes contained within the Kelabit Bario dialect (see Figure 5).

	Front	Back
High	i	u
		ə
Low		a

Figure 5: the diagram of vowel phonemes of Kelabit Bario dialect

From the sound systems of Austronesian languages this phoneme setting is quite reasonable. Because phoneme inventories in Austronesian languages are generally smaller than the world average as Blust (2013) says. Moreover, 90% of all Austronesian languages have 15-20 consonants and 4-5 vowels. Therefore this vowel phoneme inventory is somehow more accurate than previous ones.

Table 1 shows examples of Kelabit words which include those four vowels.

Table 1 : Kelabit Bario dialect words with each vowel

Vowel	Phoneme	IPA	(Amster)	Meaning
/i/	/kini/	[kinih]	([kinih])	now
/u/	/budə/	[budaʔ]	([budɑ])	white
/ə/	/bəra/	[bəra]	([bəra:])	rice
/a/	/əppaʔ/	[əppaʔ]	(/əbpaʔ/[ʌbʰɑ])	water

These are sets of minimal pairs which contain each vowel.

(1) /a/ and /ə/:	/məttəŋ/	[mət:əŋ]	“daytime”	∣	/məttəŋ/	[mət:əŋ]	“to arrive”				
(2) /i/ and /ə/:	/ini/	[inih]	“this”	∣	/inə/	[inəh]	“that”				
(3) /a/ and /u/:	/ŋajad/	[ŋajad]	“to cut”	∣	/ŋajud/	[ŋajud]	“to write”				
(4) /i/, /u/ and /a/:	/ii/	[i:h]	“who”	∣	/ui/	[uih]	“I/me”	∣	/ia/	[iah]	“he/him”

From these examples, we can see that this vowel inventory is systematic.

5.2.1 Allophones

These vowel phonemes have allophones. Some allophones appear only in limited environments.

Table 2 : Allophones of vowels in Kelabit Bario dialect

Phonemes:	/i/	/a/	/ə/	/u/
Allophones:	[i]	[a]	[ə, e]	[u, o]

Phonetic features (\pm high, \pm back, \pm round, \pm low) are useful to divide these vowels into various groups. Allophones are divided into these groups as the Table 3 shows. In this case, mid-vowel is categorized as [+back].

Table 3 : Phonetic features of vowels

	[i]	[a]	[e]	[ə]	[o]	[u]
[\pm high]	+	-	-	-	-	+
[\pm back]	-	+	-	+	+	+
[\pm low]	-	+	-	-	-	-
[\pm round]	-	-	-	-	+	+

From Table 3, we can see vowels [e] and [ə], and [o] and [u] have similar features and close to each

other. Now we will discuss the environments where these allophones occur.

5.2.2 Phoneme /ə/, allophones [e] and [ə]

The important question here is when phoneme /ə/ appears as [e] or [ə]. The table below shows sample words which contain the phoneme /ə/.

Table 4 : Kelabit Bario words which have phoneme /ə/.

No.	Phoneme	IPA	(Amster)	Meaning
1	/ələd/	[ələdʰ]	[əlad]	<i>n.</i> wing
2	/tələnən/	[tələnən]	[tələnən]	<i>n.</i> throat
3	/padə/	[padɛ]	[padɛ]	<i>n.</i> rice
4	/tuŋə/	[tuŋɛ]	[tuŋɛ:]	<i>adv.</i> here
5	/anun/(enun/)	[anʉn]	[ʌnʉn]	what

It is clear that the phoneme /ə/ is pronounced as [ə] when this phoneme appears at the head of the words and in middle of the words (1./ələd/ “wing” 2./tələnən/ “throat”). It is also clear that /ə/ at the end of the word is pronounced as [e] as we can see in 3. /padə/ “rice” and 4. /tuŋə/ “here”. There are two disagreements about the phoneme /ə/ from Amster’s transcription. First, in Amster’s glossary, /ə/ at the end of the word is described as [ɛ:]. However, this paper has found that the sound is not that of the frontal vowel and the actual way to describe this sound is [e]. However this is not particularly strong evidence for the argument that Kelabit has long vowel phonemes. In the actual conversation, this sound sometimes sounds like a long vowel with a stress. The second is about the description of the initial vowel in the word /anun/. Amster (1995) described this word as [ʌnʉn] and treated the initial vowel as /ɛ/. However this paper treats /anun/ with the initial vowel /a/ and /nun/. This analysis is based on the sound impressions of the recordings and the orthography which informants used during the fieldwork.

The Figure 6 shows these environment where the allophones of /ə/ appear.

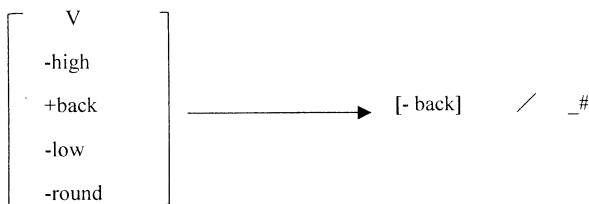


Figure 6 : the environment where phoneme /ə/ has allophone [e]

In short, [ə] and [e] are allophones of the phoneme /ə/ because they occur in complementary distribution. The sound [e] occurs when /ə/ appears at the end of the words and in the other cases, [ə] occurs.

5.2.3 Phoneme /u/, allophone [u] and [o]

Now this paper will discuss phoneme /u/. The important question here is what is characteristic about /u/, when the allophone [u] appears, and when the other allophone [o] appears. Let us take these words as examples below.

Table 5 : Kelabit Bario words which have the phoneme /u/

No.	Phoneme	IPA	(Amster)	Meaning
1	/uih/	[uih]	[uih]	I/me
2	/muju/	[mujuh]	[mujuh]	you (more than three)
3	/iku/	[iko]	[ikɔ]	You
4	/tudu/	[tudo]	[tudɔ]	to sit
5	/madu/	[mado]	[madɔ]	Far
6	/puʔun/	[puʔun]	Not found	origin
7	/puun/	[pu:n]	[pu:n]	Hill
8	/udu/	[odo]	[ɔdɔ]	traditional handcrafts

From Table 4, in words such as 1. /uih/ “I/me” and 2. /muju/ “you (more than three)”, phoneme /u/ is pronounced as [u]. 2. /muju/ is pronounced with the voiceless glottal fricative [h] as [mujuh] and thus does not actually end with the vowel /u/. Therefore it is clear that at an initial position and in the middle of the word /u/ is pronounced as [u]. Moreover, this [u] is sounded like the mid-high vowel [o]. Thus in this paper, more accurate IPA transcription of [u] is [ɯ] and it is used to describe /u/ at the initial and middle position of the words.

The next discussion is on the environment where allophone [o] appears. Throughout 400 words in the basic word list, 8. /udu/ [odo] is the only word which has [o] at the initial position. Excluding this word, the sound [o] occurs at the end of the words. Therefore, this study suggests the phonological rule that phoneme /u/ is pronounced as [o] at the end of the words. Now, it is time to consider the environment where [o] occurs at the initial position of a word. At first, /udu/ [odo] looks like loan word. However, all the Kelabit informants said that /udu/ is an original word of Kelabit. Thus the explanation of why the vowel [o] appears at the beginning of the word is necessary. The suggestion here is this phonological rule, i.e. if the vowel at the end of the word is /u/ and the syllable which it is followed by has the vowel /u/, the latter /u/ is also pronounced as [o]. However there also exists

some counterevidence (i.e. /buʔu/ [buʔuh] “feather”, /libu/ [libuh] “short”, /ŋəlinu/ [ŋəlinuh] “to think”, /riru/ [riruh] “to laugh”, /ulu/ [uluh] “head”). These words in fact end with [h] or [ʔ]. Thus here the explanation of /udu/ [odo] seems to be done. However, Kelabit language may have more words which have [o] at the initial position of the words. Thus more fieldworks are necessary.

5.2.4 Other allophones

The Kelabit Bario dialect still has more allophones which Amster(1995) mentions. Thus here, we will look at those allophones of the vowels. The relationship of the phonemes which this study suggests and allophones are shown below.

Table 6 : Allophones

Phonemes:	/i/	/u/	/ə/	/a/
Allophones:	[i] [ɪ]	[u] [o] [ɔ]	[ə] [e] [ɛ] [ʌ]	[a] [ɑ]

However, the description of Amster (1995) and this paper are not same as this paper. It is difficult to admit that all of these allophones are seen in Kelabit Bario dialect.

5.3 Consonants

On the basis of the fieldwork, this paper set the consonant phonemes of the Kelabit Bario dialect as Figure 7 below.

	Bilabial		Alveolar		Hard Palatal	Soft Palatal		Glottal
Plosive	p	b	t	d		k	g	ʔ
Nasal	m		n			ŋ		
Trill			r					
Fricative			s					(h)
Approximant	w					j		
Lateral approximant			l					

Figure 7 : Kelabit consonant phonemes

The differences from the previous study are : (i) affricate [dʒ] (and [tʃ]), (ii) voiced aspirates [b^h], [d^h] and [g^h] (iii) glottal fricative [h]. Firstly, although the affricate [dʒ] is seen in only four words in the basic word list, it is described as a phoneme of Kelabit in Amster’s study. Almost all of these words are similar to words in Malaysian. (i.e. /andʒin/ [andʒin] ← (Malay) anjin, /gadʒi/ [gadʒi] ←

(Malay) gaji, /dʒaban/ [dʒaban] ← (Malay) jaban), and /dʒaga/ [dʒaga] do not have a similar words with Malaysian.) The fact that it has no [ʃ] sound in the list also supports the claim that the Kelabit Bario dialect does not have phonemes / dʒ / and / ʃ/. The number of people who use loan words from Malaysian are increasing daily, so that more people will tend to use the word /anjin/ “dog (Malaysian)” instead of /uku?/ “dog (Kelabit)”. In the future, if Kelabit people stop using their own native Kelabit vocabulary and start to use Malay loan words, it may be natural to consider [dʒ] as a phoneme of Kelabit.

The second argument is about (ii) voiced aspirates. In the previous studies, Amster(1995) mentions that Kelabit has three sounds called “voiced aspirates” and Blust says that Kelabit has a second series of voiced obstruents, b^h, d^h, g^h that begin voiced and end voiceless, with variable voiceless onsets to the following vowel. However, from an auditory impression, [b^h] does not sound like what they describe. Let’s take the Kelabit word /əpuk/ [əp:ʊk] “hair” as an example (this word is described as “əbʊk [ʌb^hʊk]” in Amster’s work). The sound (/bp/) [b^h] is in fact pronounced like long consonant. Amster might notice the flow of the air during production of a plosive, and misunderstand it as an aspirate sound. Since some informants spell this /bp/ as /p/, this sound is considered as long consonants of /p/. Moreover, [d^h] and [g^h] are understood to be the same. In the case of [g^h], it is described as [k:], a long consonant of [k] just like [b^h]. In the case of [d^h], I have to mention the features of the sounds [t] and [d]. Both Amster (1995) and Blust (2013) say that the Kelabit Bario dialect have the consonants [t] and [d]. From my observation, this sound is described as retroflex [t̠] and [d̠]. Thus the sound written as [d^h] in the previous study should be described as a long retroflex [t̠:]. Because it has the feature of retroflex, there is a sound like fricative produced when a speaker release the air. Amster (1995) and Blust (2013) might have mistakenly analyzed these sounds as aspirates.

Lastly, the question whether the sound [h] is considered as a phoneme or not has to be answered. In this study, the sound [h] is not a consonant phoneme because it appears only at the end of the word. It is not seen at the initial or middle positions of the Kelabit words. Moreover, some words which have the same origin as Malaysian change their [h] sound in the Kelabit language as Table 7 shows below.

Table 7 : The change of [h] in Malaysian to Kelabit words

Example:	Kelabit	Malay	Meaning
	/liə/	halia	Ginger
	/mitəm/	hitam	Black
	/mudan/	hujan	Rain

Accordingly, this study does not consider /h/ as a phoneme of the Kelabit Bario dialect. However it does occur at the end of the words, thus for the IPA transcription [h] is used in phonetic description.

6 Summary

The Kelabit Bario dialect contains 4 vowel and 15 consonant phonemes. The vowel /ə/ has an allophone [e] and /u/ has an allophone [o] in particular environments. The Kelabit consonants system does not have “voiced aspirates” as the previous studies suggest, however it has long consonants /pp/, /tt/, /kk/. Especially /tt/ which is pronounced like a retroflex [t:].

In this study, the analysis of the sound system of the Kelabit Bario dialect is different from ones of previous studies. However these results are supported by fieldwork research and recordings. Therefore it is reasonable enough to say that it is so. Still there are many more questions yet to solve about the Kelabit Bario dialect. Further consideration will be needed to yield any findings about the morphological and syntactic system of Kelabit. Therefore the next prepared fieldwork has to be done in the future to reveal the other features of Kelabit.

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