

BOLYU IS A MON-KHMER LANGUAGE even if Benedict says so!

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1. Introduction

A certain mystique surrounds the recently described Bolyu (or Lai) language of Guangxi Province, China. Apparently first described by Liang (1984), many western linguists only learned of its existence rather later via P. K. Benedict's humorously titled "How to Tell Lai: an exercise in classification" (Benedict 1990) or from Bomhard & Fleming's 1994 condensed regurgitation of the same paper in *Mother Tongue*. Despite his rather odd claim that "Lai is almost too strange to be true",¹ Benedict comes to the conclusion that Bolyu is a Mon-Khmer (MK) language, and gives it the status of branch level within the MK family. I have encountered some scepticism of Benedict's classification of Bolyu as MK, and this has motivated me to take another look question. With the benefit of the recent Bolyu lexicon by Edmondson (1995), the data is examined and the classification of Bolyu as MK is confirmed.

The issue of how to prove a genetic relationship between languages has lately become a controversial topic in linguistics. At one extreme there are writers such as the American Merritt Ruhlen (1994) who denies the importance of phonological correspondences in establishing genetic relationships and happily lumps all the world's languages into one family, while at the other end his conservative countryman Don Ringe (1995:24) insists, "...that every word show nothing but regular sound changes if it's going to be probative of relationship" and "Also we insist on perfect semantic matches.". The present writer subscribes to time honoured criteria for the establishment of genetic relationship, as articulated by Sergei Starostin (in Shevoroshkin 1991:13):

....as is well know, a combination of three conditions is necessary for the demonstration of genetic relationship: (1) the presence of a sufficient quantity of lexical comparisons; (2) the presence in the majority of these comparisons of a system of regular phonetic correspondences; and (3) the presence among these comparisons of a sufficient collection of so-called 'basic vocabulary'.

It is the intention of this writer to demonstrate that the above three conditions are met in relation to showing the MK origin of Bolyu.

2. Phonology

Phonologically Bolyu presents a normal Kam-Tai type. The inventory of phonemes may be presented as follows (based on Edmondson 1995):

¹ It is not clear what is meant by this. Nowhere does he assert that any putative typological universals are violated by this language. However, one familiar with Benedict's previous attempts at classification, such as his work on Japanese, will know what is like to see a classification that is too strange too be true.

² I apologise for not presenting the quote in it's original form, but my copy of the paper (*Gipoteza o geneticheskix svazjax sinotibetskix jazykov s enisejskimi i severnokavkazskimi jazykami*, in *Lingvicheseskaja rekonstrukcija i drevnejshaja istorija vostoka: tezisy i doklady konferencii, chast' 4: Drevnejshaja jazykovaja situacija v vostochnoj Azii* [Moskva: Nauka 1984]) has been misplaced. The English translation here is by William Baxter, and appeared in Shevoroshkin (1991:13). Readers may be interested in the review of Shevoroshkin (1991) by Kirk & Sidwell (1994).

2.1 Consonants

<i>initials</i>							<i>finals</i>			
p	t	ts	tɕ	ç	k	q	ʔ	p	t	k
ph	th	tsh	tɕh		kh	qh		m	n	ŋ
mb	nd							w	j	
m	n			ɲ	ŋ					
v	s	ʃ			ɣ		h			
w	l			j						

The language limits initial clusters to an obstruent plus /j/ or /V/. There are no final clusters.

2.2 Vowels - *may be short or long*

i	ɯ	u
e	ə	ɔ
	a	

The consonant inventory presented above differs rather from the typical MK type - usually MK languages have fewer fricatives and affricates, and often have voiced and preglottalized stops. Also the inventory of finals is larger for MK, including at least a palatal series and one or more fricatives. However, these facts presents no particular difficulty in regard to satisfying condition (2) specified above. For example: it is possible to suggest that various splits and mergers account for the present gutturals. The token frequency of /k/ is quite low: it hardly ever occurs as the root initial; more often it occurs as the initial element of a cluster, which suggests a prefixual origin. Much more frequently we find /q/ as a root initial, almost always followed by a back vowel. It is not unreasonable to suggest that at some time in the past a velar stop followed by a back vowel was further backed in articulation while in other environments it merged with the palatals. Velar prefixes would not have been subject to the same conditioning - in the present language they are attached directly to the root initial consonants. Even in modern MK languages, the vowel between prefix and root is unstressed, and is usually just a schwa. Opportunity exists for further internal reconstruction, particularly in the areas of the tones and the affricates, but additional lexical data would be most helpful.

2.4 Suprasegmentals

Edmondson's presentation of the tones is by the IPA standard iconic symbols, which I have converted to numeric ones for ease of computer aided sorting. He distinguishes the following six tones: high-level (⁵⁵), high-falling (⁵³), mid-level (³³), mid-falling (³¹), low-level (¹¹) and low-rising (¹³). The same tonal inventory is presented by Benedict, but there are many discrepancies between the tones indicated on words in Benedict's paper and the same etyma in Edmondson's list. I find yet no distributional correlation which would indicate that the differences are due to dialectal differentiation and as such can offer no explanation at this time. The tones are transcribed here as indicated by Edmondson.

3. Vocabulary

The Bolyu vocabulary of Edmondson is rather limited, showing only a few hundred words which are monosyllabic, instead most of the tokens are compounds. Reflecting the preliminary nature of this study (and also the confidence of this writer), only 100 Bolyu lexemes were chosen for comparison. The procedure was simply to browse the Bolyu list and note words which appeared to correspond in form and meaning to Bahnaric and Katuic forms with which I was already familiar. These are well documented Mon-Khmer families which are geographically quite distant from Bolyu. The search was terminated arbitrarily at 100, and the results checked and tabulated. The search was far from exhaustive - any Mon-Khmerist will immediately notice that many of the Bolyu words resemble widespread Mon-Khmer

roots. However, the point here is not to compile etymologies, but strictly to demonstrate the fulfilment of the condition (1) of genetic relationship specified above.

I make no claim that all of the comparisons below constitute genetically related forms, nor that I am the first to present any particular comparisons. In the table that follows, the Katuic and Bahnaric forms are from contemporary languages, rather than reconstructions. Forms have only been given if they occur in more than one language within their respective family, but only one example is given here. For Katuic, the Bru cognate is given if there is one; if not, the word as it appears in one of the other Katuic tongues is given (Katuic data was checked against and transcribed according to Pejros [in press]). For Bahnaric, the Bahnar cognate is given if one is available, otherwise another language is quoted (source dictionaries are listed in the bibliography). The table of vocabulary is presented as Appendix (a).

It is clear that the majority of the above comparisons belong to the category of basic vocabulary, and it is pleasing to note that many of the 100 widely distributed MK etyma listed by Huffman (1977) have lexical parallels in Bolyu. This makes it apparent that condition (3) above is also met.

A few of the comparisons appearing in the appendix were suggested by Benedict, and some of these are very problematic. An example is the Bolyu for 'bird' **sən**⁵³. Benedict compared this to the widespread MK etymon which is represented in this paper by Ba. **sə'm**, and Br. **cə'm** L. This is a very seductive comparison, but the finals do not agree at all well. As yet I have found no other comparisons which would justify setting up a correspondence of final /-n/ to /-m/. In addition, although the other segments are strikingly similar to the expected form, there is no evidence that the similarity is a function of regular correspondence. Another interesting case is the word for 'chicken' **kje**⁵³. This could be an excellent MK cognate or a Chinese loan.³ The regular correspondences tell us to expect the final /-r/ to be absent in the Bolyu form, and the initial /k/ could be the well known 'velar animal prefix'. On the other hand the same could also be true for a Sino-Tibetan or Kam-Tai loan. Benedict (1990:17) simply asserts that it is a Tibeto-Burman loan, making the ad hoc suggestion that the medial /j/ reflects Tibeto-Burman /r/.

The numerals 1-10 were treated to some extent by Benedict, and represent important evidence for the MK parentage of Bolyu. According to Thomas (1960) numerals are among the most stable elements of the MK lexicon. In only two countries, Cambodia and Vietnam, do Mon-Khmer languages have the status of being the national language. Elsewhere MK speakers are isolated and under considerable linguistic influence from other languages. In this situation it is not surprising that there are examples of MK speakers borrowing numerals from Thai, Lao and others (a detailed discussion of this phenomenon can be found in Sidwell [forthcoming]), but the reverse situation is unknown to this writer. Bolyu shows distinctively MK numerals which can only be accounted for in one of two ways: borrowing or genetic origin. If one is to suggest borrowing, some evidence should be found. For example, Benedict (1990:1) cites Liang as crediting the Bolyu numerals to the influence of "Vietnamese or other languages of that stock." If this is so, one would expect to find many other Vietnamese words if contact had been so close that the numerals were borrowed. No such evidence is apparent; rather what we do find is lexicon that is shared with MK languages right across Southeast Asia. This applies particularly to the numerals 'one' and 'two' - the Bolyu forms agree much better with what we would reconstruct for Proto-Mon-Khmer than the apparently anomalous forms found in Vietnamese. While it is possible for Bolyu to have borrowed some words from Vietnamese, one finds that the cultural vocabulary of Bolyu is stacked with Chinese, Tibeto-Burman and

³ I would like to express my thanks to Zhōu Xiǎo-Kāng of Melbourne University for examining the Bolyu word list for possible Chinese loans, and other helpful remarks offered in the preparation of this paper.

Thai words, rather than Vietnamese, which clearly indicates the languages from which Bolyu speakers have preferred to borrow.

Numerals one to four are of the MK forms that we find generally distributed in every branch of the family, but “The Lai forms for ‘six’ through ‘ten’ present a rather different picture, with ties specifically to VM (Viet-Muong) rather than to MK generally”(Benedict 1990:11). But rather than group Bolyu with VM, Benedict asserts that the agreement in numerals is due to parallel development from Proto-MK rather than a later common origin. To support this he notes the lack of agreement with VM ‘one’ and ‘two’ which appear to be unique innovations not shared by Bolyu or other MK languages. This last point does not really pose a great problem for one suggesting that Bolyu belongs within East-Mon-Khmer (EMK) along with VM, Bahnaric, Katuic and Khmer (at least). Diffloth (1991) groups VM with Bahnaric and Katuic on the basis of lexical and phonological data, while Pejros (1994) does the same by lexicostatistics. If we accept such a classification, the disagreement with numerals ‘one’ and ‘two’ becomes a mere trifle as the agreement is very good between Bolyu and the other EMK languages in respect of these numerals. In any case the VM innovations are hardly exotic: Sokolovskaja (1978) reconstructs Proto-VM ‘one’ **mək* and ‘two’ **hal*. Most EMK languages have a final /-j/ in their form for ‘one’, but I would reconstruct **-jʔ* for Proto-EMK on the basis of Bahnaric data, which agrees much better with the final velar proposed by Sokolovskaja for Proto-VM. Further, Proto-VM **hal* ‘two’ is not so exotic if it is compared to Shorto’s (1972).proposed Proto-MK ‘two’ ** ə* : , which he suggests to account for the apparent correspondence between forms of the kind /ʔa:r/ and /ʔa:l/ in North-MK and /ʔba:r/ and /ba:r/ in the rest of the family.

The Bolyu for ‘five’ shows no agreement with any other language, and so Benedict’s suggestion that it is a Bolyu innovation seems correct. As for ‘six’ through ‘ten’, the agreement with VM is striking, especially if we compare the Bolyu forms with Proto-VM (rather than just modern Vietnamese as Benedict does):

<i>Proto-VM</i>	<i>Bolyu</i>	
<i>*praw</i>	pju ⁵³	<i>six</i>
<i>*paj</i>	pej ⁵³	<i>seven</i>
<i>*sa:m</i>	ça:m ⁵³	<i>eight</i>
<i>*cin</i>	çən ⁵³	<i>nine</i>
<i>*məal</i>	ma:n ¹³	<i>ten</i>

The forms for ‘ten’ are probably secondary, as the Proto-EMK form was probably **jət* (according to this writer’s reconstruction, presently in preparation). It is not difficult to suggest an etymology for the Bolyu and VM forms: within Bahnaric we find Stieng ‘ten’ **məjit** and Chrau ‘ten’ **mət**. These are transparently reduced forms of ‘one-ten’, and a similar origin can be suggested for Bolyu and VM. In various MK languages, including Khmuic, Palaungic and East Bahnaric, there are forms for ‘10’ which Thomas (1976:71) calls *kur* forms (on the basis of their similarity in sound shape, not by any system of regular correspondences, although it seems likely that they are cognates). There are also possible cognates in Munda languages, such as Ho **gel** ‘10’. Thomas (1976:71) suggests that the VM forms reflect a contraction of ‘one-ten’ which uses this root for ‘10’. Benedict states that there is a regular shift of **-l* to *-n* in Bolyu (1990:12), which would let us treat the Bolyu and VM ‘10’ as the same etymon. If this is so, it is good evidence for an EMK genetic origin of Bolyu. Words for ‘10’ have been borrowed by Mon-Khmer languages, such as Khmer **dap** and Khmu **šīp**, but these are loans from Chinese, due to trade, “...iz kitajskiego jazyka (sr. arxaichnoe kitajskoe **d’jəp**)” (Gorgoniev 1961:72). It is unlikely that Bolyu has uniquely borrowed ‘10’ from one of the few Muong dialects that retain the final *-l*. A much better explanation is to be found via common origin within EMK. (The etymology of MK numerals ‘1’ to ‘10’ is treated in some detail in Sidwell [forthcoming]).

4. Phonetic Correspondences

Appendices (b) and (c) give a listings of what this writer considers to be the most plausible putative correspondences for initials and rhymes from the vocabulary list in Appendix (a). While examination of the lexical comparisons in the appendices shows that many display obvious correspondences, there are also some important non-superficial correspondences which should be examined.

Firstly there is the patterning of voiced obstruents apparently corresponding to prenasalised stops in Bolyu, e.g.:

<i>appendix entries</i>	<i>Bolyu</i>	<i>Katuic</i>	<i>Bahnaric</i>
53, 82, 96	mb	b	?b
98	nd	d	?d

Such patterning is exactly the kind that we expect to see if the languages descend from a common ancestral system. In this case it is clear that we are dealing with reflexes of Proto-MK (or Proto-East-MK) preglottalized stops.

Other multiply-attested non-trivial correspondences include:

<i>appendix entries:</i>	<i>Bolyu</i>	<i>Katuic</i>	<i>Bahnaric</i>
40, 59, 61	q	k	k
5, 33, 68	s	h	h
414, 17, 25, 31	ts	c	s
22, 47, 93	y	r	r
35, 51	ʈ	kl	kl
89	ɟ	bl	bl

The last three rows above are particularly interesting: the velar fricative could actually reflect P-MK clusters *Cr- (where C is a coronal oral stop), and P-MK initial /r/ clustered with an anterior reflected as Bolyu /j/ (see appendix entry 60, although 85 possibly contradicts this). The lateral stop corresponding to Cl clusters in the last two lines is simply beautiful.

The rhyme correspondences are much more problematic, but even then some broad patterns of regular agreement are evident. As for non-trivial correspondences, there is a rather good set in the following: Bolyu rhymes ending with /i/, mostly with tone ³¹, corresponding to rhymes with final /h/ in both Katuic and Bahnaric, see entries 35, 42, 54, 70, 73, 80 and 81.

From the above it is clear that Starostin's condition (2) is met, and this completes the requirements for demonstrating common genetic origin.

5. Conclusion

On the basis of the Edmondson word list it is rather easy to demonstrate the Mon-Khmer affiliation of Bolyu. As for subgrouping with MK, this is much more problematic. The many loan words probably make lexicostatistical analysis unsafe, and further internal reconstruction should proceed before common phonological innovations can safely be identified. However, a preliminary classification can be suggested on the basis of the numerals, namely that Bolyu should be grouped as East-Mon-Khmer.

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Appendix (a)

Lexical comparisons: Bolyu - Katuic - Bahnaric

<i>No.</i>	<i>Semantic value</i>	<i>Bolyu</i>	<i>Katuic</i>	<i>Bahnaric</i>
1	<i>bean</i>	tək ³¹		Ba. təh
2	<i>bird</i>	sən ⁵³	Br. cɛ:m L ⁴	Ba. sɛ:m
3	<i>bitter</i>	tɛaŋ ⁵³	Br. ntəŋ L	Ba. taŋ
4	<i>blanket</i>	ɣa:w ⁵⁵		Ba. ʔʌsu:
5	<i>blood</i>	sa:m ⁵³	Br. ʔ əha:m L	Ba. pha:m
6	<i>body</i>	tshu ¹³	Br. caʔ L	Re. cak
7	<i>bowl, small</i>	taj ¹³		Ba. do:j
8	<i>break in two, part</i>	thək ³¹		Re. kətək
9	<i>bridge</i>	tɕaw ¹³	Br. rəda:j L	
10	<i>buffalo, water</i>	vɔ ¹³		Ba. kəpɔ:
11	<i>to carry</i>	pe ⁵³ ⁵	Pak. kəbe: L ⁶	
12	<i>I, me</i>	ʔa:w ⁵⁵		Re. ʔaw
13	<i>chicken</i>	kje ⁵³		Ba. ʔjɛr
14	<i>chisel</i>	tsɔ:ŋ ³³		Ba. su:ŋ
15	<i>clothing</i>	phje ¹³		Ba. blah
16	<i>cloud/fog</i>	qɔ ⁵⁵ v ^ˈ k ³¹	Br. tluʔ	Ba. tuk
17	<i>comb</i>	tse ³¹	Br. nci:ʔ L	Ba. təsi:
18	<i>cook</i>	taŋ ⁵⁵		Lov. coŋ ⁷ , təʔaŋ ⁸
19	<i>cooked, ripe</i>	tɕin ⁵³	Br. ce:n L	
20	<i>cover</i>	ʔəp ⁵³		Ba. ʔdəp
21	<i>crow</i>	ʔe ⁵³	Br. kəʔa:ʔ L	Ba. ʔa:k
22	<i>deep</i>	ɣaw ¹³	Br. ntru: B	Ba. jruʔ
23	<i>die, kill</i>	ʃjit ⁵³	Br. kəce:t L	St. chit
24	<i>dig, peck</i>	tjək ⁵³	Katu. ʔuoc	
25	<i>dog</i>	tsu ⁵³	Br. ʔəca: L	St. sow
26	<i>dream, sleeptalk</i>	pa:w ¹³	Ku. mpa: L	Ba. ʔəpɔ:
27	<i>to drink</i>	ʔut ⁵³		Ba. hu:c
28	<i>dust/ashes</i>	mbən ⁵³ maw ¹¹		Br. səmu:j L
29	<i>eagle</i>	m ⁵³ lja:ŋ ³¹		Ba. kla:ŋ
30	<i>earth</i>	qe ¹³		Ba. tɛh, ʔənih
31	<i>eat</i>	tsɔ ⁵⁵	Br. ca: L	Ba. sa:
32	<i>egg</i>	thəm ¹³		Ba. kətəp
33	<i>eight</i>	sa:m ⁵³		St. pha:m

⁴ Abbreviations: L = Lax, T = Tense; Languages: Ba. (Bahnar); Br. (Bru); Ch. (Chrau); Cu. (Cua); Ku. (Kuy); Lov. (Loven); Pak (Pakoh); Re. (Rengao); St. (Stieng)

⁵ 'to carry on back'

⁶ 'to carry child in arms'

⁷ 'to steam food'

⁸ 'to roast'

34	<i>eye</i>	ʔaj ⁵³ mat ⁵³	Br. mat B	Ba. mat
35	<i>fall, drop down</i>	ʔej ⁵⁵		Re. təklih
36	<i>fart/stomach gas</i>	se ⁵³	Br. tih L	
37	<i>father</i>	pa ³¹	Br. mpua B	
38	<i>to fear</i>	lju ¹¹		Re. juʔ
39	<i>faeces</i>	ʔi ⁵³		Ba. ʔic
40	<i>fish</i>	qɔ ⁵³	Br. ʔəka: L	Ba. ka:
41	<i>flat</i>	ʔja:ŋ ⁵⁵	Katu. khluŋ	
42	<i>fly [insect]</i>	çəp ⁵³ mi ³¹	Br. muajh B ⁹	Ba. məjh ¹⁰
43	<i>follow</i>	tej ³¹		Je. tiw T
44	<i>foot</i>	jəŋ ⁵⁵		Ba. jəŋ
45	<i>four</i>	pu:n ⁵³	Br. pə:n L	Ba. puan
46	<i>fragrant</i>	ljim ⁵³		Ch. chəm
47	<i>grab</i>	kɣa:m ³¹		St. cra:m
48	<i>grey</i>	lu:k ⁵³	Br. pluaʔ B	
49	<i>hair</i>	suk ⁵³	Br. sɔʔ L	Ba. sək
50	<i>hand</i>	ti ⁵⁵	Br. ʔətaj L	Ba. ti:
51	<i>to hang</i>	ʔe ⁵⁵	Br. klɛ:w L ¹¹	
52	<i>hat</i>	ma:w ¹³		Re. mɔ:k
53	<i>head</i>	ʔaj ⁵³ mbu ⁵⁵		St. bɔ:k
54	<i>heart</i>	ʔaj ⁵³ ni ³¹		Ba. nujh
55	<i>to hide</i>	pən ⁵³	Br. pu:l L	
56	<i>hot, warm</i>	pjiŋ ⁵³	Br. ha:ŋ L	
57	<i>household</i>	ɲɔ ³³		Re. hɲe:
58	<i>husk, chaff</i>	qam ⁵³	Br. səka:m L	
59	<i>itchy</i>	qɔt ⁵³		St. kiet
60	<i>jump</i>	tjuk ⁵³		Re. hədruk
61	<i>knee</i>	paw ³¹ qu ⁵⁵	Br. rəkɔ:l L	Cu. təkɔ:l
62	<i>knife</i>	tça:w ⁵³		Ba. gɔw
63	<i>leaf</i>	lɔ ³¹ vi ⁵⁵	Br. sula: L	Ba. hla:
64	<i>lie down</i>	tha:ŋ ³³		Ba. pəʔda:ŋ
65	<i>look afar</i>	lu ³¹		Re. hlɔʔ
66	<i>louse</i>	tju ⁵³ ¹²		B. si:
67	<i>meat</i>	çɔ ⁵³	Br. səjʔ L	
68	<i>medicine</i>	su ⁵⁵	Br. rəhaw L	
69	<i>mother</i>	ma ³¹	Ku. məʔ L	
70	<i>name</i>	mi ³¹	Br. rəmih B	

⁹ ‘mosquito’

¹⁰ ‘mosquito’

¹¹ ‘to hang about the waist’

¹² ‘chicken louse’

71	<i>neck</i>	pəŋ ³³ ləŋ ³¹		Ba. hələŋ
72	<i>nine</i>	çən ⁵³		Ba. təsin
73	<i>nose</i>	ləŋ ¹³ mi ³¹	Br. muh B	Ba. muh
74	<i>one</i>	ma:j ³¹	Br. muəj B	Ba. ʔməj ^{ʔ13}
75	<i>to pick up</i>	mbət ⁵³	Br. puət B	
76	<i>red</i>	lu:ŋ ¹³	Pak. turo:ŋ L	
77	<i>road</i>	mɔ ³¹ kyɔ ⁵³	Pak. kərna:	
78	<i>roots of trees</i>	ji ¹¹	Br. re:h B	Ba. rəh
79	<i>rope</i>	tçhɔ ³¹ ʔɔ ⁵³	Br. nsaj L	Re. kəchei
80	<i>sand</i>	kaj ³¹	Br. cuah B	Re. cu:jh
81	<i>seven</i>	pej ⁵⁵		Ba. təpəh
82	<i>shoots [of bamboo]</i>	mbəŋ ⁵⁵		Ba. təʔbəŋ
83	<i>shoulder</i>	ve ¹¹	Katu. papa:	
84	<i>silver</i>	ʔu ¹³	Br. praʔ L	
85	<i>six</i>	pju ⁵³		Ba. tədraw
86	<i>slippery</i>	thjat ³¹	Br. nlet L	
87	<i>snake</i>	ʔa:ŋ ⁵⁵	Pak. ʔiluaŋ ¹⁴	
88	<i>sour</i>	tçit ⁵³		Ba. ʔjuʔ
89	<i>to split</i>	ʔɔ ⁵⁵ ¹⁵	Br. plah L	Ba. blah
90	<i>stone</i>	maw ¹¹	Br. təmaw L	Ba. təmɔ:
91	<i>to swallow</i>	ndən ⁵³	Br. lin B	
92	<i>tasteless</i>	ljap ⁵³		Ba. sa:p
93	<i>thread</i>	ya:j ⁵⁵	Br. priaj B	Ba. bra:j
94	<i>three</i>	pa:j ⁵⁵	Br. paj L	Re. pei
95	<i>tree, trunk</i>	ji ¹¹		St. jhi: ¹⁶
96	<i>two</i>	mbi ⁵⁵	Br. ba:r L	Ba. ʔba:r
97	<i>wall</i>	çiŋ ³¹		Ba. cəneŋ ¹⁷
98	<i>water</i>	nde ⁵³	Br. dɛ:ʔ L	Ba. ʔda:k
99	<i>wind</i>	qə ³¹ təŋ ⁵⁵	Br. siaŋ L	
100	<i>year</i>	nə:m ¹³		Ba. sənam

13 'first'

14 'cobra'

15 'to split firewood'

16 Likely Khmer loan.

17 Likely /-n-/ infix.

Appendix (b)*Putative correspondences of initials*

<i>Comparison No.</i>	<i>Bolyu</i>	<i>Bru</i>	<i>Bahnar</i>
67, 72	ç	s	s
38	j		j [Re.]
44, 95	j		ʃ
80	k	c	c [Re.]
29, 48, 63, 65, 71	l	l	l
92	lj		s
34, 42, 52, 70, 73, 90	m	m	m
74	m	m	ʔm
75	mb	p	
53, 82, 96	mb	b	ʔb
54, 100	n		n
57	ɲ		ɲ[Re.]
98	nd	d	ʔd
26, 37	p	mp	p
45, 81, 94	p	p	p
40, 59, 61	q	k	k
5, 33, 68	s	h	h
49	s	s	s
50	t	t	t
99	t	s	
66	t(j)		s
3	tç	t	t
19	tç	c	
62	tç		g
64	th		ʔd
14, 17, 25, 31	ts	c	s
10, 83	v	p	p
4	ʏ		s
22, 47, 93	ʏ	r	r
35, 51	ʎ	kl	kl [Re., St.]
23	ʎj	c	ch [St.]
27	ʎ		h
39	ʎ		ʎ

Appendix (c)

Putative rhyme correspondences

<i>No.</i>	<i>Bolyu</i>	<i>Bru</i>	<i>Bahnar</i>	<i>No.</i>	<i>Bolyu</i>	<i>Bru</i>	<i>Bahnar</i>
37	a ³¹	ua B		92	ap ⁵³		a:p
17	e ³¹	i:ʔ L	i:	34	at ⁵³	at B	at
51	e ⁵⁵	ə:w L		23	it ⁵³	e:t L	It [St.]
98	e ⁵⁵	ʌ:ʔ L	a:k	59	ɔt ⁵³		iet [St.]
80	aj ³¹	uah B	u:jh [Re.]	27	ut ⁵³		uc
81	ej ⁵³		əh	75	ət ⁵³	uət B	
35	ej ⁵⁵		ih [Re.]	38	u ¹¹		uʔ
42	j ³¹	uajh B	ɔjh	65	u ³¹		ɔʔ [Re.]
54	j ³¹		ujh	25	u ⁵³	ɑ: L	ow [St.]
70	j ³¹	ih B		53	u ⁵³		o:ʔ [St.]
73	j ³¹	uh B	uh	66	u ⁵³		i:
39	j ⁵³		ic	61	u ⁵⁵	ɔ:l L	
50	j ⁵³	ʌj L	i:	68	u ⁵⁵	aw L	
96	j ⁵⁵	a:r L	a:r	90	aw ¹¹	aw L	ɔ:
93	a:j ⁵⁵	iaj B	a:j	22	aw ¹³	u: B	uʔ
94	a:j ⁵⁵	aj L	ei [Re.]	26	a:w ¹³	ɑ: L [Ku.]	ɔ:
74	a:j ³¹	uəj B	əjʔ	52	a:w ¹³		o:k [Re.]
49	uk ⁵³	ɔʔ L	ɔk	62	a:w ⁵³		ɔw
48	u:k ⁵³	uaʔ B		4	a:w ⁵⁵		u:
33	a:m ⁵³		a:m	3	aŋ ⁵³	aŋ L	aŋ
100	ə:m ¹³		am	29	(j)a:ŋ ³¹		a:ŋ
19	in ⁵³	e:n L		64	a:ŋ ³³		a:ŋ
72	ən ⁵³		in	87	a:ŋ ⁵⁵	uaŋ L	
10	ɔ ¹³		o:	71	ɔŋ ³¹		ɔŋ
63	ɔ ³¹	a: L	a:	44	ɔŋ ⁵⁵		əŋ
57	ɔ ³³		e: [Re.]	82	ɔŋ ⁵⁵		aŋ
40	ɔ ⁵³	a: L	a:	14	ɔ:ŋ ³³		a:ŋ
67	ɔ ⁵³	əjʔ L		99	əŋ ⁵⁵	iaŋ L	
31	ɔ ⁵⁵	a: L	a:				