

Segmental Features of Palaung in Thailand

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ABSTRACT: *The objective of this investigation was to study the Palaung phonological system as it is spoken at Nor Lae Village, Tambon Mon Pin, Fang District, Chiang Mai. The study covered the consonants and vowels of the language. The data were collected by using the Mon-Khmer Wordlist and from oral folk tales of the ethnic group. The results were presented descriptively. It is revealed from the research findings that there are 33 consonantal phonemes. They are / p ph b t th d c ch j k kh g ʔ f s ç h v m m̥ n ɲ ɲ̥ ɲ̥̄ l ʃ r ʃ̄ w j ʃ̄̄/. It is found that 32 of them can occur syllable-initially. They include / p ph b t th d c ch j k kh g ʔ f s h v m m̥ n ɲ ɲ̥ ɲ̥̄ l ʃ r ʃ̄ w j ʃ̄̄/. Thirteen can occur as syllable codas, which include /-p -t -c -k -ʔ -ç -h -m -n -ɲ -w -j/. There are ten single vowels: /i e æ ɪ ə a a: ɔ o u/ and four diphthongs: /ia/, /ai/, /au/, and /ua/.*

Keywords: *Consonants, Nor Lae Village, Palaung, Phonology, Vowels*

I. INTRODUCTION

The Palaung are an ethnic group whose language is categorized under the Austroasiatic Stock, Mon-Khmer branch and Palaungic sub-branch. The ethnic group originates from Shan State of Myanmar. The group can also be found in Western Yunnan, China, along the Burmese-Chinese border. Other names that refer to this ethnic group include Di-ang, Ngwe Palaung, Palay, Pale, Silver Palaung, and Ta-ang

The Palaung migrated to Thailand in 1982 to escape from ethnic fighting and the political suppression of the Burmese military regime. The group consisting of about 200 people was from Doi Lai, a small town wedged between Ken Taung and Muang Pan about 15 kilometers from Doi Ang Khang frontier. The group was granted a permanent settlement at Nor Lae Village by His Majesty the King in 1984 (Deepadung, 2009: 13). The village is in Tambon Mon Pin, Fang District of Chiang Mai Province.

Linguistic works on the Palaung language in Thailand are relatively rare due to the recent arrival of the ethnic group. Most linguistic works were undertaken by western linguists or missionaries in Burma when the country was still open to the outside world. However, the works are not usually available in Thailand. If they are available, they are usually in the form of unpublished mimeographs in private libraries like the Summer Institute of Linguistics (SIL) Library. Works on the Palaung in Thailand usually focus on ethnology, political conflicts or overviews of the ethnic group. Howard and Wattanapun (2001) present an overview of the Palaung in northern Thailand. Nattapoolwat (2001) investigated access strategies for natural resources adopted by the ethnic group in the context of forest enclosure. Srisuk (2002) focused on the assimilation of the Palaung lifestyle at Mae Ai District.

The objective of this study was to investigate the Palaung segmental features as it is spoken at Nor Lae Village, Fang District, Chiang Mai, Thailand, which include the consonants and vowels of the language.

The research instrument used for collecting primary data on Palaung phonology is the Mon-Khmer Wordlist devised by the Summer Institute of Linguistics (SIL). The list contains 281 basic vocabulary items relevant to Mon-Khmer languages.

Additionally, other lexical items and oral narrative stories or /ʔa bi²m/ were also collected in order to find out other sounds or sound clusters that might not be covered in the wordlist. These additional words should help make this investigation more refined and in-depth.

II. THE FINDINGS

2.1 The consonants

There are 33 consonantal phonemes, 32 of which can occur syllable-initially. Of these, 13 consonantal phonemes can occur syllable-finally. As for stops being the final consonants, they are voiceless and unreleased. The consonantal phonemes in Nor Lae Palaung are stops /p ph b t th d c ch j k kh g ʔ/, fricatives /f s ç h/, approximant /v/, nasals /m m̥ n ɲ ɲ̥ ɲ̥̄/, laterals /l ʃ/, trills /r ʃ̄/, and semi-vowels /w j ʃ̄̄/. Details of both initial and final consonants can be elaborated on as follows.

Stops

There are 13 stops with places of articulation ranging from bilabial, alveolar, palatal, velar to glottal: / p ph b t th d c ch j k kh g ʔ/. Furthermore, aspiration is a distinctive feature among voiceless stops. They include / p / and / ph /, / t / and / th /, / c / and / ch /, and / k / and / kh /.

/p/ is described as a voiceless unaspirated bilabial stop occurring in both initial and final positions of the syllable. When it functions as a syllable coda, it is unreleased.

Phonemic level	Phonetic level	
/pi/	[pi:]	‘same’
/pra:ŋ/	[pra:ŋ]	‘sour’
/præ/	[præ]	‘forest’
/pak/	[pak̚]	‘to tie’
/lɪp/	[lɪp̚]	‘to enter’
/dæp/	[dæp̚]	‘to cut’
/ʔa:p/	[ʔa:p̚]	‘dark’
/ʃa:p/	[ʃa:p̚]	‘difficult’

/ph/ is described as a voiceless aspirated bilabial stop occurring only in the initial position of the syllable.

Phonemic level	Phonetic level	
/phuan/	[phuan]	‘four’
/phaʔ/	[phaʔ]	‘to rub’
/phja:/	[phja:]	‘to disturb’
/phla:n/	[phla:n]	‘poor’

To demonstrate that aspiration is a phonemic feature between the voiceless bilabials /p/ and /ph/, the following minimal pairs are given.

/puan/	‘exceed, gratitude’	/phuan/	‘four’
/pju/	‘to forget’	/phju/	‘fizz’

/b/ is described as a voiced bilabial stop occurring only in the initial position of the syllable.

Phonemic level	Phonetic level	
/baŋ/	[baŋ]	‘to shoot’
/bjic/	[bjic]	‘to wake up’
/bɪç/	[bɪç]	‘to sweep’
/bjɔŋ/	[bjɔŋ]	‘to transform’

To demonstrate that voicing is a phonemic feature between voiced and voiceless bilabial stops /p/ and /b/, the following minimal pairs are given.

/pra:ŋ/	‘sour’	/bra:ŋ/	‘seam’
/pak/	‘to tie’	/bak/	‘broken’
/plɔ/	‘leg’	/blɔ/	‘empty’

/t/ is described as a voiceless unaspirated alveolar stop occurring in both initial and final positions of the syllable. When it functions as a syllable coda, it is unreleased.

Phonemic level	Phonetic level	
/ta:ŋ/	[ta:ŋ]	‘big’
/tah/	[tah]	‘to come’
/taʔ/	[taʔ]	‘over there’
/taiç/	[taiç]	‘darling’
/jɔt/	[jɔt̚]	‘to look’
/cet/	[t̚cet̚]	‘to sink’
/dat/	[dat̚]	‘noise’
/rjut/	[rjut̚]	‘to leak’

/th/ is described as a voiceless aspirated alveolar stop occurring syllable-initially only.

Phonemic level	Phonetic level	
/tha:j/	[tha:j]	‘never mind’
/thom/	[tho:m]	‘to obey’
/thun/	[thu:n]	‘lime stone’
/thuan/	[thuan]	‘excessive’

To demonstrate that aspiration is a phonemic feature between aspirated and unaspirated alveolar stops, /t/ and /th/, the following minimal pair is given.

/ta:ŋ/	‘big’	/tha:ŋ/	‘to doubt’
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/d/ is described as a voiced alveolar stop occurring only syllable-initially.

Phonemic level	Phonetic level	
/duh/	[duh]	‘to pound’

/dɔç/	[dɔç]	‘to take’
/dæ/	[dæ]	‘hand’
/deɲ/	[deɲ]	‘yellow’

To demonstrate that voicing is a phonemic feature between voiced apico-alveolar stop /d/ and voiceless unaspirated apico-alveolar stop /t/, the following minimal pairs are given.

/ta:/	‘to take a bath’	/da:/	‘grandfather’
/tah/	‘to come’	/dah/	‘to split’
/tiç/	‘to read’	/diç/	‘mushroom’

/c/ is described as a voiceless unaspirated palatal stop occurring both syllable-initially and finally. When it functions as a syllable coda, it is unreleased. Phonetically, the phoneme is realized as [tɕ].

Phonemic level	Phonetic level	
/can/	[tɕan]	‘heavy’
/cə/	[tɕə:]	‘light’
/cəw/	[tɕə:w]	‘to fall, drop’
/cet/	[tɕetʰ]	‘to sink’
/jic/	[jicʰ]	‘to mince’
/tuc/	[tucʰ]	‘to sit’
/moc/	[mocʰ]	‘mouth’
/vac/	[vacʰ]	‘stomach’

/ch/ is described as a voiceless aspirated palatal stop occurring syllable-initially only. Phonetically, the phoneme is realized as [tɕ^h].

Phonemic level	Phonetic level	
/chiʔ/	[tɕ ^h iʔ]	‘beautiful, handsome’
/chi/	[tɕ ^h i:]	‘to urinate’
/chɪp/	[tɕ ^h ɪpʰ]	‘to wear’
/chaʔ/	[tɕ ^h aʔ]	‘to cut’
/chiam/	[tɕ ^h iam]	‘to repair a roof’

To demonstrate that aspiration is a phonemic feature between the aspirated and unaspirated palatal stops, the following minimal pairs are given.

/cəw/ [tɕəw]	‘to fall, drop’	/chəw/ [tɕ ^h əw]	‘to hit each other’
/cah/ [tɕah]	‘comb’	/chah/ [tɕ ^h ah]	‘to tease’
/cɪp/ [tɕɪp]	‘to soak’	/chɪp/ [tɕ ^h ɪp]	‘to wear’

/j/ is described as a voiced palatal stop occurring only syllable-initially.

Phonemic level	Phonetic level	
/jun/	[jun]	‘to push’
/ma jaʔ/	[ma jaʔ]	‘deer’
/jɔʔɲ/	[jɔʔɲ]	‘to stand’
/ju/	[ju:]	‘enough’

It is noted that the minimal pairs for the voiced palatal stop cannot be found.

/k/ is described as a voiceless unaspirated velar stop occurring both syllable-initially and finally. When it functions as a syllable coda, it is unreleased.

Phonemic level	Phonetic level	
/kɔj/	[kɔ:j]	‘to stay’
/klə/	[klə:]	‘sad’
/klaɲ/	[klaɲ]	‘fat’
/kjɔ/	[kjɔ:]	‘to have fun’
/rɔk/	[rɔkʰ]	‘love’
/mək/	[məkʰ]	‘bad’
/lɔk/	[lɔkʰ]	‘clever’
/gɪk/	[gɪkʰ]	‘friend’

/kh/ is described as a voiceless aspirated velar stop occurring only syllable-initially.

Phonemic level	Phonetic level	
/khu/	[khu:]	‘to sweep’
/khoc/	[khoc]	‘to wash’
/khriw/	[khri:w]	‘gold’
/khun/	[khu:n]	‘wind’

To demonstrate that aspiration is a phonemic feature between the unaspirated and aspirated velar stops, /k/ and /kh/, the following minimal pair is given.

/kjə/	‘to have fun’	/khjə/	‘a porter’
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/g/ is described as a voiced velar stop occurring only syllable-initially.

Phonemic level	Phonetic level	
/gɪn/	[gɪ:n]	‘plenty’
/gɔŋ/	[gɔ:ŋ]	‘father’
/gat/	[gat]	‘cold’
/gəŋ/	[gə:n]	‘children, offspring’

To demonstrate that voicing is a phonemic feature between the voiced and voiceless velar stops, the following minimal pairs are given.

/kəj/	‘to stay, live’	/gəj/	‘a person’s name’
/khɪn/	‘painful’	/gɪn/	‘plenty’

/ʔ/ is described as a voiceless glottal stop. This phoneme appears syllable initially and finally.

Phonemic level	Phonetic level	
/ʔim/	[ʔi:m]	‘raw, uncooked’
/ʔuh/	[ʔuh]	‘to smell’
/ʔəw/	[ʔə:w]	‘I’
/ʔan/	[ʔan]	‘he’
/ʔauʔ/	[ʔauʔ]	‘to swell’
/ʔa ʔaʔ/	[ʔa ʔaʔ]	‘left side’
/ʔiʔ/	[ʔiʔ]	‘to sleep’
/ʔaʔ/	[ʔaʔ]	‘crossbow’

Fricatives

There are four fricatives. Three of them, / f s h /, can occur syllable-initially whereas two of them, /ç h/, occur syllable finally. The palatal fricative / ç / does not function as an initial consonant of the syllable.

/f / is described as a voiceless labio-dental fricative. The phoneme is quite rare in its occurrence in words or syllables. It occurs only in the initial position of the syllable.

Phonemic level	Phonetic level	
/ma fa:/	[ma fa:]	‘monkey’
/ka fa:ŋ/	[ka fa:ŋ]	‘ashes’
/fauʔ/	[fauʔ]	‘to hang’
/ka fə/	[ka fə]	‘tangled’
/ka fəh/	[ka fəh]	‘to trip’

/s/ is described as a voiceless alveolar fricative occurring only in the initial position of the syllable.

Phonemic level	Phonetic level	
/sə/	[sə:]	‘sick, ill’
/sac/	[sac]	‘to stab’
/saiʔ/	[saiʔ]	‘salt’
/soŋ/	[so:ŋ]	‘to discard’

/ç/ is described as a voiceless palatal fricative occurring only in the final position of the syllable.

Phonemic level	Phonetic level	
/tiç/	[tiç]	‘to count’
/diç/	[diç]	‘to fight, mushroom’
/gəç/	[gəç]	‘to dig’
/taiç/	[taiç]	‘darling’

/h/ is described as a voiceless glottal fricative occurring in both syllable-initially and finally.

Phonemic level	Phonetic level	
/hɪk/	[hɪk]	‘hair’
/ha:w/	[ha:w]	‘go, walk’
/heŋ/	[he:ŋ]	‘dry’
/hom/	[ho:m]	‘to eat’
/riah/	[riah]	‘root’

/məh/	[məh]	‘to have’
/liah/	[liah]	‘spear’
/puh/	[puh]	‘breasts’

Approximant

/ʋ/ is described as a voiced labio-dental approximant. It is not a fricative because a strong puff of air is not produced when it is pronounced like the conventional voiced labio-dental fricative.

Phonemic level	Phonetic level	
/va:w/	[va:w]	‘wide, broad’
/vəɲ/	[vəɲ]	‘return’
/vac/	[vac]	‘stomach’
/væn/	[væn]	‘to throw’

Nasals

There are eight nasals and voicelessness is a distinctive feature of the Palaung nasals.

/m/ is described as a voiced bilabial nasal occurring both syllable-initially and finally.

Phonemic level	Phonetic level	
/ma:w/	[ma:w]	‘stone’
/ma:/	[ma:]	‘mother’
/moc/	[moc]	‘mouth’
/muh/	[muh]	‘alive’
/dæm/	[dæm]	‘to write’
/ha:m/	[ha:m]	‘voice’
/ŋa:m/	[ŋa:m]	‘blood’
/ga:m/	[ga:m]	‘fate, destiny’

/m̥/ is described as a voiceless bilabial nasal occurring only syllable-initially.

Phonemic level	Phonetic level	
/m̥a:n/	[m̥a:n]	‘really’
/m̥æ/	[m̥æ]	‘hot’
/m̥aʔ/	[m̥aʔ]	‘to hit’
/m̥a:ɲ/	[m̥a:ɲ]	‘to beg’
/m̥aw/	[m̥aw]	‘song’
/m̥ət/	[m̥ət]	‘to catch’

To demonstrate that voicing is a phonemic feature between voiced and voiceless bilabial nasals /m/ and /m̥/, the following minimal pairs are given.

/ma:n/	‘garden’	/m̥a:n/	‘really’
/mæ/	‘you’	/m̥æ/	‘hot’
/mən/	‘to crawl’	/m̥ən/	‘good’
/mɔ/	‘drunk’	/m̥ɔ/	‘where’

/n/ is described as a voiced alveolar nasal occurring both syllable-initially and finally.

Phonemic level	Phonetic level	
/nɔn/	[nɔn]	‘mountain’
/nap/	[nap]	‘to know’
/niaʔ/	[niaʔ]	‘to squeeze’
/neɲ/	[neɲ]	‘that’
/nəw/	[nəw]	‘remember’
/khun/	[khu:n]	‘wind’
/gɔn/	[gɔn]	‘offspring’
/ŋæn/	[ŋæn]	‘same’
/ŋa:n/	[ŋa:n]	‘real’

/n̥/ is described as a voiceless alveolar nasal occurring only syllable-initially.

Phonemic level	Phonetic level	
/n̥a:m/	[n̥a:m]	‘blood’
/n̥im/	[n̥im]	‘doing nothing’
/n̥im/	[n̥im]	‘light (in color)’
/n̥a:w/	[n̥a:w]	‘wait’
/ma n̥a:j/	[ma n̥a:j]	‘rat’

To demonstrate that voicing is a phonemic feature between voiced and voiceless alveolar nasals /n/ and /ɲ/, the following minimal pairs are given.

/na:ɲ/	‘forest’	/ɲa:ɲ/	‘how much’
/naɲ/	‘a girl’s name’	/ɲaɲ/	‘silverware’
/næ/	‘to reprimand’	/ɲæ/	‘to point’

/ɲ/ is described as a voiced palatal nasal occurring both syllable-initially and finally.

Phonemic level	Phonetic level	
/ɲəw/	[ɲə:w]	‘mud’
/ɲən/	[ɲə:n]	‘intestine’
/ɲəj/	[ɲə:j]	‘waist’
/ka ɲah/	[ka ɲah]	‘to laugh’
/pra:ɲ/	[pra:ɲ]	‘hungry’
/gʊɲ/	[gʊ:ɲ]	‘father’
/siɲ/	[si:ɲ]	‘since’
/puɲ/	[pu:ɲ]	‘flood’

/ɲ/ is described as a voiceless palatal nasal occurring only syllable-initially.

Phonemic level	Phonetic level	
/ɲam /	[ɲam]	‘yet’
/ɲə /	[ɲə:]	‘to suck, to smell’
/ɲa:p /	[ɲa:pʰ]	‘difficult’
/ɲəm /	[ɲə:m]	‘bush’

It is noted that minimal pairs for the voiced and voiceless palatal nasals cannot be found.

/ŋ/ is described as a voiced velar nasal occurring in both initial and final positions of the syllable.

Phonemic level	Phonetic level	
/ŋa:m/	[ŋa:m]	‘sweet’
/ŋian/	[ŋian]	‘green’
/ŋə/	[ŋə:]	‘fire’
/ŋa:j/	[ŋa:j]	‘eye’
/səŋ/	[sə:ŋ]	‘bitter’
/m̄a:ŋ/	[m̄a:ŋ]	‘to hope’
/raŋ/	[raŋ]	‘bamboo’
/ra:ŋ/	[ra:ŋ]	‘teeth’

/ŋ/ is described as a voiceless velar nasal occurring only syllable-initially.

Phonemic level	Phonetic level	
/ŋaw/	[ŋaw]	‘unhusked rice’
/ŋun/	[ŋu:n]	‘to moan’
/ŋə/	[ŋə:]	‘alone’
/ŋəj/	[ŋə:j]	‘easy’

To demonstrate that voicing is a phonemic feature between voiced and voiceless velar nasals, the following minimal pair is given.

/ŋə/	‘fire’	/ŋə/	‘lonely’
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Laterals

Voicelessness is a distinctive feature of laterals in the Palaung language.

/l/ is described as a voiced alveolar lateral occurring only syllable-initially.

Phonemic level	Phonetic level	
/ləj/	[lə:j]	‘slow’
/lah/	[lah]	‘to launder’
/lɪp/	[lɪpʰ]	‘to enter’
/luj/	[lu:j]	‘white’

/l/ is described as a voiceless alveolar lateral occurring only syllable-initially.

Phonemic level	Phonetic level	
/l̄a:/	[l̄a:]	‘leaf’
/l̄æ/	[l̄æ]	‘to flow’
/l̄iw/	[l̄i:w]	‘to give’
/l̄əw/	[l̄ə:w]	‘to pour’
/l̄əm/	[l̄ə:m]	‘excessive’
/l̄uh/	[l̄uh]	‘hole’

To demonstrate that voicing is a phonemic feature between voiced and voiceless alveolar laterals, the following minimal pairs are given.

/lam/	‘sharp’	/lam/	‘to gather’
/lin/	‘steep’	/lin/	‘to glance’
/ləw/	‘need’	/ləw/	‘to pour’

Trills

Voicelessness is a distinctive feature of trills in the Palaung language.

/r/ is described as a voiced alveolar trill occurring only syllable-initially.

Phonemic level	Phonetic level	
/raŋ/	[raŋ]	‘to do, work’
/rək/	[rək]	‘to love’
/rən/	[rən]	‘silver’
/riah/	[riah]	‘root’
/ra:/	[ra:]	‘branch’

/ɾ/ is described as a voiceless alveolar trill occurring only syllable-initially.

Phonemic level	Phonetic level	
/ɾaŋ/	[ɾaŋ]	‘tooth’
/ɾaŋ/	[ɾaŋ]	‘bamboo’
/ɾec/	[ɾec]	‘to find’
/ɾa:j/	[ɾa:j]	‘loss’
/ɾɔ:/	[ɾɔ:]	‘to rest’

To illustrate that voicing is a phonemic feature between voiced and voiceless alveolar trills, the following minimal pairs are given.

/ru/	‘angry’	/ɾu/	‘to offer something to monks’
/rɔ/	‘village’	/ɾɔ/	‘to rest’

Semi-vowels

There are two semi-vowels in the Palaung language. However, voicelessness is a distinctive feature only for the palatal semi-vowels.

/w/ is described as a voiced bilabial semi-vowel occurring both syllable-initially and finally.

Phonemic level	Phonetic level	
/wah/	[wah]	‘to turn’
/wəh/	[wəh]	‘to open’
/wian/	[wian]	‘to spank’
/waw/	[waw]	‘to like’
/khriw/	[khri:w]	‘gold’
/ŋaw/	[ŋaw]	‘price’
/bja:w/	[bja:w]	‘to eat slowly’
/ləw/	[lə:w]	‘to pour’

/j/ is described as a voiced palatal semi-vowel occurring both syllable-initially and finally.

Phonemic level	Phonetic level	
/jic/	[jic]	‘to mince’
/jam/	[jam]	‘dead’
/jɑ:m/	[jɑ:m]	‘to cry’
/jaʔ/	[jaʔ]	‘shoulder’
/kɔ:j/	[kɔ:j]	‘to live’
/brɔ:j/	[brɔ:j]	‘to float’
/lu:j/	[lu:j]	‘white’
/ŋə:j/	[ŋə:j]	‘easy’

/j̥/ is described as a voiceless palatal semi-vowel occurring only syllable-initially.

Phonemic level	Phonetic level	
/j̥ew/	[j̥e:w]	‘ear’
/j̥a:p/	[j̥a:p]	‘to yawn’
/j̥aʔ/	[j̥aʔ]	‘to wither’
/j̥uc/	[j̥uc]	‘to sting’
/j̥ɔc/	[j̥ɔc]	‘air’

To illustrate that voicing is a phonemic feature between voiced and voiceless palatal semi-vowel, the following minimal pair is given.

/j̥əw/	‘fear’	/jew/	‘ears’
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The 33 consonantal phonemes can be summarized in the following table.

Place Manner	bilabial	Labio-dental	alveolar	palatal	velar	glottal
Stops Vd. VI.Unasp. VI.Asp.	b p ph		d t th	j c ch	g k kh	ʔ
Fricatives Vd. VI.		f	s	ç		h
Nasals Vd. VI.	m ṃ		n ṇ	ɲ ɲ̃	ŋ ṅ	
Laterals Vd. VI.			l ɭ			
Trills Vd. VI.			r ṛ			
approximant		v				
Semi-Vowels Vd. VI.	w			j ɨ		

Table 1 Nor Lae Palaung consonants

2.1 Consonant clusters

Regarding the initial consonant clusters in the Palaung language spoken at the village, there are only two positioned clusters. The first position or C₁ includes twelve consonantal phonemes, divided into seven plosives /p ph b d k kh g/, one fricative /s/, two nasals /m ŋ/, one trill /r/, and one lateral /l/. The second position or C₂ includes trill /r/, lateral /l/, and semi-vowels /w j/. From the corpus, it is noted that only /k/ and /kh/ are evenly distributed with all C₂, whereas the first consonantal phonemes /d s m ŋ r l/ are clustered only with the palatal semi vowel /j/.

/p/ is clustered with /r l j/ as shown in the following examples.

/pr-/

Phonemic level	Phonetic level		
/pra:ŋ/	[pra:ŋ]	‘sour’	
	/præ/	[præ]	‘forest’
	/prəj/	[prəj]	‘hungry ghost’
/maŋ prə:ŋ/	[maŋ prə:ŋ]	‘horse’	
	/ka pra:j/	[ka pra:j]	‘hungry’

/pl-/

Phonemic level	Phonetic level		
/plaiʔ/	[plaiʔ]	‘elephant tusk’	
	/plɔ:/	[plɔ:]	‘leg’
/plom/	[plom]	‘strength, force’	

/pj-/

Phonemic level	Phonetic level		
/pju/	[pju]	‘to forget’	
	/pjut/	[pjut]	‘to lick, kiss’
/ma pjuŋ pjɛp/	[ma pjuŋ pjɛp]	‘spider’	

/ph/ is clustered with /r l j/ as shown in the following examples.

/phr-/

Phonemic level	Phonetic level		
/phræ/	[phræ]	‘to tie thatch grass with a bamboo pole’	
/ma phric/	[ma phric]	‘chili’	
	/phruh/	[phruh]	‘rashes’
/ka phrom/	[ka phro:m]	‘to help one another’	

/phl-/

Phonemic level	Phonetic level		
/phla:n/	[phla:n]	‘poor’	

/phj-/

Phonemic level		Phonetic level	
/phja:/		[phja:]	‘to disturb’
	/phjiw/	[phji:w]	‘to dent’
/phja: ² ŋ/		[phja: ² ŋ]	‘wing’
	/phju/	[phju:]	‘deflating sound’

/b/ is clustered initially with /r l j/ as shown in the following examples.

/br-/

Phonemic level		Phonetic level	
/bra:m/		[bra:m]	‘testicles’
	/brim/	[bri:m]	‘old’
/bria/		[bria]	‘hail’
	/bræ/	[bræ]	‘fruitful’

/bl-/

Phonemic level		Phonetic level	
/blŋ/		[blŋ]	‘thud’
	/blɪp/	[blɪp]	‘to insert’
	/bləj/	[bləj]	‘fruit’

/bj-/

Phonemic level		Phonetic level	
	/dɪ bja:/	[dɪ bja:]	‘single women’
/bjew/		[bjɛ:w]	‘to lose’
	/bja:w/	[bja:w]	‘to eat slowly’

/d/ is clustered initially with only the palatal semi-vowel /j/ and there is only one example word from the corpus.

/djut/	[djut]	‘to connect’
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/k/ is initially clustered with all C₂ consonantal phonemes as shown in the following examples.

/kr-/

Phonemic level		Phonetic level	
/krəw/		[krə:w]	‘to speak’
	/kræ/	[kræ]	‘slow’
/krɪp/		[krɪp]	‘to pay respect’
	/ŋ krəj/	[ŋ krə:j]	‘pestle’
	/kruh/	[kruh]	‘to emerge from the ground’

/kl-, only one word is found for this cluster.

/kləj/	[kləj]	‘banana’
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/kw-/

Phonemic level		Phonetic level	
/kwæ/		[kwæ]	‘don’t’
	/na kwa:/	[na kwa:]	‘higher direction’

/kj-/

Phonemic level		Phonetic level	
/kjə/		[kjə]	‘to have fun’
	/kjam/	[kjam]	‘to make somebody cry’

/kh-/ is initially clustered with all C₂ consonants, as shown in the following example words.

/khr-/

Phonemic level		Phonetic level	
/khrəm/		[khrəm]	‘rich’
	/khrɪm/	[khrɪm]	‘below’
/khra:m/		[khra:m]	‘to hope’
	/khriw/	[khri:w]	‘gold’
/khrəŋ/		[khrəŋ]	‘to imprison’
	/khriaŋ/	[khriaŋ]	‘to hide’

/khl/

Phonemic level		Phonetic level
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/khlæp/	[khlæpʰ]	‘thongs’	
/khw/			
Phonemic level	Phonetic level		
/khwa:ŋ/	[khwa:ŋ]	‘to permit’	
/khj/			
Phonemic level	Phonetic level		
/khja:/	[khja:]	‘thin’	
	/khjəŋ/	[khjəŋ]	‘to peep’
/ka khjaʔ/	[ka khjaʔ]	‘narrow’	
	/sɪ khja:/	[sɪ khja:]	‘good’

/g/ is initially clustered with /r/, /l/, and /j/ as shown in the following example words.

/gr-/			
Phonemic level	Phonetic level		
/grəj/	[grəj]	‘to die’	
	/griah/	[griah]	‘to gnaw’
/griaʔ/	[griaʔ]	‘stingy’	
	/grəh/	[grəh]	‘sound’
/ma graʔ/	[ma graʔ]	‘buffalo’	

/gl-/			
Phonemic level	Phonetic level		
/gla:/	[gla:]	‘horny’	
	/gla:j/	[gla:j]	‘rain’
/gla:ŋ/	[gla:ŋ]	‘sarong’	
	/ma gla:ŋ/	[ma gla:ŋ]	‘hawk’

/gj-/			
Phonemic level	Phonetic level		
/ʔa gjəŋ/	[ʔa gjəŋ]	‘in fact’	
	/ʔa gja:ŋ/	[ʔa gja:ŋ]	‘habit’
/ʔa gjun/	[ʔa gjun]	‘talisman’	
	/gje:w gja:/	[gje:w gja:]	‘to cherish’

/r/ is clustered initially with palatal semi-vowel /j/ and there are only two example words from the corpus.

Phonemic level	Phonetic level		
/va rja:/	[va rja:]	‘worm’	
	/rjut/	[rjutʰ]	‘to leak’

/l/ is clustered initially with palatal semi-vowel /j/ and there is only one example word from the corpus.

Phonemic level	Phonetic level		
/ljut/	[ljutʰ]	‘to make mistakes, to violate traditions’	

/s/ is clustered initially with palatal semi-vowel /j/ and there is only one example word from the corpus.

Phonemic level	Phonetic level		
/sjut/	[sjutʰ]	‘to tell someone to do something’	

/m/ is clustered initially with palatal semi-vowel /j/ and there is only one example word from the corpus.

Phonemic level	Phonetic level		
/ʔɪp mjuk/	[ʔɪpʰ mjukʰ]	‘to praise’	

/ŋ/ is clustered initially with palatal semi-vowel /j/ and there is only one example word from the corpus.

Phonemic level Phonetic level
 /ʔa ŋja:n/ [ʔa ŋja:n] ‘intelligence’

The initial consonant clusters of Nor Lae Palaung can be summarized in the following table.

C ₁	C ₂	r	l	w	j
p		✓	✓		✓
ph		✓	✓		✓
b		✓	✓		✓
d					✓
k		✓	✓	✓	✓
kh		✓	✓	✓	✓
g		✓	✓		✓
s					✓
m					✓
ŋ					✓
r					✓
l					✓

Table 2 Initial consonant clusters of Nor Lae Palaung

2.3 The vowels
Monophthongs

There are ten monophthongs in the Palaung language as it is spoken at Nor Lae Village. Vowel length is phonemically contrastive to only one pair, /a/ and /a:/, as minimal pairs can be found to justify the semantic distinction between the short and long vowels. Length for the rest of the vowels is phonetically conditioned, depending on the types of syllable structures. In the smooth syllables, the vowels are relatively lengthened, while in the checked syllables, they are shortened. The phenomenon is fundamentally allophonic variations. The ten single vowels of the Palaung language are /i e æ ɪ ə a a: ɔ o u/. Details and example words of each vowel are as follows.

/i/ is described as a high front unrounded vowel. The vowel is realized as [i:] in smooth syllables and [i] in checked syllables.

Phonemic level	Phonetic level	
/khriw/	[khri:w]	‘gold’
/sin/	[sin]	‘cooked’
/ʔim/	[ʔim]	‘uncooked’
/ŋim/	[ŋim]	‘to stay still’
/tiç/	[tiç]	‘count’
/ʔiʔ/	[ʔiʔ]	‘to sleep, lie down’
/diç/	[diç]	‘to fight’
/chiʔ/	[tɕ ^h iʔ]	‘beautiful’
/riç/	[riç]	‘to rake’

/e/ is described as a mid front unrounded vowel. The vowel is realized as [e:] in smooth syllables and [e] in checked syllables.

Phonemic level	Phonetic level	
/rew/	[re:w]	‘rattan’
/ʔew/	[ʔe:w]	‘ear’
/ʔe/	[ʔe:]	‘we’
/ge/	[ge:]	‘they’
/ma beʔ/	[ma beʔ]	‘duck’
/ma lec/	[ma lec]	‘pig’

/æ/ is described as a low front unrounded vowel. It occurs only in smooth syllables.

/præ/	‘forest’
/dæ/	‘hand’
/bæn/	‘live’
/læ/	‘to flow’
/mæ/	‘hot’
/næ/	‘same’

/khæ/ 'in'

/ɪ/ is described as a high central unrounded vowel. The vowel is realized as [ɪ:] in smooth syllables and [ɪ] in checked syllables.

	Phonemic level	Phonetic level	
/cɪ/		[tɕɪ:]	'name'
/sɪ/		[sɪ:]	'straight'
/dɪ/		[dɪ:]	'at, will'
/rɪm/		[rɪ:m]	'together'
/hɪk/		[hɪkʰ]	'hair'
/ɪp/		[ɪpʰ]	'enter'
/dɪʔ/		[dɪʔ]	'push'

/ə/ is described as a mid central unrounded vowel. The vowel is realized as [ə:] in smooth syllables and [ə] in checked syllables.

	Phonemic level	Phonetic level	
/məm/		[mə:m]	'good'
/həj/		[hə:j]	'tree'
/bləj/		[blə:j]	'fruit'
/jə/		[jə:]	'to hear, see'
/mək/		[məkʰ]	'bad'
/pət/		[pətʰ]	'grass'
/gəç/		[gəç]	'to dig'
/hət/		[hətʰ]	'thick'
/dəç/		[dəç]	'to take'

/a/ is described as a low central unrounded short vowel. It occurs in both smooth and checked syllables.

/dam/	'to order'
/raŋ/	'bamboo'
/ŋaw/	'field rice'
/ŋam/	'yet'
/gat/	'old'
/jaʔ/	'shoulder'
/nap/	'to know'
/tah/	'to come'

/a:/ is described as a low central unrounded long vowel. It occurs in both smooth and checked syllables.

/mə:m/	'true, real'
/gla:j/	'rain'
/la:/	'leaf'
/ma:w/	'stone'
/ŋa:p/	'difficult'
/ha:p/	'side dishes'

The vowels /a/ and /a:/ are the only pair that is phonemically contrastive in the language, as demonstrated in the following minimal pairs.

/jam/	'to die'	/ja:m/	'to cry'
/raŋ/	'bamboo'	/ra:ŋ/	'tooth'
/ʔaʔ/	'crossbow'	/ʔa:ʔ/	'spicy'

/ɔ/ is described as a low back rounded vowel. It occurs mostly in smooth syllables and is realized as [ɔ:]. However, there is only one word in the corpus where the vowel occurs in the checked syllable and is realized as [ɔ].

	Phonemic level	Phonetic level	
/nɔn/		[nɔ:n]	'mountain'
/gɔ/		[gɔ:]	'seed'
/klɔj/		[klɔ:j]	'banana'
/ŋɔ/		[ŋɔ:]	'suck'
/rɔk/		[rɔkʰ]	'(asexual) love'

/o/ is described as a central back rounded vowel. It occurs mostly in smooth syllables and is realized as [o:]. Nevertheless, there found only one word from the corpus where the syllable occurs in the checked syllable and is realized as [o].

	Phonemic level	Phonetic level	
/bom/	[bo:m]		'cooked rice'
	/ʔoj/	[ʔoj]	'three'
/do/	[do:]		'with'
	/plom/	[plo:m]	'strength'
	/moc/	[moc]	'mouth'
/u/ is described as a high back rounded vowel. The vowel is realized as [u:] in smooth syllables and [u] in checked syllables.			
	Phonemic level	Phonetic level	
	/hun/	[hu:n]	'skin'
	/khun/	[khu:n]	'wind'
	/jun/	[ju:n]	'push'
/gɔp/	[gɔ:p]		'father'
	/pjut/	[pjutʰ]	'to lick, kiss'
/rjut/	[rjutʰ]		'to leak'
	/ʔuh/	[ʔuh]	'to smell'
	/puh/	[puh]	'alight'

Monophthongs in the Palaung language can be summarized in the following table.

	Front	Central	Back
High	i	ɪ	u
Mid	e	ə	o
Low	æ	a a:	ɔ

Table 3 Monophthongs of the Palaung language as spoken at Nor Lae Village

Diphthongs

Diphthongs are gliding vowels, starting from one vowel and ending at another. There are four diphthongs in the Palaung language, which include /ia/, /ai/, /au/, and /ua/. Details and example words of each diphthong are shown as follows.

/ia/ occurs in both smooth and checked syllables.

/bria/	'hail'
/chiam/	'to repair roof'
/giaʔ/	'freezing'
/riah/	'root'
/liah/	'spear'

/ai/ occurs only in the checked syllable and is followed by the glottal stop.

/glaiʔ/	'bark'
/plaiʔ/	'elephant tusk'
/saiʔ/	'salt'

/au/ occurs only in the checked syllables.

/tauʔ/	'to sing'
/ŋauʔ/	'to kill, expensive'
/ʔauʔ/	'to swell'
/ŋauʔ/	'to wait'
/ʔauç/	'swollen from being stung'
/ka khrauh/	'light rain'

/ua/ occurs in both smooth and checked syllables.

/pua/	'to add'
/juan/	'ivy'
/phan/	'four'
/puaʔ/	'knife'
/suaʔ/	'to slice'
/ma buah/	'barking deer'

III. CONCLUSION

There are 33 consonantal phonemes in the Palaung language as it is spoken at Nor Lae Village. Except for the voiceless palatal fricative /ç/, all of the phonemes can occur in the initial position of the syllable. The distinctive feature of voiced and voiceless contrast occurs in nasals, laterals, trills, and semi-vowels with the exception of /w/. There are thirteen consonantal phonemes that can occur at the syllable coda. All stop consonantal phonemes functioning as syllable codas are voiceless and unreleased.

As for the initial consonant clusters, twelve consonantal phonemes can occur in the first position of the syllable or C₁, while four consonantal phonemes /r l w j/ can occur in the second position of the syllable or C₂. It is noted that /j/ can function as C₂ of all C₁ phonemes.

For the monophthongs, there are ten single vowels. Vowel length is phonemically contrastive only between /a/ and /a:/. As for other vowels, their length is phonetically conditioned, depending on whether they appear in smooth or checked syllables. In smooth syllables, they are pronounced with a longer length, whereas in checked syllables, they are pronounced with a shorter length and minimal pairs cannot be found to illustrate their phonemic contrast.

ACKNOWLEDGEMENT

I would like to express my thanks to the National Research Council of Thailand for the research grant 2553 B.E.

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