A Phonological Sketch of Akha Buli
--- A Lolo-Burmese language of Muang Sing, Laos ---

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1.　Introduction

The Akha language is a member of the Akoid languages of the Lolo (Yipho)-Burmese branch of Tibeto-Burman linguistic stock (Bradley 1997). It is spoken widely across Mainland Southeast Asia, in areas such as Yunnan Province of China, Northern Thailand, Northern Burma/Myanmar, Northern Laos, and Northern Vietnam. Hansson (2003: 236) states that there are approximately 250,000 in China, 45,000 in Thailand, 200,000 in Burma/Myanmar, 100,000 in Laos, and 7,000 in Vietnam, though population figures are not reliable.

The Akha language has many linguistic varieties, like Akha Chicho, Akha Chepya, Akha Ulo, etc. This paper utilizes first-hand data[1] to illustrate the basic phonology and lexicon of Akha Buli (Puli),[2] which is an Akha variety spoken at Phabaad Noy Village in the district of Muang Sing in Luang Namtha Province, Laos (see Map 1).

An orientation to the paper follows. Section 2 introduces previous studies on the Akha Buli language. Sections 3 to 6 describe the synchronic phonology of this language, whereby Section 3 deals with syllable structure, Section 4 illustrates the consonants, Section 5 presents the vowels, and Section 6 outlines the tones. Finally, Section 7 concludes this paper. Moreover, a basic word list is added as **Appendix** at the last part of this paper.

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[2] Note that the Akha Buli language is called "Puli" or "Ko-Puli" in other literatures.

Map 1: Muang Sing Center and Phabaad Noy Village[3]
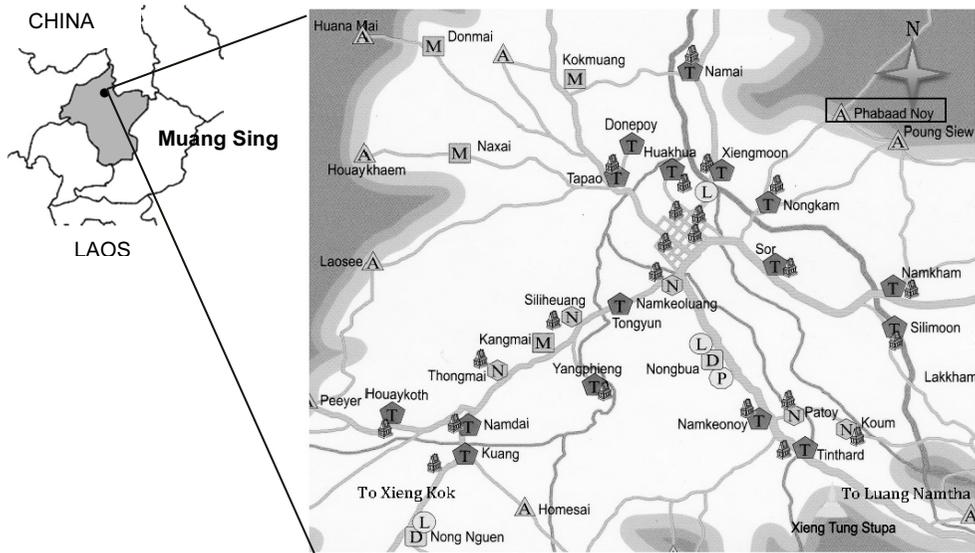
2. Previous Studies on the Akha Buli Language

Akha is a relatively well-known language within the Lolo-Burmese branch and is one of the best described languages in Southeast Asian linguistics (Katsura 1966, Lewis 1968, Hansson 1989, Hansson 2003, Lewis 2008, and many others).[4] Katsura (1966) describes the phonology of an Akha variety in Thailand. Lewis (1968) provides a detailed dictionary on Akha (Puli) in Burma/Myanmar. Hansson (1989) makes a comparison among Akha varieties in Thailand and China. Hansson (2003) outlines the linguistic features of Akha, while Lewis (2008) is a more comprehensive dictionary of Akha dialects. There are, however, very few studies that describe Akha varieties in Laos.

Kingsada and Shintani (1999) and Kato (2008) are considered to represent breakthrough research in the minority linguistics of Laos. Both of them present basic lexicons of some Akha varieties. However, with regard to Akha Buli in Laos, Kingsada and Shintani (1999) has been the only work to present the phonology and basic lexicons.[5]

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[3] The right hand side of Map 1 represents the district of Muang Sing, which is cited from the local tourist map created by Wolfgang Korn and German Development Service.

[4] For more inclusive linguistic references on Akha, see Glottolog web page http://glottolog.org/resource/languoid/id/akha1245 (accessed on June 13th, 2016).

[5] With regard to Akha Buli (Puli) in Burma/Myanmar, Lewis (1968) is the only dictionary, though he states that the lexical data compiled in it may differ from Thailand. Nevertheless, Akha Buli

Kingsada and Shintani (1999) describe another Akha Buli variety ("the Ko-Puli language") spoken in the district of Bun Tay in Phongsaly Province, whose phonology differs from that of Akha Buli in this paper. Nevertheless, their analysis needs further investigation because there is too little phonological explanation and linguistic information.

3. Syllable Structure

The syllable structure can be described as C1(M)VC2/T. C1 represents the onset, M the medial, V the vowel, C2 the coda, and T the tone. Akha Buli words are basically open syllable, though some closed syllables can be found with the nasal coda (See 4.1.3).

The syllabic nasal presents an exception to the above syllable structure, as will be discussed later (See 4.1.3).

4. Consonants

The consonants of Akha Buli[6] can be summarized in the following chart. All of them are placed in the onset slot, with only the nasals occurring in the coda slot.

p b	t d			k g
ph	th			kh
	ts dz	tɕ dʑ		
	tsh	tɕh		
m	n	ɳ		ŋ
	s	ɕ		x
	z	j		ɣ
	l			

4.1 Consonantal Inventories

4.1.1   Stops/Plosives

There is a three-way contrast between voiced unaspirated, voiceless unaspirated,

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dialects may be mutually intelligible in different countries.

[6] The consonantal inventories of the Ko-Puli language described in Kingsada and Shintani (1999: 232) are as follows:

/p, ph, b, m; pj, phj, bj, mj; t, th, d, n, s, z, l; ts, tsh, dz, c, ch, ɟ, ɲ, ʃ, j; k, kh, g, ŋ, x, ɣ; ʔ, h/

Lewis (1968: viii-x) recognizes that aspirated and unaspirated obstruents are in complementary distribution, such as: /p/ is articulated as [p] before laryngealized vowels (corresponding to "creaky vowels" in this paper) and as [pʰ] before plain ones.

and voiceless aspirated stops. Creaky vowels occur only after unaspirated stops.

Three points of articulation can be found: bilabial, alveolar, and velar. Velar consonants are generally followed by back vowels.[7,8] The examples are illustrated below. Note that each example shows the phonemic notation (/ /), phonetic articulation ([ ]), gloss (' '), and the example number in the **Appendix** (#), as presented throughout this paper.

/p/ [p]: /do21xa21tɕa̰33pɛ33/ [do21xɐ21tɕɐ̰33pɛ33] 'phlegm' (#9), /a55pa̰21/
       [ɐ55pɐ̰21] 'leaf' (#213), /po̰33/ [po̰33] 'to climb' (#479)
/ph/ [pʰ]: /a55jɛ33 phɛ33la55/ [ɐ55jɛ33 pʰɛ33lɐ55] 'to bloom' (#220),
          /xa21pha21/ [xɐ21pʰɐ21] 'frog' (#200), /phɔ21tɕhø55/ [pʰɔ21tɕ͡hø55]
          'sugarcane' (#247)
/b/ [b]: /bɛ33la̰33/ [bɛ33lɐ̰33] 'to smell' (#56), /jɔ33ba̰33/ [jɔ33bɐ̰33] 'white'
       (#407), /a33bɔ33/ [ɐ33bɔ33] 'tree' (#212)
/t/ [t]: /jɔ33tɕ21/ [jɔ33tɕ21] 'few' (#95), /a21ta̰33/ [ɐ21tɐ̰33] 'above' (#462),
       /phɛ55tɔ̰21/ [pʰɛ55tɔ̰21] 'button' (#276)
/th/ [tʰ]: /phi21thɛ21/ [phi21thɛ21] 'to close' (#133), /ɔ33tha21/ [ɔ33tʰɐ21]
          'to put' (#61), /m̩21tɕi33thɔ33/ [m̩21tɕ͡i33tʰɔ33] 'evening' (#458)
/d/ [d]: /ma55dɛ33/ [mɐ55dɛ33] 'pumpkin' (#233), /a21da̰33/ [ɐ21dɐ̰33] 'father'
       (#330), /dɔ̰21/ [dɔ̰21] 'to wait for' (#362)
/k/ [k]: /u21ka̰33/ [u21kɐ̰33] 'comb' (#13), /kɔ̰21/ [kɔ̰21] 'to bite' (#59),
    /bø21kṵ33/ [bø21kṵ33] 'turtle' (#202)
/kh/ [kʰ]: /kha33/ [kʰɐ33] 'to plant' (#249), /jɤ33khɔ55/ [jɤ33kʰɔ55] 'quick, fast'
          (#436), /khu55/ [kʰu55] 'to call' (#297)
/g/ [g]: /ga̰33dza21/ [gɐ̰33d͡zɐ21] 'story' (#308), /gɔ̰21jø21/ [gɔ̰21jø21] 'stick'
       (#155), /ɕa21gṵ21/ [ɕɐ21gṵ21] 'tendon' (#51)

4.1.2 Affricates

Affricates in this language also have a three-way contrast: voiced unaspirated, voiceless unaspirated, and voiceless aspirated stops. The voiceless aspirated stops do not occur before creaky vowels but before plain ones. From the viewpoint of point of articulation, there are two-way contrasts between alveolars and

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[7] The distinctions between front and back vowels will be mentioned in Section 5.1 and 5.2.
[8] /k/ and /g/ are followed only by back vowels in my fieldnotes, but there is one example of /kh/ with a front vowel, /dɔ21khe21khe21/ 'to defecate' (#41).

alveopalatals. The examples are shown below.

/ts/ [t͡s]: /a̱21khɯ21tsɛ21/ [a̱21khɯ21ts̱ɛ21] 'to bark' (#180), /tsa̱21dɤ21ta̱33/
    [tsɐ21dɤ21tɐ33] 'salty' (#383), /la̱21tsɯ21/ [lɐ21ts̱ɯ21] 'elbow' (#30)
/tsh/ [t͡sʰ]: /tshɛ55/ [t͡sʰɛ55] 'ten' (#82), /tshɔ55xa21/ [t͡sʰɔ55xɐ21] 'human'
    (#350), /jɤ33tshu55/ [jɤ33t͡sʰu55] 'fat' (#439)
/dz/ [d͡z]: /dzɛ33di55/ [d͡zɛ33di55] 'to throw' (#64), /dza21/ [d͡zɐ21] 'to eat' (#57),
    /dzo21dzm33/ [d͡zo21d͡zm33]
/tɕ/ [t͡ɕ]: /m21tɕi21/ [m21tɕi21] 'night', /tɕa21xm55/ [t͡ɕɐ21m̩m55] 'hair' (#1)
/tɕh/ [t͡ɕʰ]: /ma21tɕhɛ33/ [mɐ21t͡ɕʰɛ33] 'dull' (#401), /phɔ21tɕhø55/
    [pʰɔ21t͡ɕʰø55] 'sugarcane' (#247), /tɕha55/ [t͡ɕʰɐ55] 'song' (#310)
/dʑ/ [d͡ʑ]: /dʑa55tɕhɔ33/ [d͡ʑɐ55tɕʰɔ33] 'to seek' (#54), /ɲa21dʑɤ21dʑɤ21/
    [ɲɐ21d͡ʑɤ21d͡ʑɤ21] 'to fish with a rod' (#203), /dʑo̱21/ [d͡ʑo̱21]
    'waist' (#36)

4.1.3   Nasals

In the onset slot, four voiced nasals can be found: /m/, /n/, /ɲ/, and /ŋ/. The
examples with nasal onsets are illustrated below.

/m/ [m]: /mi55tsha21/ [mi55t͡sʰɐ21] 'earth, soil' (#114), /ma55dɛ33/ [mɐ55dɛ33]
    'pumpkin' (#233), /mo33ne33/ [mo33ne33] 'cattle' (#182)
/n/ [n]: /nɛ̱21/ [nɛ̱21] 'god, spirit' (#357), /la̱21nø55/ [lɐ21nø55] 'finger' (#32),
    /nɔ55/ [nɔ55] 'second person singular' (#483)
/ɲ/ [ɲ]: /a21ɲi55/ [ɐ21ɲi55] 'younger brother/sister' (#338, #340), /ɲø21ta̱21/
    [ɲø21tɐ21] 'to love' (#367), /a̱21ɲo21/ [ɐ21ɲo21] 'buffalo' (#170)
/ŋ/ [ŋ]: /ŋɛ21/ [ŋɛ21] 'to speak' (#294), /ŋa55/ [ŋɐ55] 'first person singular'
    (#482), /ŋɔ55dɤ21ma̱21/ [ŋɔ55dɤ21mɐ21] 'first person plural (inclusive)'
    (#485)

Most of the Akha Buli words are open syllable, but some are closed syllable with
nasal coda. /-m/, /-n/, and /-ŋ/ are available in the coda slot, though the former
two are found in only few words. The words with /n/-coda are loanwords from
Lao.

/-m/: /jam21/ [jɐm21] 'season' (#460, #461)

/-n/: /tshɛ55mɯn55/ [t͡sʰɛ55mɯn55 ~ t͡sʰɛ55mũ55] 'one hundred thousand'
     (<L.) (#92)

/-ŋ/: /phɤŋ33/ [pʰəŋ33]⁹ 'to open' (#132), /jɔ33lɔŋ55/ [jɔ33lɔŋ55] 'hot' (#375),
     /bjeŋ21tɕaŋ33/ [bʲeŋ21t͡ɕɐŋ33] 'Vientiane (the capital city of Laos)' (< L.)
     (#499, #500)

Another point to be made on nasals concerns syllabic /m/. /m/ can stand at the
nucleus of a syllable and can have consonantal onsets in some cases,¹⁰ so that it
might better be analyzed as a rhyme rather than as an onset/consonant.¹¹

(1) /m21dm21/ [m̩21dm̩21] 'clouds' (#99), /sm55/ [sm̩55] 'three' (#75),
    /nm21ɕi21/ [nm̩21ɕi21] 'sesame' (#237), /tɕa21xm55/ [t͡ɕɐ21m̩m55] 'hair' (#1)

4.1.4 Fricatives

There are six fricatives in this language: /s/, /z/, /ɕ/, /j/, /x/, and /ɣ/. From the
viewpoint of point of articulation, there is a three-way contrast: alveolar,
alveopalatal, and velar. Most of the fricatives can be followed by both front and
back vowels, whereas /z/ allows only back ones. The examples are given below.

/s/ [s]: /sɛ21nʐ33/ [sɛ21nʐ33] 'shoes' (#277), /jɤ21sa55/ [jɤ21sɐ55] 'smooth'
     (#397), /mɔ21sɤ55/ [mɔ21sɤ55] 'pot' (#263)

/z/ [z]: /za21gu21/ [zɐ21gu21] 'young of age' (#442), /xɔ33zɤ33/ [xɔ33zɤ33]
     'pillar' (#134)

/ɕ/ [ɕ]: /ɕɛ55mɔ55/ [ɕɛ55mɔ55] 'louse' (#325), /ɕa21jø21/ [ɕɐ21jø21] 'bone'
     (#3), /kha55ɕɤ21/ [kʰɐ55ɕɤ21] 'sand' (#116)

/j/ [ʑ~j]: /m21jɛ55/ [m̩21jɛ55] 'rain (n.)' (#106), /thi21ja55/ [tʰi21jɐ55]
     'one hundred' (#87), /jɤ33gɔ55/ [jɤ33gɔ55] 'tall, high' (#387)

/x/ [x~xʰ]: /mɛ21xɛ55xɛ55/ [mɛ21xʰɛ55xʰɛ55] 'to use' (#364), /xa21la21/
     [xɐ21lɐ21] 'tiger' (#159), /xɤ33dzɛ21/ [xɤ33d͡zɛ21] 'this' (#489),

/ɣ/ [ɣ]: /ɣø21/ [ɣø21] 'nine' (#81), /ɣa21ma33/ [ɣɐ21mɐ33] 'to win' (#312),
     /ɣɤ33le21/ [ɣɤ33le21] 'to pull' (#63)

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⁹ The vowel /-ɤ/ can be articulated as [ə] when it is connected with /ŋ/ coda.
¹⁰ In my fieldnotes, syllabic /-m/ occurs after /d-, g- dz- n-, ŋ-, s-, ɕ-, x-, l-/.
¹¹ Lewis (1968) and Hansson (2003) recognize the syllabic /m/ as a vowel in the phonological
inventories.

There is one point that should be noted on the phonetic realization of /x/. In some cases /x/ is realized with an aspiration like [xʰ], which is phonemicized as /xh/ by some scholars (Hansson 1989, 2003, etc.).[12] At least in this language, it is safe to say that [x] and [xʰ] are allophones of /x/ and both sounds are in free variation.

4.1.5   Lateral

There is only one lateral: /l/. Some Lolo-Burmese languages (ex. Youle Jino [Hayashi 2009], etc.) attest a voiceless lateral, but this language does not. Some samples with lateral onset are illustrated below.

/l/ [l]: /o21le55/ [o21le55] 'to return' (#476), /la55/ [lɐ55] 'to come' (#474),

   /xa21lo33/ [xɐ21lo33] 'stone' (#115)

4.2   Topics in Consonants
4.2.1 Medial

There is one medial, /-j-/, which has been mentioned in Section 3. It can have the four onsets including /p-, ph-, b-, m-/ in Akha Buli, as exemplified below.

/pj-/ [pʲ-]: /da33pjɣ33/ [dɐ33pʲɣ33] 'bow' (#327)
/phj-/ [pʲʰ-]: /jɣ33phja55/ [jɣ33pʲʰɐ55]   'light [weight] (adj.)' (#411)
/bj-/ [bʲ-]: /jɣ33bja33] [jɣ33bʲɐ33] 'bright' (#110)
/mj-/ [mʲ-]: /ka33mja21/ [kɐ33mʲɐ21] 'arrow' (#328)

   In my fieldnotes, words with /bj-/ or /mj-/ are found more than those with /pj-/ or /phj-/. Most words with a medial have back vowels, though those with /bj-/ can be followed by front vowels such as: /bjeŋ21tɕaŋ33/ 'Vientiane (the capital city of Laos)' (#499, #500), /jɔ33bjɛ̤33/ 'soft' (#415).

4.2.2 "Compounding Aspiration" in Numeral 'one'

At present, there is an attested morphophonemic phenomenon regarding the word 'one.' The word 'one', /tį21/, makes its onset aspirated and its vowel

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[12] Hansson (2003: 237) describes the three-way contrasts /x/: /xh/: /h/ in Thailand Akha. Lewis's (1968: x) analysis seems to differ from Hansson's. Lewis considers [x] and [xʰ] to be in complementary distribution; /x/ is articulated as [xʰ] before plain vowels and as [x] before laryngealized ones (corresponding to "creaky vowels" in this paper).

"de-laryngealized" (plain) when it becomes the first element of the numeral compounds. This phenomenon can be stated as in rule (2), which has been termed "compounding aspiration" in this paper.

(2) /ti̠21/ → thi21/ ___ + {NUM/ CLF}

The sample of (2) is illustrated in (3).

(3) a. /ti̠21/ [ti̠21]   'one' (#073)
    b. /thi21ja55/ [tʰi21jɐ55]   'one hundred' (#087)
    c. /thi21ja55ti̠21/ [tʰi21jɐ55ti̠21]   'one hundred and one' (#088)
    d. /thi21ɣa21/ [tʰi21ɣɐ21]   'one person' (#97)

4.2.3 /ɣ/ from multiple origins

In this section, diachronic issues regarding Akha Buli /ɣ/ are briefly discussed. /ɣ/ is a relatively unstable phoneme in many Mainland Southeast Asian languages, whereas in Akha languages it is rather stable. Akha Buli words with /ɣ/ are exemplified in Table 1[13], with reference to their Proto-Lolo-Burmese (PLB) origins.

Table 1: Multiple Origins of Akha Buli /ɣ/

PLB	Example of Akha Buli /ɣ/
a. *g-	/ɣø21/ 'nine' (#081), /ɣɔ33mɔ33/ 'back (body)' (#052)
b. *w-	/a̠21ɣa̠21/ 'pig' (#173), /ɣɤ33/ 'to buy' (#285)
c. *kr-	/ɣa̠33tɕi̠33/ 'chicken' (#2-25), /ɣa21/ 'to win' (#312), /a̠21ɣɔ21/ 'needle' (#268)

Table 1 summarizes the multiple origins of Akha Buli /ɣ/. Group (a) shows examples with /ɣ/ that can be dated back to *g at the PLB stage. /ɣø21/ 'nine' and /ɣɔ33mɔ33/ 'back (body)' are reconstructible to *gəw² and *guŋ¹,[14]

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[13] There is an exception, /ɣɔ33/ 'to fly' (#163), which might be dated back to PLB *byam¹ (Matisoff 2003), though most Lolo-Burmese languages have b- as the onset in the corresponding form to PLB. *b rarely changes to ɣ, but it is interesting to note that the Ganzi Danba Banshanmen dialect of the rGyalong form (Nagano and Prins 2013) for 'to fly' is /kə 'ɣjam/, which is derived from *byam.

[14] The word for 'back (body)' might be better connected with the PLB form *k(r)aw ≍ k(y)aw

respectively (Matisoff 2003). These cases underwent a change of fricativization like PLB. *g- > Akha Buli ɣ-.

Group (b) includes words with /ɣ/ that can be dated back to PLB. *w-. Matisoff (2003) reconstructed *wak and *way for the words 'pig' and 'to buy,' respectively. This change explains the phonemic absence of /w/ (or /v/) in the Akha Buli language, as in the other varieties of Akha.[15]

Group (c) illustrates the words with /ɣ/ that can be traced back to PLB. *kr-. The words for 'chicken' and 'to win' are reconstructible to *k-rak^H (Matisoff 2003) and *k-ra^2 'strength' (Matisoff 1978), respectively. The PLB form for 'needle' is reconstructed as *(t)-ɣap by Benedict (1972), which can be dated back to the PTB form *k-rap ⋊ *k-ram (Matisoff 2003).

5. Vowels

The phonological inventory of Akha Buli vowels is summarized in the following chart.[16] Note that there are no contrasts in length or diphthongs.

[Plain Vowels]				[Creaky Vowels]			
i	y	ɯ	u	ḭ	y̰	ɯ̰	ṵ
e	ø	ɤ	o	ḛ	ø̰	ɤ̰	o̰
ɛ			ɔ	ɛ̰			ɔ̰
		a				a̰	

As seen in the chart, there are two vowel groups, namely plain vowels vs. creaky vowels,[17] examples of which are given in the following subsections.

5.1 Plain Vowels

There are eleven plain vowels, as exemplified below. /i, e, ɛ, y, ø/ are front

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(Matisoff 2003), which demands further analysis.

[15] Lewis (1968: x) recognizes /v/ in Puli of Kengtung (Burma/ Myanmar), though it only occurs in a few words borrowed from Shan.

[16] The vowel inventories described in Kingsada and Shintani (1999: 232) are as follows:

[oral] /i, e, ɛ, ø, a, ɔ, ɤ, o, u, ɯ/

[laryngealized (creaky vowel)] /i̱, e̱, ɛ̱, ø̱, a̱, ɔ̱, ɤ̱, o̱, u̱, ɯ̱/

[nasal] /ĩ, õ, ũ/.

[17] Kingsada and Shintani (1999) mention creaky vowels in the Ko-Puli language of Phongsaly Province as follows:

   "Non-laryngealized/laryngealized distinction is not always very clear" (Kingsada and Shintani 1999: 233).

   In my fieldwork it is sometimes very hard to distinguish creaky vowels from plain ones, though these two sets of vowels are viewed as phonemes in this paper.

vowels, and the remainders are back vowels.

/i/ [i]: /mja̠21bi33/ [mʲɐ̠21bi33] 'tears' (#5), /dzɛ33di55/ [d͡zɛ33di55] 'to throw'
    (#64), /bu33li33/ [bu33li33] 'Akha Buli (people)' (#351)

/e/ [e]: /dɔ21khe21khe21/ [dɔ21kʰe21kʰe21] 'to defecate' (#41), /mo33ne33/
    [mo33ne33] 'cattle' (#172), /o21le55/ [o21le55] 'to return' (#476)

/ɛ/ [ɛ]: /mɛ21xɛ55xɛ55/ [mɛ21xʰɛ55xʰɛ55] 'to use' (#364), /jɔ33nɛ33/ [jɔ33nɛ33]
    'red' (#404), /dza21lɛ55/ [d͡zɐ21lɛ55] 'wind' (#104)

/y/ [y]: /a̠33ɕy21ɕy21/ [ɐ̠33ɕy21ɕy21] 'to urinate' (#42), /bu21dzy33/
    [bu21d͡zy33] 'earthworm' (#193), /a̠21tɕhy55(tɕhy55)si21/
    [ɐ̠21t͡ɕʰy55(t͡ɕʰy55)si21] 'nipple' (#35)

/ø/ [ø]: /bø21ku̠33/ [bø21ku̠33] 'turtle' (#202), /nø21la55/ [nø21lɐ55] 'to get up'
    (#318), /ɕi21lø33/ [ɕi21lø33] 'orange' (#243)

/a/ [ɐ]: /ka33mja21/ [kɐ33mʲɐ21] 'arrow' (#328), /mi21za21/ [mi21zɐ21] 'wife'
    (#333), /xa21pha21/ [xɐ21pʰɐ21] 'frog' (#200)

/ɔ/ [ɔ]: /bɔ33/ [bɔ33] 'to blow' (#105), /xɔ33mɔ55/ [xɔ33mɔ55] 'to meet with'
    (#361)

/o/ [o]: /lɔ55bo21/ [lɔ55bo21] 'tea' (#258), /xo33/ [xo33] 'rabbit' (#177),

/ɤ/ [ɤ]: /bɤ33kha33/ [bɤ33kʰɐ33] 'mosquito net' (#142), /jɔ33xɤ21/ [jɔ33xɤ21]
    'big' (#385), /ʐ21mɤ33lɤ33/ [ʐ21mɤ33lɤ33] 'tomato' (#235)

/u/ [u]: /a21bu55/ [ɐ21bu55] 'girl' (#349), /khu55/ [kʰu55] 'to call' (#297),
    /pu21/ [pu21] 'to boil' (#264)

/ɯ/ [ɯ]: /ɯ55/ [ɯ55] 'to laugh' (#366), /bɯ21sa33a̠21ma̠33/
    [bɯ21sɐ33 ʐ21mɐ̠33] 'fly (insect)' (#186), /ma55xɯ33/ [mɐ55xɯ33]
    'eggplant' (<L.) (#234)

5.2 Creaky Vowels

There are 11 creaky vowels in Akha Buli.[18] /y̰/ is rarely found in my present
fieldnotes. /i̠, e̠, ɛ̠, y̰, ø̠/ are front vowels and the remainders are back vowels.

/i̠/ [i̠]: /bi̠21/ [bi̠21] 'to give' (#363), /ɕi̠21/ [ɕi̠21] 'seven' (#79)

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[18] Kingsada and Shintani (1999) make the following observation on /e̠/ and /ɛ̠/ in the Ko-Puli
language of Phongsaly Province:
    "e̠/ɛ̠ distinction may not be phonemic" (Kingsada and Shintani 1999: 233).
  In my fieldnotes, there are no minimal pairs that distinguish these two vowels, though this paper
regards each sound as a distinct phoneme at present.

/ḛ/ [ḛ]: /jɔ33bjḛ33/ [jɔ33bʲḛ33] 'soft' (#415), /sḛ21/ [sḛ21] 'to kill' (#207)

/ɛ̰/ [ɛ̰]: /a55bɛ̰33/ [ɐ55bɛ̰33] 'beans' (#223), /a55jɛ̰33/ [ɐ55jɛ̰33] 'flower' (#219)

/ỵ/ [ỵ]: /a33bỵ21/ [ɐ33bỵ21] 'sprout' (#210)

/ø̰/ [ø̰]: /bø33lø̰33/ [bø33lø̰33] 'navel' (#38), /ø̰21/ [ø̰21] 'four' (#76)

/a̰/ [ɐ̰]: /jɔ33ba̰33/ [jɔ33bɐ̰33] 'white' (#407), /a21da̰33/ [ɐ21dɐ̰33] 'father' (#330)

/ɔ̰/ [ɔ̰]: /a21ɔ̰33/ [ɐ21ɔ̰33] 'below' (#463), /dɔ̰21/ [dɔ̰21] 'to wait for' (#363)

/o̰/ [o̰]: /za21bo̰33/ [zɐ21bo̰33] 'to give birth' (#46), /do̰33/ [do̰33] 'to exit' (#478)

/ɤ̰/ [ɤ̰]: /bɤ̰33/ [bɤ̰33] 'to shoot' (#205), /tsa̰21dɤ̰21ta̰33/ [t͡sɐ̰21dɤ̰21tɐ̰33] 'salty' (#383)

/ṵ/ [ṵ]: /ɤ33tɕṵ21/ [ɤ33t͡ɕṵ21] 'water' (#124), /ɣa̰33ṵ33/ [ɣɐ̰33ṵ33] 'egg of chicken' (#164)

/ɰ̰/ [ɰ̰]: /a55bɰ̰33/ [ɐ55bɰ̰33] 'covering' (#140), /la̰21tsɰ̰21/ [lɐ̰21t͡sɰ̰21] 'elbow' (#30)

In many Lolo-Burmese languages, the creaky vowels are derived from compensation for the loss of the stop coda at the proto-language stage. Akha Buli creaky vowels in many cases can be traced back to plain vowels in the open syllables of PLB. For instance, /bḭ21/ 'to give' is reconstructible to PLB. *$bəy^2$ (Matisoff 2003). The origin of creaky vowels in Akha Buli needs further investigation.

6. Tones

There are three tonemes in Akha Buli: /55/, /33/, and /21/.[19] The tone bearing unit is the syllable. All tones can be found in words with plain vowels, whereas

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[19] Kingsada and Shintani (1999: 233) summarize the tones of the Ko-Puli language of Phongsaly province as in the following table.

	Tones with non-laryngealized vowels	Tones with laryngealized vowels
1(high)	55	44
2(middle)	33	
3(low)	11~21	11

In their lexicons, tones with laryngealized vowels (corresponding to "creaky vowels" in this paper) are counted as '44', and this table seems to bear testimony that high tone occurs in the words with laryngealized vowels.

Lewis's (1968: xii) dictionary of Puli in Kengtung (Burma/Myanmar) recognizes only two level tones, mid and low, occurring with laryngealized vowels, which also holds true in Akha Buli, as discussed in this paper. On this point, both Lewis's and my own analyses of tones differ from Kingsada and Shintani's (1999).

/55/ does not basically occur in words with creaky vowels.

/55/: /la55/ [lɐ55] 'to come' (#474), /dɔ55/ [dɔ55] 'to drink' (#58)

/33/: /ba33la33/ [bɐ33lɐ33] 'moon/month' (#102, #447), /a33bɔ33jɤ21dɔ33/
    [ɐ33bɔ33jɤ21dɔ33] 'trunk' (#214)

/21/: /xa21la21/ [xɐ21lɐ21] 'tiger' (#159), /dɔ21mi21/ [dɔ21mi21] 'tail' (#156)

7. Conclusion

This paper has outlined the phonology of Akha Buli, as spoken in Muang Sing of Northern Laos. The phonological inventories presented in this paper are summarized as follows:

[Consonants]					[Plain Vowels]				[Creaky Vowels]			
p b	t d			k g	i	y	ɯ	u	ḭ	y̰	ɯ̰	ṵ
ph	th			kh	e	ø	ɤ	o	ḛ	ø̰	ɤ̰	o̰
	ts	dz	tɕ	dʑ	ɛ			ɔ	ɛ̰			ɔ̰
	tsh		tɕh				a				a̰	
m	n	ɳ		ŋ								
	s	ɕ		x	[Tones] 55, 33, 21							
	z	j		ɣ								
	l											

There are, of course, many issues to be analyzed in future studies, such as the more-detailed look at phonetic-phonological interfaces and historical phonology, and many more.

Abbreviations

CLF: classifier; NUM: numeral; L: loanword from Lao; PLB: Proto-Lolo-Burmese

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Acknowledgements

Appendix: A Basic Wordlist of Akha Buli

	English	**Lao**	**Akha Buli**
1	body hair	ຂົນ	tɕa21xm33
2	skin	ໜັ້ງ, ໜັງ	ba̱33xo̱21
3	bone	ກະດູກ	ɕa21jø21
4	blood	ເລືອດ	ɕi21
5	tears	ນ້ຳຕາ	mja̱21bi33
6	sweat	ເຫື່ອ	khu21phju55
7	pus	ໜອງ(ໝີ)	ma̱33lo̱33
8	saliva	ນ້ຳລາຍ	do21xa21
9	phlegm	ຂີ້ກະເຫີ, ສະເຫລດ	do21xa21tɕa̱33pɛ̱33
10	head	ຫົວ	u21du21
11	forehead	ໜ້າຜາກ	na55xɔ55
12	hair	ຜົມ	u21du21tshɛ55khɤŋ55
13	comb	ຫວີ	u21ka̱33
14	face	ໜ້າ	mja̱33phjo21
15	eyebrow	ຂົນຄິ້ວ	mja̱33xɤŋ33mja̱33ɕɛ̱33
16	eyes	ຕາ	mja̱33nɤ̱ŋ33
17	ears	ຫູ	na̱21pa̱21
18	nose	ດັງ	na̱33bɤŋ21
19	mouth	ປາກ	xa21mɛ̱33

20	tongue	ລີ້ນ	mɛ21la55
21	teeth	ແຂ້ວ	sɤ21
22	beard/ mustache	ໜວດ, ເຄົາ	(xa21mɛ̣33) mɛ21mɤŋ21
23	neck	ຄໍ	khɤŋ21lɤŋ55
24	throat	ຄໍ, ລໍາຄໍ	khɤŋ21bjɤŋ21
25	shoulder	ບ່າ	ba̤21phu33
26	hand	ມື	a̤21la̤21
27	right-hand	ດ້ານຂວາ	a55ma55
28	left-hand	ດ້ານຊ້າຍ	a55tɕha55
29	arm	ແຂນ	la̤21du33
30	elbow	ສອກ	la̤21tsɯ̤21
31	palm	ຝາມື	la̤21ɣa̤21a21o33pho33
32	finger	ນີ້ວ	la̤21nø55
33	fingernail	ເລັບ	la̤21sɤŋ21
34	breast	ໜ້າເອິກ	nɤ33xɤŋ21
35	nipple	ຫົວນົມ	a̤21tɕhy55(tɕhy55)si21
36	waist	ແອວ	dzo̤21
37	belly	ທ້ອງ	m21ma̤33
38	navel	ສາຍບື	bø̤33lø̤33
39	buttocks	ກົ້ນ	dɔ21xm21
40	feces	ຖ່າຍໜັກ, ຂີ້	tɕhe21
41	to defecate	ຖ່າຍໜັກ	dɔ21khe21 khe21
42	urine	ນ້າຍ່ຽວ	a̤33ɕy21ɕy21
43	to urinate	ຖ່າຍເບົາ, ຍ່ຽວ	a̤33ɕy21ɕy21
44	to expel intestinal gas	ຕົດ	u21xa21 phɛ21
45	to have a fever	ມີໄຂ້ໜອັດ	tsɛ21thɤŋ33thɤŋ33
46	to give birth	ອອກລູກ, ເກີດລູກ	za21bo̤33
47	leg	ຂາ	a̤21khɯ55
48	foot	ຕີນ	a̤21khɯ55phɛ21ɣa21
49	thigh	ຂາໂຕ້	ɕa21phja21

50	knee	ຫົວເຂົ່າ	a̠21khɯ55phɔ21tsɯ̠21
51	tendon	ເອັນ, ເສັ້ນເອັນ	ɕa21gɯ̠21
52	back	ສັນຫລັງ	ɣɔ33mɔ33
53	to see, to look	ເບິ່ງ, ເຫັນ	xɔ33, xɔ33mɔ55
54	to seek	ຊອກ	dʑa55tɕhɔ33
55	to hear, to listen	ຟັງ, ໄດ້ຍິນ	ga21ma33, na55xa21
56	to smell	ດົມກິ່ນ	bɛ21la̠21
57	to eat	ກິນ	dʑa21
58	to drink	ດື່ມ	dɔ55
59	to bite	ກັດ	kɔ̠21
60	to hold with the hand	ຈັບໄວ້	ȵi21thɛ21, tsu21thɛ21
61	to put, to place in/on	ອາງ, ໃສ່, ຈັດ	ɔ33tha21
62	to push	ດັນ, ຊຸກ	thɤŋ21i55, dɛ21i55
63	to pull	ດຶງ	ɣɤ31a̠21, ɣɤ33le21, ɣɤ33i33le21
64	to throw	ໂຍນ	dʑɛ33di55
65	to pick up	ເກັບ	o33ma33dɛ21, ju33ma33dɛ21
66	to ladle	ຈອງ	kɔ̠21
67	to walk	ຍ່າງ	tɕhɤŋ33
68	to stop	ຍຸດ	na21, dʑɔ55
69	to run	ແລ່ນ	la̠21dʑɛ33dʑɛ33
70	to sit	ນັ່ງ	dɔ21nɤŋ55nɤŋ55
71	to stand up	ຢືນ	jɔ̠21thu55
72	to cough	ໄອ	u21tshø21tshø21
73	1	ຫນຶ່ງ	ti̠21
74	2	ສອງ	ȵi̠21
75	3	ສາມ	sm55
76	4	ສີ່	ø21
77	5	ຫ້າ	ŋa21
78	6	ຫົກ	ko̠21

79	7	ເຈັດ	ɕi̤21
80	8	ແປດ	jɛ̤21
81	9	ເກົ້າ	ɣø21
82	10	ສິບ	tshɛ55
83	11	ສິບເອັດ	tshɛ55ti̤21
84	12	ສິບສອງ	tshɛ55n̤i̤21
85	20	ຊາວ	n̤i̤21tshɛ55
86	99	ເກົ້າສິບເກົ້າ	ɣø21tshɛ55ɣø21
87	100	ໜຶ່ງຮ້ອຍ	thi21ja55
88	101	ໜຶ່ງຮ້ອຍໜຶ່ງ	thi21ja55a21ta̤33ti̤21
89	110	ໜຶ່ງຮ້ອຍສິບ	thi21ja55a21ta̤33tshɛ55
90	1000	ໜຶ່ງພັນ	thi21ba21
91	10000	ສິບພັນ	tshɛ55ba21
92	100000	ໜຶ່ງແສນ	tshɛ55muun55
93	1000000	ໜຶ່ງລ້ານ	tshɛ55sɛ33
94	many	ຫລາຍ	jɔ33mja21
95	few	ນ້ອຍ	jɔ33tɕi̤33, jɔ33tɛ̤21
96	all	ທັງໝົດ	ma55to55(ma21)lo̤21, dʑi55tɕho21lo21
97	only	~ດຽວ	thi21ɣa21(tɛ̤21) [one person]
98	sky	ຟ້າ	m̥21
99	cloud	ຂີ້ເຝື້ອ	m̥21dm̥55
100	fog	ໝອກ	tɕhɤ21
101	sun	ຕາເວັນ	nɤ33ma33
102	moon	ເດືອນ	ba33la33
103	star	ດາວ	a21gɯ55
104	wind	ລົມ	dʑa21lɛ55
105	to blow	ພັດ, ເປົ່າ	bɔ33
106	rain	ຝົນ	m̥21jɛ55
107	it rains	ຝົນຕົກ	m̥21jɛ55 jɛ55
108	light	ແສງ	na55gɯ55gɯ55la55n̥a21ei33

109	shadow	ເງົາ	a55ba55(ba55jɛ55)
110	bright	ແຈ້ງ, ສະຫວ່າງ	jɤ33bja33
111	dark	ມືດ	jɤ33ɣɤŋ55
112	thunder	ຟ້າຮ້ອງ	m21dʑe21dʑe21
113	it thunders	ຟ້າຜ່າ	m21dʑɛ21thɤŋ21tɕ33tɕ33
114	soil, earth	ດິນ	mi55tsha21
115	stone	ຫີນ	xa21lo33
116	sand	ຊາຍ	kha55ɕɤ21
117	iron	ເຫລັກ	ɕoŋ55
118	rust	ຂີ້ໝ້ງ	ɕoŋ55khɔ33
119	gold	ຄຳ	ɕɯ55
120	silver	ເງິນ	phju33
121	copper	ທອງ	ɣɯ21
122	hill, mountain	ພູ	gɔ21dʑɔ21
123	valley	ເຫວ	xa21lo33lo33gu55
124	water	ນ້ຳ	ɤ33tɕɯ21
125	lake	ໜອງ	lɔŋ33ma̠33
126	river	ແມ່ນ້ຳ	lɔ̠33ɣɔ̠33
127	fire	ໄຟ	mi21dza21
128	smoke	ຄວັນ	(mi21dza21) u21xø21
129	house	ເຮືອນ	juŋ33
130	roof	ຫລັງຄາ	(juŋ33) khɔ21bø21
131	grave	ຫລຸມສົບ	lm21bjuŋ55
132	to open	ເປີດ	phɤŋ33
133	to close	ອັດ, ປິດ	phi21thɛ21
134	pillar	ເສົາເຮືອນ	xɔ33zɤ33
135	door	ປະຕູ	la55ɔ̠33
136	window	ປ່ອງຢ້ຽມ	la55ɔ33ɔ33za21
137	floor	ພື້ນ	juŋ33dzoŋ33ɣa33
138	key	ລູກະແຈ	mo21tɔ21tɔ21du55

139	mat	ສາດ	ɣa̰33la̰33
140	covering	(ເຄື່ອງຄຸມ)	a55bɯ̰33
141	pillow	ໝອນ	u21gm21pha55si21
142	mosquito net	ມຸ້ງ	bɤ33kha33
143	table	ໂຕະ	dzɔ̰21xa̰33xɔ21dzɛ33, a55bɔ55xɔ21dzɛ33
144	chair	ຕັ່ງອີ້	nɤŋ55dzɛ33, nɤŋ55gɔ21, nɤŋ55bo21
145	to sweep	ປັດ	ja21phjo55 ja21[20]
146	to splash water	ສາດ	ɤ33tɕɯ21 xɔ̰21dzɛ33
147	knife	ມີດ	mi21tɕhɛ33dʑi33ba21, mi21tɕhɛ33thɔ21tɕhø21
148	sword	ດາບ, ງ້າວ	mi21tɕhɛ33thɔ33ma33
149	sickle	ກ່ຽວ	jɛ33xɔ̰21
150	to cut	ຕັດ, ບາດ	lɯ̰33tsɛ33, jɛ21pa̰33, jɛ21tsɛ33
151	nail	ຕະປູ	ɕoŋ55tɕhɛ33
152	ladder	ຂັ້ນໄດ	dzo21dzm33
153	basket	ກະຕ່າ	xa21kha33, kha21thu55, etc
154	rope	ເຊືອກ	a33tɕa̰21
155	stick	ໄມ້ຄ້ອນເທົ້າ	gɔ̰21jø21
156	tail	ຫາງ	dɔ21mi21
157	horn	ເຂົາ	u21tɕhy55
158	wing	ປີກ	a21dɤŋ55
159	tiger	ເສືອ	xa21la21
160	elephant	ຊ້າງ	ja̰33ma̰33
161	mouse	ໜູ	xɔ̰21tɕa̰21
162	bird	ນົກ	a̰33dʑḭ33
163	to fly	ບິນ	ɣɔ33
164	egg	ໄຂ່	ɣa̰33ṵ33
165	to lay eggs	ອອກໄຂ່	ɣa̰33u33 kha33
166	sparrow	ນົກຈອກ	xa21dʑa55

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[20] /ja21phjo55/ means 'bloom', hence the verb root for 'to sweep' is /ja21/.

167	crow	ກາ	ɔ21a̠21
168	hawk	ແຫລວ	xa21dzɛ55
169	peacock	ນົກຍຶງ	ɕm55dø21
170	buffalo	ຄວາຍ	a̠21n̥o21
171	cat	ແມວ	a55mi55
172	beef	ຊິ້ນງົວ	mo33ne33ɕa21dʑi33
173	pig	ໝູ	a̠21ɣa̠21
174	pork	ຊິ້ນໝູ	a̠21ɣa̠21ɕa21dʑi33
175	monkey	ລີງ	a̠33mjo̠21
176	horse	ມ້າ	mɤŋ21
177	rabbit	ກະຕ່າຍ	xo33
178	bear	ໝີ	xa21xm55
179	dog	ໝາ	a̠21khɯ21
180	to bark	ເຫົ່າ	a̠21khɯ21tsɛ̠21
181	goat	ແບ້	tɕi̠21mɛ21
182	cattle	ງົວ	mo33ne33
183	chicken	ຊິ້ນໄກ່	ɣa̠33tɕi̠33ɕa21dʑi33
184	duck	ເປັດ	ɔ33a̠33[21]
185	bee	ແມ່ເຜິ້ງ	ɣa21bja21bja21ma̠33
186	fly	ແມງວັນ	bɯ21sa33a̠21ma̠33
187	mosquito	ຍຸງ	a̠21tɕha55tɕha55gɔ21
188	spider	ແມງມຸມ	a̠33phja33la̠21ka̠33
189	maggot	ໂຕໝອນ	lṳ33thɤŋ21
190	ant	ມົດ	a̠33xo33
191	butterfly	ແມງກະເບື້ອ	a̠33lu33
192	cicada	ແມງຈັກຈັ່ນ	a̠21dʑɛ21
193	earthworm	ຂີ້ກະເດືອນ	bɯ21dʑy33

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[21] The word for 'duck' in my field note is /ɔ33a̠33/, which tonally differs from the word for 'crow' /ɔ21a̠21/ (#167). Both of them are derived from onomatopoeic words, though 'duck' and 'crow' are described as /pi55pi55/ and /ɔ11a̠55/, respectively, in Ko-Puli by Kingsada and Shintani (1999: 240).

194	centipede	ຂີ້ເຂັບ	a̰21ma̰21tɕhi55ɕɛ55
195	snake	ງູ	a̰33lɔ33(ma33)
196	gecko	ຈິ່ງຈຸມ	a21jɛ33ma55bjɛ33, mɔ55bjɛ33a̰21ma̰33
197	fish	ປາ	ŋa21ɕa21
198	shrimp	ກຸ້ງ	ɲi33bɤŋ33tɕhi55xo̰21
199	crab	ກະປູ	a̰33kha21
200	frog	ກົບ, ຂຽດ	xa21pha21, xa21pha33tɕa̰21
201	eel	ອ່ຽນ	dɛ33sø33
202	turtle	ເຕົ່າ	bø21kṵ33
203	to fish with a rod	ຕົກປາ	ŋa21dʑɤ21dʑɤ21
204	to hunt	ລ່າເນື້ອ, ລ່າສັດ	ɕa21dʑo21thɛ33
205	to shoot	ຍິງ	(ɲiŋ21bɤ33) bɤ33
206	musket	ປືນສັ້ນ, ປືນໃຫຍ່	mi21bɤ33jɤ33dɤ33, mi21bɤ33jɤ33məŋ55
207	to kill	ຂ້າ	sḛ21
208	seed	ແກ່ນ, ເມັດ	a55nɤ̰ŋ33
209	to seed	ເອົາແກ່ນອອກ	a55nɤ̰ŋ33ju55do̰33
210	sprout	ໜໍ່	a33bɤ̰21
211	stem	ກ້ານ	a55pa̰21pa̰21khɤŋ21
212	tree	ຕົ້ນໄມ້	a33bɔ33
213	leaf	ໃບ	a55pa̰21
214	trunk	ລຳຕົ້ນ	a33bɔ33jɤ21dɔ33
215	root	ຮາກ	du21tɕhi55
216	grass	ຫຍ້າ	ja55mo̰21
217	to grow	ເຕີບໃຫຍ່	jɔ33xɤ21xɤ21i55
218	to wither	ຫ່ຽວແຫ້ງ, ຮ່ອງໂຮຍ	jɔ33gɤ̰21gɤ̰21i55
219	flower	ດອກໄມ້	a55jɛ33
220	to bloom	ບານ	a55jɛ33 phɛ33la55
221	poppy	ດອກຝິ່ນ	je21je33a55jɛ33
222	thorn	ໜາມ	a̰21ɣɤŋ33

223	bean	ໝາກຖົ່ວ	a55bɛ33
224	bamboo	ໄມ້ໄຜ່	ma33sa21
225	bamboo shoot	ໜໍ່ໄມ້	ma33sa21a55by21
226	mushroom	ເຫັດ	a33xɯ55
227	paddy plant	ຕົ້ນເຂົ້າ	tɕhɛ55tɕhɛ55bɔ55
228	rice	ເຂົ້າ	xɔ21, tɕhɛ55
229	corn	ເຂົ້າໂພດ, ເຂົ້າສາລີ	a55du33
230	wax gourd	ໝາກຕົ້າ	(u21dʑu21)u55phu21
231	cucumber	ໝາກແຕງ	ɕi21xo21
232	bitter melon	ຜັກຂົມ	ɕi21xo21xa21[22]
233	pumpkin	ໝາກອຶ	ma55dɛ33
234	eggplant	ໝາກເຂືອ	ma55xɯ33
235	tomato	ໝາກເລັ່ນ	ɔ21mɤ33lɤ33
236	papaya	ໝາກຫຸ່ງ	tɕhi55dzɤŋ55ŋa̯33bɛ33
237	sesame	ໝາກງາ	nuŋ21ɕi21~nm21ɕi21
238	peanut	ໝາກຖົ່ວດິນ	nɤŋ33phɔŋ21, la21bɤ21nɤ33phɤŋ21
239	ginger	ຫົວຂີງ	tshɔ21tsu̯21
240	fruit	ໝາກໄມ້	a55ɕi21
241	banana	ໝາກກ້ວຍ	ŋa̯33bɛ33
242	mango	ໝາກມ່ວງ	dʑi55ɔ21(a55ɕi21)
243	orange	ໝາກກ້ຽງ	ɕi21lø33
244	mangosteen	ໝາກມັງກຸດ	—
245	tamarind	ໝາກກ້ຽງ	ɕi21tɕha21ma55kha55
246	hogplums	ໝາກກອກ	phɛ33lo21a33ɕi21
247	jackfruits	ໝາກມີ້	ma55mi21
248	sugar cane	ຕົ້ນອ້ອຍ	phɔ21tɕhø55
249	betel nut	ໝາກຫຼຽວ	dʑa̯21dʑa̯21a33ɕi21
250	to plant	ປຸກ	kha33

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[22] The syllable of this word /xa21/ can be construed as 'bitter'.

251	plow	ໄຖ	tshɛ21
252	irrigated field	ນາ	dɛ33ma33, dɛ33ja55
253	upland field	ໄຮ່	dʑŋ33ta21, dʑŋ33ja33
254	oil	ນ້ຳມັນ	ɣa̠21tshi55 [pig's oil]
255	salt	ເກືອ	tsha21dʑ21
256	sugar	ນ້ຳຕານ	nam21ta33 (< L.), phɔ21tɕa̠21
257	chilli	ໝາກເຜັດ	la21phi55
258	tea	ຊາ	lɔ55bo21
259	wine	ເຫລົ້າ	dʑi55ba21
260	cigarette/ tobacco	ຢາສູບ, ຢາເຣັ້ນ	ja55xɔ21, ja55xɔ21xa33
261	to cook rice	ຫຸງເຂົ້າ	xɔ21 m55[23]
262	firewood	ຟືນ	mi21dza21
263	pot	ໝໍ້	mɔ21sʑ55, gʑ21phəŋ55
264	to boil	ຕົ້ມ	pu21
265	to roast	ປີ້ງ	pu̠33
266	cloth	ເຄື່ອງນຸ່ງ	phɛ55xʑŋ21mi21tɕhɛ55, mjo21tshø21
267	to sew	ຫຍິບ	mjo21tshø33gu̠21
268	needle	ເຂັມ	a̠21ɣɔ̠21
269	thread	ເສັ້ນດ້າຍ	sa21khʑŋ55
270	to knit	ຖັກ	a33jɛ33tsɔ̠33
271	to dye	ຢ້ອມ	sa33pha55 pu21
272	to wash clothes	ຊັກ	lɛ̠21tshi21
273	to sun clothes	ຕາກ, ແຫ້ງ, ຕາກແດດ	ɣʑ33lɔ21, lɔ21ɣʑ33, u21tsha55ɣʑ55lɔ33
274	clothes	ເສື້ອຜ້າ, ເຄື່ອງນຸ່ງ	phɛ55xʑŋ21
275	hat	ໝວກ	u̠21xɔ̠33
276	button	ກະດຸມ	phɛ55tɔ̠21
277	shoes	ເກີບ	sɛ21nɔ̠33

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[23] /xɔ21/ and /m55/ in this phrase are construed as 'meal' and 'to make', respectively.

278	to make	ເຮັດ	m55mjo21m55
279	to break	ແຕກ	jɔ33pa̰33
280	to wear	ນຸ່ງ	dm33
281	to undress	ແກ້ຜ້າ, ບ່ນ	lɛ33
282	road	ຖະໜົນ	ga55ma33
283	village	ໝູ່ບ້ານ, ບ້ານ	phu33
284	to carry on the back	ເປ່	phi33
285	to buy	ຊື້	ɣɤ̰33
286	to sell	ຂາຍ	ɤŋ21
287	to get	ໄດ້	la̰33ɣa̰33
288	to lose	ເຄື່ອງຫາຍ	m55mjo21 pi21i55
289	market	ຕະຫລາດ	ga33
290	money	ເງິນ	(sɯ55ɣa21)phju55
291	rich	ຮັ່ງມີ	sm55mɤŋ21a21n̥i55
292	poor	ທຸກຍາກ	ji55ɕa21ji55thɔ33
293	to steal	ລັກ	suŋ55xø21xø21
294	to speak	ເວົ້າ, ບາກ	ŋɛ21, dɔ21ŋɛ21ŋɛ21
295	to ask	ຖາມ, ຂໍ	do21na55na55xa21
296	to answer	ຕອບ	dʑa33mɛ21
297	to call	ເອີ້ນ	khu55
298	Buli language	ພາສາ~	bu33li21a21kha33ɤ21khu55dʑɛ21
299	Lao language	ພາສາລາວ	la33ɔ33ɤ33dɔ21
300	Chinese language	ພາສາຈິນ	la33bɤ33ɤ33dɔ21
301	to write	ຂຽນ	(sɤ21ɣa21) bɔ̰21
302	to read	ອ່ານ	(sɤ21ɣa21) ɣɤ̰33
303	letter	ຈົດໝາຍ	sɤ21ɣa21 ɕa55la21ŋa33, sɤ21ɣa21 ɕa55i21ŋa33
304	book	ປຶ້ມ	sɤ21ɣa21 pa55dm21
305	paper	ເຈ້ຍ	sɤ21ɣa21 ~sɔ21ɣa21
306	to stick	ຕິດ	(dɛ21)mjɤŋ21

307	to play	ຫຼິ້ນ	ɣa33i55
308	story	ເລື້ອງ, ນິຍາຍ	ga̱33dza21
309	to tell a story	ເວົ້າເລື້ອງ	ga̱33dza21 dʑa̱33
310	song	ເພງ	tɕha55
311	to dance	ເຕັ້ນ	ga33n̻ɛ33n̻ɛ33, tshɔ21
312	to win	ຊະນະ, ໄດ້ໃຈ	ɣa21ma33
313	to lose a game	ແພ້, ເສຍ	ma21ɣa21
314	to get tired	ເມື່ອຍ	ɣa21dø33dø33
315	to rest	ພັກຜ່ອນ	ɣa21na21na21
316	to sleep	ນອນ	ju21xa33
317	to dream	ຝັນ	ju21ma33ma33
318	to get up	ຕື່ນນອນ	nø21la55
319	to die	ຕາຍ	ɕi33xa21
320	age	ອາຍຸ	a33xo̱21
321	to be ill	ບໍ່ສະບາຍ, ບ່ວຍ	dʑo55sa55ma21do33
322	painful	ເຈັບປວດ	jo33phi55jo33lɔŋ55(lɔŋ55)
323	to hiccough	ສະເອິ	ɯ̱33tɯ̱21tɯ̱21
324	to talk in one's sleep	ເລີ	dɔ21ŋɛ33ŋɛ33ma̱33ma̱33
325	louse	ເຫົາ	ɕɛ55mɔ55, khɯ21ɕɛ55
326	medicine	ຢາ	ja̱21ɣa21
327	bow	ຄັນທະນູ	da33pjʑ33
328	arrow	ລູກຄອນ	ka33mja21
329	name	ຊື່	tshɔ33mjʑŋ33
330	father	ພໍ່	a21da̱33
331	mother	ແມ່	a21ma̱33
332	husband	ຜົວ	xa21dʑi55
333	wife	ເມຍ	mi21za21
334	son	ລູກຊາຍ	a21jo̱33
335	daughter	ລູກສາວ	a21bu33
336	child	ເດັກນ້ອຍ	dʑa33dza21ti55

337	elder brother	ອ້າຍ	a33gɔ33
338	younger brother	ນ້ອງຊາຍ	a21n̥i55
339	elder sister	ເອື້ອຍ	a55jɤ̠21
340	younger sister	ນ້ອງສາວ	a21n̥i55
341	grandfather	ພ່ເຖົ້າ	a21bɔ55
342	grandmother	ແມ່ເຖົ້າ	a21phi21
343	grandchild	ຫລານ	ø̠21pha21
344	uncle	ລຸງ, ອາວ, ບ່າບ່າວ	da55da33, a21ɣɔ55, a21ɣø33, ø55xa21
345	aunt	ປ້າ, ອາ, ບ່າສາວ	a21xo21, a21n̥i55, tɕhi55ma55
346	cousin	ລູກອ້າຍລູກນ້ອງ	a21jɤ33za21, a21n̥i55za21
347	friend	ໝູ່	lɔ21gɯ33 [male], a21jɛ55 [female]
348	male/ man	ຜູ້ຊາຍ	a21jo33
349	female/ woman	ຜູ້ຍິງ, ແມ່ຍິງ	a21bu55
350	man/ human being	ມະນຸດ, ຄົນ	tshɔ55xa21
351	Akha Buli people	ຄົນ~	bu33li33a21kha21ɤ21tshɔ55xa21
352	Lao people	ຄົນລາວ	la33ɔ33ɤ33 tshɔ55xa21
353	Chinese people	ຄົນຈີນ	la21bɤ̠21 ɤ33 tshɔ55xa21
354	doctor	ໝໍ	nai21mɔ33 (<L.)
355	teacher	ຄູ, ອາຈານ	nai21khu21 (<L.), a33tɕan33 (<L.>)
356	shaman	ໝໍຜີ	tɕhe55tshi21tɕhi33xɔ33
357	god, spirit	ຜີ	ne̠21
358	temple	ວັດ	—
359	priest	ພະ	—
360	to marry	ແຕ່ງດອງ, ແຕ່ງ	mi21za21ɕɤ21dɤŋ21dza21
361	to meet with	ພົບພໍ້	xɔ33mɔ55
362	to wait for	ລໍ, ລໍຖ້າ	dɔ̠21
363	to give to	ໃຫ້	bi̠21

364	to use	ໃຊ້	mɛ21xɛ55 xɛ55
365	to look for	ຫາ, ຊອກ	tɕha55tɕhɔ33
366	to laugh	ຫົວ	ɯ55
367	to love	ຮັກ	ȵø21ta̰21
368	to fear, to be afraid of	ຢ້ານ	gṵ21(la33)ȵa21e33
369	to be frightened	ຕົກຕົກໃຈຢ້ານ	nɤ33ma33ga33kha33ȵa21e33
370	to be surprised	ຕົກໃຈ	nɤ33ma33ga33kha33[24]
371	to know	ຮູ້	ɕi21ȵa33
372	to remember	ຈື່ຈຳ, ວ່າວລິກ	nø21dṵ21tha21ma33
373	to forget	ລືມ	ŋɛ55(ȵa33)
374	cold	ເຢັນ	jɔ33ŋɛ55(ŋɛ55)
375	hot	ຮ້ອນ	jɔ33lɔŋ55
376	hungry	ຫົວເຂົ້າ	xɔ21mɛ̰21
377	thirsty	ຫົວນ້ຳ	ɤ33tɕṵ21mɛ̰21
378	drunk	ເມົາ	jɛ21
379	delicious	ແຊບ	jɔ33khɯ55
380	sweet	ຫວານ	jɔ33tɕhø55
381	sour	ສົ້ມ	jɔ33tɕhɛ55
382	pepper-hot	ເຜັດ	la21phi55(phi55)
383	salty	ເຄັມ	tsa̰21dɤ21 ta̰33
384	thing	ເຄື່ອງຂອງ	mɛ21gɤŋ21, m55mjo21
385	big	ໃຫຍ່	jɔ33xɤ21
386	small	ນ້ອຍ	jɔ33ȵi55
387	tall, high	ສູງ	jɤ33gɔ55[25]
388	low	ຕ່ຳ	jɔ33ɣɔ̰33

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[24] This Akha Buli phrase is literally construed as "the mind (/nɤ33ma33/) falls (/ga33kha33/)".

[25] The citation form of Akha Buli adjectives in Laos consists of a prefix and a root. The adjective prefix is *jɔ*- or *jɤ*-, the latter of which may not be found in other Akha Buli varieties. As for the word 'tall', Kingsada and Shintani (1999: 247) describes /jɔ33go55/ in Ko-Puli of Phongsaly (Laos), and Lewis (1968: 334) states *yaw go˘* (approximately /jɔ˧ go˥/) in Jeuˍ g'oeˍ (Puli) of Kengtung (Burma/ Myanmar).

389	long	ຍາວ	jɔ33mɤŋ55
390	short	ສັ້ນ	jɔ33n̩m55
391	broad, wide	ກວ້າງ	jɔ33dʑɛ55
392	narrow	ແຄບ	jɔ33su̱21
393	thick	ໜາ	jɔ33thu55
394	thin	ບາງ	jɤ33ba21
395	deep	ເລິກ	jɤ33na̱21
396	shallow	ຕື້ນ	ma21na̱21
397	smooth	ຮາບຮງງ, ຮງບ	jɤ33sa55
398	rough	ຫຍາບ	jɤ33nɛ21
399	round	ກົມ	jɤ33lɔŋ33
400	sharp	ຄົມ	jɤ33ta̱33
401	dull	ບໍ່ແຫລມ	ma21ta̱33, ma21tɕhɛ33
402	pointed	ແຫລມ	(jɤ33)tɕhɛ33, jɔ33dɔ33, jɔ33jø33
403	color	ສີ	si33 (<L.)
404	red	ແດງ	jɔ33nɛ33
405	yellow	ເຫລືອງ	jɔ33ɕɯ55
406	blue	ຟ້າ	jɔ33phɤ55
407	white	ຂາວ	jɔ33ba̱33
408	black	ດຳ	jɔ33na̱33
409	green	ຂງວ	jɔ33n̩ø55
410	sound, noise	ສງງ	the55sa55
411	light	ເບົາ	jɤ33phja55
412	heavy	ໜັກ	jɔ33khɔŋ33
413	dry	ແຫ້ງ	jɔ33gɯ33
414	wet	ປງກ	jɔ33ɣa̱21
415	soft	ອ່ອນ	jɔ33bje̱33
416	hard	ແຂງ	jɔ33ɣɔŋ55
417	full	ເຕັມ	bjɤŋ33la55
418	new	ໃໝ່	jɔ33ɕɯ21

419	old	ເກົ່າ	jɔ33ø55
420	raw	ຂອງດິບ	jɤ33dʑm21
421	done, ripe	ສຸກ	jɔ33dʑa̠21
422	good	ດີ	jɤ33mɯ21
423	bad	ບໍ່ດີ, ຮ້າ	ma21mɯ21
424	difficult	ຍາກ	jɤ33xa̠33
425	easy	ງ່າຍ	jɤ33ɣɔ̠21
426	expensive	ແພງ	jɔ33phø21, a55phø21jɔ33xa55
427	cheap	ຖືກ	ma21phø21
428	clean	ສະອາດ	jɤ33ɕɔ55
429	dirty	ເປື້ອນ	jɤ33tɕa̠21
430	gentle	ໃຈດີ	nɤ33ma33jɤ33mɯ21
431	angry	ຮ້າຍ	nɤ33ma33ma21mɯ21
432	happy, glad	ມີຄວາມສຸກ	nɤ33nø21jɤ33sa55
433	ashamed	ໜ້າອາຍ	ɕa̠21dɔ55bɔ33, ɕa̠21dɔ55dɔ55
434	stupid	ໂງ່	a̠21dzɔ̠21a̠21ka̠21
435	clever	ສະຫລາດ	ma21dzɔ̠21ma21ka̠21
436	quick, fast	ໄວ	jɤ33khɔ55
437	slow	ຊ້າ	ma21khɔ55, jɤ33ga33
438	early	ເຊົ້າ	jɔ33na̠21
439	fat	ອ້ວນ, ຕຸ້ຍ	jɤ33tshu55
440	thin	ຈອຍ	jɤ33jɛ21
441	old of age	ເຖົ້າ	mɔ21i55
442	young of age	ໜຸ່ມ	za21gu21
443	year	ປີ	a55xɔ̠21
444	this year	ປີນີ້	tsɯ33nɤŋ33xɔ̠21
445	last year	ປີກາຍ	mi55nɤŋ33xɔ̠21
446	next year	ປີໜ້າ	nɛ21ja̠21xɔ̠21
447	month	ເດືອນ	ba33la33
448	this month	ເດືອນນີ້	ba33la33n̩m55ɕi21

449	last month	ເດືອນກົ່ແລ້ວ	ba33la33mi55nɤŋ21ɕi21
450	next month	ເດືອນໜ້າ	ba33la33a21kha55ɕi21
451	now	ດຽວນີ້, ເອລານີ້, ຕອນນີ້	n̪m33
452	today	ມື້ນີ້	i21nɤŋ33
453	yesterday	ມື້ວານ	mi55nɤŋ33
454	tomorrow	ມື້ອື່ນ	nɤŋ33ɕɔ21nɤŋ33
455	everyday	ທຸກມື້	a21jɔ21nɤŋ33a21jɔ21
456	morning	ຕອນເຊົ້າ	u21ɕɔ21jɤ33na̪21
457	noon	ຕອນກາງເວັນ, ຕອນສລາຍ	nɤŋ33ɣɤŋ55
458	evening	ຕອນແລງ	m21tɕi33thɔ33
459	night	ຕອນກາງຄືນ, ຕອນຄ່ຳ	m21tɕi21
460	rainy season	ລະດູຝົນ	jɛ33ɣɤŋ33jam21
461	cold season	ລະດູໜາລ	tsɛ21ga33jam21
462	above	ເທິງ	xɔ33ta̪33, a21ta̪33
463	below	ລຸ່ມ, ກ້ອງ	a21ɔ33
464	inside	ໃນ	la21xø55
465	outside	ນອກ	la21n̪i55
466	front	ທາງໜ້າ	mi21ɕi55phɔ55
467	back	ທາງຫລັງ	na55xɤŋ33phɔ33
468	north	ທິດເໜືອ	a21ta̪33phɔ33
469	south	ທິດໃຕ້	a21ɔ33phɔ33
470	east	ທິດຕາເວັນອອກ	nɤ55ma33do21la55phɔ33
471	west	ທິດຕາເວັນຕົກ	nɤ55ma33ga33i55phɔ33
472	far	ໄກ	jɤ33mɤŋ55kha21
473	near	ໃກ້, ມ່	dɔ21phɛ33
474	to come	ມາ	la55
475	to go	ໄປ	i55
476	to return	ກັບໄປ, ກັບມາ	o21le55, o21la55
477	to enter	ເຂົ້າ	u55(la55)
478	to exit	ອອກ	do̪33(i55)