

A Preliminary reconstruction of Proto-Lakkja (Cha Shan Yao)

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1. Introduction

The Jinxiu Yao Autonomous County (JYAC) of Guangxi Province is located in the area of Ta Yao Shan or the Big Yao Mountain. It is 700-1500 metres above sea level. It has a subtropical climate with an average temperature of around 17°C. The population of JYAC comprises eight nationalities: Zhuang (44.0 %), Yao (33.1 %), Han (22.8 %), and others (0.1 %). The so-called Yao nationality can be divided into five major groups: Pan Yao or Iu Mien (16.4 %), Ao Yao or Bjaio Muan (4.6 %), Shan Züe Yao or Kim Di Mun (2.3 %), Hua Lan Yao or Punu (1.4 %), and Cha Shan Yao or Lakkja (8.4 %). According to the latest survey done in 1988, there are about 11,480 Cha Shan Yao speakers. This ethnic group lives only in JYAC. The oldest Cha Shan Yao village is located in downtown Jinxiu. Many thousands of years ago they lived in Guangdong Province. Later on they moved westwards, till they arrived in Guangxi and made Jinxiu their permanent home. They were among the pioneers who opened up the wilderness of Ta Yao Shan.¹

The Cha Shan Yao call themselves “Lakkja” which means ‘mountain people’. The word *lak*^{D2S2} means ‘person’, as can be found in many compound nouns, such as *lak*^{D2S} *kjei*^{A1} ‘man (person+male)’, *lak*^{D2S} *kjäu*^{C1} ‘woman (person+female)’, *lak*^{D2S} *lou*^{C2} ‘old person (person+old)’, *lak*^{D2S} *pla*^{A1} *phaŋ*^{C1} ‘a blind (person+eye+unable to see)’, and so on. In the Jinxiu dialect, the word *kja*^{C1} means ‘mountain’ which perhaps is cognate with the Proto-Tai form **phl(r)a*^A ‘rock, cliff’, and *lak*^{D2S} perhaps is cognate with (PT) **liuk*^D ‘one’s child’. In Siamese *lu:k*^{D2L} also means ‘fruit’, e.g. *lu:k*^{D2L} *thɔː*^{C2} ‘peach’, *lu:k*^{D2L} *phlap*^{D2S} ‘persimmon’, etc. This type of compound can also be found in Lakkja, e.g. *lak*^{D2S} *faŋ*^{A1} ‘peach’, *lak*^{D2S} *i:t*^{D1L} ‘grape’, etc. This ethnic group and their language will be referred to as “Lakkja” (rather than Lakkia) in the rest of this paper.

The Lakkja took up the ‘Yao Nationality’ because of three reasons. Firstly, they are highlanders like the other Yao groups, e.g. Mien, Muan, Mun, etc. Secondly, because there is a large number of Chinese loanwords (new loans from Mandarin and early loans from Southern Chinese dialects, mostly from Cantonese),

¹ This information is from a lecture by the Director of Minority Affairs. I asked him for the documents that could be used as references, but he refused to give them to me. He told me to wait for the published version which will appear sometime later.

² IPA symbols are used in transcribing consonants and vowels. As for tones, I will follow the Li system.

the Lakkja and the proper Yao languages seem to have a lot of similar vocabulary. Moreover, similar phonological systems can also blind linguistically naïve people. Thirdly, political benefits are the most important reason. Although the Zhuang are the majority of the Jinxiu population (44.0 %), the Zhuang and the other six nationalities have less chance and in some cases no chance to be the top officials of JYAC. Only those who have Yao nationality are considered. By being a member of the Yao group the Lakkja can gain more advantage.

2. Data

The data on Jintian (JT) and Liula (LL) dialects are from my own field notes collected during my stay in Jinxiu in October, 1989,³ and the data on the third dialect, Jinxiu (JX), are from the published wordlist found at the back of Mao Zong-Wu et al. (1982).⁴ The reconstruction of consonants, vowels and tones in Proto-Lakkja (PL) is based on the comparison of the above three dialects.⁵ Forms reconstructed for Proto-Tai (PT) and Proto-Kam-Sui (PKS) are from Li (1977) and Thurgood (1988), respectively; the Hlai data are from Pranee Kullavanijaya et al. (1984) and Matisoff (1988); and the data on Be are from Hansell (1988) and Hashimoto (1980).

3. Proto-Lakkja tone system

Proto-Lakkja has four tones, namely *A, *B, *C and *D like Proto-Tai. In later stages, these four proto-tones split into two series conditioned by the types of initial consonants, i.e. the high series from voiceless initials and the low series from voiced initials. As the result of this splitting, CVØ and CVN syllable types in modern Lakkja dialects have six tones, namely A1, A2, B1, B2, C1 and C2 tones, and checked syllables that used to have proto-tone D have four tones, depending upon the initial and the vocalic length. In Jintian and Liula dialects, tones A2 and B2 are glottalized and laryngealized (creaky), respectively. Tone D1L has merged with C1, D2L with C2, and D1S with B1, whereas D2S still maintains its own identity. The merging of D2S with B2 has not yet occurred. (See the phonetic character of tones in modern dialects in Table 1, and the correspondences of each

³ I would like to thank the Guangxi Institute for Nationalities and the Department of Minority Affairs of JYAC for their kind arrangements. Without their assistance, my field research in JYAC would not have been possible. A lot of thanks go to the Toyota Foundation for financial support.

⁴ I am grateful to Mr. Korsak Thamcharonkij of the Chinese Section, the Oriental Languages Department, Faculty of Arts, Chulalongkorn University, who kindly translated the Lakkja materials written in Chinese and went through the wordlist with me to draw out Chinese loans in Lakkja. His knowledge of Mandarin, Tae Chew and Cantonese dialects was very useful for my work.

⁵ The Jintian dialect seems to be less conservative than the other two dialects. I suspect that perhaps the Lakkja language has only one major dialect, and this one dialect has a few sub-dialects. Thus JT, LL and JX may be regarded as sub-dialects of the same dialect. There are a few differences among them. I could have got more data and done better work if I had prepared myself for Lakkja. I had not known that Cha Shan Yao and Lakkja were the same ethnic group till I arrived in JYAC. An opportunity to work with Lakkja speakers in their hometown during my visit to Jinxiu may be regarded as an accident or as a by-product of my major project on Yao sponsored by the Toyota Foundation. It is also a pity that I did not get hold of the book *Comparative Kadai*, edited by Edmondson and Solnit (1988), till March, 1990.

tone in Table 2.) Syllables having aspirated and fricative initials can have only the high series tones : A1, B1, C1, D1S and D1L.

Table 1: The phonetic character of tones in Jintian, Liula and Jinxiu dialects.

Dialect 1: JT	*A	*B	*C	*D	
				DL	DS
1. High series *Voiceless	453	45	33	33	45
2. Low series *Voiced	231?	214~	221	221	11

Dialect 2: LL	*A	*B	*C	*D	
				DL	DS
1. High series *Voiceless	453	45	24 *	24	45
2. Low series *Voiced	231?	214~	221	221	34

Dialect 3: JX	*A	*B	*C	*D	
				DL	DS
1. High series *Voiceless	51	55	24	24	55
2. Low series *Voiced	231	214	11	11	24

Table 2: Examples of the tone correspondences.

	PL	JT	LL	JX
*A (>A1) 'eye' 'fish' 'leaf'	*pla:A *phla:A *ʔwa:A	pja:A1 phja:A1 va:A1	pla:A1 phla:A1 va:A1	plaA1 phlaA1 waA1
*A (>A2) 'tooth' 'hand' 'monkey'	*wanA *miəA *liŋA	vanA2 miəA2 liŋA2	vanA2 miəA2 liŋA2	wanA2 mieA2 liŋA2
*B (>B1) 'chicken' 'old (thing)' 'to sit'	*kaiB *ka:uB *ʔniŋB	kaiB1 ka:uB1 niŋB1	kaiB1 ka:uB1 niŋB1	kaiB1 ka:uB1 niŋB1

*B (>B2)				
'to scatter'	*wamB	uamB2	uamB2	wamB2
'dry field'	*di:B	ti:B2	ti:B2	tiB2
'grinding stone'	*muəB	muəB2	muəB2	muəB2
*C (>C1)				
'intestine'	*klaiC	kjaiC1	kjaiC1	kjaiC1
'rice'	*kouC	kouC1	kouC1	kouC1
'liquor'	*khla:uC	khja:uC1	khja:uC1	khja:uC1
*C (>C2)				
'water'	*numC	numC2	numC2	numC2
'elephant'	*dzamC	tsamC2	tsamC2	tsamC2
'horse'	*ma:C	ma:C2	ma:C2	maC2
*D (>D1L)				
'to take off'	*thuətD	thuətD1L	thuətD1L	thuə:tD1L
'to tear'	*tshe:kD	tshe:kD1L	tshe:kD1L	tshe:kD1L
'forehead'	*plakD	pja:kD1L	pla:kD1L	plakD1L
*D (>D2L)				
'narrow'	*je:pD	je:pD2L	je:pD2L	je:pD2L
'blood'	*liətD	liətD2L	liətD2L	lie:tD2L
'land leech'	*la:kD	la:kD2L	la:kD2L	-
D (>D1S)				
'bite'	*katD	katD1S	katD1S	katD1S
'heavy'	*tsakD	tsakD1S	tsakD1S	tsakD1S
'mountain frog'	*kopD	kopD1S	kopD1S	kopD1S
D (>D2S)				
'to steal'	*glakD	kjakD2S	kjakD2S	kjakD2S
'wash (clothes)'	*wla:kD	lakD2S	lakD2S	wakD2S
'ant'	*motD	motD2S	motD2S	motD2S

4. Proto-Lakkja consonant system

4.1 Stops

Proto-Lakkja has eleven initial stops. They are as follows :

Labial:	*p-	*ph-	*ʔb-	*b-
Alveolar:	*t-	*th-	*d-	
Velar:	*k-	*kh-	*g-	
Glottal:	*ʔ-			

The correspondences of initial stops in modern dialects are very regular, almost one-to-one correspondences, as can be seen in Table 3.

Table 3: Correspondences of initial stops.

PL	JT	LL	JX
*p-	p-	p-	p-
*ph-	ph-	ph-	ph-
*ʔb-	m-	b-	b-
*b-	p-	p-	p-
*t-	t-	t-	t-
*th-	th-	th-	th-
*d	t-	t-	t-
*k-	k-	k-	k-
*kh-	kh-	kh-	kh-
*g-	k-	k-	k-
*ʔ-	ʔ-	ʔ-	∅-

*ʔb- becomes *m-* in the Jintian (JT) dialect and *b-* in the other two dialects; for example, *ʔbanC > manCI (JT) and banCI (LL, JX) ‘house’. Unlike Proto-Tai, Proto-Lakkja does not have *ʔd/d-. Proto-Lakkja *ʔl- corresponds to Proto-Tai *ʔd- as in the following reconstructed forms: *ʔlamA (PL)-*ʔdl/ramA (PT) ‘black’ and *ʔlaiA (PL)-*ʔdi/əiA (PT) ‘good’. *ʔ- becomes ∅- in Jinxiu dialect. (I suspect that the lack of ʔ- in the Jinxiu dialect is caused by the Chinese tradition of transcription.) *d- is devoiced in modern dialects (>t-), and none of the dialects has d-. Examples of the correspondences of labial stops, alveolar stops, velar stops and glottal stop can be found in Tables 4, 5, 6 and 7, respectively.

Table 4 : Examples of the labial stop correspondences.

	PL	JT	LL	JX
	*p-	p-	p-	p-
‘to go’	*paiA	paiA1	paiA1	paiA1
‘year’	*peiA	peiA1	peiA1	peiA1
‘fire’	*puiA	puiA1	puiA1	puiA1
‘to give’	*pənA	pənA1	pənA1	-
‘weep’	*piəA	piəA1	piəA1	pieA1
‘to spin’	*panB	panB1	panB1	panB1
‘hundred’	*pɛ:kD	pɛ:(;)kD1L	pɛ:kD1L	pɛ:kD1L
‘eight’	*patD	patD1L	patD1L	patD1L
‘duck’	*petD	petD1S	petD1S	petD1S
‘foot’	*pukD	pukD1S	pukD1S	pukD1S
	*ph-	ph-	ph-	ph-
‘to spit’	*phuiA	phuiA1	phuiA1	phu:iA1
‘to spread out’	*phu:A	phu:A1	phu:A1	phuA1
‘to blow’	*phu:B	phu:B1	phu:B1	phuB1
‘broken’	*phe:kD	phe:kD1L	phe:kD1L	phe:kD1L

	*ʔb-	m-	b-	b-
'sky'	*ʔbən ^A	mən ^{A1}	bən ^{A1}	bən ^{A1}
'month'	*ʔbiən ^A	miən ^{A1}	biən ^{A1}	biən ^{A1}
'village'	*ʔbɑ:n ^C	mɑ:n ^{C1}	bɑ:n ^{C1}	bɑ:n ^{C1}
'well grown, big'	*ʔbok ^D	mok ^{D1S}	bok ^{D1S}	bok ^{D1S}
	*b-	p-	p-	p-
'palm (hand)'	*bɑ:n ^A	pɑ:n ^{A2}	pɑ:n ^{A2}	pɑ:n ^{A2}
'belly'	*bɔ:ŋ ^A	pɔ:ŋ ^{A2}	pɔ:ŋ ^{A2}	pɔ:ŋ ^{A2}
'skin'	*bei ^A	pei ^{A2}	pei ^{A2}	pei ^{A2}
'far'	*ba:A	pɑ:A ²	pɑ:A ²	pɑ:A ²
'fat'	*bui ^A	pui ^{A2}	pui ^{A2}	pui ^{A2}
'white'	*biək ^D	piək ^{D2L}	piək ^{D2L}	piək ^{D2L}
'to make, to do'	*bok ^D	pok ^{D2S}	pok ^{D2S}	pok ^{D2S}

Table 5: Examples of the alveolar stop correspondences.

	PL	JT	LL	JX
	*t-	t-	t-	t-
'to light (lamp)'	*tum ^A	tum ^{A1}	tum ^{A1}	tum ^{A1}
'door'	*tɔ:A	tɔ:A ¹	tɔ:A ¹	tɔ:A ¹
'stool'	*taŋ ^B	taŋ ^{B1}	taŋ ^{B1}	taŋ ^{B1}
'arrow'	*ti:n ^B	ti:n ^{B1}	ti:n ^{B1}	ti:n ^{B1}
'to divide'	*te:ŋ ^B	te:ŋ ^{B1}	te:ŋ ^{B1}	te:ŋ ^{B1}
'mortar'	*toi ^B	tuəi ^{B1}	tuəi ^{B1}	tuəi ^{B1}
'to weave (cloth)'	*tam ^C	tam ^{C1}	tam ^{C1}	tam ^{C1}
'to cook'	*tɔ:C	tɔ:C ¹	tɔ:C ¹	tɔ:C ¹
'mouth'	*tei ^C	tei ^{C1}	tei ^{C1}	tei ^{C1}
'to join, to connect'	*tɔ:C	tɔ:C ¹	tɔ:C ¹	tɔ:C ¹
'liver'	*tap ^D	tap ^{D1S}	tap ^{D1S}	tap ^{D1S}
'to put'	*tiək ^D	tək ^{D1S}	tək ^{D1S}	tək ^{D1S}
	*th-	th-	th-	th-
'needle'	*them ^A	them ^{A1}	them ^{A1}	them ^{A1}
'to poke'	*thi:m ^B	thi:m ^{B1}	thi:m ^{B1}	thi:m ^{B1}
'shallow'	*thi:n ^C	thi:n ^{C1}	thi:n ^{C1}	thi:n ^{C1}
'to take off'	*thuət ^D	thuət ^{D1L}	thuət ^{D1L}	thuət ^{D1L}
'seven'	*thet ^D	thet ^{D1S}	thet ^{D1S}	thet ^{D1S}
	*d-	t-	t-	t-
'copper'	*doŋ ^A	toŋ ^{A2}	toŋ ^{A2}	toŋ ^{A2}
'clf. for animals'	*du:A	tu:A ²	tu:A ²	tu:A ²
'dry field'	*di:B	ti:B ²	ti:B ²	ti:B ²
'beans, peas'	*dou ^B	tu ^{B2}	tu ^{B2}	tu ^{B2}
'to make (fire)'	*diu ^C	tiu ^{C2}	tiu ^{C2}	-
'right'	*duk ^D	tuk ^{D2S}	tuk ^{D2S}	tuk ^{D2S}
'to forge iron'	*dap ^D	tap ^{D2S}	tap ^{D2S}	tap ^{D2S}

Table 6: Examples of the velar stop correspondences.

	PL	JT	LL	JX
	*k-	k-	k-	k-
‘bow’	*koŋA	koŋA1	koŋA1	koŋA1
‘crow’	*ka:A	ka:A1	ka:A1	kaA1
‘oil’	*ka:uA	ka:uA1	ka:uA1	ka:uA1
‘root’	*kanA	kanA1	kanA1	kanA1
‘red’	*kɔŋB	kɔŋB1	kɔŋB1	kɔŋB1
‘chicken’	*kaiB	kaiB1	kaiB1	kaiB1
‘old (thing)’	*ka:uB	ka:uB1	ka:uB1	ka:uB1
‘rice’	*kouC	kouC1	kouC1	kouC1
‘mountain frog’	*kopD	kopD1S	kopD1S	kopD1S
‘to bite’	*katD	katD1S	katD1S	katD1S
	*kh-	kh-	kh-	kh-
‘thin’	*khuənC	khuənC1	khuənC1	khuənC1
	*g-	k-	k-	k-
‘to ask’	*ga:mA	ka:mA2	ka:mA2	ka:mA2
‘bitter’	*gomA	komA2	komA2	komA2
‘axe’	*guənA	kuənA2	kuənA2	kuənA2
‘horn’	*gouA	kouA2	kouA2	kouA2
‘joint, node’	*gunB	kunB2	kunB2	-

Table 7: Examples of the glottal stop correspondences.

	PL	JT	LL	JX
	*ʔ-	ʔ-	ʔ-	∅-
‘to take’	*ʔauA	ʔauA1	ʔauA1	auA1
‘aunt’	*ʔa:C	ʔa:C1	ʔa:C1	aC1
‘to go out’	*ʔukD	ʔukD1S	ʔukD1S	ukD1S

4.2 *Affricates*

Proto-Lakkja has three affricates : **ts*, **tsh* and **dz*. In modern dialects there are only two affricates, because **dz* is devoiced (>*ts*-). It is noticeable that many words which have one of the low series tones and voiceless unaspirated affricate *ts*- are loans from Chinese, for example:

Mandarin	Lakkja	
tsian ⁵¹	tsiəŋ ²²¹ (JT, LL), tsiəŋ ¹¹ (JX)	‘born’ (C2)
tsin ⁵¹	tseŋ ²²¹ (JT, LL), tseŋ ¹¹ (JX)	‘near’ (C2)
tshuan ³⁵	tsuən ²³¹ (JT, LL), tsuən ²³¹ (JX)	‘boat’ (A2)

Cantonese	Lakkja	
se ²¹	tshia ²¹⁴ (JT), tsiə ²¹⁴ (LL), tsie ²¹⁴ (JX)	'to shoot'(B2)
sap ²² / sip ²²	tsep ¹¹ (JT), tsep ³⁴ (LL), tsep ²⁴ (JX)	'ten' (D2S)
sok ²¹	tsok ¹¹ (JT), tsok ³⁴ (LL), tsok ²⁴ (JX)	'cooked, ripe'(D2S)

Early Cantonese loans are also used in reconstructing some of the proto-forms. The affricate correspondences are shown in Table 8.

Table 8: Examples of the affricate correspondences.

	PL	JT	LL	JX
	*ts-	ts-	ts-	ts-
'to eat'	*tsen ^A	tsen ^{A1}	tsen ^{A1}	tsen ^{A1}
'tendon'	*tsen ^A	tsen ^{A1}	tsen ^{A1}	tsen ^{A1}
'road'	*tsaŋ ^A	tsaŋ ^{A1}	tsaŋ ^{A1}	-
'wood, tree'	*tsei ^B	tsei ^{B1}	tsei ^{B1}	tsei ^{B1}
'thorn'	*tsiə ^C	tsiə ^{C1}	tsiə ^{C1}	tsiə ^{C1}
'nine'	*tseu ^C	tseu ^{C1}	tseu ^{C1}	tseu ^{C1}
'plate'	*tse:n ^C	tse:n ^{C1}	tse:n ^{C1}	tse:n ^{C1}
'painful'	*tsei:t ^D	tsei:t ^{D1L}	tsei:t ^{D1L}	tsei:t ^{D1L}
'heavy'	*tsak ^D	tsak ^{D1S}	tsak ^{D1S}	tsak ^{D1S}
	*tsh-	tsh-	tsh-	tsh-
'to hide'	*tshəu ^A	tshəu ^{A1}	tshəu ^{A1}	-
'to cough'	*tshu:n ^C	tshun ^{C1}	tshu:n ^{C1}	-
'to tear'	*tshək ^D	tshək ^{D1L}	tshək ^{D1L}	tshək ^{D1L}
	*dz	ts-	ts-	ts-
'elephant'	*dzəŋ ^C	tsəŋ ^{C2}	tsəŋ ^{C2}	tsəŋ ^{C2}
'ten'	*dzep ^D	tsep ^{D2S}	tsep ^{D2S}	tsep ^{D2S}
'ripe, cooked'	*dzok ^D	tsok ^{D2S}	tsok ^{D2S}	tsok ^{D2S}

4.3 Fricatives

There are three voiceless fricatives in Lakkja : *f*-, *s*-, and *h*-, and all of them can occur only in syllables that carry tones A1, B1, C1, D1L and D1S which belong to the high series; hence, they are from **f*-, **s*- and **h*-, respectively. The correspondences of these fricatives in modern dialects are regular, except in some words, for example:

'three'	sa:m ⁴⁵³	fam ⁴⁵³	fam ⁵¹	(A1)	(Cantonese: sam ⁵⁵)
'four'	sei ⁴⁵	fei ⁴⁵	fei ⁵⁵	(B1)	(Cantonese: sei ³³)
'heart'	sem ⁴⁵³	fem ⁴⁵³	fem ⁵¹	(A1)	(Cantonese: sam ⁵⁵).

The initial *f*- in LL and JX indicates that these words are early loans from Cantonese. A possible explanation for this phenomenon is that the initial *s*- in JT has recently replaced *f*-. This is due to the influence or confusion caused by

language contact. Most of the Lakkja speak some kinds of Southern Chinese dialects in daily life. The fricative correspondences can be found in Table 9.

Table 9: Examples of the fricative correspondences.

	PL	JT	LL	JX
	*f-	f-	f-	f-
'bamboo'	*fan ^A	fan ^{A1}	fan ^{A1}	fan ^{A1}
'rain'	*fen ^A	fen ^{A1}	fen ^{A1}	fen ^{A1}
'stone'	*fan ^A	fan ^{A1}	fan ^{A1}	fan ^{A1}
'to tie'	*fat ^D	fat ^{D1S}	fat ^{D1S}	fat ^{D1S}
	*s-	s-	s-	s-
'spirit, ghost'	*siəŋ ^A	siəŋ ^{A1}	siəŋ ^{A1}	siəŋ ^{A1}
'steep'	*seŋ ^C	seŋ ^{C1}	seŋ ^{C1}	seŋ ^{C1}
	*h-	h-	h-	h-
'to open'	*hai ^A	hai ^{A1}	hai ^{A1}	hai ^{A1}
'fear'	*heɹ ^A	heɹ ^{A1}	heɹ ^{A1}	heɹ ^{A1}
'to laugh'	*heɹm ^C	heɹm ^{C1}	heɹm ^{C1}	heɹm ^{C1}
'two'	*hou ^C	hou ^{C1}	hou ^{C1}	hou ^{C1}
'to drink'	*ho:p ^D	ho(:)p ^{D1L}	ho:p ^{D1L}	ho:p ^{D1L}
'to sleep'	*hep ^D	hep ^{D1S}	hep ^{D1S}	hep ^{D1S}

4.4 Nasals

Proto-Lakkja has nine nasals, which can be divided into two series, preglottalized and plain, as follows :

Labial:	*ʔm-	*m-
Alveolar:	*ʔn-	*n-
Palatal:	*ʔɲ-	*ɲ-
Velar:	*ʔŋ-	*ŋ-

One may wonder where the voiceless series (*ʔm *ʔn *ʔɲ *ʔŋ) has gone. Several words in modern dialects have a nasalized vowel, for example, *khū^{A53}* (A1) 'pig', *sāŋ^{A53}* (A1) 'bamboo shoot', and *tsā^{A53}* (A1) 'thick'. There is no need to reconstruct nasalized vowels in Proto-Lakkja. They can be eliminated if the following hypotheses are acceptable :

A. Monosyllabic words that have nasalized vowels used to be two-syllable words or compounds in pre-Proto-Lakkja.

B. The first syllable (pre-syllable or first part of compound) was reduced, then became *C(C)-NV(C) in Proto-Lakkja (e.g. *kh-Nu:A^A 'pig' *kl-Nɛ:C 'face', etc.) instead of becoming *hNV(C) as in Proto-Tai (e.g. *hmu^A 'pig').⁶

One more nasal *-N- is reconstructed to tackle the problem of nasalization in modern Lakkja dialects. There is no way to know the phonetic character (-m-, -n-, -ŋ-, -ŋ-) of the dummy *-N- unless the reconstructed forms are compared with Proto-Tai and Proto-Kam-Sui cognates. For example, one may guess that *-N- in the reconstructed form *kh-Nu:A 'pig' is *-m- (*kh-mu:A > kh-mū:A > khū:A^A) because the reconstructed forms in Proto-Tai and Proto-Kam-Sui are *hmu^A and *k-hmu^B, respectively. Prior to the Proto-Tai and Proto-Kam-Sui period, voicelessness pertaining to the initial of the preceding syllable is transferred to the nasal initial of the following syllable, but in Lakkja *-N- is dropped, and nasality is transferred to the following vowel. (See the examples of the reconstructed forms that have *-N- in Table 10.) It is interesting to point out that all of the reconstructed forms have high series tones except *w-Nai^{B(2)} 'new' because *C- is voiced, whereas *C- in the other reconstructed forms are voiceless consonants. The examples of the nasal correspondences can be found in Table 11.

Table 10: Examples of *N- in Proto-Lakkja

	PL	JT	LL	JX
	*C(C)V-NV(C)	C(C)~V(C)	C(C)~V(C)	C(C)~V(C)
'pig'	*kh-Nu:A	khū:A ^{A1}	khū:A ^{A1}	khū ^{A1}
'dog'	*kh-Nuə ^A	khūə ^{A1}	khūə ^{A1}	khwə ^{A1}
'flea'	*kh-Nuət ^D	khūət ^{D1S}	-	khwət ^{D1S}
'bear'	*k-Nui ^A	-	kūi ^{A1}	kūi ^{A1}
'thick'	*ts-Na:A	tsā:A ^{A1}	tsā:A ^{A1}	tsā ^{A1}
'maggot'	*kl-Nu:n ^A	kjū:n ^{A1}	kjū:n ^{A1}	kjū:n ^{A1}
'bamboo shoot'	*s-Naŋ ^A	sāŋ ^{A1}	sāŋ ^{A1}	sāŋ ^{A1}
'face'	*kl-Nɛ:C	kjē:C ¹	kjē:C ¹	kjē:C ¹
'urine'	*kl-Niu ^B	kīu ^{B1}	kīu ^{B1}	kjī:u ^{B1}
'curved, crooked'	*k-Nau ^C	kāu ^{C1}	kāu ^{C1}	kāu ^{C1}
'branch'	*tsh-Ne:B	tshē:B ¹	tshē:B ¹	tshē ^{B1}
'mushroom'	*tsh-Nu:n ^C	tshū:n ^{C1}	tshū:n ^{C1}	tshū:n ^{C1}
'river'	*ts-Niə ^A	tśiə ^{A1}	tśiə ^{A1}	tśiə ^{A1}
'iron'	*khl-Nak ^D	khjāk ^{D1S}	khjāk ^{D1S}	khjāk ^{D1S}
'cold'	*khl-Ni:t ^D	khī:(t) ^{D1L}	khī:t ^{D1L}	kjī:t ^{D1L}
'young female person'	*kl-Na:u ^C	kjā:u ^{C1}	kjā:u ^{C1}	kjā:u ^{C1}
'new'	*w-Nai ^B	uāi ^{B2}	uāi ^{B2}	wāi ^{B2}

⁶ The reducing process from two-syllable to one-syllable word by means of transferring some phonetic features is quite common in Mon-Khmer languages. I came across many examples when I worked on Nyah-Kur (Chao Bon), for example, *chəná:m* ~ *hná:m* 'year', *chəlóŋ* ~ *hlóŋ*, *chəwá:ʔ* ~ *hwá:ʔ* 'meat', etc.

Table 11: Examples of the nasal correspondences.

	PL	JT	LL	JX
	*ʔm-	m-	m-	m-
'navel'	*ʔmiəA	miəA1	miəA1	-
'stick'	*ʔmi:C	mi:C1	mi:C1	miC1
	*m-	m-	m-	m-
'hand'	*miəA	miəA2	miəA2	mieA2
'you'	*ma:A	ma:A2	ma:A2	maA2
'meat'	*mɔmB	mɔmB2	mɔmB2	momB2
'grinding stone'	*muəB	muəB2	muəB2	muəB2
'cat'	*meuC	meuC2	meuC2	mɛ:uC2
'horse'	*ma:C	ma:C2	ma:C2	maC2
'ant'	*motD	motD2S	motD2S	motD2S
'full'	*motD	motD2S	motD2S	motD2S
	*ʔn-	n-	n-	n-
'nose'	*ʔnaŋA	naŋA1	naŋA1	naŋA1
'to sit'	*ʔniŋB	niŋB1	niŋB1	niŋB1
'fruit'	*ʔnamB	-	namB1	namB1
'breast, milk'	*ʔne:nC	ne:nC1	ne:nC1	ne:nC1
	*n-	n-	n-	n-
'difficult'	*na:nA	na:nA2	na:nA2	namA2
'brain'	*nuiA	nuiA2	nuiA2	nu:iA2
'water'	*numC	numC2	numC2	numC2
'younger person'	*nouŋC	noŋC2	noŋC2	nuŋC2
'uncle-in-law'	*na:C	na:C2	na:C2	naC2
	*ʔn-	?-/j-	ɲ-/ŋj	ŋj-
'smoke'	*ʔni:nA	ʔi:nA1	ɲi:nA1	ŋjimA1
'paddy field frog'	*ʔnai / ai:C	jāiC1	ŋjaiC1	-
	*ɲ-	ɲ- / j-	ɲ- / ŋj	ŋj-
'silver'	*ɲenA	ɲenA2	ɲenA2	ŋjenA2
'human being'	*ɲunA	ɲunA2	ɲunA2	ŋjunA2
'snake'	*ɲiəA	jīəA2	ŋjiəA2	ŋjieA2
'alive'	*ɲeuA	jēuA2	ŋje:uA2	-
	*ʔŋ-	?-	ŋ-	θ-
'shade'	*ʔŋemA	ʔemA1	ŋemA1	-
'neck'	*ʔŋenA	ʔenA1	ŋenA1	enA1
'one'	*ʔŋinC	ʔinC1	ŋinC1	inC1

	*ŋ-	ʔ-	ŋ-	ŋ-
'five'	*ŋo:C	ʔo:C2	ŋo:C2	ŋo:C2

4.5 Approximants⁷

On the basis of symmetry, Proto-Lakkja should have twelve approximants produced at three places of articulation : labial, alveolar and palatal, with three types of state of the glottis : voiceless (open glottis), preglottalized (closed glottis followed by vibrating glottis), and voiced (vibrating glottis). They are as follows :

Labial :	*hw-	*ʔw-	*w-
Alveolar:	*hl-	*ʔl-	*l-
	*(-)	*(-)	*r-
Palatal:	*(-)	*ʔj-	*j-

However, due to the small corpus of data that I have in hand, *hr-, *ʔr- and *hj- are missing. I hope to obtain more data to have enough evidence to fill these gaps. The examples of the approximant correspondences can be found in Table 12.

Table 12 : Examples of the approximant correspondences.

	PL *hw-	JT khw-	LL f-	JX f-
'cloud'	*hwa:C	khwa:C1	fa:C1	fa:C1
	*ʔw-	u-	u-	w-
'leaf'	*ʔwa:A	va:A1	va:A1	wa:A1
'thin'	*ʔwaŋA	vaŋA1	vaŋA1	waŋA1
'to see'	*ʔweiB	veiB1	veiB1	weiB1
'to dig'	*ʔwe:tD	ve(:)tD1L	ve:tD1L	we:tD1L
	*w-	u-	u-	w-
'day'	*wanA	vanA2	vanA2	wanA2
'tooth'	*wanA	vanA2	vanA2	wanA2
'to hinder'	*weŋA	veŋA2	veŋA2	weŋA2
'kind of big bear'	*waiA	vaiA2	vaiA2	-
'righthand'	*wa:A	va:A2	va:A2	waA2
'to scatter'	*waŋB	vaŋB2	vaŋB2	waŋB2
'wing'	*wiətD	viətD2L	viətD2L	wie:tD2L
'swollen'	*wokD	uokD2S	uokD2S	wokD2S
'vegetable'	*wokD	uokD2S	uokD2S	wokD2S

⁷ Approximants are sounds made with an open approximation (type of stricture) of active and passive articulators; [w] = labial-velar approximant, [u] = labial-dental approximant, [l] = alveolar lateral approximant, [ɹ] = alveolar approximant, [j] = palatal approximant, etc. In this paper, the term "approximant" is used instead of the more familiar terms "semi-vowel" and "liquid".

	*hI-	ɿ-	ɿ-	ɿ-
'much, many'	*hloŋ ^A	loŋ ^{A1}	loŋ ^{A1}	ɿloŋ ^{A1}
'tired'	*hlat ^D	lat ^{D1L}	lat ^{D1L}	ɿat ^{D1L}
'dark; to extinguish'	*hlap ^D	lap ^{D1S}	lap ^{D1S}	ɿap ^{D1S}
	*ʔI-	I-	I-	I-
'black'	*ʔlam ^A	lam ^{A1}	lam ^{A1}	lam ^{A1}
'good'	*ʔlai ^A	lai ^{A1}	lai ^{A1}	lai ^{A1}
	*I-	I-	I-	I-
'saliva'	*lei ^A	lej ^{A2}	lej ^{A2}	lej ^{A2}
'mountain'	*laŋ ^A	laŋ ^{A2}	laŋ ^{A2}	-
'son-in-law'	*laŋ ^A	laŋ ^{A2}	laŋ ^{A2}	laŋ ^{A2}
'monkey'	*liŋ ^A	liŋ ^{A2}	liŋ ^{A2}	liŋ ^{A2}
'parents eld. brother'	*loŋ ^B	loŋ ^{B2}	loŋ ^{B2}	loŋ ^{B2}
'egg'	*lo:m ^B	lo:m ^{B2}	lo:m ^{B2}	lo:m ^{B2}
'to let go'	*laŋ ^B	laŋ ^{B2}	laŋ ^{B2}	laŋ ^{B2}
'to descend'	*lei ^C	lej ^{C2}	lej ^{C2}	lej ^{C2}
'blood'	*liət ^D	liət ^{D2L}	liət ^{D2L}	liət ^{D2L}
'land leech'	*la:k ^D	la:k ^{D2L}	la:k ^{D2L}	-
'house'	*liək ^D	liək ^{D2L}	liək ^{D2L}	liək ^{D2L}
'six'	*lək ^D	lək ^{D2S}	lək ^{D2S}	lək ^{D2S}
	*r-	ʔ-	h-	θ-
'sharp'	*rei ^B	ʔej ^{B2}	hej ^{B2}	ej ^{B2}
'long'	*rai ^A	ʔai ^{A2}	hai ^{A2}	ai ^{A2}

There are many steps of sound changes here : firstly *r- > *ɣ- > *f- > *h-; *h- remains h- in LL but has changed to ʔ- in JT and has been lost in JX.

	*ʔj-	j-	j-	θ-/j-
'to scratch'	*ʔjau ^A	jau ^{A1}	jau ^{A1}	-
'medicine'	*ʔje:A	je:A1	je:A1	ieA1
'to stand'	*ʔju:n ^A	ju:n ^{A1}	ju:n ^{A1}	ju:n ^{A1}
'name'	*ʔja:n ^A	ja:n ^{A1}	-	ja:n ^{A1}
'to vomit'	*ʔjok ^D	jok ^{D1S}	jok ^{D1S}	jok ^{D1S}
	*j-	j-	j-	j-
'ear'	*ja:A	ja:A2	ja:A2	ja:A2
'wind'	*jom ^A	jom ^{A2}	jom ^{A2}	jom ^{A2}
'paddy field'	*ja:B	ja:B2	ja:B2	jaB2
'child'	*je:C	je:C2	je:C2	jeiC2
'narrow'	*je:p ^D	je:p ^{D2L}	je:p ^{D2L}	je:p ^{D2L}
'itchy'	*juət ^D	juət ^{D2S}	juət ^{D2S}	jwot ^{D2S}

4.6 Consonant clusters

There are two kinds of consonant clusters in Proto-Lakkja: *Cw- and *Cl-. When *-w- is the second element of the *Cw- type, *C- will either be a velar stop or velar nasal, for example, *kw-, *gw-, *ŋw-, *ɲw-, etc. See the examples of the correspondences of the *Cw- type of cluster in Table 13.

Table 13: Examples of *Cw-.

	PL	JT	LL	JX
	*khw-	kh-	khw-	khw-
‘sweet’	*khwam ^A	kham ^{A1}	khwam ^{A1}	khwam ^{A1}
	*gw-	kw-	kw-	kw-
‘excrement’	*gwei ^C	kwei ^{C2}	kwei ^{C2}	kwei ^{C2}
	*ŋw-	(ʔ)	ŋu-	ŋw-
‘tick’	*ŋwan ^A	-	ŋuan ^{A1}	ŋwan ^{A1}
	*ɲw-	u-	ɲu-	ɲw-/w-
‘tongue’	*ɲwa: ^A	uā: ^{A2}	ɲua: ^{A2}	ɲwa: ^{A2}
‘soft’	*ɲwak ^D	uāk ^{D2S}	ɲuak ^{D2S}	wāk ^{D2S}

The *Cl- type of consonant cluster is more common than the *Cw- type. The first element of the cluster can be a labial or velar consonant. In the Jintian dialect, *-l- is dropped or in some cases *-l- > -j-, but the Liula and Jinxiu dialects retain *-l- except when *-l- follows a velar sound, in which case *-l- > -j-. In the Jintian and Liula dialects there is one exception where *-l- does not become -j-, i.e. *-l- is dropped, when it is followed by a high vowel. Based on the available data, eleven consonant clusters of the *Cl- type can be reconstructed: *pl-, *phl-, *ʔbl-, *bl-, *wl-, *ʔml-, *ml-, *mbl-, *kl-, *khl-, and *gl-. All of these can occur only in initial position. Examples of the correspondences of the *Cl- type of cluster can be found in Table 14.

Table 14: Examples of *Cl-.

	PL	JT	LL	JX
	*pl-	p/pj-	pl-	pl-
‘to die’	*plei ^A	pei ^{A1}	plei ^{A1}	plei ^{A1}
‘to sell’	*ple: ^A	pe: ^{A1}	ple: ^{A1}	ple: ^{A1}
‘to escape’	*ple: ^B	pe: ^{B1}	ple: ^{B1}	ple: ^{B1}
‘fingernail’	*pli:p ^D	pi:p ^{D1L}	pli:p ^{D1L}	pli:p ^{D1L}
‘eye’	*pla: ^A	pja: ^{A1}	pla: ^{A1}	pla: ^{A1}
‘thunder’	*pla: ^B	pja: ^{B1}	pla: ^{B1}	pla: ^{B1}
‘forehead’	*plak ^D	pjak ^{D1L}	plak ^{D1L}	plak ^{D1L}

	*phl-	ph-/phj-	phl-	phl-
‘to forget’ ‘fish’	*phlem ^A *phla: ^A	phem ^{A1} phja: ^{A1}	phem ^{A1} phla: ^{A1}	phlem ^{A1} phla ^{A1}
	*ʔbl-	v-	bl-	bl-
‘gall bladder’ ‘star’	*ʔblai ^A *ʔblet ^D	- vet ^{D1S}	blai ^{A1} blet ^{D1S}	blai ^{A1} blet ^{D1S}
	*bl-	p-/pj-	pl-	pl-
‘moustache’ ‘ashes’ ‘to ascend’	*blu:t ^D *bleu ^C *bla: ^A	pu:t ^{D2L} pjeu ^{C2} pja: ^{A2}	plu:t ^{D2L} pleu ^{C2} pla: ^{A2}	plu:t ^{D2L} pleu ^{C2} -
	*ʔml-	mj-	ɲml-	ml-
‘bird’	*ʔmlok ^D	mjok ^{D1S}	mlok ^{D1S}	mlok ^{D1S}
	*ml-	m-	ml-	ml-
‘bee’	*mlet ^D	met ^{D2S}	mlet ^{D2S}	mlet ^{D2S}
	*mb1-	b-/bj-/v-	bl-	bl-
‘water leech’ ‘night’ ‘awaken’	*mbliŋ ^A *mblau ^A *mblen ^A	bliŋ ^{A2} bjäu ^{A2} lën ^{A2}	bliŋ ^{A2} blau ^{A2} blen ^{A2}	bliŋ ^{A2} blau ^{A2} blen ^{A2}
	*wl-	l-	v-	w-/ʃ-
‘to buy’ ‘to wash (clothes)’ ‘to wash (thing)’	*wlei ^C *wla:k ^D *wlu:k ^D	lei ^{C2} lak ^{D2S} luk ^{D2S}	wei ^{C2} uak ^{D2S} uuk ^{D2S}	wei ^{C2} wak ^{D2S} uk ^{D2S}
	*kl-	k-/kj-	k-/kj-	kj-
‘head’ ‘salt’ ‘drum’ ‘to drive away’ ‘round’ ‘tail’ ‘insect’ ‘hair’ ‘finger, toe’ ‘to crow’ ‘to cut’ ‘penis’ ‘intestine’	*kleu ^A *kliə ^A *kluŋ ^A *klom ^A *klon ^A *kliəŋ ^A *kla: ^A *kle:ŋ ^A *klan ^A *klen ^A *klam ^B *klai ^B *kla:i ^C	kjeu ^{A1} kiə ^{A1} kuŋ ^{A1} kjom ^{A1} kjon ^{A1} kiəŋ ^{A1} kja: ^{A1} kje:ŋ ^{A1} kjan ^{A1} kjen ^{A1} kjam ^{B1} kjai ^{B1} kjai: ^{C1}	kjeu ^{A1} kiə ^{A1} kuŋ ^{A1} kjom ^{A1} kjon ^{A1} kiəŋ ^{A1} kja: ^{A1} kje:ŋ ^{A1} kjan ^{A1} kjen ^{A1} kjam ^{B1} kjai ^{B1} kjai: ^{C1}	kjeu ^{A1} kjie ^{A1} kjuŋ ^{A1} kjom ^{A1} kjon ^{A1} kjie:ŋ ^{A1} kja: ^{A1} kje:ŋ ^{A1} kjan ^{A1} kjen ^{A1} kjam ^{B1} - kjai: ^{C1}

'leftside'	*kleiC	kjeiC1	kjeiC1	kjeiC1
'lightweight'	*kliəC	kiəC1	kiəC1	kjieC1
'rat'	*kliuC	kiuC1	kiuC1	kji:uC1
'to keep'	*klepD	kjepD1S	kjepD1S	kjeD1S
	*khl-	khj-	khj-	khj-
'grandchild'	*khla:nA	khja:nA1	khja:nA1	khja:nA1
'high'	*khla:ŋA	khja:ŋA1	khja:ŋA1	khja:ŋA1
'hot'	*khla:nC	khja:nC1	khja:nC1	khja:nC1
'liquor'	*khla:uC	khja:uC1	khja:uC1	khja:uC1
'sour'	*khlomC	khjomC1	khjomC1	khjomC1
'grass'	*khla:kD	khja:kD1L	-	khja:kD1L
	*gl-	k-/kj-	kj-	kj-
'head hair'	*glomA	kjomA2	kjomA2	kjomA2
'to squeeze'	*glanC	kanC2	kjanC2	-
'to steal'	*glakD	kjakD2S	kjakD2S	kjakD2S

4.7 Final consonants

Proto-Lakkja has both open and closed syllables. Closed syllables end with one of the following nasals or stops : *-m, *-n, *-ŋ, *-p, *-t and *-k. In modern dialects, CVØ, CVN and CV:N syllable types can have any of the six tones, but the short checked syllable and the long checked syllable can have only two tones. (See Table 1.) The examples of final consonants in Proto-Lakkja and the one-to-one correspondences of final consonants in modern dialects can be found in Table 15.

Table 15: Examples of the final correspondences.

	PL	JT	LL	JX
	*-m	-m	-m	-m
'to weave (cloth)'	*tamC	tamC1	tamC1	tamC1
'to poke'	*thimB	thimB1	thimB1	thimB1
'bitter'	*gomA	komA2	komA2	komA2
	*-n	-n	-n	-n
'sweet'	*khwa:nA	kha:nA1	khwa:nA1	khwa:nA1
'to spin'	*panB	panB1	panB1	panB1
'to eat'	*tsenA	tsenA1	tsenA1	tsenA1
	*-ŋ	-ŋ	-ŋ	-ŋ
'thin'	*ʔwa:ŋA	va:ŋA1	va:ŋA1	wa:ŋA1
'copper'	*doŋA	toŋA2	toŋA2	toŋA2
'elephant'	*dza:ŋC	tsa:ŋC2	tsa:ŋC2	tsa:ŋC2

	*-p	-p	-p	-p
‘dark; to extinguish’	*hlap ^D	ɭap ^{D1S}	ɭap ^{D1S}	ɭap ^{D1S}
‘liver’	*tap ^D	tap ^{D1S}	tap ^{D1S}	tap ^{D1S}
‘narrow’	*je:p ^D	je:p ^{D2L}	je:p ^{D2L}	je:p ^{D2L}
	*-t	-t	-t	-t
‘moustache’	*blu:t ^D	pu:t ^{D2L}	plu:t ^{D2L}	plu:t ^{D2L}
‘to bite’	*kat ^D	kat ^{D1S}	kat ^{D1S}	kat ^{D1S}
‘ant’	*mot ^D	mot ^{D2S}	mot ^{D2S}	mot ^{D2S}
	*-k	-k	-k	-k
‘iron’	*kl-Nak ^D	kjäk ^{D1S}	kjäk ^{D1S}	kjäk ^{D1S}
‘heavy’	*tsak ^D	tsak ^{D1S}	tsak ^{D1S}	tsak ^{D1S}
‘to tear’	*tshe:k ^D	tshe:k ^{D1L}	tshe:k ^{D1L}	tshe:k ^{D1L}

5. Proto-Lakkja vowel system

5.1 Monophthongs

Based on the available data, eight short vowels and six long vowels can be reconstructed. The fourteen monophthongs in Proto-Lakkja are as follows:

Short		Long	
*i	*u	*i:	*u:
*ə	*o	*e:	*(-)
*e	*ɔ	*ɛ:	*ɔ:
*ɛ			
*a		*a:	

The correspondences of *i*, *ɛ*, *a*, *u* and *o* in modern dialects are regular and straightforward. These short vowels are from **i*, **ɛ*, **a*, **u* and **o*, respectively. Only **e*, **ə* and **ɔ* behave differently, i.e. **e* is *e* in all dialects except JX, where **e* > *ɛ* before labial finals, also in JX, **ə* > *o* and **ɔ* > *o* before all finals.

Regarding long vowels, the correspondences of *i:*, *ɛ:*, *a:* and *u:* are one-to-one. **o:* cannot be reconstructed because of the lack of data. **e:* is *e:* in JT and LL, but **e:* > *ei* or *ɛ:* in JX. **ɔ:* is *ɔ:* in JT and LL, but **ɔ:* > *o:* in JX. (See examples of the short vowel correspondences in Table 16 and the long vowel correspondences in Table 17.)

Table 16: Examples of the short vowel correspondences.

	PL	JT	LL	JX
	*i	i	i	i
'monkey'	*liŋ ^A	liŋ ^{A2}	liŋ ^{A2}	liŋ ^{A2}
'to sit'	*ʔniŋ ^B	niŋ ^{B1}	niŋ ^{B1}	niŋ ^{B1}
'water leech'	*mbliŋ ^A	bliŋ ^{A2}	bliŋ ^{A2}	bliŋ ^{A2}
	*e	e	e	e/ɛ
'rain'	*fen ^A	fen ^{A1}	fen ^{A1}	fen ^{A1}
'to eat'	*tsen ^A	tsen ^{A1}	tsen ^{A1}	tsen ^{A1}
'duck'	*pet ^D	pet ^{D1S}	pet ^{D1S}	pet ^{D1S}
'needle'	*them ^A	them ^{A1}	them ^{A1}	them ^{A1}
'to forget'	*phlem ^A	phem ^{A1}	phlem ^{A1}	phlem ^{A1}
'to keep'	*klep ^D	kjep ^{D1S}	kjep ^{D1S}	kjep ^{D1S}
	*ɛ	ɛ	ɛ	ɛ
'silver'	*ɲɛn ^A	ɲɛn ^{A2}	ɲɛn ^{A2}	ɲjen ^{A2}
'to crow'	*klen ^A	kjen ^{A1}	kjen ^{A1}	kjen ^{A1}
'near'	*dzɛn ^C	tɛn ^{C2}	tɛn ^{C2}	tɛn ^{C2}
	*ə	ə	ə	o
'sky'	*ʔbən ^A	mən ^{A1}	bən ^{A1}	bon ^{A1}
'to fly'	*pən ^B	phən ^{B1}	pən ^{B1}	pon ^{B1}
'to give'	*pən ^A	pən ^{A1}	pən ^{A1}	-
	*a	a	a	a
'to forge iron'	*dap ^D	tap ^{D2S}	tap ^{D2S}	tap ^{D2S}
'nose'	*ʔnaŋ ^A	naŋ ^{A1}	naŋ ^{A1}	naŋ ^{A1}
'day'	*wan ^A	van ^{A2}	van ^{A2}	wan ^{A2}
	*u	u	u	u
'water'	*num ^C	num ^{C2}	num ^{C2}	num ^{C2}
'right'	*duk ^D	tuk ^{D2S}	tuk ^{D2S}	tuk ^{D2S}
'to go out'	*ʔuk ^D	ʔuk ^{D1S}	ʔuk ^{D1S}	uk ^{D1S}
	*o	o	o	o
'bird'	*ʔmlok ^D	mjok ^{D1S}	mjok ^{D1S}	mlok ^{D1S}
'mountain frog'	*kop ^D	kop ^{D1S}	kop ^{D1S}	kop ^{D1S}
'headhair'	*glom ^A	kjom ^{A2}	kjom ^{A2}	kjom ^{A2}
	*ɔ	ɔ	ɔ	o
'meat'	*mɔm ^B	mɔm ^{B2}	mɔm ^{B2}	mom ^{B2}
'six'	*lɔk ^D	lɔk ^{D2S}	lɔk ^{D2S}	lok ^{D2S}

Table 17: Examples of the long vowel correspondences.

	PL	JT	LL	JX
	*i:	i:	i:	i:
‘shallow’	*thi:nC	thi:nC1	thi:nC1	thi:nC1
‘smoke’	*ʔni:nA	ʔi:nA1	ni:nA1	ŋi:nA1
‘fingernail’	*pli:pD	pi:pD1L	pli:pD1L	pli:pD1L
	*e:	e:	e:	ei/ε:
‘medicine’	*ʔje:A	je:A1	je:A1	eiA1
‘to laugh’	*he:mC	he:mC1	he:mC1	he:mC1
‘broken’	*phe:kD	phe:kD1L	phe:kD1L	phe:kD1L
	*ε:	ε:	ε:	ε/ε:
‘face’	*kl-Nε:C	kjē:C1	kjē:C1	kjēC1
‘to fear’	*hε:A	hε:A1	hε:A1	hεA1
‘breast, milk’	*ʔnε:nC	nε:nC1	nε:nC1	nε:nC1
‘hundred’	*pe:kD	pe:(:)kD1L	pe:kD1L	pe:kD1L
	*a:	a:	a:	a:
‘village’	*ʔba:nC	ma:nC1	ba:nC1	ba:nC1
‘bamboo shoot’	*s-NaŋA1	sāŋA1	sāŋA1	sāŋA1
‘to scatter’	*wa:nB	va:nB2	va:nB2	wanB2
	*u:	u:	u:	u:
‘maggot’	*kl-Nu:nA	kjū:nA1	kjū:nA1	kjū:nA1
‘to stand’	*ʔju:nA	ju:nA1	ju:nA1	ju:nA1
‘moustache’	*blu:tD	pu:tD2L	plu:tD2L	plu:tD2L
	*ɔ:	ɔ/ɔ:	ɔ:	o:
‘belly’	*bo:ŋA	bo:ŋA2	bo:ŋA2	bo:ŋA2
‘red’	*ko:ŋB	ko:ŋB1	ko:ŋB1	ko:ŋB1
‘egg’	*lo:mB	lo:mB2	lo:mB2	lo:mB2
‘to cook’	*to:C	to:C1	to:C1	toC1

5.2 Diphthongs

Proto-Lakkja has twelve diphthongs which can be classified into three types:

Type 1: Gliding towards high-front vowel *i* (*ei, *ai, *ai:, *oi, *ui)

Type 2: Gliding towards high-back vowel *u* (*iu, *eu, *au, *a:u, *ou)

Type 3: Gliding towards central vowel ə (*iə, *uə)

The diphthong correspondences in modern Lakkja dialects are mostly one-to-one⁸ as shown in Table 18.

Table 18: Examples of the diphthong correspondences.

	PL	JT	LL	JX
	*ei	ei	ei	ei
'year'	*pei ^A	pei ^{A1}	pei ^{A1}	pei ^{A1}
'saliva'	*lei ^A	lei ^{A2}	lei ^{A2}	lei ^{A2}
'excremen'	*gwei ^C	kwei ^{C1}	kwei ^{C2}	kwei ^{C2}
	*ai	ai	ai	ai
'good'	*ʔlai ^A	lai ^{A1}	lai ^{A1}	lai ^{A1}
'gall bladder'	*ʔblai ^A	-	blai ^{A1}	blai ^{A1}
'long'	*rai ^A	ʔai ^{A2}	hai ^{A2}	ai ^{A2}
	*ari	ari	ari	ari
'to open'	*həri ^A	həri ^{A1}	həri ^{A1}	həri ^{A1}
'intestine'	*klari ^C	kjari ^{C1}	kjari ^{C1}	kjari ^{C1}
'kind of big bear'	*wari ^A	vəri ^{A2}	vəri ^{A2}	-
	*oi	uoi	uoi	uoi
'to retreat'	*thoi ^C	thuoi ^{C1}	thuoi ^{C1}	thuoi ^{C1}
'breezy'	*tshoi ^A	tshuoi ^{A1}	tshuoi ^{A1}	-
'mortar'	*toi ^B	tuoi ^{B1}	tuoi ^{B1}	tuoi ^{B1}
	*ui	ui	ui	uri
'fire'	*pui ^A	pui ^{A1}	pui ^{A1}	pui ^{A1}
'fat'	*bui ^A	pui ^{A2}	pui ^{A2}	pui ^{A2}
'brain'	*nui ^A	nui ^{A2}	nui ^{A2}	nui ^{A2}
	*iu	iu	iu	iu
'to light'	*diu ^C	tiu ^{C2}	tiu ^{C2}	-
'urine'	*kl-Niu ^B	kīu ^{B1}	kīu ^{B1}	kjīu ^{B1}
'rat, mouse'	*kliu ^C	kiu ^{C1}	kiu ^{C1}	kjīu ^{C1}
	*eu	eu	eu	eu/ɛu
'ashes'	*bleu ^C	pjeu ^{C2}	pleu ^{C2}	pɛu ^{C2}
'head'	*kleu ^A	kjeu ^{A1}	kjeu ^{A1}	kɛu ^{A1}
'cat'	*meu ^C	meu ^{C2}	meu ^{C2}	mɛu ^{C2}

⁸ Length is marked for most of the diphthongs in the JX dialect. I think that it is redundant, except for the two pairs: ai-a:i and au-a:u.

	*au	au	au	au
'to take (wife)'	*ʔau ^A	ʔau ^{A1}	ʔau ^{A1}	au ^{A1}
'curved, crooked'	*k-Nau ^C	kāu ^{C1}	kāu ^{C1}	kāu ^{C1}
'to scratch'	*ʔjau ^A	jau ^{A1}	jau ^{A1}	-
	*aru	aru	aru	aru
'oil'	*ka:u ^A	ka:u ^{A1}	ka:u ^{A1}	ka:u ^{A1}
'old thing'	*ka:u ^B	ka:u ^{B1}	ka:u ^{B1}	ka:u ^{B1}
'liquor'	*khla:u ^C	khja:u ^{C1}	khja:u ^{C1}	khja:u ^{C1}
	*ou	ou	ou	ou
'rice'	*kou ^C	kou ^{C1}	kou ^{C1}	kou ^{C1}
'horn'	*gou ^A	kou ^{A2}	kou ^{A2}	kou ^{A2}
'two'	*hou ^C	hou ^{C1}	hou ^{C1}	hou ^{C1}
	*iə	iə	iə	ie/ie:
'month'	*ʔbiə ^{nA}	miə ^{nA1}	biə ^{nA1}	* biə ^{nA1}
'blood'	*liə ^D	liə ^{D2L}	liə ^{D2L}	liə ^{D2L}
'hand'	*miə ^A	miə ^{A2}	miə ^{A2}	miə ^{A2}
	*uə	uə	uə	uə/uə:
'to take off'	*thuə ^{tD}	thuə ^{tD1L}	thuə ^{tD1L}	thuə ^{tD1L}
'axe'	*guə ^{nA}	kuə ^{nA2}	kuə ^{nA2}	kuə ^{nA2}
'grinding stone'	*muə ^B	muə ^{B2}	muə ^{B2}	muə ^{B2}

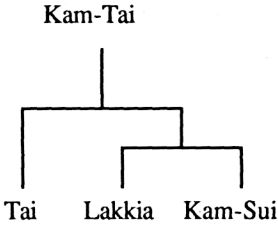
One more vowel *iɛ should be reconstructed for the vowel of the root which means 'to put, to place' (tek^{D1S} in JT and LL, tek^{D1S} in JX). Since there is only one example, this matter has to be put aside until more data are available.

6. Comments on the position of Lakkja within Kadai

Solnit (1988: 236-237) concludes that tonal correspondences and the lexical evidence of the numerals are sufficient evidence for grouping Tai, Kam-Sui, Lakkja, and Be together in a group called Kam-Tai. Based on the concept of shared innovation, he places Lakkja somewhat closer to Kam-Sui than to Tai, since Lakkja shares more innovations with Kam-Sui (9 roots) than with Tai (2 roots) out of a total of twenty-five roots. Lakkja splits off from the Kam-Sui line of descent earlier than Kam-Sui proper, as shown in the diagrams below.⁹

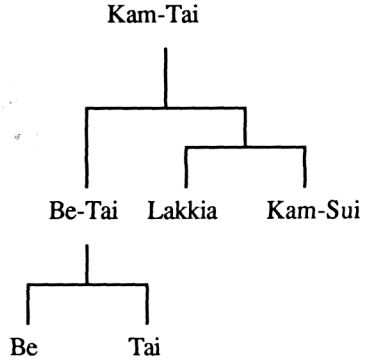
⁹ Edmondson and Yung Quan (1988) have a different viewpoint: they place Lakkja within the Kam-Sui branch.

Diagram A



(Solnit, 1988: 237)

Diagram B



(Hansell, 1988: 285)

I am not certain that the above classification should be taken as something definite. To be on the safe side, let us look at the relation of Lakkja, Tai and Kam-Sui again from another angle. Different sets of lexical items and different techniques of comparing can yield different results.

Before presenting another viewpoint, I would like to warn the reader in advance that there are many limitations which can cause defects in the analyses presented in the following section. They are:

- 1) Lakkja is used as the starting point for any direction of comparing.
- 2) The comparison is based on only 243 reconstructed roots.
- 3) Some of the Lakkja roots could have been Zhuang or early Cantonese loans.
- 4) In searching for cognates, I can be biased because I am a native speaker of Thai (Siamese). Besides, there is more information on the Tai languages than on any of the other languages.
- 5) In some cases, when reconstructed forms do not exist, words used in modern dialects are used instead.

With the above warnings in mind, we can now start reconsidering the grouping of Tai, Lakkja and Kam-Sui. Lexical evidence (see 6.1) and tonal correspondences (see 6.2) will be used as the basis for grouping.

6.1 *Lexicon*

When the 243 reconstructed Lakkja roots are compared with Tai, Kam-Sui, Be, and Hlai roots, the results can be grouped into 13 sets according to the agreement or disagreement of lexical evidence.

- | | | |
|--------|--|-----------------|
| Set 1: | Lakkja (# Tai # Kam-Sui # Be # Hlai)44 | (See Table 19.) |
| Set 2: | Lakkja = Tai = Kam-Sui (# Be # Hlai)46 | (See Table 20.) |

Set 3:	Lakkja = Tai = Kam-Sui = Be = Hlai	42	(See Table 21.)
Set 4:	Lakkja = Tai = Kam-Sui = Be (# Hlai)	26	(See Table 22.)
Set 5:	Lakkja = Tai (# Kam-Sui # Be # Hlai)	25	(See Table 23.)
Set 6:	Lakkja = Tai = Kam-Sui = Hlai (# Be)	19	(See Table 24.)
Set 7:	Lakkja = Kam-Sui (# Tai # Be # Hlai)	17	(See Table 25.)
Set 8:	Lakkja = Hlai (# Tai # Kam-Sui # Be)	11	(See Table 26.)
Set 9:	Lakkja = Tai = Be (# Kam-Sui # Hlai)	5	(See Table 27.)
Set 10:	Lakkja = Tai = Be = Hlai (# Kam-Sui)	4	(See Table 28.)
Set 11:	Lakkja = Tai = Hlai (# Kam-Sui # Be)	2	(See Table 29.)
Set 12:	Lakkja = Kam-Sui = Hlai (# Tai # Be)	2	(See Table 30.)
Set 13:	Lakkja = Kam-Sui = Be (# Tai # Hlai)	1	(See Table 31.)

From the 13 sets of lexical agreement or disagreement presented above, the evidence can be summarized as follows:

1) Lakkja innovates on its own	44
2) Lakkja shares retentions with Tai and Kam-Sui	133
3) Lakkja shares retentions with Tai	143
4) Lakkja shares retentions with Kam-Sui	134
5) Lakkja shares retentions with Be	78
6) Lakkja shares retentions with Hlai	69
7) Lakkja shares innovations with Tai	25
8) Lakkja shares innovations with Kam-Sui	17
9) Lakkja shares innovations with Hlai	11
10) Lakkja shares innovations with Be	0

Based on lexical evidence, no matter what criteria are used—either shared innovations or shared retentions—Lakkja should be placed closer to Tai than to Kam-Sui.

Table 19: Set 1: Lakkja (# Tai # Kam-Sui # Be # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'mouth'	*teiC(1)	-	-	-	-
'neck'	*ʔɛnA(1)	-	-	-	-
'palm (hand)'	*bamA(2)	-	-	-	-
'finger, toe'	*hlaŋA(1)	-	-	-	-
'breast, milk'	*ʔnɛ:nC(1)	-	-	-	-
'penis'	*klaiB(1)	-	-	-	-
'joint, node''	*gunB(2)	-	-	-	-
'hair'	*kleŋA(1)	-	-	-	-
'insect'	*kla:A(1)	-	-	-	-
'child'	*-je:C(2)	-	-	-	-
'son-in-law'	*laŋA(2)	-	-	-	-
'thorn'	*tsiəC(1)	-	-	-	-
'root'	*kanA(1)	-	-	-	-
'mushroom'	*tsh-Nu:nC(1)	-	-	-	-
'grass'	*khlakD(1)	-	-	-	-
'oil'	*ka:uA(1)	-	-	-	-
'house'	*liəkD(2)	-	-	-	-
'arrow'	*ti:nB(1)	-	-	-	-

	Lakkja	Tai	Kam-Sui	Be	Hlai
'night'	*mblau ^{A(2)}	-	-	-	-
'mountain'	*laŋ ^{A(2)}	-	-	-	-
'stone'	*faŋ ^{A(1)}	-	-	-	-
'smoke'	*ʔni:n ^{A(1)}	-	-	-	-
'shade'	*ʔŋem ^{A(1)}	-	-	-	-
'much, many'	*hloŋ ^{A(1)}	-	-	-	-
'far'	*ba: ^{A(2)}	-	-	-	-
'hot'	*khlam ^{C(1)}	-	-	-	-
'thin, lean'	*khuən ^{C(1)}	-	-	-	-
'frightened'	*hɛ: ^{A(1)}	-	-	-	-
'steep'	*seŋ ^{C(1)}	-	-	-	-
'soft'	*ŋwak ^{D(2)}	-	-	-	-
'full'	*mot ^{D(2)}	-	-	-	-
'itchy'	*juət ^{D(2)}	-	-	-	-
'alive'	*neu ^{A(2)}	-	-	-	-
'to weep'	*piə ^{A(1)}	-	-	-	-
'to laugh'	*hem ^{C(1)}	-	-	-	-
'to cough'	*tshu:n ^{C(1)}	-	-	-	-
'to make (fire)'	*diu ^{C(2)}	-	-	-	-
'to light (lamp)'	*tum ^{A(1)}	-	-	-	-
'to cook'	*tɔ: ^{C(1)}	-	-	-	-
'to put, to place'	*tiɛk ^{D(1) ?}	-	-	-	-
'to let go'	*laŋ ^{B(2)}	-	-	-	-
'to escape'	*plɛ: ^{B(1)}	-	-	-	-
'to drive away'	*klom ^{A(1)}	-	-	-	-

Table 20: Set 2: Lakkja = Tai = Kam-Sui (# Be # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'head hair'	*glom ^{A(1)}	*phl/rom ^{A(1)}	*pram ^{A(1)}	-	-
'forehead'	*plak ^{D(1)}	*phl/rak ^{D(1)}	*prak ^{A(1)}	-	-
'belly'	*bɔ:ŋ ^{A(1)}	(Siam: phuŋ ^{A2})	*luŋ ^{A(2)}	-	-
'tendon'	*tsen ^{A(1)}	(Siam: ʔen ^{A1})	(Kam: ɣn ^{A1} Sui: jɣn ^{A1})	-	-
'skin'	*bei ^{A(2)}	(Siam: phiu ^{A1})	(Kam,Sui: pi ^{A2})	-	-
'urine'	*kl-Niu ^{B(1)}	*ŋ-B(2) (Lao: niəu ^{B2})	(Kam: neu ^{B1})	-	-
'maggot'	*kl-Nu:n ^{A(1)}	*hn-n ^{A(1)} (Siam: nɔ:m ^{A1})	*nu:n ^{A(1)}	-	-
'crow'	*ka: ^{A(1)}	*ka ^{A(1)}	*ka ^{A(1)}	-	-
'elephant'	*dzam ^{C(2)}	*jaŋ ^{C(2)}	(Sui: tsam ^{C2})	-	-
'clf. for animals'	*du: ^{A(2)}	*t-A(1) (Siam: tuə ^{A1})	(Kam: tu ^{A2} Sui: to ^{A2})	-	-
'spirit, ghost'	*siəŋ ^{A(1)}	(Siam: sam ^{A1})	*mwaŋ ^{A(1)}	-	-
'parent's elder brother'	*loŋ ^{B(2)}	*luŋ ^{A(2)}	(Sui: luŋ ^{A2})	-	-
'branch'	*tsh-Nɛ: ^{B(1)}	*ŋa ^{B(2)}	*ʔŋa ^{B(1)}	-	-
'beans, peas'	*dou ^{B(2)}	*thue ^{B(1/2)}	(Kam,Sui: to ^{B2})	-	-
'door'	*tɔ: ^{A(1)}	*tu ^{A(1)}	*tu ^{A(1)}	-	-

	Lakkja	Tai	Kam-Sui	Be	Hlai
'grinding stone'	*muə ^{B(2)}	(Siam: mo: ^{B2})	(Kam: mo ^{B2})	-	-
'needle'	*them ^{A(1)}	*khem ^{A(1)}	(Kam: tɕhɤm ^{A1})	-	-
'axe'	*guən ^{A(2)}	*xwan ^{A(1)}	(Kam, Sui: kwan ^{A1})	-	-
'iron'	*khl-Nak ^{D(1)}	*hle ^{D(1)}	*khlit ^{D(1)}	-	-
'sky'	*ʔbən ^{A(1)}	*ʔbon ^{A(1)}	*bun ^{A(1)}	-	-
'thunder'	*pla: ^{B(1)}	*phl/ra ^{C(1)} (Siam: pha: ^{B1})	*pra ^{B(1)}	-	-
'wind'	*jom ^{A(2)}	*dlom ^{A(2)}	*hlwum ^{A(1)}	-	-
'eight'	*pa:t ^{D(1)}	*pət ^{D(1)}	*pja:t ^{D(1)}	-	-
'nine'	*tseu ^{C(1)}	*kiəu ^{C(1)}	(Kam, Sui: tɕəu ^{C1})	-	-
'ten'	*dzep ^{D(2)}	*sip ^{D(1)}	(Kam: cɤp ^{D2S} , Sui: sup ^{D2S})	-	-
'hundred'	*pɛ:k ^{D(1)}	*p-k ^{D(1)}	(Sui: pek ^{D1S})	-	-
'righthand'	*wa: ^{A(2)}	*khwa ^{A(1)}	*hwa ^{A(1)}	-	-
'heavy'	*tsak ^{D(1)}	*hnək ^{D(1)}	*ɕak ^{D(1)}	-	-
'sweet'	*khwan ^{A(1)}	*hwan ^{A(1)}	*khwan ^{A(1)}	-	-
'sour'	*khlom ^{C(1)}	*som ^{C(1)}	*khjum ^{C(1)}	-	-
'new'	*w-Nai ^{B(2)}	*hmoi ^{B(1)}	*hmai ^{B(1)}	-	-
'cold'	*kh-Ni:t ^{D(1)}	(Wuming: nit ^{D1})	(Sui: ʔnit ^{D1S})	-	-
'painful'	*tse:t ^{D(1)}	(Siam: tɕep ^{D1S} , Lungchow: tɕip ^{D1S})	(Sui: tɕit ^{D1S})	-	-
'ripe, cooked'	*dzok ^{D(2)}	*suk ^{D(1)}	*zuk ^{D(2)}	-	-
'good'	*ʔlai ^{A(1)}	*ʔdi/əi ^{A(1)}	*ɕai ^{A(1)}	-	-
'difficult'	*nam ^{A(2)}	(Siam: ja:k ^{D2L} na:n ^{A2})	(Kam: na:n ^{A2})	-	-
'white'	*biək ^{D(2)}	(Siam: phwək ^{D1L})	(Kam, Sui: pa:k ^{D2L})	-	-
'to bite'	*kat ^{D(1)}	*kət ^{D(1)}	*kat ^{D(1)} 'to cut'	-	-
'to tear'	*tshək ^{D(1)}	*ɕh-k ^{D(1)} (Siam: tɕhi:k ^{D1L})	(Sui: pjak ^{D1L})	-	-
'to keep'	*klep ^{D(1)}	(Siam: kep ^{D1S})	(Kam: tɕɤp ^{D1S})	-	-
'to open'	*hai ^{A(1)}	*xəi/ai ^{A(1)}	(Kam: ɣi ^{A1} , Sui: ɳai ^{A1})	-	-
'to forge iron'	*dap ^{D(2)}	(Siam: thup ^{D2S} 'to hit')	(Sui: tjap ^{D2S})	-	-
'to hinder'	*weŋ ^{A(2)}	(Siam: khwan ^{A1})	(Kam: weŋ ^{A2})	-	-
'to weave cloth'	*tam ^{C(1)}	*tam ^{C(1)}	*tam ^{C(1)}	-	-
'to buy'	*wlei ^{C(2)}	*zi ^{C(2)}	*traɪ ^{C(1)}	-	-
'to have'	*mi ^{A(2)}	*mi ^{A(2)}	me ^{A(2)}	-	-
'head hair'	*glom ^{A(1)}	*phl/rom ^{A(1)}	*pram ^{A(1)}	-	-

Table 21: Set 3: Lakkja = Tai = Kam-Sui = Be = Hlai

	Lakkja	Tai	Kam-Sui	Be	Hlai
'head'	*kleu ^{A(1)}	*kləu ^{C(1)}	*kru ^{C(1)}	(hau ³³)	(TS: go ⁶ , BD: gwou ³)
'eye'	*pla ^{A(1)}	*tra ^{A(1)}	*thla ^{A(1)}	(ɕa ¹³)	(tsha ¹)
'nose'	*ʔnaŋ ^{A(1)}	*ʔdaŋ ^{A(1)}	*ʔnaŋ ^{A(1)}	(loŋ ¹³)	(daŋ ¹)

'hand'	*miəA(2)	*miA(2)	*k-mjaA(1)	(mo ⁵⁵)	(meu ¹)
'horn'	*gouA(2)	*khəuA(1)	*m-kwauA(1)	(vau ⁵⁵)	(hau ¹)
'saliva'	*leiA(2)	*ml/r-A(2)	(Kam: ŋweA ²)	(məi ⁵⁵)	(TS: ʔai ¹ , BD: ʔoi ¹)
		(Siam: na:m ^{C2})	la:iA ²)		
'excrement'	*gwei ^{C(2)}	*xei ^{C(1/2)}	*keC(2)	(gai ²¹)	(hai ³)
'flea'	*kh-Nuət ^{D(1)}	*hmat ^{D(1)}	*k-hmat ^{D(1)}	(mat ³³)	(mat ⁷ 'gnat')
'ant'	*mot ^{D(2)}	*mot ^{D(2)}	*mwit ^{D(2)}	(mu ⁷⁵⁵)	(TS: put ⁷ , BD: put ⁷)
'chicken'	*kai ^{B(1)}	*kəi ^{B(1)}	*kai ^{B(1)}	(gai ¹³)	(khai ¹)
'duck'	*pet ^{D(1)}	*pet ^{D(1)}	(Kam: pʔt ^{D1S})	(bit ³³)	(bet ⁷)
'water leech'	*mblɪŋA(2)	*plɪŋA(1)	*mplɪŋA(1)	(biŋ ¹³)	(TS: ʔiŋ ⁴ , BD: ziŋ ¹)
'fish'	*phla:A(1)	*plaA(1)	paA(1)	(ʔa ¹³)	(ʔa ¹)
'pig'	*kh-Nu:A(1)	*hmuA(1)	*k-hmu ^{B(1)}	(mou ¹³)	(TS: pau ⁴ , BD: pou ¹)
'dog'	*kh-NuəA(1)	*hmaA(1)	*k-hmaA(1)	(ma ¹³)	(TS: pa ⁴ , BD: pa ⁶)
'horse'	*ma:C(2)	*ma:C(2)	*ma:C(2)	(ma ⁷⁵⁵)	(TS: miu ⁵ , BD: ka ³)
'bear'	*k-NuiA(1)	*hmiA(1)	*ʔmuɪA(1)	(vui ⁵⁵)	(mui ¹)
'leaf'	*ʔwa:A(1)	*ʔbəiA(1)	*pwa ^{B(1)}	(ʔo ⁵⁵)	(beu ¹)
'bamboo shoot'	*s-NaŋA(1)	(Lao: neŋA ¹)	(Sui: naŋA ¹)	(naŋ ⁵⁵)	(nuŋ ¹)
'medicine'	*ʔje:A(1)	*ʔja:A(1)	*gjaA(2)	(zia ¹³)	(TS: za ⁴ , BD: za ¹)
'paddy field'	*ja:B(2)	*naA(2)	*ʔra ^{B(1)}	(nia ⁵⁵)	(TS: ʔai ⁴ , BD: zai ¹)
'drum'	*klɔŋA(1)	*klɔŋA(1)	(Kam: kuŋA ¹)	(loŋ ¹³)	(laŋ ¹)
'copper'	*doŋA(2)	*d-ŋA(2)	*duŋA(2)	(hoŋ ⁵⁵)	(TS: daŋ ⁴ , BD: daŋ ¹)
		(Siam: thoŋA ²)			
'day'	*wanA(2)	*ŋwanA(2)	*hŋwanA(1)	(vən ⁵⁵)	(TS: van ⁴ , BD: hwan ¹)
'year'	*peiA(1)	*piA(1)	*mpeA(1)	(vəi ⁵⁵)	(TS: pau ² , BD: pou ²)
'cloud'	*hwa:C(1)	*fiaC(1)	*m-xwaC(1)	(ʔa ²¹)	(fa ³)
'rain'	*fenA(1)	*fuinA(1)	*xwinA(1)	(pun ¹³)	(fon ¹)
'water'	*num ^{C(2)}	*nl/r-m ^{C(1)}	*ŋam ^{C(1)}	(nam ²¹)	(TS: nam ³ , BD: nom ³)
		(Siam: nam ^{C2})			
'fire'	*puiA(1)	*veiA(2)	*pwaiA(1)	(vəi ⁵⁵)	(fei ¹)
'bitter'	*xemA(1)	*xemA(1)	*kamA(1)	(gam ⁵⁵)	(ho:m ¹)
'old (thi...)		*kəu ^{B(1)}	*kaʊ ^{B(1)}	(gau ³³)	(khou ²)
		*muinA(2)	(Kam: tonA ²)	(vin ⁵⁵)	(TS: lun ⁵ , BD: plu:m ¹)
		*hnaA(1)	*ʔnaA(1)	(na ¹³)	(na ¹)
		*ʔdl/rəmA(1)	*ʔnamA(1)	(lam ¹³)	(TS: dam ³ , BD: dom ³)

'st
 'pare-
 brother
 'branch'
 'beans, peas'
 'door'

(ɛnoʊəp
 (stəi)
 (lɛp)

	Lakkja	Tai	Kam-Sui	Be	Hlai
'to vomit'	*ʔjok ^{D(1)}	*ruak ^{D(2)}	*trwak ^{D(1)}	(duak ⁵⁵)	(fek ⁷)
'to crow'	*klen ^{A(1)}	*xan ^{A(1)}	(Kam: jan ^{A1})	(tan ¹³)	(TS: zo:n ¹ , BD: hjo:n ¹)
'to dig'	*ʔwet ^{D(1)}	(Siam: khut ^{D1S})	(Kam: wet ^{D1S} , (gu ²⁵⁵) Sui: tsyt ^{D1S})		(BD: hjut ⁷)
'to steal'	*glak ^{D(2)}	*dlək ^{D(2)}	*hjək ^{D(1)}	(lok ⁵⁵)	(TS: łok ⁸ , BD: zok ⁷)
'to stand'	*ʔju:n ^{A(1)}	*ʔj-n ^{A(1)}	(Kam: jun ^{A1} , (ɟun ¹³) Sui: ʔjon ^{A1})		(tsu:n ¹)
'to go'	*pai ^{A(1)}	*pəi ^{A(1)}	*pai ^{A(1)}	(boi ¹³)	(hei ¹)
'to fly'	*pən ^{B(1)}	*ʔbin ^{A(1)}	(Kam: pɻn ^B , (vin ¹³) Sui: vjɻn ^{B1})		(ben ¹)
'to take'	*ʔau ^{A(1)}	*ʔəu ^{A(1)}	*ʔau ^{A(1)}	(ou ¹³)	(deu ¹)

Table 22: Set 4: Lakkja = Tai = Kam-Sui = Be (# Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'face'	*kl-Nɛr ^{C(1)}	*hna ^{C(1)}	*ʔna ^{C(1)}	(na ³³)	-
'ear'	*ja: ^{A(2)}	*xriu ^{A(1)}	*khra ^{A(1)}	(sa ¹³)	-
'moustache'	*blu: ^{D(2)}	*hnuət ^{D(1)}	*m-lut ^{D(2)}	(nu ¹³)	-
'liver'	*tap ^{D(1)}	*təp ^{D(1)}	*tap ^{D(1)}	(dop ³³)	-
'bird'	*ʔmlək ^{D(1)}	*nl/rok ^{D(2)}	*mlək ^{D(2)}	(nok ⁵⁵)	-
'snake'	*ɳiə ^{A(2)}	*ɳu/iu ^{A(2)}	*dzui ^{A(2)}	(ɳia ⁵⁵)	-
'frog'	*kop ^{D(1)}	*kop ^{D(1)}	*kup ^{D(1)}	(gop ⁵⁵)	-
'buffalo; big bear'	*wai ^{A(2)}	*ɣwai ^{A(2)}	(Kam: kwe ^{A2} , Sui: kui ^{A2})	(təi ³³)	-
'human being'	*ɳun ^{A(2)}	*ɣuin ^{A(2)}	(Kam: ɳɻn ^{A2} , Sui: zɻn ^{A1})	(von ⁵⁵)	-
'one's child; fruit'	*lak ^{D(2)}	*liuk ^{D(2)}	*lak ^{D(2)}	(lək ^{D55})	-
'grandchild'	*khlam ^{A(1)}	*hlan ^{A(1)}	*khla:n ^{A(1)}	(lan ¹³)	-
'stick, wood, tree'	*ʔmi: ^{C(2)}	*məi ^{C(2)}	*mai ^{C(2)}	(mai ³³)	-
'rice'	*kou ^{C(1)}	*xəu ^{C(1)}	(Kam: ɣu ^{C2} , Sui: au ^{C2})	(ɳau ²¹)	-
'ashes'	*bleu ^{C(2)}	*vləu ^{B(2)}	*phla:u ^{B(1)}	(dɔu ²¹)	-
'six'	*lək ^{D(2)}	*xrok ^{D(1)}	*ljuk ^{D(2)}	(sok ³³)	-
'long'	*rai ^{A(2)}	*rei ^{A(2)}	*ʔrai ^{C(1)}	(loi ¹³)	-
'to die'	*plei ^{A(1)}	*trai ^{A(1)}	*pjai ^{A(1)}	(dai ¹³)	-
'thin'	*ʔwanɳ ^{A(1)}	*ʔb-ɳ ^{A(1)}	*bwanɳ ^{A(1)}	(vianɳ ¹³)	-
'narrow'	*je:p ^{D(2)}	(Siam: baɳ ^{A1}) *g-p ^{D(2)}	(Sui: ʔnɳap ^{D1S})	(ep ⁵⁵)	-
'to eat'	*tsen ^{A(1)}	*kiin ^{A(1)}	*ca:n ^{A(1)}	(gon ¹³)	-
'to break'	*phek ^{D(1)}	*prek ^{D(1)}	*prak ^{D(1)}	(dɔk ³³)	-
'to scatter'	*wan ^{B(2)}	*hwan ^{B(1)}	(Kam: pjan ^{B2})	(biɳ ³³)	-
'to spin'	*pan ^{B(1)}	*pən ^{B(1)}	(Sui: pan ^{B1})	(ban ¹³)	-

	Lakkja	Tai	Kam-Sui	Be	Hlai
'to wash (clothes)'	*wɫak ^{D(2)}	*zək ^{D(2)}	*ʔɫak ^{D(1)}	(ɗak ⁵⁵)	-
'to extinguish'	*hɫap ^{D(1)}	*ʔdəp ^{D(1)}	*ɗap ^{D(1)}	(lap ³³)	-
'to go out'	*ʔuk ^{D(1)}	*ʔ-k ^{D(1)}	*ʔu:k ^{D(1)}	(uk ³³)	-
		(Siam: ʔəkD1L)			

Table 23: Set 5: Lakkja = Tai (# Kam-Sui # Be # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'tail'	*kliŋ ^{A(1)}	*thriŋ ^{A(1)}	-	-	-
'monkey'	*liŋ ^{A(2)}	*liŋ ^{A(2)}	-	-	-
'male person'	*klei ^{A(1)}	*jai ^{A(2)}	-	-	-
'young girl'	*kl-Nau ^{C(1)}	*sau ^{A(1)}	-	-	-
'uncle-in-law'	*na: ^{C(2)}	(Siam: na ^{C2} 'mother's younger brother or sister')	-	-	-
'aunt'	*ʔa: ^{C(1)}	*ʔa ^{A(1)} (Siam: ʔa:A1 'father's younger sister or brother')	-	-	-
'road'	*tsaŋ ^{A(1)}	*daŋ ^{A(2)}	-	-	-
'dry field'	*di: ^{B(2)}	*di ^{B(2)}	-	-	-
'bow'	*koŋ ^{A(1)}	*k-ŋ ^{A(1)} (Siam: koŋ ^{A1})	-	-	-
'plate'	*tse:n ^{C(1)}	*ɕan ^{C(1)}	-	-	-
'salt'	*kliə ^{A(1)}	*kliə ^{A(1)}	-	-	-
'mountain'	*kla: ^{C(1)}	*phl/ra ^{A(1)} 'rock, cliff'	-	-	-
'one'	*ʔŋin ^{C(1)}	*hn-ŋ ^{B(1)} (Siam: nuŋ ^{B1})	-	-	-
'seven'	*thet ^{D(1)}	*cet ^{D(1)}	-	-	-
'curved, crooked'	*k-Nau ^{C(1)}	(Siam: na: ^{C1} ŋau ^{C2} 'a face distorted by anger')	-	-	-
'swollen'	*wok ^{D(2)}	*v-k ^{D(2)} (Siam: fok ^{D2S})	-	-	-
'well-grown, big'	*ʔbok ^{D(1)}	(Siam: buk ^{D1S} bun ^{A1} tough, strong'; pla: ^{A1} buk ^{D1S} 'a kind of big fish')	-	-	-
'to poke'	*thim ^{B(1)}	(Siam: thim ^{B2})	-	-	-
'to take off'	*thuət ^{D(1)}	*th-t ^{D(1)} (Siam: tho:t ^{D1L})	-	-	-
'to scratch'	*ʔjau ^{A(1)}	*kəu ^{A(1)}	-	-	-
'to give'	*pən ^{A(1)}	*pən ^{A(1)} (Siam: pan ^{A1} 'to distribute')	-	-	-
'to divide'	*teŋ ^{B(1)}	(Siam: beŋ ^{B1})	-	-	-
'to join, to connect'	*tə: ^{C(1)}	*t-B(1) (Siam: tə: ^{B1})	-	-	-
'to cut'	*klam ^{B(1)}	(Siam: ham ^{C1} han ^{B1} 'to hack')	-	-	-
'to sit'	*ʔniŋ ^{B(1)}	*nəŋ ^{B(2)}	-	-	-

Table 24: Set 6: Lakkja = Tai = Kam-Sui = Hlai (# Be).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'tooth'	*wan ^{A(2)}	*van ^{A(2)}	*pjwan ^{A(1)}	-	fan ¹
'navel'	*ʔmiə ^{A(1)}	*ʔbl / ri ^{A(1)}	(Sui: dwa ^{A1})	-	(TS: few ⁴ , BD: veu ¹)
'intestine'	*klai ^{C(1)}	*səi ^{C(1)}	*khjai ^{C(1)}	-	(TS: rai ⁶ , BD: rai ³)
'blood'	*liət ^{D(2)}	*liət ^{D(2)}	*phlat ^{D(1)}	-	(ɬat ⁷) (ɬat ⁷)
'cat'	*meu ^{C(2)}	*meu ^{C(2)}	(Kam, Sui: meu ^{C2})	-	(TS: miu ⁵ , BD: miu ²)
'younger person'	*nouŋ ^{C(2)}	*nuŋ ^{C(2)}	(Kam: noŋ ^{C2})	-	(TS: guŋ ⁴ , BD: guŋ ¹)
'you'	*ma: ^{A(2)} (Lungchow: mai ^{A2})		(Kam, Sui: na ^{A2})	-	(meu ¹)
'liquor'	*khla: ^{C(1)}	*hləu ^{C(1)}	*khla: ^{C(1)}	-	(TS: ŋa: ⁵ , BD: ŋa: ²)
'village'	*ʔba:n ^{C(1)}	*ʔban ^{C(1)}	*ʔa:n ^{C(1)}	-	(TS: fa:n ¹)
'stool'	*taŋ ^{B(1)}	*təŋ ^{B(1)}	(Kam, Sui: taŋ ^{B1})	-	(TS: daŋ ⁵ , BD: daŋ ²)
'silver'	*ŋen ^{A(2)}	*ŋ-n ^{A(2)} (Siam: ŋvn ^{A2})	(Kam, Sui: ŋan ^{A2})	-	(TS: kan ⁴ , BD: kan ¹)
'month'	*ʔbiən ^{A(1)}	*ʔbl / ien ^{A(1)}	*nüan ^{A(1)}	-	(ŋan ¹)
'leftside'	*klei ^{C(1)}	*zi:ai ^{C(2)}	(Kam: ɕe ^{C1} , Sui: si: ^{C2})	-	(TS: phai ³ , BD: phai ³)
'fat'	*bui ^{A(2)}	*bi ^{A(2)}	(Kam: pui ^{A2} , Sui: pi ^{A2})	-	(TS: gui ⁶ , BD: gwei ³)
'shallow'	*thi:n ^{C(1)}	(Siam: tu:n ^{C1})	*m-hlin ^{C(1)}	-	(thu:n ³)
'to spit'	*phui ^{A(1)}	(Siam: thui ^{A1})	*Kam: phju ^{A(1)}	-	(TS: phi ⁵ , BD: phi ²)
'to sleep'	*hep ^{D(1)}	*hləp ^{D(1)}	*khləp ^{D(1)}	-	(kup ⁷)
'to forget'	*phlem ^{A(2)}	*lium ^{A(2)}	*lam ^{A(2)}	-	(TS: lu:m ⁵ , BD: lu:m ²)

Table 25: Set 7: Lakkja = Kam-Sui (# Tai # Be # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'brain'	*nui ^{A(2)}	-	(Kam: ŋui ^{A2})	-	-
'tongue'	*ŋwa: ^{A(2)}	-	*ma ^{A(2)}	-	-
'tick'	*ʔŋwan ^{A(2)}	-	*nan ^{A(1)}	-	-
'bee'	*mlet ^{D(2)}	-	*mit ^{D(2)}	-	-
'paddy field frog'	*nai ^{C(1)}	-	*k-wai ^{C(1)}	-	-
'name'	*ʔja:n ^{A(1)}	-	(Kam: kwa:n ^{A1})	-	-
'fruit'	*ʔnam ^{B(1)}	-	(Sui: lam ^{A1})	-	-
'bamboo'	*fan ^{A(1)}	-	*xwan ^{A(1)}	-	-
'star'	*ʔblet ^{D(1)}	-	*hmlut ^{D(1)}	-	-
'five'	*ŋo: ^{C(2)}	-	*ŋu ^{C(2)}	-	-
'high'	*khla:ŋ ^{A(1)}	-	(Kam: pha:ŋ ^{A1})	-	-
'sharp'	*rei ^{B(2)}	-	*hra: ^{B(1)}	-	-
'to drink'	*hə:p ^{D(1)}	-	*trwəp ^{D(1)}	-	-

	Lakkja	Tai	Kam-Sui	Be	Hlai
'to wash (things)'	*wluk ^{D(2)}	-	*zu:k ^{D(2)}	-	-
'to hide'	*tshɛu ^{A(1)}	-	(Kam: ɕu ^{A1})	-	-
'to sell'	*plɛ:A ⁽¹⁾	-	*kwe ^{A(1)}	-	-
'to ascend'	*bla:A ⁽²⁾	-	*cha ^{B(1)}	-	-

Table 26: Set 8: Lakkja = Hlai (# Tai # Kam-Sui # Be).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'foot'	*puk ^{D(1)}	-	-	-	khok ⁷
'egg'	*lɔ:m ^{B(2)}	-	-	-	(TS: zu:m ⁴ , BD: zu:m ¹)
'meat'	*mɔm ^{B(2)}	-	-	-	(TS: gam ⁶ , BD: gom ³)
'rat'	*kliu ^{C(1)}	-	-	-	(TS: tiu ⁴ , BD: tiu ¹)
'tree'	*tsei ^{B(1)}	-	-	-	(tshai ¹)
'two'	*hou ^{C(1)}	-	-	-	(ʔau ³)
'lightweight'	*kliə ^{C(1)}	-	-	-	(khaw ³)
'red'	*kɔŋ ^{B(1)}	-	-	-	(TS: gɛŋ ⁴)
awaken'	*mbɛn ^{A(2)}	-	-	-	(ʔun ¹)
'to make, to do'	*bok ^{D(2)}	-	-	-	(TS: vok ⁸ , BD: vu:k ⁷)
'to shoot'	*dziə ^{B(2)}	-	-	-	(tseu ¹)

Table 27: Set 9: Lakkja = Tai = Be (# Kam-Sui # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'wing'	*wiət ^{D(2)}	*pik ^{D(1)}	-	(bit ¹³ /bik ³³)	-
'vegetable'	*wok ^{D(2)}	*phl/rək ^{D(1)}	-	(sak ³³)	-
'right'	*duk ^{D(2)}	*th-k ^{D(1)} (Siam: thu:k ^{D1L})	-	(hək ⁵⁵)	-
'to tie'	*fat ^{D(1)}	*ɣ-t ^{D(2)} (Siam: khar:t ^{D2L})	-	(gat ⁵⁵)	-
'to squeeze'	*gɛn ^{C(2)}	*gən ^{C(2)}	-	(tʃan ²¹)	-

Table 28: Set 10: Lakkja = Tai = Be = Hlai (# Kam-Sui).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'gall bladder'	*blai ^{A(1)}	*bl/ri ^{A(1)}	-	(loi ³³)	(dai ¹)
'fingernail'	*pli:p ^{D(1)}	*dliɛp ^{D(2)}	-	(lip ⁵⁵)	(li:p ⁷)
'land leech'	*la:k ^{D(2)}	*dak ^{D(2)}	-	(ɗak ³³)	(the:k ⁷)
'to blow'	*phu:B ⁽¹⁾	*p-B ^(1/2) (Siam: pauB1)	-	(vou ²¹)	(TS: ou ⁵ , BD: ou ²)

Table 29: Set 11: Lakkja = Tai = Hlai (# Kam-Sui # Be).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'to spread out'	*phu:A(1)	*puA(1)	-	-	(TS:bau ⁵ , BD: bou ⁶)
'to ask'	*ga:mA(2)	*thlamA(1)	-	-	(TS:gam ⁴ , BD:gam ¹)

Table 30: Set 12: Lakkja = Kam-Sui = Hlai (# Tai # Be).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'to see'	*ʔweɪB(1)	-	*ɗaiC(1)	-	(lai ³)
'to descend'	*leiC(2)	-	*hluɪB(1)	-	(TS: ɭui ⁴ , BD: lui ¹)

Table 31: Set 13: Lakkja = Kam-Sui = Be (# Tai # Hlai).

	Lakkja	Tai	Kam-Sui	Be	Hlai
'river'	*ts-NiəA(1)	-	*ʔnjaA(1)	(ŋaA ¹)	-

6.2 Tone correspondences

Lakkja has 133 roots that are shared retentions with Tai and Kam-Sui. In general, tones in those roots correspond very well. However, there are nine exceptional cases. The tonal disagreements can be grouped into three sets:

- Set 1: Lakkja = Tai (# Kam-Sui) 3 (See Table 30.)
- Set 2: Lakkja = Kam-Sui (# Tai) 4 (See Table 31.)
- Set 3: Lakkja # (Tai = Kam-Sui) 2 (See Table 32.)

Based on tonal evidence, we might have to conclude that Lakkja is as close to Tai as it is to Kam-Sui.

Table 32: Set 1: Lakkja = Tai (# Kam-Sui).

	Lakkja	Tai	Kam-Sui
'long'	*raiA	*reiA	*ʔraiC
'leaf'	*ʔwaɪA	*ʔbəiA	*pwaB
'pig'	*kh-Nu:A	*hmuA	*k-hmuB

Table 33: Set 2: Lakkja = Kam-Sui (# Tai).

	Lakkja	Tai	Kam-Sui
'to fly'	*pənB	*ʔbinA	*-ɣnB
'paddy field'	*ja:B	*naA	*ʔraB
'thunder'	*pla:B	*phl/raC	*praB
'cat'	*meuC	*meuA	(Kam,Sui: meuC ²)

Table 34: Set 3: Lakkja # (Tai = Kam-Sui).

	Lakkja	Tai	Kam-Sui
'ashes'	*bleu ^C	*vləu ^B	*phla:u ^B
'parent's elder brother'	*lorŋ ^B	*luŋ ^A	(Sui: luŋ ^{A2})

7. Conclusion

In this paper, the phonological system of Lakkja and 243 Lakkja roots are tentatively reconstructed. In order to confirm the present reconstruction and to give a complete picture of the Proto-Lakkja phonological system, more data are needed. When the reconstructed roots of Proto-Lakkja are compared with those of Proto-Tai and Proto-Kam-Sui, the results of the comparison seem to suggest that Lakkja should be placed closer to Tai than to Kam-Sui. There is little doubt that Lakkja is a language within the Kam-Tai branch of the Tai-Kadai family.

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