A Kri-Mol (Vietic) Bestiary: Prolegomena to the Study of Ethnozoology in the Northern Annamites

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A Kri-Mol (Vietic) Bestiary: Prolegomena to the Study of Ethnozoology in the Northern Annamites

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I have not through idleness omitted anything that I have learnt, as though animals, void of reason and of speech, were beneath my notice and to be dispised, but here as elsewhere I have been fired by that love of knowledge which in me is inherent and innate. I am well aware that among those who keep a sharp look-out for money, or who are keen in the pursuit of honors and influence and all that brings reputation, there are some who will blame me for devoting my leisure to these studies, when I might have given myself airs and appeared in palaces and attained to considerable wealth. I however occupy myself with foxes and lizards and beetles and snakes and lions, with the habits of the leopard, the affectionate nature of the stork, the melodiousness of the nightengale, the sagacity of the elephant, and the shapes of fishes and the migrations of cranes and the various species of serpents, and so on – everything which in this account of mine has been carefully got together and observed.

- Κλαύδιος Αἰλιανός, *Περὶ Ζῴων Ἰδιότητος*
Aelian (175-235 AD), *On the Nature of Animals*

FOREWORD

A bestiary, also known as a *bestiarum vocabulum,* is often defined as a "compendium of beasts." Usually associated with ancient Greece or medieval Europe, they often took the form of treatises on natural history, illustrated volumes containing names and descriptions of animals with such information or lore as was available at the time, either scientific, mythological, or imaginary. An epimythium or religious meaning might be attached as well.

For the majority of animals included here, our understanding of their role in the cognitive systems of the Kri-Mol peoples is not complete to the degree that would merit the title of 'bestiary.' Still I have labeled it as such with the hope that it might be considered a beginning or a first step towards a more robust compendium. And I encourage the reader to think of it in this light and add to it his or her own thoughts and feelings or additional data that might be relevant.

This work is necessarily a hodge-podge of various kinds of incomplete information. Hopefully when studies carried out, especially by Vietnamese and Lao researchers are forthcoming or more accessible, this knowledge will grow.

Cover:
With respect to the illustration on the cover. I came across this odd image while searching for royalty-free photos and it immediately reminded me of what a Liha man said, that rhinos have powerful spirits attached to them, and these must be ritually appeased before the animal can be hunted. The rhino in the illustration is in fact the Sumatran variety, readily identifiable by its two horns, reddish coloration, and long hair. This is one of the rhinos that inhabited the Kri-Mol speaking area until recently. The last tracks of which we are aware were seen by a Toum man in 1967. Why the advertisers chose this poor creature is a mystery, but it well depicts the "spirits" attached to the rhino, we may imagine, powerful Chicago spirits no less, "fine spirits" as attested in the image. Spirits like these would no doubt be difficult to appease, so I for one am happy to let this rhino go on its way unhunted, together with its carefree burden.

James R. Chamberlain
Vientiane, April 2018

PREFACE

The bulk of linguistic and ethnozoological detail provided in this volume was collected by the author between 1995 and 1997 while working on socio-cultural background studies for the Nam Theun 2 hydroelectric project. Visits to places where local people spoke Kri-Mol languages were necessarily brief, often only a few hours in any one location. For some remote areas access was by helicopter. The work was carried out under two contracts, the first from late 1995 to early 1996 was under CARE International, and the second in 1997 under IUCN. The territory included the District of Khamkeut in Borikhamxay Province (since broken up into three smaller districts), Nakai District, and small portions of Boualapha and Gnommarath Districts. The latter three belong to the province of Khammouane.

Until that time, little was known about this territory. Many of the groups had never been recorded, their names completely new to the outside world. And some such as the Atop, Atel, Thémarou, Mlengbrou and Cheut were true hunter-gatherers who had been rounded up from the forests and resettled on the outskirts of villages belonging to various more sedentary ethnicities. Others were peoples who resided in semi-permanent villages practicing rudimentary swidden cultivation, and who often played the role of middle-men between the hunter-gatherers and the outside world. Still others, had more permanent settlements, and in some cases had developed permanent paddies as well as swiddens.

All of these belong to what we are now calling the Kri-Mol branch of Austroasiatic. There is indeed a kind of continuum of cultural types within this branch, ranging from the urban Vietnamese through rural paddy cultivators, to mixed paddy and swidden cultuvators, wholly swidden cultivators, emergent swidden cultivators, hunter-gatherers with cross-bows and hunter-gatherers without crossbows. I would caution that these types should not be construed as evolutionary stages, though to the Marxist thinking of the Lao and Vietnamese governments they are thought of as such. Hunter-gatherers especially are looked down upon more as retrograde *lumpen* cultures and these peoples have suffered much as a direct result of this thinking.

Thus it is not surprising that many scholars who have have either directly or indirectly followed the Marxian academic path, have neglected or ignored the (primitive) linguistic diversity further south in order to associate Vietnamese with the bronze age cultures of Phùng Nguyên, Đông Sơn and the quasi-mythical Văn Lang, implying Vietnamese descent from the "high civilizations" of the Red River basin rather than the more humble hunter-gatherers of the Annamite rainforests. However, as presented here, the rich faunal lexicon of the Kri-Mol groups to the south contradicts the bronze age civilizational narrative and places Proto-Kri-Mol squarely in the upland evergreen forests of the Nakai Plateau at a time when there was no agriculture, and no domestic animals except for the dog.

As for the true hunter-gatherers in Laos today, their way of life is mostly gone, the surviving groups having been rounded up and forced to reside in or near the villages of other ethnic groups, where they are slowly wasting away. As of 2004 the Mlengbrou, former inhabitants of the Nam One river basin, consisted of only twelve speakers. It is a sad tale and I can only lament the layers of ignorance and insanity that have led to this condition.

ACKNOWLEDGEMENTS

I would like to thank the individuals who offered me the opportunity to first carry out fieldwork on the Nakai plateau and nearby areas. Firstly Mike Carroll who was at the time director of CARE International which was under contract to the lead investment company for the Nam Theun 2 Hydropower project. That initial research took place in 1995 and 1996. The following year 1997, Stuart Chape, the director of IUCN in Laos allowed myself and several others the opportunity to work exclusively in the Nakai-Nam Theun Protected Area. Although Stuart and I disagreed rather strongly in the end over such matters as the role of humans in ecosystems, I owe to him as well as to Mike a large debt of gratitude for the chance to work in this amazing realm of ethnic and biological diversity.

Another individual who has been hugely supportive of this effort, himself an ardent devotee of our science of zoonomy, is Gérard Diffloth, the world's reigning expert on Austroaasiatic languages. Our interests meshed in 1976 when Gérard was at Chicago and I at Michigan. My focus at the time was Tai (ethno-) zoology, and Gérard had just given a paper on Aslian (Semai) "names and by-names." I believe that was in 1976, long before I had ventured into the realm of Austrosiatic.

Thanks also go to Nathan Badenoch for his support over the years, and for his sharing of recent fieldwork with Palaungic and Pramic branches of Austroasiatic.

Finally, I would like to mention Professor Norihiko Hayashi of Kobe University who generously supported a "Workshop on Faunal Lexicon in Mainland Southeast Asia," in January of 2018, under the auspices of Kobe Gakoentoshi Unity. The members of this workshop included Nathan Badenoch (Pramic), Weera Ostapirat (Austro-Tai), Gérard Diffloth (Austrosiatic etymologies), Toshiki Osada (Munda), Aung Si (Ethnozology), Masaaki Shimizu (Vietnamese), Atsuhiko Kato (Karen), Yasuhisa Taguchi (Hmong-Mien), and numerous other specialists in various language families. The rudiments of the present volume were offered there and I have benefitted much from interaactions with all participants. At the workshop, Professor Hayashi himself examined the animal lexicon of Saek.

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CONTENTS

PROLOGUE

Vieto-Katuic Revised

Readers are hopefully curious as to how the term Kri-Mol came into being, hence this section provides rationale for classifying the Vieto-Katuic Branch of Austroasiatic.[1] The proposal consists mainly of replacing the former sub-branch name of Vietic which has become the source of considerable ambiguity, especially among non-linguists where it is often confused with Việt-Mường or even Vietnamese.

The adopted term **Kri-Mol**, or **Kri-Molic** captures the earliest essential bifurcation between **Mol-Toum** (Cheut, Toum-Phong, and Việt-Mường) on the one hand, and **Nrong-Theun** (Mlengbrou, Kri-Phoong, Thémarou, Atel-Maleng, and Ahoe-Ahlao) on the other. ***Mol*** is an autonym used by the Mường, pronounced *mɔl* or *mɔɯ*. (Use of *Mol* also eliminates confusion with the Tai speaking Mường in Nghê An.) ***Kri*** is used as a proxy to represent the five subgroups which are spoken mostly to the west of the Cordillera in Laos.

Additionally, some new languages are brought to light and the renaming ensures inclusion of all related subgroups, thereby emphasizing their importance to historical linguistics. These include Atel, Atop, Makang, Arao, and Thémarou, all spoken on the Nakai Plateau on the western side of the Annamite Cordillera.

In the past such languages, that exhibit the highest degree of diversity within the branch, have been referred to by somewhat demeaning terms such as "outer" or "minor," when in fact we should be considering the linguistic systems on their own merits absent extraneous labels. Hopefully this will provide a more scientific objective linguistic frame in which to place all of the various languages. The system also refocuses research more toward reconstruction within the Kri-Mol sub-branch emphasizing that Sino-centric influences are only relevant to a small portion of the branch as a whole.[2]

In the proposed system, **Mol-Toum** consists of Việt-Mường plus Toum-Ruc. Then **Nrong-Theun** splits into Ahlao-Atel in the north, and Kri-Phoong in the south. Ahlao-Atel divides further into Ahoe-Ahlao and Atel-Maleng. The term Nrong-Theun is derived from the names of rivers, the Theun being the main one. Nrong, a tributary of the Theun, is phonemically /ɲrɔːŋ/ (called the Nam Noy in Lao) and Theun is phonemically /thɤːn/. The Theun flows from south to north, the river name changing to Kading about two-thirds of the way before emptying into the Mekong. 'Theun' is the old French spelling and is retained as it is used universally on maps and in the literature. Ahoe /ʔăhɤː/ is also spelled Aheu, but is used here to reflect more recent extensive

[1] This revison addresses the Vieto- side of the branch. For discussions of the whole branch see Diffloth (1991) and, Alves (2005).

[2] Two papers by Michele Ferlus have addressed issues looking at the "Việt-Mường" [Kri-Mol] languages as a group. Ferlus has worked on many of the languages mentioned though his interpretation of the relationships differs considerably from the one offered here, without providing a phylogenetic classification. Likewise, his insistence on looking to the north and Khmuic for the broader connection is at odds with the analyses of Diffloth and Alves. See Ferlus (1990 and 1996).

usage in Laos.[3] Ahlao and Ahao are two varieties of what has been called Thaveung, a place name for a single village (Tha Veng), not an autonym.

Looking at the languages on the Vietnamese side of the Cordillera, in addition to Mường (and of course Vietnamese), Nguyễn Văn Tài's excellent "Mường" dialect study of some 90 locations includes also the Kri-Mol languages of Nghệ An and Quảng Bịnh. Unforunately the non-Mường languages, points 71-90, are not included in the published version (except number 84 Cổ Liêm, a Nguồn dialect, number 30 in the published volume.

Nghệ An (Toum-Phong)

Con Cuông District: Đan Lai, Li Hà.

Tương Dương District: Hung, Khôông Khêng, Uý Lô, Poọng, Con Kha.

Quảng Bịnh (Cheut and Arem)

Minh Hoá District: Mày, Rục (A), Rục (B), Sách, Mã Liềng, Bãi Dinh, Tắc Củi. And the Nguồn dialects of Cổ Liêm, Bốc Thọ, Đà Nàng, Tân Li and Nguồn proper..

Bố Trạch District: A Rem

(On the Lao side Nguồn is spoken in the district seat of Pak Panang in **Boualapa District, Khammouane Province**.)

Arem in Ferlus (2013) has the alternative name of *Chmbrau* or *Chmrau*. It is unclear, but although this is often treated as a single language, Ferlus points out that the language seems to be a mixture of dialects and influences from other languages, a situation no doubt arising from forced relocations of these peoples in the past.

As will be seen, the greatest degree of language diversity within Kri-Mol lies on the Lao side of the Annamite Cordillera (known as *Sai Phou Louang* in Lao), a fact that needs to be emphasized when discussing the homeland.

The languages on the tree below marked in red font are spoken by hunter-gatherer peoples. This cultural type occurs in every subgroup except for Việt-Mường. Though hunter-gatherers are absent today in Ahoe-Ahlao, the extinct *Tong Leuang* language(s) of the Nam Gnouang mentioned by Grossin (1933) are thought to have belonged to this subgroup as they are geographically closest (Chamberlain 2014).

Note that the hunter-gatherer groups are called *Arem* by the Brou on both sides of the border, equivalent to *Salang* (saa < PKD *khraa C + laang) or *Tong Leuang* in Tai and Lao. No doubt the term used for the Kri-Mol groups in Nghệ An, *Nhà Làng* (Cuisinier

[3] That is, *-oe-* is now the preferred romanized form for /-ɤ-/ and *-eu-* is /-ɯ-/. This is done to avoid the confusion of *-eu-* / ɤ / and *-u-* /ɯ/ in the French system. However, in other romanizations the French spelling is preferable: *-ay* for /-ay/ , *-ai* for /-aay/ , *au* for /-aw/ , *ao* for /-aaw/ , *ou* for /u/ etc.

1948), is of the same origin. Ostensibly the term was used to distinguish them from Tai speakers, also called "Mường" in Nghệ An province.

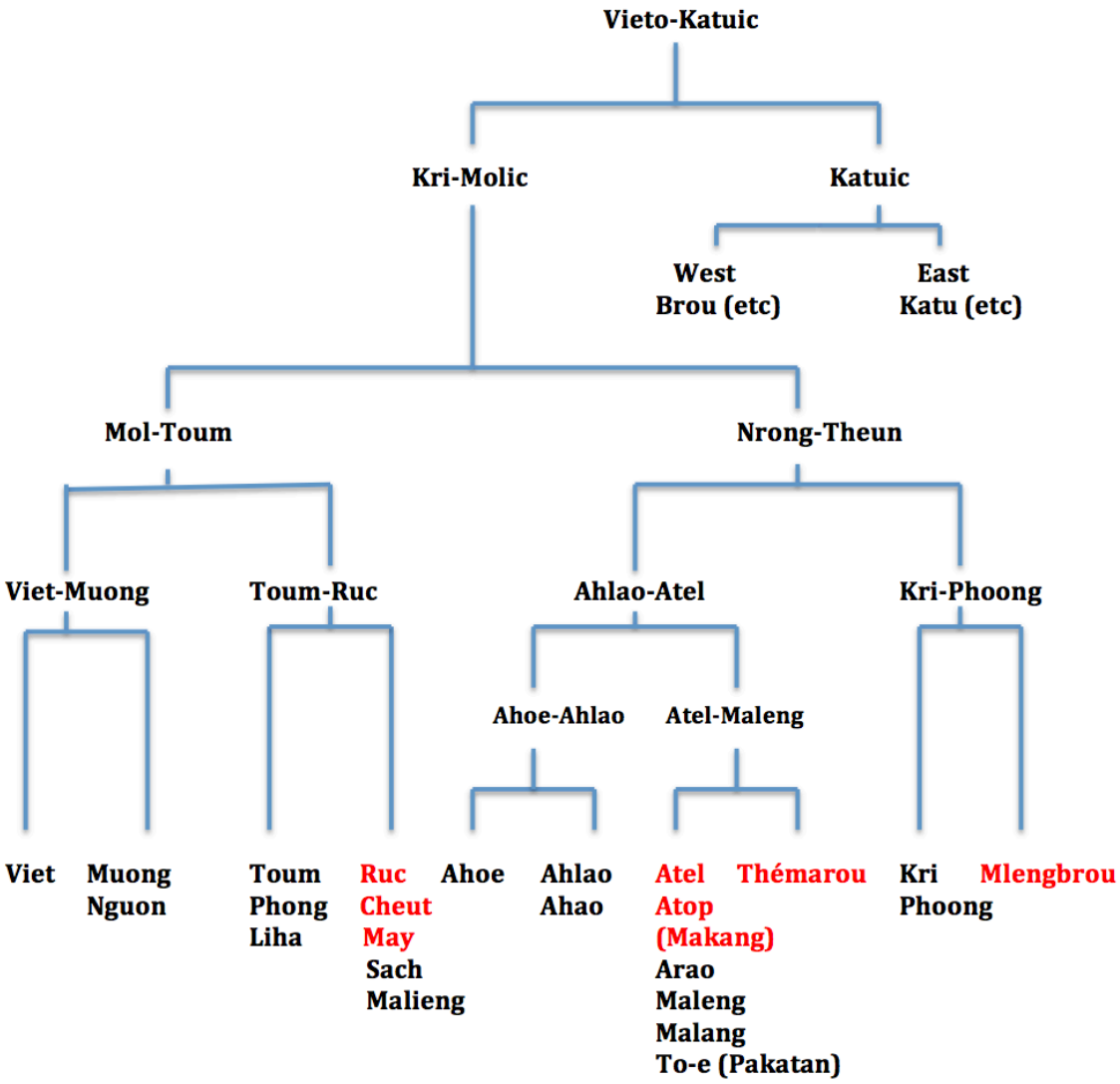
Based on the faunal evidence (and the lack of etyma for synanthropic or commensal species) it can be suggested that Proto-Kri-Mol peoples were hunter-gatherers inhabiting the hinterland forests of the Annamites in present-day north-central Laos and Vietnam, specifically in the vicinity of the provinces of Nghệ An, Hà Tĩnh, Borikhamxay, Khammouane, and Quảng Bình.

The main divisions of Kri-Mol have their greatest diversity here. The division referred to as Việt-Mường begins in the far south with Nguồn, actually a displaced dialect of Mường Cadière (1905), in the vicinity of the Mụ Giạ pass, on both sides of the Lao-Việt border. Mường proper begins in northern Nghệ An and includes Thanh Hoá and Hoà-Bình with a slight spillover into Houa Phanh province in Laos.

Vietnamese is in reality Sino-Vietnamese (there is no non-Sino variety), originally a coastal creole, with huge numbers of Sinitic vocabulary, 70 percent of the lexicon according to Phan (2010), though with core vocabulary that is essentially Austroasiatic. The next most closely related subgroups are Cheut (Rục, Mày, Mã Liềng, and Sách) also in the south adjacent to Nguồn, and Toum-Phong (Liha, Phong, Toum) further to the north in Khamkeut District in Laos, Hà Tĩnh and Nghệ An in Vietnam. The remaining five subgroups, Ahoe-Ahlao, Atel-Maleng, Thémarou, Kri-Phoong, and Mlengbrou are all found on the Nakai Plateau and adjacent river basins slightly to the north. These five groups are more conservative in their phonology and retain a number of faunal terms not found elsewhere in Austroasiatic, a kind of Formosa (by analogy to Austronesian) for the Kri-Mol Branch of Austroasiatic, isolated biophysically by the Ak Escarpment rather than by the South China Sea.

The preliminary basis for the subgrouping is cognation within the zoological lexical domain. This approach is not unlike the original classification of Tai by Fang-Kuei Li (1959) that has mostly stood the test of time, especially the distinctness of the northern branch. But unlike Tai. no one has carried out a complete phonological reconstruction at the level of Proto-Kri-Mol, and when such is addressed, it almost always refers to an ambiguous Proto Việt-Mường plus Cheut and perhaps including Toum-Phong. That is, the left side or Toum- Rục sub-branch of Kri-Mol on the phylogenetic tree. And it should be emphasized that although our classification here is based upon the faunal lexicon it does seem at first glance to support a comparative phonological approach as well. But until more analyses are available, it is argued that because faunal lexicon is something very close to human life and livelihood in and around forests, it is thus of great comparative value, at the pinnacle of a hierarchy of semantic domains if you will. So for the time being it is convenient to assume the validity of this schema.[4]

[4] The faunal corpus used here contains 173 species (38 mammals, 42 arthropods, 65 birds, 18 herptiles, and 10 domestic animals). This is only the tip of the iceberg, so to speak, and much additonal fieldwork remains to be carried out.



Revised Vieto-Katuic and Kri-Mol Phylogenetic Tree

With respect to the point regarding hierarchies of semantic fields, it has been shown elsewhere[5] that animals outrank plants in the biotic realm, and this seems to be common in other languages as well. In Rorschak tests carried out by Huzioka (1962) in northern Thailand some 60.5 percent of the responses identified the abstract shapes as animals or animal body parts, compared to 11.6 percent for plants. The remainder were associated with humans or religious objects. It was also found (in Tai languages and in English) that whereas many dozens of plants are named after animals, almost no animals are named after plants except in the most unusual or artificial scientific contexts, and even these are few.

[5] Chamberlain 1977.

Examples of main divisions in faunal lexicon

The tables below illustrate the basis for divisions between the various subgroups. Most of this data was recorded by the author between 1995 and 1997.[1] The Mường forms are from Nguyễn Văn Tài's dialect study (2004); the Rục data from the work of Nguyến Văn Lợi (1993).

To begin with, it should be pointed out that some forms have good cognates throughout the branch and can be reconstructed in Proto-Austriasiatic. These include:

	Mol-Toum			**Nrong-Theun**		
	Việt-Mường	**Toum-Ruc**	**Cheut**	**Ahoe-Ahlao**	**Atel-Maleng**	**Kri-Phoong**
osprey	tráng	klaʔaŋ	-	kala:ŋ	ka:lạ:ŋ	kălạ:ŋ
dove	bồ câu (V)	kow kow	bɔ̀ kău R	păku: (Ahhoe)	păco:	tăko:
bear	gấu	kạw	căkụ:	căku:	săkụ:	căku:
dhole	sói	klɔl	klon	kălạ:l	ʔalɔər	kla:r, klɔr
python	klan[2] , tlan[2]	klɤn	lyɤnʔ	tălɛn	tălʌn	klan

*Unless otherwise indicated, the sample languages are: Việt-Mường (Mường), Toum-Ruc (Toum), Ahoe-Ahlao (Ahao), Atel-Maleng (Atel), Kri-Phong (Kri). Cheut has been included for comparative purposes, to demonstrate its place within Toum-Ruc, despite it location being very far to the south.[2]

For example:[3]

Osprey **PMK *k(a)laaŋ**
Bear **PMK *cg__w 'bear – both species'**
Dhole **AA * klɔ:rʔ**

Elsewhere the Mol-Toum subgroup possesses many etyma well-attested in Proto-AA, but the Nrong-Theun subgroups have other forms, some not found elsewhere in AA.

[1] Because of time limitations during the collection period, phonologies of the various languages have not been properly analyzed and thus a degree of impressionism remains until analysis of the tapes is completed.

[2] Abbreviations: Ahoe=Ahoe, Ah=Ahao, Ahl=Ahlao, Cheut=Ch, Kr=Kri, Lh=Liha, Ml=Maleng, Mlengbrou=Mb,Mường,P=Phoong, Ph=Phong (Khamkeut), Rục=Ruc, T=Toum, TE=To-e (Pakatan), Thémarou=Thé, Việt=Vietnamese.

[3] Reconstructions are from Gérard Diffloth. 1980. *Etymological Dictionary of Mon-Khmer*: Part I Fauna. (unpublished ms.); and personal communication.

	Mol-Toum			Nrong-Theun		
	Việt-Mường	**Toum-Ruc**	**Cheut**	**Ahoe-Ahlao**	**Atel-Maleng**	**Kri-Phoong**
snake	saɲ	siʔŋ	pɤsiɲʔ	luk	kope: kobɯat Té	ʃăja:r
bird	cim	tuu ci:m	ncim	ʔacɑ:ŋ (Ah) ʔcɔy (Ahl)	ʔɔuʔ	ʔooʔ
elephant	βɔj ~ vɔj	vɔ:j	ʔaceaŋ	ʔo:ŋ (Ah)	ʔjɯ:ʔ	jɤ:
porcupine *H.*	ɲim	kăɲi:m (Ph)	kăɲɯŋ	jɟ:	g^{y}i:	keɲ
rat	chuət	nɛ̰:ʔ	kunê[1]	ʔe:k	ʔe:k	lɤk
muntjac	mang (V)	cɔ:ŋ	tuba:ŋ	ʔakʌ:j (Ah)	thrɛ̰w	pojh
grasshopper	co co	bok ba:j	coɥʔ	ɲɤh (Ahoe)	ɲɔiʃ	ɲɔjh

For example:

Snake **PMK *k-m-saɲ**
Bird **PMK *(k-)ceem**
Elephant **PMK *kyaaŋ, AA * kəcya:ŋʔ**
Rat **PMK *kn(iə)ʔ**

In a number of instances, cognates exist in all of the subgroups except Việt-Mường, as in the following:

	Mol-Toum			Nrong-Theun		
	Việt-Mường	**Toum-Ruc**	**Cheut**	**Ahoe-Ahlao**	**Atel-Maleng**	**Kri-Phoong**
tick	đánh dấu (V)	pɛɛt	-	kăpɛ̰:t	kăpɛɛt	kăpɛɛt
centipede	thet[3], set[3]	lip si:p	kasip[3] R	kăʃi:p	kăʃi:p	kăʃi:p
frog	ek[3,5] , ec[3]	kaut	kuɔt	ku:t	kuat	kɔt
gaur	bò tót	ŋu:l	(ciəluu)	ʃăŋu:l	ʃăŋo:r	ʃaŋaor
serow[9]	dương (V)	kɛ̰:ʔ Lh	keh	kaɛh	kɛh	kɛh

On the Nrong-Theun side of the tree, differences in faunal lexicon mark the division between the Ahlao-Atel and Kri-Phoong sub-groups, as illustrated in the examples shown here.

[9] The only Mường form recorded is from Houa Phanh /kɛɛk/. Nathan Badenoch p.c. This indicates that Vietnamese borrowed directly from Tai, not from a Mường intermediary. Another instance of this is 'hog badger', Vietnamese lửng (<Tai) , Mường /poŋ[55] lawʔ[31]/ (Houa Phanh).

	Nrong-Theun					
	Ahoe-Ahlao				Kri-Phoong	
	Ahoe-Ahlao		Atel-Maleng			
	Ahoe	**Ahao**	**Atel**	**Maleng**	**Kri**	**Phoong**
porcupine *H.*	jɨ̤	jɨ̤	jɨ̤ː	gʸiː	keɽ̥	keer
porcupine *A.*	ntel	ɲɛːk	ɲɛ̰ːk	ɲɛ̰ːk	coːkɤtʰ	skɯt
ferret badger	laː ʃuay	-	ʔaːʃuay TE	ʔaːʃo̰ːy Thé	kaʃaŋ suːm	tăsṵm
water lizard	kăyɑːŋ	kăyɑːŋ	kăyaoŋ	kăyɑŋ	tăko̰ːyʔ	tăkoːy
physignathus gibbon	kajɑk	joːk	jɑukʰ	jo̰ːk	kwaŋ	kwaŋ
fruit bat	-	-	spʌtʰ	săpat Thé	yayɛŋ	yuŋ yɛ̰l Mb
rat	-	-	ʔeːk	ʔeːk	lɤk	lɤk
rufous-neck hornbill	-	-	ʃtɤk	stɤk	căbɔ	căboːʔ Mb
crab	-	-	kăpɛː	kăpɨ̰ː	kătaːm	kătaːm

These represent the main divisions. In keeping with the spirit of the working papers series, I hope this proposal will at the very least stimulate debate and provide the basis for additional dialogue on the linguistic reconstruction of this very important and crucial branch of Austroasiatic. If nothing else, a frame now exists into which additional data from the field may be fitted, or compared.

PART ONE – TO BEGIN WITH …

Whence Vietnamese

The Vietnamese language can be regarded as a creole that evolved from the interaction of Chinese with Kri-Molic people(s). As Phan (2010) notes, this would have taken place in the context of commanderies established by Chinese colonists. We do need to be more specific as to the locations and the nature of the relationships that could have existed beginning in the Han dynasty (206 BC–220 AD). Given the origins of Kri-Mol far south of the commandery of Jiaozhi (=Giao Chỉ) in the delta of the Red River, populated locally by Klao, Li, and Tai, it is plausible to suggest that the creolization took place first in the southern settlements, namely:

Jiuzhen	= Cửu Chân	(Mã River)	[Thanh Hoá]
Huai Huan	= Hoài Hoan	(Cả River)	[Nghệ An]
Jiude	= Cửu Đức	(Cửa Sót River)	[Hà Tĩnh]
Jihnan	= Nhật Nam	(Gianh River)	[Quảng Bình]

The Kri-Mol languages on the eastern side of the Cordillera belong to the Mol-Toum sub-group, that is, Viet-Muang and Toum-Ruc, and we may postulate that the ancestors of these peoples interacted first with the colonists. We might also suggest that given a south to north movement, the southernmost dialects were the source of the earliest creoles that eventually became Vietnamese. It is quite clear from the lexical evidence that these subgroups are closer to Viet-Muong than either Atel-Ahlao or Kri-Phoong.

As to the nature of the relationships between the colonists and the local Kri-Mol people, there are a number of relevant factors, most of which are not clearly understood. It can be hypothesized that the interactions were largely asymmetrical, as relationships between authoritarian states and forest people are today. But a certain level of symbiosis would have existed since colonists would have need of labor sources, both skilled and unskilled. At the same time we read from the histories of colonial ethnocentrism and concern with "civilizing the natives." It also must have been the case that the Chinese themselves were not a linguistically homogenous group, as the locations of the commanderies were some distance from one another, and over long perions of time – perhaps a thousand years prior to the establishing of Đại Cồ Việt – would have developed more or less separate creoles of Chinese and Kri-Mol in each spot. Influxes of immigrants would have continued to arrive at different periods bringing with them new words and associations. On the Kri-Mol side, given the diversity of cultural types in the Vieto-Katuic branch today, there is no reason to doubt that a similar range existed during the period of colonization. Even today, the Vietnamese dialects spoken in the Central region are highly diverse and dictinct from the more homogenous varieties of Hanoi or Saigon, an indication that Central and North Central regions were points of origin.

That Kri-Mol and the Chinese lived in separate universes, however, goes without saying, and needs to be taken into account in any description of the creolization process and how it came to pass.

Essences of the Kri-Mol Universe: The Liha Myth of the Dhole and the Crow
Most people died, but there was one old man who had lived 300 years and still had not died. So they [the ones who died] went up to the Mphloey [the chief heavenly spirit] and complained that they were always dying whereas there was an old man who had lived 300 years and was still alive.

So he [the Mphloey] sent three children down to inquire after the old man. They went and found him fishing.

"Hey, old man, have you ever seen stones float upwards ?"

"Ohhhh..., you youngsters, I am more than 100 years old and still haven't seen this."

"Are you the one who is 300 years old?"

"Yes, that's me."

"Then, come with us."

"I must take my dog and chicken home first."

"[No] we go now."
"What will my dog and chicken do?"

"Then you tell us what to do."

"Alright then, no one must destroy my dog and chicken. Whoever shoots and hits [the dog and chicken] will get impetigo; whoever shoots and misses will have their flesh rot.

Do not shoot them, do not hit them. Let them go."

"Then now you come with us."

So they took him away. He did not return home. For this reason the dhole and the crow cannot be killed or eaten.

The old man's admonition is given in the form of a rhyme using the Phou Thay language: / *ɲiŋ thɯɯk lɛɛw pen hit , ɲiŋ phit lɛɛw pen pɯay* /. In an earlier recitation by the same informant, the leg was specified:

if you shoot, shoot the leg,
if you hit, may you get impetigo,
if you miss, may your flesh rot.

* For interpretation of this myth see the Appendix.

CHAPTER 1 - THE TERRITORY AND ITS INHABITANTS

People

Vieto-Katuic is the name proposed by Gérard Diffloth (1991) to denote the higher order relationship between the two branches of Austroasiatic, Katuic and Kri-Mol (Vietic). The Katuic branch includes languages spoken in Khammouane, Savannakhet. Saravanh, Champasak, northeastern Thailand, central Vietnam, and northern and eastern Cambodia. Kri-Mol speakers are found in Borikhamxay and Khammouane in Laos, and (excluding for the moment Mường and Vietnamese) Nghệ An, Hà Tinh and Quảng Bình in Vietnam.

Whereas the Annamite Cordillera serves as a watershed divide, it has not been a barrier to human movement. Kri-Mol peoples, the earliest inhabitants of the Nam Theun basin so far as has been detectable, are found on both sides of the chain. Their considerable diversity as measured by language, attests to the age of their habitation. The location strongly suggests that this was the homeland of proto-Kri-Mol. From here, Kri-Mol peoples moved northward into the present-day provinces of Nghệ An and Thanh-Hoá, the ancestors of Mường who form a more homogenous group all the way to Hòa Bình and adjacent areas (see map below) . The Mường have been well-described by Cuisinier (1948), but their closest relative, the Nguồn are found far to the south in Boualapha District and adjacent Quảng Bình near the corridor that links Nakai-Nam Theun and Hin Nam No National Protected Areas. According to Cadière the Nguồn are descendants of Mường soldiers sent from Thanh Hoá in the 17th century to quell local unrest in Quảng Bình, perhaps among ancestors of the Sách.

An interesting aspect of the Kri-Mol branch is its cultural typology (cf. Chamberlain 2003), ranging from the nation-state of Vietnam with its urbanization and wet rice paddy cultivation, to rural paddy cultivation, to swidden farming, emergent swiddening, and two technologically distinct types of hunter-gatherering that can be loosely defined as primarily hunting (Chứt – with crossbows) and primarily gatherering (without crossbows). There are probably no other single branches of any language family in Asia that contain this level of cultural diversity. It represents a unique microcosm of Southeast Asia from the distant past to the present, but one whose value has gone largely unnoticed and unappreciated by developers and anthropologists alike.

The fugure and maps below illustrate the spatial distribution of the various Kri-Mol groups cited in the Prologue, noting especially the importance of river valleys, with a correlation of hunter-gatherers with the upper portions of rivers.

	NORTH	NAKAI-NAM THEUN RIVER SYSTEM								SOUTH
	Khamkeut	SOT - MONE		THEUN		NOY - PHEO		ONE		Boualapha
		upper	lower	upper	lower	upper	lower	upper	lower	
Ethnicity	Ahoe Ahao Ahlao Liha Toum Phong Pakatan	Atop Atel Makang	Arao Malang Maleng To'e	Thémarou	(Maleng) (=> Bo)	Kri	Phòòng?	Mlengbrou	Phòòng?	Cheut
Cultural Type	IV	I	II	I	II	III	II	I	II	I
Forest Type	Dry ever-green/semi evergreen/ wet evergreen	Wet evergreen	Dry ever-green/semi evergreen	Wet evergreen	Dry ever-green/semi ever-green	Wet evergreen	Dry evergreen/semi evergreen	Dry evergreen/ semi evergreen/ wet evergreen	Dry evergreen/semi evergreen	Wet evergreen
Closest Contacts	Nghệ An, Na Pè, M. Cham	Arao	Khamkeut, Nakai Plateau	Kri, Maleng	Nakai Plateau	Viet-nam, lower Noy	Nakai Plateau	Phóng, Yooy	Nakai Plateau	Vietnam

Cultural Types: I – Hunter-Gatherer, II – Emergent Swidden, III – Swidden (rotating villages), IV – Paddy & Swidden

Geographical and Ecological Setting of Kri-Mol Peoples in Nakai and adjacent area (Source: Chamberlain 2003)[10]

[10] Thanks to Bill Robichaud for providing the correct forest type designations.

The **Katuic Branch** is considered by Diffloth (1991) to consist of two main subgroups: Eastern and Western. Eastern Katuic includes Katu, Pacoh, Chatong, and Ngkriang, while Western Katuic includes the various types of Brou, Makong, Puah, Chary, Tri, Charouy, Thro (So) as well as the Kuay (Souay) and Yoe languages of southern Laos, Cambodia and Thailand. A possible Central group would contain Ta Oy, Ong, Katang, and Yiir, but this is sometimes included together with the Eastern group.

In the area genrally the Brou groups are mainly Puah and Charouy. On the plateau they are mainly Charouy. These are not mutually intelligible without prior exposure. The names can be misleading as both are sometimes referred to as types of Makong or So. Linguistically, however, the distinctions are well-defined, for example the word for rice which is /dɒ̱oy/ in Puah and /vaʔ/ in Charouy.

Historically, Brou settlement of the plateau was more recent, post-1860, as the language is entirely homogenous, by comparison to the Kri-Mol peoples whose languages vary significantly by river valley, to a degree where they are largely unintelligible across basins. Probably Brou settlers arrived from the south, from Boualapha, Gnommarath and Mahaxay districts of Khammouane, though some say they resided at Vil Amang on the eastern side of the mountain chain opposite Ban Kounè on the upper Nam Pheo. It seems likely that the majority arrived subsequent to the Siamese depopulation raids that began some time after 1826 because the Brou who were transported to Thailand, where they are called So (/throo/) originated in areas other than Nakai. Many came from Boualapha, for example. But other groups who are long residents of Nakai, such as Sek (/thrɛɛk/) from the upper Nam Noy, were captured and sent to Thailand where they can still be found today in Nakhon Phanom Province. Sek from Na Kadok who fled to avoid the Siamese established the village of Na Vang in the protected area, but once abandoned it was taken over by Brou.

There are no records of early habitation of Kri-Mol or Vieto-Katuic, at least ones that can be positively identified. Where they survive, hunter-gatherers on the mainland speak Austroasiatic languages; Aslian (Samang) in southern Thailand and Malaysia, Pramic (Mlabri) in northern Thailand and Laos, and Kri-Mol as described herein. Higham (2013:36) mentions an archeological site on the coast at Bau Tro just across the annamite chain from Nakai. It was a population of hunter-gatherers dated at 2500-2000 BC, and geographically closest to the present-day location of the Kri-Mol group Sách (the same ethnonym as the Tai speaking Sek (cf Chamberlain 1998) who came from a nearby location and who now inhabit the upper reaches of the Nam Noy and Nam Pheo tributaries). There is really no good estimate of time-depth for a hypothetical Proto Vieto-Katuic, though the prehistoric presence of hunter-gatherers in the same location is perhaps indicative. Unfortunately bamboo-based cultures such as the hunter-gatherers of Nakai leave few traces for archeologists to pursue.

That humans were present from early times is attested not far away, in the Nam Kata basin some 12 kilometers southeast of Lak Xao, where a human burial was excavated in a cave at Pha Phen, revealing a complete skeleton radiocarbon dated 6190 BP (Sayavongkhamdy and Souksavatdy 2008). These would most likely be classified as Hoabinhian which DNA studies now inform us were most closely related to the Nigritos of the Andaman Islands (McColl et. al. 2018).

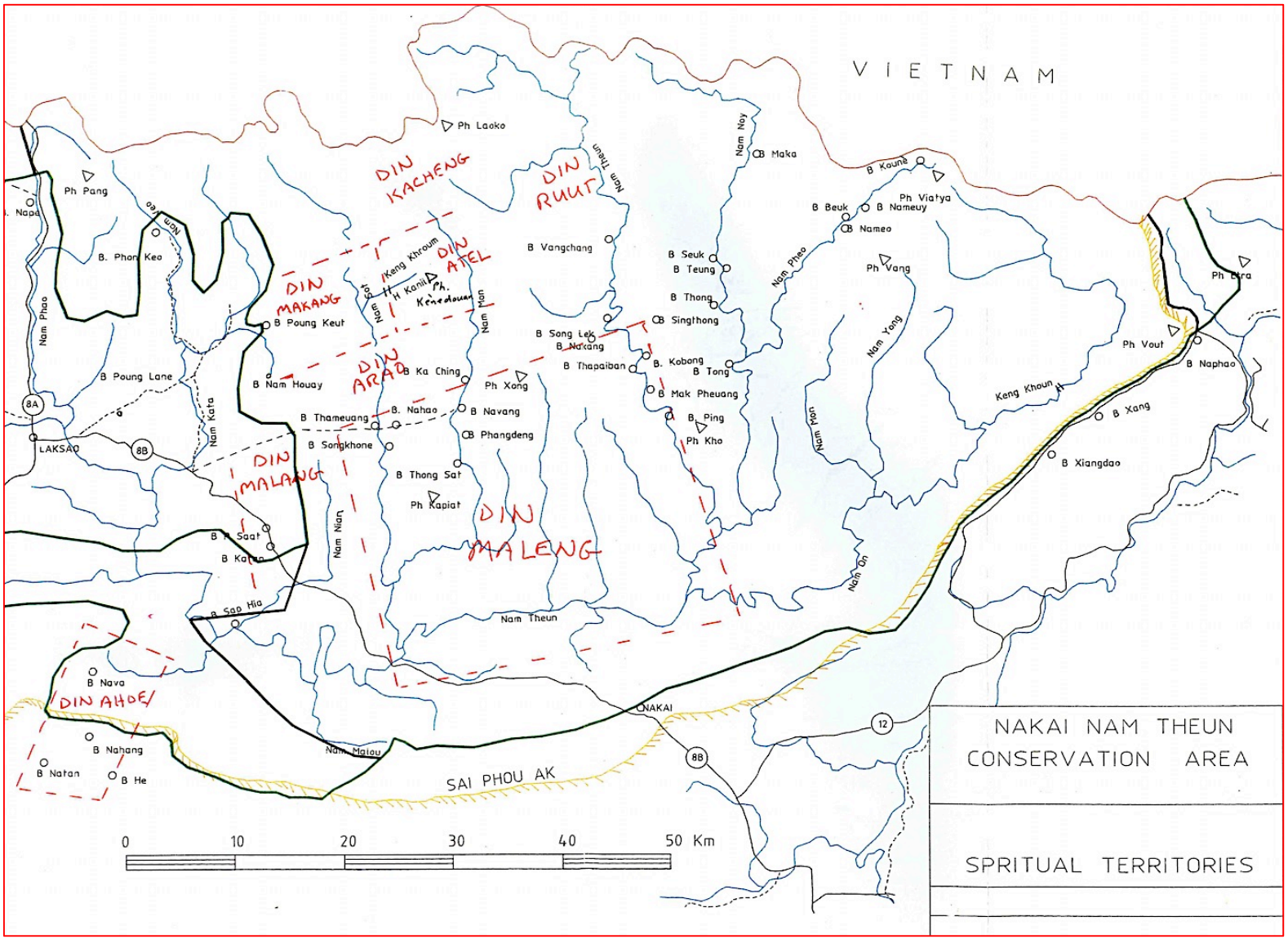


Figure 1 Partial Map of Nrong-Theun Spiritual Territories (from Chamberlain 1997)

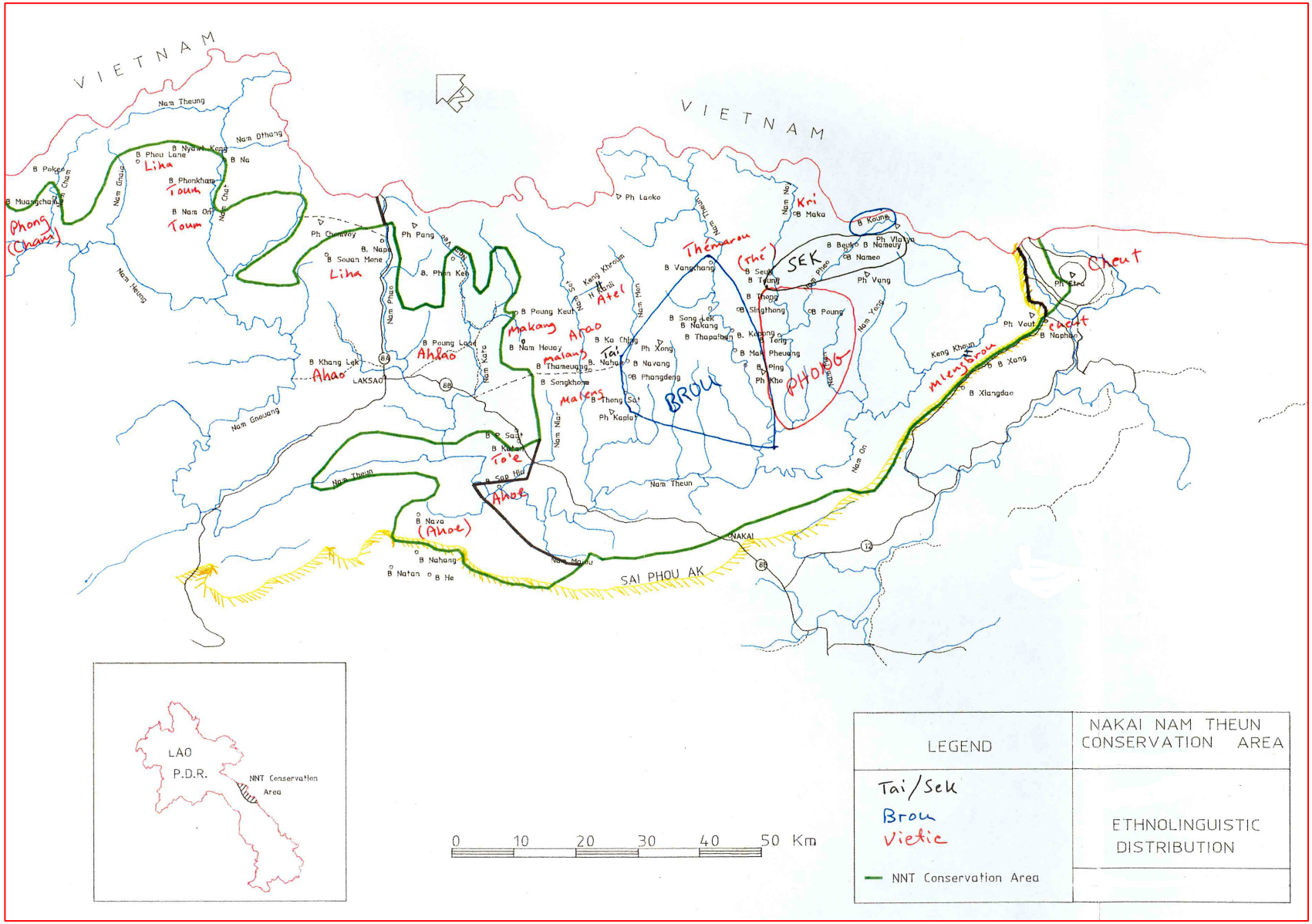
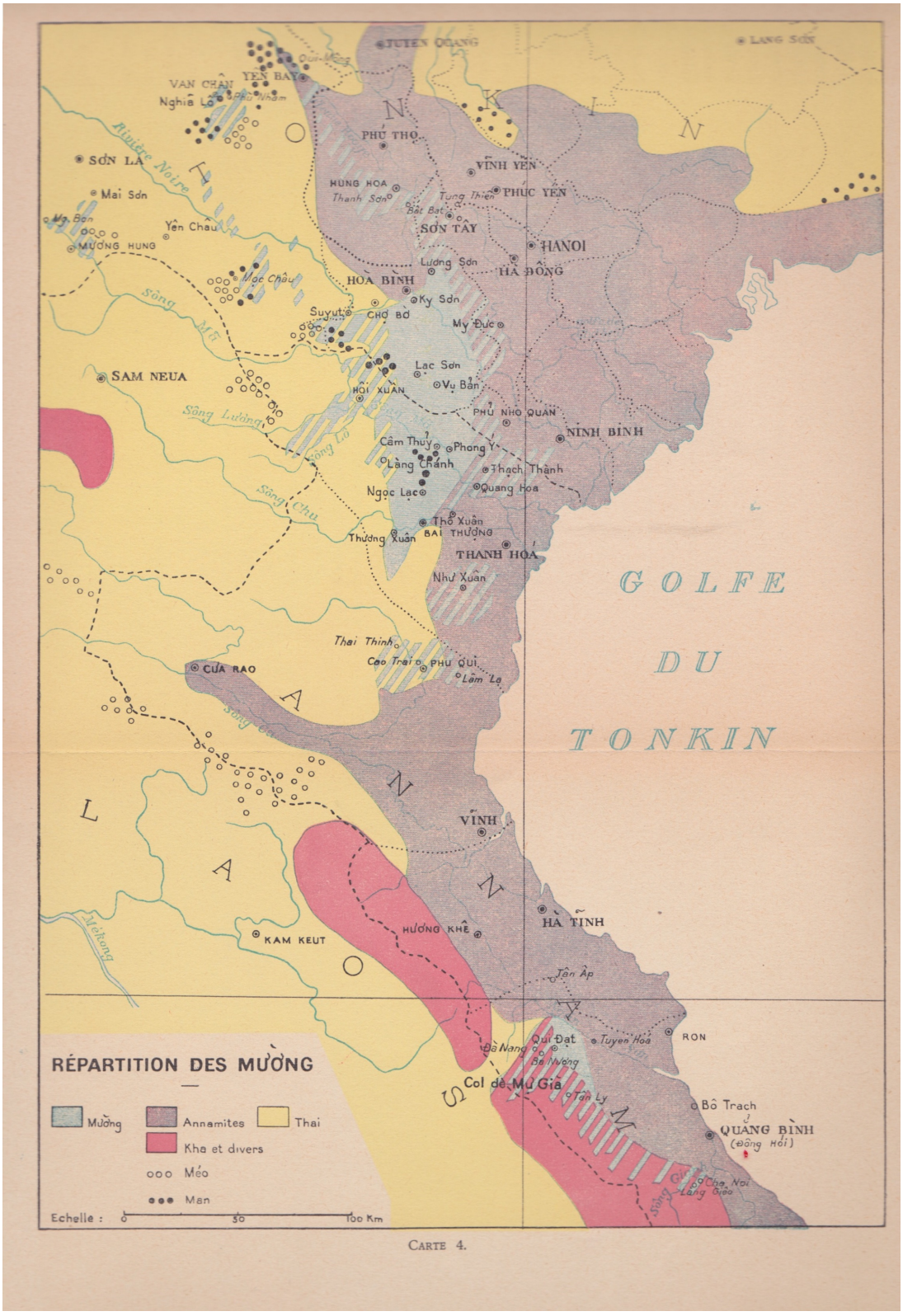


Figure 2 Map of Kri-Mol groups in Laos (from Chamberlain 1997)



CARTE 4.

Figure 3 Map of Mường Language Distribution by Cuisinier 1948

Flora and Fauna

Zoogeographically, the Kri-Mol languages are found within the Oriental Region originally delineated by Alfred Russel Wallace. It extends to India and Pakistan in the west, and in the southeast to the Wallace Line (so named by T.H. Huxley who modified the line to exclude most of the Philippines except Palawan); that is, it includes Java, Bali, and Borneo, but not the Celebes, the Lesser Sundas, and Timor. These latter together with the Philippines comprise the domain of *Wallacea*, those islands that fall betweem the Sunda and Sahul continental shelves and whose fauna represent a mixture of Oriental and Australasian regions (Udvardy 1969). The northern boundary of the Oriental Region with the Palearctic is not so easily defined. MacKinnon suggests that it runs from the Hindu Kush, contains Yunnan and Sichuan, and extends eastward to Formosa. For simplicity though, we consider the Yangtze River to be the northern limit.

Floral regions, for example those mapped by Good (1964), do not completely match the zoogeographic ones, and thus the Sino-Japanese regions dips south of the Tropic of Cancer into northern Laos and Vietnam before heading northeast to Japan, the Ryukyus, Formosa, and Hainan. However, all belong to the region of contnental Southeast Asia. Further south, the Malaysian Region encompasses the Philippines, New Guinea, and most of Indonesia and Malaysia.

Oriental faunistic maping further distinguishes three sub-regions: the Indian with links to the Ethiopian region of Africa, the Indochinese with links to the Palearctic, and the Indo-Malaysian (or Malayo-Indonesian) which has evolved indigenous fauna in a rain forest habitat relatively stable since the Pliocene (MacKinnon 1970, Gressit 1970, Udvardy 1969). The Indochinese sub-region includes Assam, Burma, Southern China, Thailand (not including the south), Laos, Vietnam, Cambodia, the Ryukyu Islands, Taiwan, and Hainan (Gressit 1970). All of the Kri-Mol languages are found withinin this sub-region.

Previous studies carried out by the author on mammals, reptiles and amphibians found two additional constraints on distribution. The first is coastal versus interior, and the second is north-south relative to the Tropic of Cancer. For example, there is a paucity of squirrel species and genera along the coast compared to greater diversity inland, whereas the highly conspicuous salt-water crocodile and the large sea turtles are (were) confined to the coastal areas. The Varanidae (monitor lizards), and many mammal species are found only south of the Tropic. In cases such as these, the linguistic forms used by local speakers to refer to these organisms, when viewed in a comparative frame, become good indicators of historical movements and length of habitation.

As will be seen in the next chapter, local nomentature does not always correspond to the scientific one. Determining what distinctions are significant is the task of the researcher, and is often an etic-emic matter, that is, where to draw the semantic lines between taxa. Taboos often need to be taken into account The following groups seem relevant, so far, in terms of primary lexemes.

Common animals in the Kri-Mol realm:

1. Mammals (43)
    a. Elephant
    b. Rhinos
        i. Javan
        ii. Sumatran
    c. Cervids
        i. sambar
        ii. muntjacs
        iii. mouse deer
    d. Bovidae
        i. Gaur
        ii. Saola
    e. Wild Pig
        i. Common
        ii. Yellow
    f. Serow
    g. Porcupines
        i. Hystrix
        ii. Artherurus
    h. Dhole
    i. Bears
        i. Tibetan
        ii. Malaysian
    j. Tiger (large felids)
    k. Viverrids
        i. Civets
        ii. Binturong
        iii. Marten
    l. Badgers
        i. Hog Badger
        ii. Ferret Badger
    m. Otter (s)
        i. common
        ii. small clawed
    n. Bats
        i. Microchioptera
        ii. fruit bats
    o. Squirrels
        i. Giant
        ii. Common
        iii. small (1)
        iv. small (2)
        v. flying
        vi. large flying
    p. Shrews
        i. tree shrew
            1. common
            2. small
    q. Bamboo Rat
        i. large
        ii. small
    r. Apes
        i. Macaques
        ii. Langurs
            1. red shanked
            2. François'
        iii. Lorrises
        iv. Gibbons
            1. Lar
            2. White-Cheeked
    s. Pangolin
2. Birds (21)
3. Reptiles/Amphibians (17)
4. Arthropods (28)
5. Domestic Animals (10)

Of course, the zoological domains differ considerably among themselves. All classes of the phylum Arthropoda are found on every continent in the world, and though individual genera and species differ considerably, the level of differentiation in languages tends to be at the level of orders and families. Birds are frequently migratory, and thus cross huge geographical spans even though nesting areas may be quite localized. Fish on the other hand, confined to an aquatic environment, usually don't cross mountains, but may travel far upstream seasonally to spawn and finding reliable cognates can often be problematical.

Generally speaking, the categories that emerge here are useful, and correspond with what one can see from other branches of Auatroasiatic. Some of the zoological phyla are incomplete in my data, notably gastropod and bivalve mulluscs, annelids and many insects.

CHAPTER 2 – KRI-MOL ETHNOBIOLOGY IN HISTORICAL PERSPECTIVE

Introduction

Generally accepted nowadays is the notion that the analysis of ecological systems is not complete without the inclusion of indigenous human perceptions of nature and the symbolic forms by use of which societies understand, investigate, and manipulate their environment. When taken as a whole, these comprise epistemologies, cosmologic structures or views of the world. Through this cosmologic filter, the natural world is classified and behavior towards the environment is directed. The requisite fabric of this filter is language. And the symbolic representation of the environment becomes, to use the common phrase, a "second nature" that is encoded in language. To make explicit the relationship between what is represented and the representation is the first priority in ethnoscientific research.

Humans are by far the most ecologically versatile of all the animals, not because they are superior physically, but because of their ability to manipulate symbols and symbolic systems which define and control interactions with the environment. Agricultural and forest-dwelling societies in Southeast Asia have effectively "managed" their fragile ecosystems for several millennia, but the ways in which human epistemologies and worldviews are structured so as to have achieved this level of existence over such a long period remain largely unintelligible and poorly understood.

Ethnobiology

In the broader view then, biologically diverse ecological systems are comprised not only of exchanges of energy, but also of exchanges of information.[11] Ecosystems in which humans function include symbolic linguistic representations of the system which define, control, and delimit the thinking and behavior of humans within their environment. These linguistic representations are systemically structured and might be thought of as ***biologies*** (in the sense of a subset of epistemology) which differ in predictable ways from language to language and between ethnolinguistic groupings. In fact, we might venture that the codes of language are analogous to the genetic codes of biology, that is, genetic code is to environment as language is to culture; at some point these two systems must communicate.

In the approach taken here, the formal representation of ***a biology*** is a concept that is equivalent neither to ethnobiology nor to folk biological systematics, although it subsumes both of these ideas. Ethnobiological studies tend to emphasize only utilitarian aspects of vegetal and zoological environments and are weak in classificatory as well as comparative and historical dimensions which underlie meaning. Folk systematics, which frequently is seen as a branch of cognitive anthropology, typically focuses too narrowly on taxonomy, omitting reference to interacting myth and ritual, historical, aesthetic, and economic aspects of classification.

[11] This way of framing the relation between energy and information is a compromise to the prevailing discourse based upon a mistaken concept of information and energy. The realm of biology is the realm of semiosis, the misunderstanding of information is a misunderstanding of semiosis.

In order to be of practical value studies must have interdisciplinary flexibility and focus on the interaction of culture and environment, especially those aspects of culture which symbolically represent nature and therefore affect or control environmental conditions. The goal is to describe the biological system as it is represented in the language and culture of a given village or ethnic group. This representation can be seen as comprising three types of information: (I) taxonomic or categorical representation; (II) representations of ethnographic interactions; and (III) eco-systemic or unconscious roles played by (I) and (II) in the natural system.

I Information characterized by linguistic phonemic, morphologic, semantic, and pragmatic description, and logical hierarchical classification. It may include the apparent anomalies found in all cultures where some species or genera do not belong to their obvious group, such as eagles not classed as birds, pythons not classed as snakes, or the above example of turtles classed as fish. Comparative and historical information would also be included here.

II Information that provides explanations of the anomalies described in Type I, and notes the mythological and religious, aesthetic, societal, and economic roles of the various organisms in the taxonomic inventory.

III Information that describes perceived functions of (I) and (II) in the larger system or their probable effects. It may be unconscious and include observations of a higher order as edibility variance, or, it might also address underlying premises about the relationship between man and nature, for example, "nature is plentiful" versus "nature is stingy." Change and causes of change over time or geographical area also belong to this type.

IV Ideally, for theoretical purposes, there should be a fourth type which would describe the process whereby ecological information is conveyed to human belief systems. This type of information may be similar to that which leads to sematicity or mimicry in biological evolution, but even here the problems have not been resolved, and for the time being this line of inquiry can be only partially addressed.

Folk Biological Systematics

The study of folk biological systematics, whether it is viewed as ethnoscience, ethnolinguistics, cognitive science, or folklore, may consist of three branches: the nomenclature, classification, and identification of living organisms (Berlin 1973). If the analogy to scientific biology were carried one step further, it would also include ways in which humans study their environment, ecological balances, sounds, patterns, or behavior that result in cosmological assumptions. Folk taxonomies and biological cosmologies operate within the parameters of organism-in-environment as well as within organism-as-system, which is to say, where interactions of culture and environment are concerned, discursive fabrications of the human symbolic systems themselves function as organisms in the overall ecology.

A proposal for the description of folk biological taxonomies has been developed by Berlin (1972, 1973) and associates (1973) in which five hierarchically organized levels of classification are recognized as basic:

(1) Unique Beginner or Kingdom (**UB**)

(2) Life Form (**LF**)

(3) Generic (**G**)

(4) Specific (**S**)

(5) Varietal (**V**)

The taxa on one level are not necessarily directly dominated by taxa on the next highest level and not all levels must be present in every language. Thus, a given taxon might consist of structures like: **UB** + **LF** + **G**; **UB** + **G**; or **LF** + **S**.

LF and **G** taxa are composed of primary names, names that are monosemic in the lexicon. **S** and **V** taxa, on the other hand, are secondary names, words with more general descriptive meanings (Berlin 1973). In English, *red maple* consists of the Generic taxon *maple* and the Specific term *red*. The Life-form *tree* is optional, and Unique Beginner *plant* is understood.

Occasionally, two Generic taxa are combined to produce a single taxon, for example English *skunk cabbage*. Berlin (1972) notes that for plant names at least, the modifier is frequently an animal name.

Diachronically speaking, some generalizations can be made concerning the direction of semantic changes. The common categorical change is of the type **G** > **LF**, or **LF** becomes **UB**. In some cases the two may become polysemous. The word for tree may become the word for plant (as seem to be the case in Tai where **ton C2* may be either 'plant' or 'tree'), or the term for a kind of tree such as *oak* or *cottonwood* (cf. Berlin 1972) may become the **LF** taxa for 'tree' as they have in several American Indian languages. But while this phenomenon is well attested for botanical names, it is less common in the zoological domain.

Berlin suggests that Generic taxa are fundamental to taxonomies followed chronologically by the addition of **LF** or **S** and **V** and ultimately **UB** in that order. According to him, a language must have acquired both **LF** and **S** taxa before **V** may be added. Although it is assumed by the folk biological taxonomists that the acquisition of taxonomic levels is a by-product of general cultural evloution there is much that has yet to be demonstrated. **S** level taxa are considerably less stable than **LF** taxa, and it is expected that this situation obtains for most language families.[12]

[12] Brown (1984) has examined the Life-form level in some detail, arguing for universal marking conventions whereby **Bird**, **Fish**, and **Snake** are unmarked and **Mammal** and **Wug** marked. Chamberlain (1992) argues against this proposal on the grounds that the "universal Generic core" should be the unmarked category, with **Bird**, **Fish**, and **Snake** as marked, and **Mammal** and **Wug** as the most highly marked. Thus it is assumed here that linguistic evidence is primary and that the marking of taxonomic categories is most efficiently explained by a principle of anthroproximity.

Life Form Development (Bird, Fish, Snake) in Kri-Mol

I – FISH All subgroups ***kaa**, except Mlengbrou which has no LF taxon for fish.

But Mlengbrou has words for kinds of fish, eg. kloɔh 'snakehead', ciəkaɲ 'catfish', kəən '*paa kuan*'. ʃaloo‍ʔ '*paa suut*' , klɔr '*paa dɛɛŋ*'.

II – BIRD **PMK *(k-) ceem** (Việt-Mường, Toum-Phong, Cheut) + Ahoe

Ah: **ʔacɑɑŋ** Ahl: **ʔcɔy** (Thaveung)

Thé: **ʔɔuʔ** +cogs (Atel-Maleng, Thémarou, Kri-Phoong, Mlengbrou)

III – SNAKE **PMK *k-m-saɲ (also *mar) (**Việt-Mường, Toum-Phong, Cheut)

Ahoe: **luk** + cognates (Ahoe-Ahlao)

Ml: **kopee** + cognates (Atel-Maleng)

Thé: **kobɯat** (Thémarou)

Kri: **ʃăyaar** + cognates (Kri-Phoong, Mlengbrou)

The data here suggest that LF taxa in Nrong-Theun subgroups developed independently of the AA mainstream, implying long periods of isolation. Bird and Snake are particularly noteworthy, with Snake being the obvious last one to be acquired. The cognate or contact form for Thémarou and Jiamao on Hainan (Thémarou: kobɯat, Jiamao: ɓuat[7] 'snake') indicates an early time depth for this isolation.

The Atel

The Atel are one of six groups, along with the Thémarou, Mlengbrou, Makang, Atop, and Cheut (*Chứt*) classified as 'nomadic foragers' or 'hunters-gatherers.' At least one more, Rục, is found on the Vietnamese side of the Annamites living in caves, and I believe Mày belongs here as well. In addition remnants of two other groups are to be found in Khamkeut, Phu' and Kap Kè, who lived along the Nam Gnouang and were described by Grossin (1933) as "Tong Leuang" that is, hunter-gatherers. Perhaps they belonged to the Ahoe-Ahlao subgroup who lived nearby. Today there are perhaps a hundred families remaining, but their languages have been lost.

These terms have been applied to at least two other Austroasiatic cultures on the Southeast Asian mainland, namely the Mlabri, who live along the Lao-Thai border between the provinces of Nan and Xagnaboury, and the Samang of peninsular Malaysia (Benjamin 1985). On closer examination, however, this classification may prove to be overly generalized, since for the Atel and most probably for the others, forest dependency is characterized by a broader span of relational characteristics than might normally be associated with 'hunting and gathering' in the traditional sense.

As a general pattern, these groups inhabit (or used to inhabit) the most remote areas, in their terms, such as: *Din Kanil* (upper Nam Sot)*, Atak Rout* (upper Nam Theun),and the area surrounding the *Keng Khoune* waterfall on the middle Nam One. For approximately 10 months out of the year the Atel would move through the forest, making temporary palm leaf shelters for two or three nights at a time. During the rainy season they would return to a fixed location (in the case of the Atel this was one of two possibilities) by a river. Their contacts with the outside world were limited to other Kri-Mol speakers living in nearby villages.

The Thémarou described their movements through the forest as three-year cycles. The group would travel as a whole for some distance and then small family based bands would fan out to predetermined locations where known tuber plants are found. These they would harvest in such a way that the remaining plant would produce even more roots when they would come back the next time. The bands would then rejoin and move on again before repeating the patern.

For both the Atel and the Mlengbrou, cultivated and domestic foods cannot be mixed with wild food or poison will result. This is a belief similar to that of the Mlabri, a group of forest people in Xagnaboury, whose spirits do not allow them to grow food for their own consumption, although they can hire themselves to other ethnic groups to work in fields providing they do not eat the produce themselves.

Information on these practices is extremely limited, but what little is known is worth making available for future reference and correction.

When in the forest, the band generally stayed together, and gathered and hunted foods are generally consumed immediately, without returning to the shelter. Cooking is done in bamboo tubes, or occassionally in aluminium vessels that are shared within the band. Meat, however, is roasted on open fires rather than boiled.

(1) ***natural foraging (uncooked):*** Gathering and consumption without preparation: fruits, insects eaten live, rotten wood, clay.

The following preliminary list of edible fruits were identified:[13]

Table 1 Atel Fruits

Atel	Lao	Family	Genus/Species
plɛ̰ɛ̰	maak	(LF for fruits)	
kădɑʔ	kuay paa	Musaceae	Musa
plɛ̰ɛ̰ ʔaakiiŋ	maak kɔɔ	Euphorbiaceae	Omphalea brateata ?
plɛ̰ɛ̰ ʔaakiiw	maak kuu		
plɛ̰ɛ̰ cămɛɛ	maak khaam pɔɔm	Euphorbiaceae	Phyllanthus emblica

[13] The phonemic transcription is in most cases impressionistic and will need to be revised at a later time. Several of the botanical names (where there is no Lao form available) were suggested by J.Jarvie (p.c.) in his notes from a field trip to Houay Kanil. Otherwise the scientific names are from Vidal (1959).

plɛ̰ɛ̰ cărɔɔ	maak khɔɔ	Palmae	Livistona
plɛ̰ɛ̰ cɛm cam		Rutaceae	(Citrus)
plɛ̰ɛ̰ kăɲooʔ		Rutaceae	(Citrus)
plɛ̰ɛ̰ lɤŋ yɤŋ	maak nɔɔt	Cayratia	Passiflora edulis
plɛ̰ɛ̰ măcaʔ	ton hɔɔ	Simarubaceae	Tetramyxis pellegrini ?
plɛ̰ɛ̰ măyaw	maak ŋiaw		
plɛ̰ɛ̰ muaŋ rɛŋ	maak muang paa	Anacardiaceae	Mangifera
plɛ̰ɛ̰ păkhuu /păʃuu	maak fay	Euphorbiceae	Baccaurea sapida/oxycarpa
plɛ̰ɛ̰ păroo	maak man paa		
plɛ̰ɛ̰ păʃɤɤp	maak kɔɔ	Fagaceae	Castanopsis
plɛ̰ɛ̰ praak	maak khii lek nɔɔy		
plɛ̰ɛ̰ ʃăphạy		Platanaceae	Platanus
plɛ̰ɛ̰ ʃaa rɛk	maak mɯɯ	Rutaceae	Citrus digitata
plɛ̰ɛ̰ tărɛ̰ɛ̰ŋ	maak kɔɔ	Fagaceae	Lithocarpus
plɛ̰ɛ̰ tăruul	kok pii din		
plɛ̰ɛ̰ tărụ̈ụ̈m	ŋwaa	Moraceae	Ficus
plɛ̰ɛ̰ thăruŋ	maak dɯa	Moraceae	Ficus
plɛ̰ɛ̰ vɛl	maak phɛɛn		
taalɔɔy	kuay paa	Musaceae	Musa
yoŋ	khɯa maak mouay	Gnetaceae	Gnetum

The Atel say they eat no leafy vegetables. In addition to fruits certain kinds of clay are also consumed. Live insects, especially the larvae of Hymenopterids, are eaten, as is, of course, wild honey. (Smoke from the rare cypress *Fokienia hoginsii* [Cupressaceae] / mălɛɛ / is used by the Atel to chase the bees while honey is obtained.) These are identified as follows:

Table 2 Atel Edible Hymenopterids

Atel	English
laŋ	honey
pătɔɔ	bees (general ?)
haaŋ	cliff bees
tăroon	stump bees
kolɤ̈ŋ	forest hornets (nests in trees)
ʔɑɑ̈ŋ	ground hornets (nests in ground)
keen kăsoo	red ants

(2) ***pre-hunting (pre-digestive):*** Reliance upon the labor of other animals and/or natural putrification. Dependency upon dholes as hunters and some aging (predigesting) of meat. Rotten wood dipped in honey is another example of this type, as would be the gathering of honey as well (overlapping with natural foraging stage above). Honey may

also be combined with water and galinga root to make a fermented alcoholic drink known as
/ kɯn laŋ/. Earth freshly excavated by termites is also consumed.

The meat of the dhole kill is roasted on an open fire. Meat is considered edible only up to a period of two days, that is, before maggots begin to appear.

(3) ***hunting (cooking):*** (1) dholes provide the example of chasing hog badgers with domestic dogs and sharpened bamboo spears; (2) fish poisoning and bark cloth; (3) foraging for tubers; (4) cooking (meat and vegetal food cannot be cooked together).

The only domestic animals kept by the Atel are dogs. Dogs are a part of the family units and bands, and like the dhole, an integral part of the hunting process. In fact, from the viewpoint of cultural analysis, it is useful to view Atel hunting behavior as an imitation of nature, that is, an imitation of dhole hunting behavior, the canine architype upon which the Atel depend most consistently.

The Atel do not use crossbows. Their only hunting weapons are sharpened bamboo spears called /bɑɑl/ used for hunting hog badgers. With the aid of the dogs, the Atel chase the hog badger into its burrow and dig out the animal which is then killed with the spears. Hog badger flesh is said by other groups to be very strong smelling, but good for the health. It is eaten by some groups, such as the Phoong, with much the same attitude as strong smelling cheese is eaten in the West, with a mixture of revulsion and compulsion. It is also said to produce a strong body odor. (The Phoong do not actively hunt hog badgers, but when they are discovered along stream bed alluvia following the wet season with their heads in the mud searching for worms, they may be easily clubbed.)

Fishing, at least in its essence for the Atel, became intimately linked to bark cloth preparation. The outer bark of *Antiaris toxicaria* [Moraceae] (/tănaoŋ/) was until recently used by the Atel (and in fact all of the Kri-Mol peoples of Annamites) for clothing. After having been cut from the tree in sheets, the bark is soaked in water and pounded. This is done repeatedly until the cloth attains the desired texture. It may then be sewn into clothing using the /ʔatoŋ kăʃɛɛ/ vine as thread. (This is the same vine used in the *mat mii* (tying and dying) Lao silk production process, called *kabeuak* in Lao.) The poison from the sap of the inner bark is used by other Kri-Mol groups for the tips of crossbow arrows (the poison is actually a form of strychnine). The bark cloth, even after it has been processed, retains a degree of toxicity sufficient to repel insects when it is worn.

Women would frequently dye the cloth with an indigo color from dyes made from the leaves of the /bɯak/ tree, or from another known as /rɑɑm/. The cloth could be washed using the /plɛ̨ɛ̨ kăteŋ/ fruit (*Sapindus mukorossi* [Sapindacaea]) or the vine known as /ʔatoŋ măyɔɔŋ/. These could also be used for washing the body.

During the soaking process the bark also poisons fish, and it may be suggested that fishing, or the utilization of the poisonous qualities of *Antiaris toxicaria*, evolved first. And while towards the end of the bark cloth period the pieces were fashioned into pants

and shirts, the Atel informant claimed that these were rarely worn, a loincloth being the customary article of clothing. They did use, however, large sheets of bark cloth as blankets.

It might be mentioned here that neighboring Kri-Mol groups of other cultural types, became associated with ethnic-specific traits, for example, nets and fishing for the Arao who lived along the Nam Sot as far as the Keng Louang waterfall, and crossbows, baskets, and mats for the Malang slightly further to the northwest. Atel trade was restricted to honey which was exchanaged for salt, peppers, and tobacco which the Arao and the Malang had in turn obtained from the Nakai plateau. The Arao and Malang all had rudimentary villages which the Atel would visit periodically. During the colonial period, Honey was also paid to the French in lieu of tax by the Atel via the Arao.

Foraging for tubers, palm piths, bamboo and rattan shoots which are cooked in bamboo tubes forms another vegetal portion of the Atel diet. These cannot be mixed with meat, fish, or honey. Table 3 is a sample of the types of these foods available to the Atel. Note that no leafy vegetables are mentioned and are not consumed.

Table 3 Some Tubers, Piths and Shoots Consumed by the Atel

Atel	Botanical	Comment
ʔaalu̱u̱ʔ	Caryota ? [Palmae]	palm fruit (taaw)
ʔapɑŋ	Calamus [Palmae]	shoots/sprouts
kădɔɔŋ		eaten to counteract the toxic effect of D.hispida.
kălɛɛn / -c	Dioscorea esculenta ?	tuber
kăsaan	Dioscorea hispida	tuber
kăʃook	(type of vine)	roots eaten as staple
kăʃɑɑn	[Palmae]	pithy stalks gathered along stream beds
ʔalii / ʔriʔ	[Palmae] (small pinanga)	shoots
kill tănaap	[Palmae] (big pinanga)	shoots
kɔduk	Bambusa tulda	bamboo shoot
măŋɑʔ	Oxytenanthera parvifolia	bamboo shoot (said to have two words for the same species)
păcɑ̱ɑ̱t	Oxytenanthera parvifolia	bamboo shoot
puɯl	Calamus [Palmae]	rattan shoot
rɑ̱ɑ̱ʔ	Dedrocalamus ?	bamboo shoot
ru̱m ru̱m	Gastonia ? [Araliaceae]	eat new shoots/sprouts
tămɤɤr	Schizotachyum zollingeri	bamboo shoot
tăruul		shoots/sprouts
yɤɤŋ kăʃɛɛʔ	Ipomena [Convolvulaceae]	tuber
yɤɤŋ kriit		tuber

(4) ***tool-trapping:*** Characterized by trapping and snaring small ground animals, the extent of fish trap technology was not investigated.

The Atel claim to do some trapping, although the degree of this is uncertain. Most words seem to be old Tai/Lao borrowings, perhaps via other Kri-Mol cultures, in which case trapping is a comparatively recent undertaking and implies remaining in one place while traps are monitored. The following types were recorded:

Table 4 Atel Traps and Snares

Atel Name	Lao Name	Type of Trap
kiw	hɛɛw bouang kiw	loop trap for birds
pʌl	?	for muntjaks
pătɑh	hɛɛw tɔɔt	loop trap for birds
ʔadùm	hɛɛw katam	trap with big log that falls on prey, esp porcupines
mɛɛ lɔɔŋ	mɛɛ lɔɔŋ	bamboo rat trap
sărɤʔ	ʔaay kɔɔŋ	trap for squirrels, tree shrews, snakes, etc.

Thus, lacking crossbows, only ground animals are trapped. Strictly arboreal mammals, such as gibbons, and non-ground birds, such as hornbills, are rarely taken.

(5) ***short term sedentism / pre-cultivation:*** The return to a fixed rainy season location for approximately two months every year.

This was apparently a practice of all nomadic groups and consisted of certain pre-sedentary activities, as: (a) broadcast planting of corn and tubers but without preparation or care of fields, left until the annual (or triannual) return (Mlengbrou); (b) non-consumptive cultivation: tea, tubers, and corn (?) for trade with other groups (Atel). The people of the now apparently empty spiritual territory of Kacheng reportedly had tea fields there, and the Atel informant, Mr. Tuy, still lays claim to his tea fields near the Houay Kanil.

To return to th wild/civilized distinction, the beginnings of a more detailed set of examples could be suggested as follows:

Wild	Civilized
nomadic	sedentary
meat	vegetables

Most leafy vegetables are associated with cultivation, that is they are either cultivated intentionally in gardens or encouraged to grow along fences or the edges of rice fields.

Classification
From the point of view of zoological classification in Kri-Mol groups, at least three dimensions must be recognized: (1) the folk biological systematics classification; (2) a system of *secret* naming; and (3) the use of *concealing* names.

As might be expected, comparison of folk biological nomenclature between sub-branches reveals considerable variety of systems. All of these have by no means been analyzed, but several generalizations can be made, for example,

* only the Toum-Phong group has a Unique Beginner taxon;

* LF taxa for Bird, Fish, and Snake are found in all groups except Mlengbrou which lacks the taxon for Fish;

* the LF taxon for Bird, while present in all groups, is not used extensively in naming;

* taxa for Turtle and Frog are frequently used as LF markers;

* the taxon for Insect found in the South and some of the Southwest groups appears to be cognate with the Northwest UB taxon indicating a possible etymology for this form.

Table 5 illustrates the basic folk systematics features of the zoological systems to the extent they are known.

Table 5 Comparative Kri-Mol Zoological Classification Characteristics

Kri-Mol Grouping	Classification Characteristics
1. Toum, Liha, Phong	-UB for mammals, some insects and birds -LF for Bird, Fish, Snake -'bird' lexeme used only for some birds
2. Ahoe, Ahao, Ahlao	-no UB -LF for Bird, Fish, Snake -'turtle' used as LF -lexeme for 'bird' used only rarely in names
3. Cheut	-no UB noted -LF for Bird, Fish, Snake
4. Atel, Thémarou, Maleng, To'e	-no UB -LF for Bird, Fish, Snake, Turtle, Frog -LF for 'insect' in Maleng, some in To'e -in Atel there are lexemes for .bird' and 'fish', but not recorded in names -in Thémarou the only LF markers are

	Bird, Fish and Snake
5. Kri, Phoong	-no UB -LF for Bird, Fish, Snake, Insect, Frog, Turtle -'Bird' used throughout Phóng, but only for some species in Kri
6. Mlengbrou	-no UB -LF for Snake, Turtle, Bird -only some bird names use the LF -no LF for Fish -no LF for Insect

In addition, it was discovered that among several of the Type II Kri-Mol groups, a system of secret names exists, at least for some animals. Secret names consist of primary lexemes, that is words that have no other meaning. Their usage is not yet clear in relation to concealing names which are clearly used in the forest when the animals are being hunted, because it is believed that if the animal hears its real name it will run away. Examples of secret names are given below in Table 6. The hunter-gatherers seem not to have secret names. For the Type II cultures they may indicate taboos that have their origin in a fear of the deep forest (suggested by Gérard Diffloth p.c.), yet another indicator of the boundary between the wild and the civilized.

Table 6 Secret Names

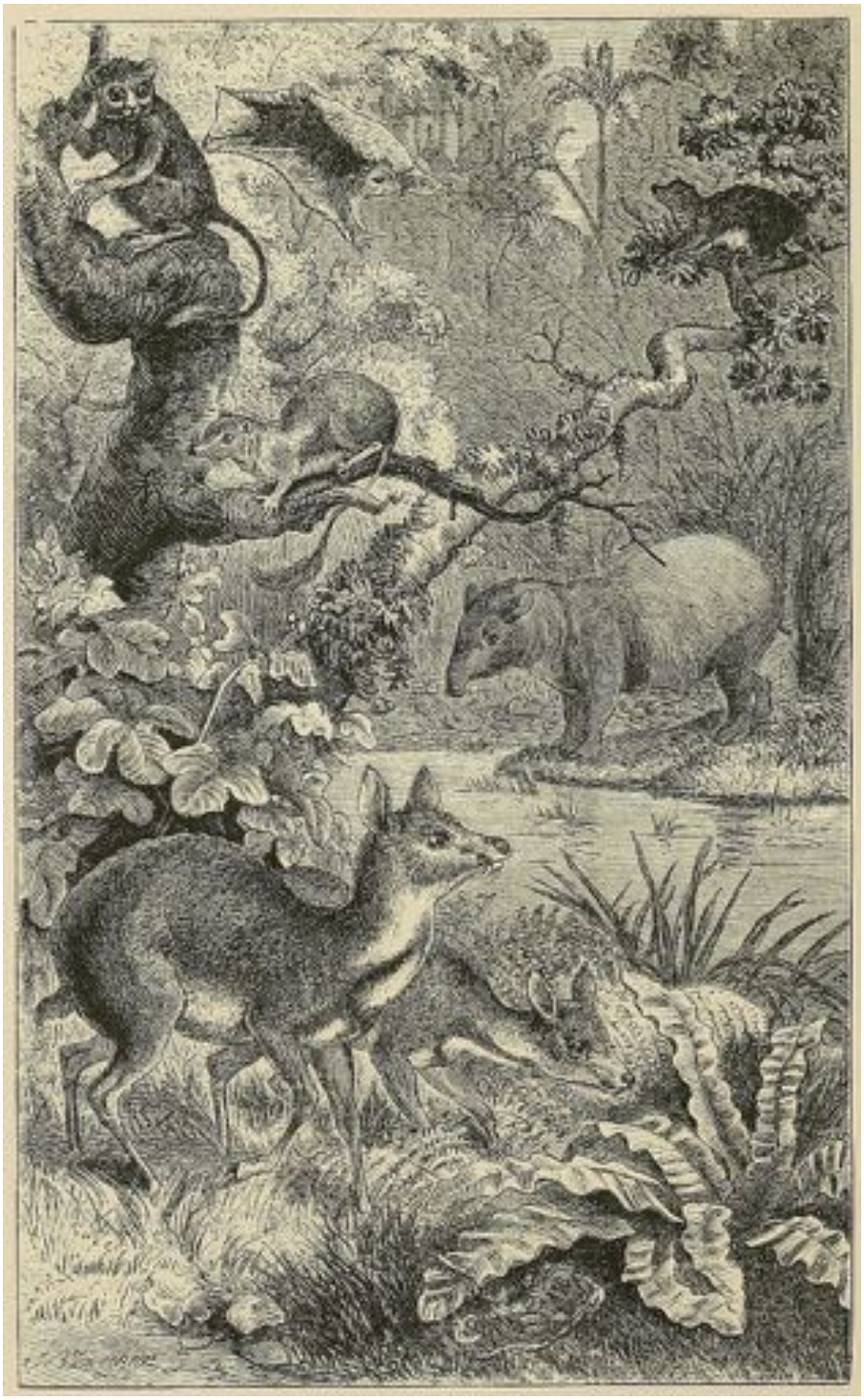
	Name	Secret Name	Animal
Ahoe:	yə̤ə̤	tămok	elephant
	măyaaw	pak cɑŋ	sambar
	kul	pak cɑŋ	wild pig (has the same secret name as the sambar)
	pɛw	puu ʔɔɔʔ	tiger
Maleng:	yʊʊʔ , yṳʉ̤ʉ	tămok	elephant

Concealing names, as has been mentioned, are used in hunting situations in place of the real name in order not to frighten away the animal. These names consist of secondary lexemes, euphemisms that avoid the real name but always have a descriptive or even humorous meaning, as in the examples provided in Table 7:

Table 7 Concealing Names

	Name	Concealing Name	Gloss	Animal
Ahlao:	ʔooŋ	saay saŋ	‘floppy ears’	elephant
		ciŋ paaŋ	‘big foot’	elephant
	ʔɔɔʔn	kăʃaŋ tɑk	‘red teeth’	bamboo rat
	kăbool	ɲaa	‘toothless’	pangolin

PART TWO – A KRI-MOL BESTIARY



CHAPTER 3 – KRI-MOL MAMMALS

Phonological Representation
The author regrets the incomplete phonological representations provided here. There was simply not enough time during the brief visits to carry out a comprehensive investigation, so the forms presented are to some degree impressionistic. To complicate matters further, Kri-Mol languages are known for their complex phonation features, distinctions between clear, creaky and breathy voice as well as tone, for example /cɛ̰ɛ̰ʔ/ 'headlouse' and /vi̤i̤tʰ/ 'duck'. Obviously, given the rarity and great value of the languages, thorough linguistic analyses should be conducted as soon as possible, preferably by Kri-Mol specialists. Examples are Enfield and Diffloth (2009) for Kri, and Ferlus (1997) for Mlengbrou. Both of these are focused on phonlogy and are consequently lacking in lexical depth.

Key to Abbreviations of Language Names
Ahoe Ahoe
Ah Ahao
Ahl Ahlao
Atel AT (1) and (2) different dialects
Cheut TX Tha Xang and BP Ban Phao
Kr Kri
Lh Liha (PL Phou Lane and SM Souan Mone)
Ml Maleng
Mlengbrou
Mường Nguyễn Văn Tài (2004); Houa Phanh dialect from Nate Badenoch p.c.
P Phoong (Nam Noy River)
Ph Phong (Khamkeut)
Rục Nguyễn, Trần and M. Ferlus; Nguyen Van Loi
T Toum
TE To-e (Pakatan)
Thémarou
Việt Vietnamese

Unless otherwise indicated Kri-Mol forms are from Chamberlain 1997 or field notes.

Bit names sometimes included for comparison, from Nate Badenoch p.c

The Proto Mon-Khmer (PMK) forms are from a manuscript of Gérard Diffloth, *Etymological Dictionary of Mon-Khmer: Chapter 1 – Fauna.* U. of Chicago 1980.

Elephant PMK *kyaaŋ
Elaphas maximus

Việt.	voi (note: vòi ‘tusk’)
Mường	βɔj ~ ɣɔj ~ vɔj
Toum-Phong	vɔɔj, vɔj
Ahlao-Ahao	ʔooŋ
Ahoe	Ahoe: yɔ̨
Atel-Maleng	AT: ʔyɯɯʔ , yɤɤ Ml: ʔyɯɯ̰ TE: ʔyɤɤ
Thémarou	ʔyɤɤ
Kri-Phoong	Kr: yɤɤ P: yɯɯ
Mlengbrou	yɯɯ
Cheut	TX: ʔaceaŋ BP: ʔacaang (< Brou ?)

For Ahoe and Maleng, there is an additional secret name *tămok* for elephant, the use of which is not clear. In contrast, there are also concealing names, such as Ahlao *saaj saŋ* 'floppy ears' or *ciŋ paaŋ* 'big foot' refering to elephant, and used specifically while in the forest.

象 ‘elephant’ Xiàng schuessler OCM *s-jaŋʔ / ziaŋ B
Baxter & Sagart *s.[d]aŋʔ

Is this a possible source?

豫 *djo in Karlgren 83e ‘elephant’ , ‘slow and deliberate (elephant-like)’

LH *ja^{C} , OCM *lah Schuessler *yù*$_{24}$ ‘large elephant’; *yu*$_{25}$ ‘slow and deliberate’ (but doubts Karlgren’s interpretation < ‘elephant-like’)

*laʔ-s Baxter and Sagart ‘go on (inspection) tour’

Palaeoloxodon namadicus
‘straight-tusked elephant’

Found in Shang and Zhou remains approximately 3000 BP

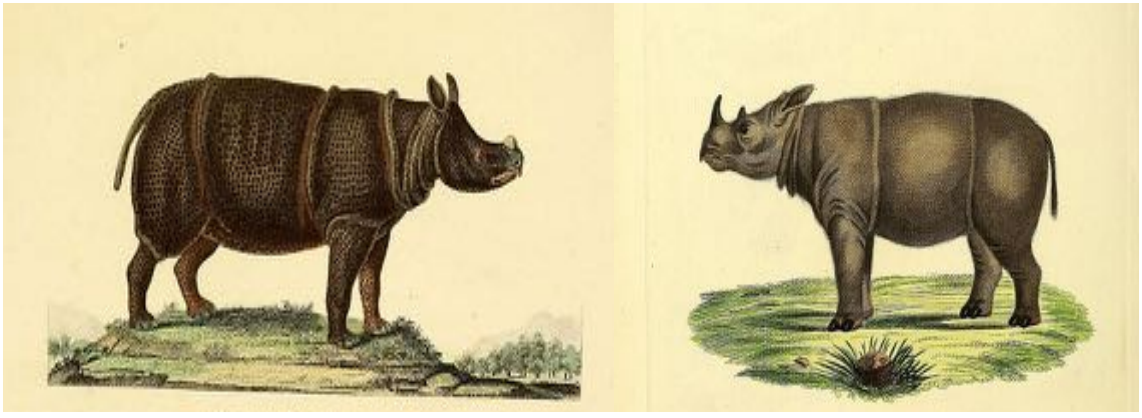
Rhinoceros PMK *rɛɛt
Rhinoceros sondaicus (Javan), *Dicerorhinus sumatrensis* (Sumantan)

Việt	tê-giác (< Chinese)		
Brou	ra.mi̱əjh		
Toum-Phong	Ph: tăkɔɔŋ	T: kaoŋ	Lh: kɔŋ , kɔɔŋ
Ahoe-Ahlao	Ah: căkuuʔŋ	Ahl: căkuuŋ	
Atel-Maleng	**AT: cɔɔm**		
Thémarou	cɔ̰ɔ̰mʔ / caɔ̰mʔ		
Kri-Phoong	Kr: cikòòŋ	**P: cɑɑm**	
Cheut	Rục (Lợi): kọ̰nti[3]		

There were two species of rhino in this area in the past, the larger Javan rhino with one horn and the smaller Sumatran two-horned. In Lao they are called *hɛɛt* DL4 and *suu* B4 respectively. The Tai form most used by informants during interviews was the latter. A Toum man noted that the last rhino (*suu*) tracks he saw were in 1967. The Liha believe that rhinos have powerful spirits attached to them and these must be propitiated before they may be hunted. But now there are thought to be no rhinos remaining. It was noted that the *suu* rhinos preferred to eat the leaves of *Thea* and *Broussonetia* trees.

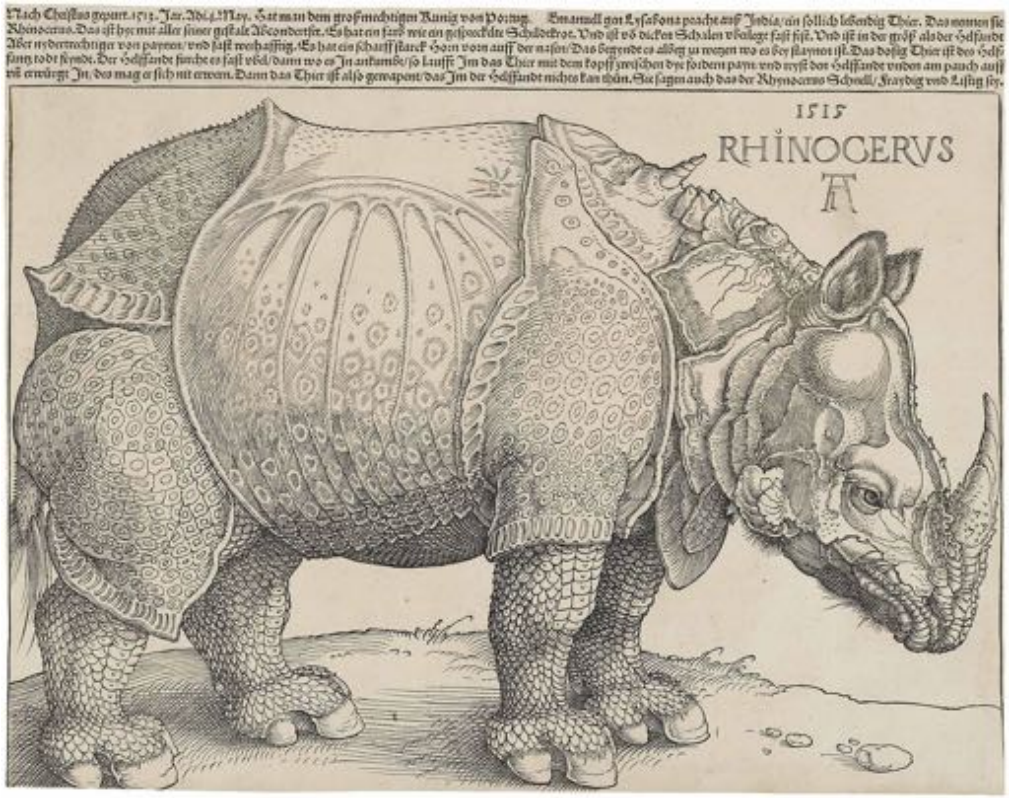
It is plausuble that the two main etyma here represent taxa for the two distinct species, as in the case of Kri-Phoong both forms occur in the same subgroup. The Rục form continues to perplex.

Also worth noting is the similarity to the Tai (Shan, Neua, Ahom, Khamti) languages which all have variants of {s/c u/o ŋ}. This would surely be happenstance except for Palaung /ma zo̱ŋ/ (Janzen 1991) which could be the source, assuming Tais that moved into the area had no other words for Rhino or for other reasons, borrowed the Palaung word. It would indicate that for at least one of the Rhinos there is and old AA term.



Javan Sumatran

To complicate matters, the indian rhinoveros, *Rhinoceros unicornis,* a larger animal, was probably found as far east as Burma and Yunnan. Even now it is still extant in parts of Assam. Note that reflexes for PMK *rɛɛt seem not occur in NMK except for Lamet and Khmu in Laos, so a separate taxon would be expected, cognate with Palaung /maa zoŋ/ mentioned above.



Rhinos in fact lived in China south of the Yangtzi. Bronze figurines of the Sumatran (two-horned) rhino are found since the late Shang dynasty. Some show remarkably realistic features indicating that living models were used. Althought both species are said to have inhabited the area, almost all of the figurines are two-horned.

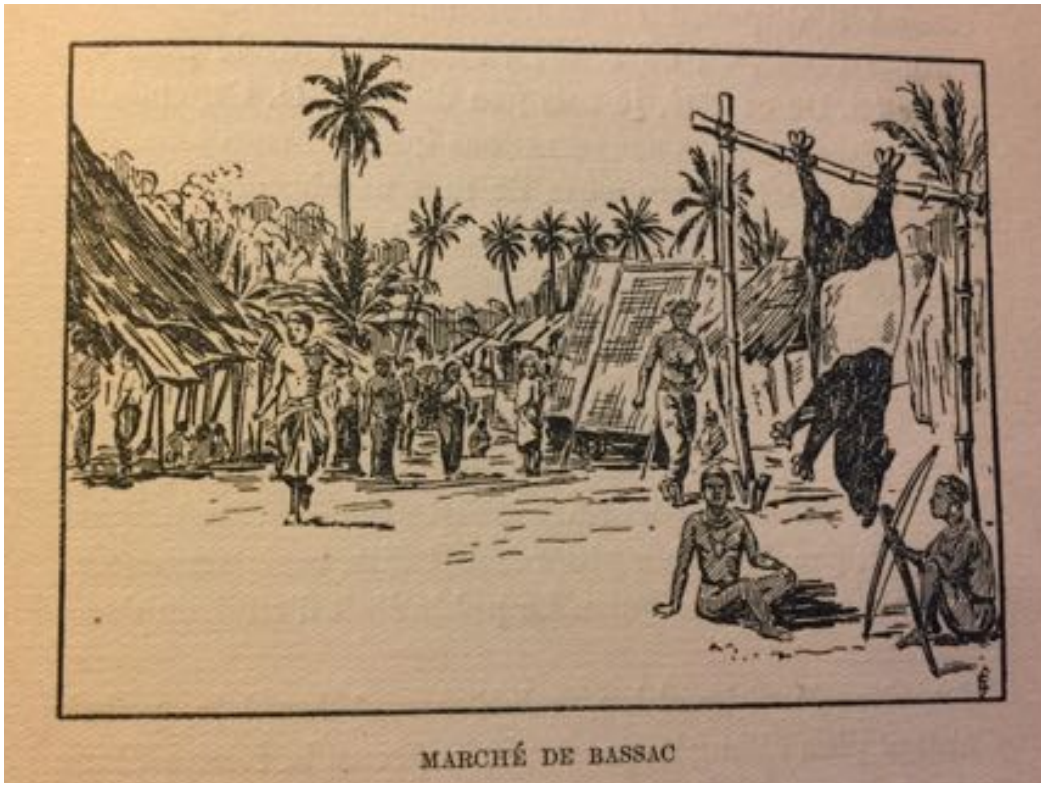
Bronze Sumatran Rhinoceros Ritual Vessle, Late Shang Dynasty, c. 1200 BCE

Bronze Sumatran Rhinoceros Wine Vessle, Western Han 206 BCE – 9 CE

Tapir
Tapirus indicus

Viet	con hèo voi
Lao	muu ŋuaŋ

There are no known forms for ‘tapir’ recorded in Kri-Mol languages other than Vietnamese. Its existance in Laos and Vietnam has been questioned though Cheminaud (1939) described a specimen he saw for sale in a market in Champasak in 1902 (drawing as below). Whether the species ever inhabited the Kri-Mol area is not known. Both the Vietnamese and the Lao terms mean simply “pig with a trunk.’



MARCHÉ DE BASSAC

Gaur **PMK *_m(uə)y [Lao: mɤɤy]**
Bos gaurus

Việt	con bò tót			
Toum-Phong	Ph: săŋuul	T: ŋuul	Lh/PL: klʌw plʌy	Lh/SM: kloo phlay
Ahoe-Ahlao	Ahoe: ʃăŋuul	Ah: săŋool	Ahl: ʃăŋuul	
Atel-Maleng	AT: ʃăŋoor , sŋoor		Ml: ʃăŋoor	TE: săŋool
Thémarou	saaŋool			
Kri-Phoong	Kr: ʃaŋaor	P: ʃăŋor		

Cheut:	TX: ciəluu	BP: ciluu

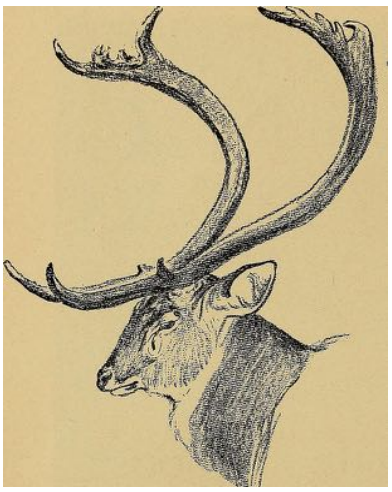
This seems to be a good solid Proto-Kri-Mol word. Only in Cheut and Liha are they classed as buffaloes, and in Vietnamese as ‘bull.’ This is an animal that prefers evergreen, semi-evergreen and moist diciduous forests.

Sambar **PMK *draay ‘hog deer’**
Rusa unicolor

Việt:	nai
Greater Hlai	*ɾə:yʔ ‘deer’
Proto-Hlai	*C- lə:y ‘muntjac’
Brou	yɤɤt , măyɔh
Mường	ɖaaj[55] (Houa Phanh)
Toum-Phong	Ph: kădi̱i̱ T: daay Lh/PL: daay Lh/SM: ɗay
Ahoe-Ahlao	**Ahoe: măyaaw** Ah: kădi̱i̱ Ahl: kădi̱i̱
Atel-Maleng	AT(1) kădi̱i̱ʔ AT (2) kădey Ml: kădi̱i̱ TE: kădii
Thémarou	**poɽ**
Kri-Phoong	Kr: kădi̱i̱ / -dẹh P: kădi̱i̱
Mlengbrou	kdẹ̱ẹ̱
Cheut	kădi̱i

Ahoe has a unique form, with no apparent cognates elsewhere, except perhaps Brou in Na Vang *măyɔh* (on the Nam Mone river). The Thémarou word may result from confusion with 'barking deer', except the form was provided by two different informants in different locations and at different times. Also, it appears cognate with the Brou forms as noted below.

Another source for the Ahoe taxon could be the Eld's Deer (brow-antlered deer, thamin) which until recently was present in the area. Readily distinguished by its horns, it may have had a unique taxon in Kri-Mol as it does in other languages (below right).



Barking deer, Muntjac ***PAA *po:s**
Muntiacus sp.

Việt	hoãng , con mang			
Mường	vaaŋ[53] (Houa Phanh)			
Toum-Phong	Ph: cɔɔŋ	T: cɔɔŋ	Lh/PL: cɔɔŋ	Lh/SM: cɔ̰ŋ
Ahoe-Ahlao	Ahoe: pɔ̰yh	Ah: ʔakʌʌy	Ahl: ʔakaay	
Atel-Maleng	AT(1) thr̰ɛ̰w	AT(2) thəreew	Ml: thărɛɛw	TE: pɔl
Thémarou	thărɛɛw			
Kri-Phoong	Kr: poyh , ʔakaʔ	P: poyh		
Mlengbrou	pɔ̰iʔ			
Cheut	tubaaŋ, tuubaaŋ			

As with 'snake' there would seem to be no common generic form for 'muntjac'. At least three species are found in and around the language locations which may be a possible source of the linguistic variation. The 'giant muntjac' is considerably larger than the others and so may indeed have a separate taxon. Ahoe and TE lived together in the same village (Pakatan) for many years so there may be some influence here as well, though the languages are otherwise not mutually intelligible. That the etymon **pɔyh* crops up sporadically across four subgoups may indicate that it refers (or referred) to the giant muntjac (given the Thémarou form for sambar), whereas **thărɛɛw* refers to smaller species (given its link to mouse deer in Phoong).

The Brou form is *pɔih* or *poyh* which could account for the variaation as well, though despite the large Brou population in Nakai, there is little apparent language borrowing. Furthermore, the preservation of final -l in Maleng and in Mlengbrou, and an even more archaic final -r̰ in Thémarou would indicate this is most likely not a borrowed form.

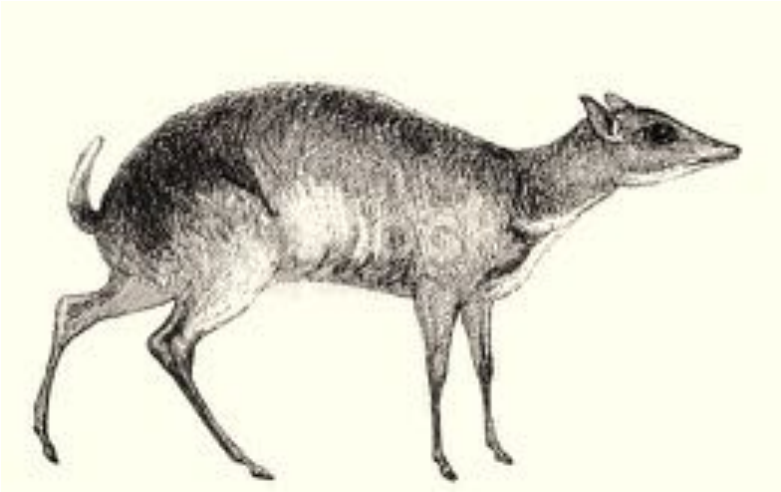
Muntiacus muntjak. The Phong-Toum form is peculiar to that subgroup. The Toum recognize two subspecies, a "black" muntjac [tentatively identified as either ***Muntiacus napensis*** or ***Muntiacus feae***] that lives in deep mountain forests near stream sources, and a "red" one that prefers flatter lowland areas. For both the Liha and the Toum, the 'mouse deer' ***Tragulus javanicus***, is considered a type of muntjac, with the specific marker /kay/ (*cɔɔŋ kay*). The latter is a Tai taxon (C tone) used to designate the mouse deer.

(https://nexusnewsfeed.com/article/climate-ecology/rare-barking-deer-photographed-in-vietnam/)

1. **Giant muntjac *Muntiacus vuquangensis* (top)**
2. **Fea's Muntjac *Muntiacus feae* (left)**
3. **Indian Muntjack *muntiacus muntjak* (right)**

Mouse Deer and Musk Deer , Chevrotain
Tragulidae
Moschidae

Việt	con cheo, cheo cheo	
Brou (?)	căkʌʌj (see Ahao, Ahlao 'muntjak')	
Thémarou	ɲɛɛ ɲɛɛ	
Kri-Phoong	Kr: tɛw tɛɛw	P: thărɛɛw



Mouse Deer

Musk deer

Saola and Annamite Strioed Rabbit

Rare Fauna recently discovered: no Kri-Mol words recorded so far

Saola ***Pseudoryx nghetinhensis*** (from the Tai Mène ‘uprights on the cotton spinning machine’)

Annamite Striped Rabbit, *Nesolagus timminsi*

Wild Pig **PMK *cliik 'pig'**
Sus scrofa

Việt.	lợn rừng			
Mường	lɔj[1] | kuyh[33] lɔɒyʔ[31] (Houa Phanh) kuj[3] , kun[5] , ɣɤn[3] (domestic pig)			
Toum-Phong phlʌy	Ph: kul phlii	T: kuul phlii	Lh/PL: kuu̯l plʌy	lh/SM: kun
Ahoe-Ahlao	Ahoe: kul	Ah: kul kănɛh	Ahl: kul mḷii	
Atel-Maleng	AT (1) skɑɑl	AT(2) skãʔũr	Ml: skool	TE: skɔɔl
Thémarou	kuuḷ			

Kri-Phoong	Kr: kur bruʔ	kul baruu
Mlengbrou	kulʔ bruʔ	

Cheut	TX: truu̯t	BP: r̥oot[h]

It is interesting to note that I recorded terms for domestic pig in Ahoe and Ahlao as *kuʔl* and *kulʔ* respectively. I would have chalked this up to my untrained ear, except for a similar experience with Atel and Maleng who both provided *kur*, rather than the forms with initial s- found in 'wild pig.' So further investigation is needed. Cheut has a separate taxon for wild pig, and for domestic pig has *kuṛ*. Atel and others languages have *kur* or *kul* for domestic pig, separate from wild pig, albeit derived from the same root. No doubt the practice of raising pigs was adopted quite recently with the cultural shift from hunter-gathering to swidden cultivation, and the addition of the 'forest, wild" qualifier became a recent additiona as well. That the wild pig was always considered a separate category is evidenced by the Mường situation noted here.

Note wild-domestic distinctions:

Atel-Maleng (wild)	AT (1): skɑɑl	AT(2): skạ̰ʔụ̰r	Ml: skool	TE: skɔɔl
(domestic)	AT: kur		Ml: kur	TE: kuul

Cheut (wild)	TX: trụ̰ụ̰t BP: r̥oot^{h}
(domestic)	kuṛ
Mường (wild)	lɔj^{1} (locations 1-22 Thanh-Hoa and points north)
	kuyh^{33} lɔɒyʔ^{31} (Houa Phanh)
(domestic)	kuj^{3} , kul^{3} , kun^{3}

Yellow Pig, Heude's Pig, Indochinese Warty Pig
Some groups distinguish a second species of wild pig (*Sus bucculentus*) known as Heude's Pig, the Yellow Pig, or the Indochinese Warty Pig. This species was thought to be extinct, although many villagers say it is alive and well, and in some locations even more numerous than the more common species. In the Mường language it is the common term for 'wild pig', whereas it is the term applied to the Yellow Pig in the south.

Việt	lợn **lòi** bầy ‘group of wild pigs’ (EFEO wordlist)
	nanh lợn **lòi** ‘boar’s tusk’ (EFEO wordlist)
Mường	lɔj^{1} (locations 1-22 Thanh-Hoa and points north) ~ kuj kɔ ~ lɤn
kɔ	
Toum-Phong[14]	Ph: lɔɔy, **pɯŋ** T: kuul lauk Lh: lɔɔy
Atel-Maleng:	AT: călɑɑy

This same word has been widely adopted by Tai groups in the area, many of whom originated from locations further north that abutted on Mường.

AND, note especially the Hlai (Hainan) reconstruction of Nordquest (2007:589),

Proto-Hlai *C-ləc e.g. Lauhut: lac^{7}

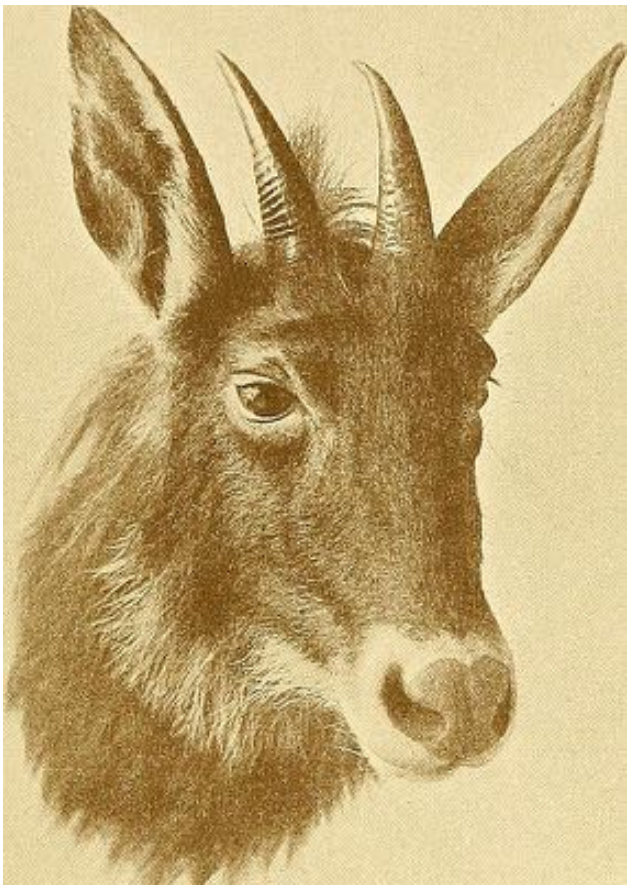
good evidence for the existence of Hlai on the mainland in Juizhen. It is thought that the original Hlai peopled the island of Hainan from this part of the mainland (Chamberlain 2016). When ancestors of the Mol moved north they must have encountered and interacted with the Li people already living there.

[14] Note Houa Phanh Mường /poŋ^{55} lawʔ^{31}/ ‘hog badger’ which seems to include cognates for both Phong /pɯŋ/ and Toum /lauk/. Hog badgers names are often prefaced with ‘pig’ in Tai languages.

Serow **PMK *k(ɛɛ)ç**
Capricornis

Việt	dương (< Tai)			
Mường	kɛɛk[13] (Houa Phanh)			
Toum-Phong	Ph: kẹẹ	T: ɲɯaŋ	Lh/PL: kẹẹʔ	Lh/SM: ɲɯaŋ
Ahoe-Ahlao	Ahoe: kẹh	Ah: kaɛh		
Atel-Maleng	AT: kɛh	Ml: kɛh		TE: kɛh
Thémarou	keɛh			
Kri-Phong	Kr: kɛh taoy trădoot			
Cheut	keh			

The Vietnamese word is borrowed from Tai, but not via Mường



Porcupine (*Hystrix*) **PMK *jŋkəəs**

Việt	nhim , dim			
Mường	ɲim^{3} , (ŋiim^{55} [Houa Phanh])			
Toum-Phong	Ph: kăɲiim	T: yiim	Lh: ɲiim	
Ahoe-Ahlao	Ahoe: yi̯	Ah: yi̯	Ahl: yii	
	[NB Pre-Hlai *C-dəy PHl *ɗəy]			
Atel-Maleng	AT(1): yi̯	AT(2): g^{y}ii	Ml: ɣii	TE: ʔyi̯
Thémarou	keʔl			
Kri-Phoong	Kr: ker	P: keer		
Mlengbrou	ke̯l			
Cheut	kăɲɯŋ			

Porcupine (*Atherurus*)

Mường	tɔ^{p}ɯ (Houa Phanh)			
Toum-Phong	Ph: tɔɔl	Lh: tɔn	[NB Proto-Hlai *tɕ^{h}inʔ]	
Ahoe-Ahlao	Ahoe: ntel	**Ah: thăloo̯**	Ahl: ɲɛɛk	
Atel-Maleng	AT: ɲɛ̯ɛ̯k	Ml: ɲɛɛk	TE: ɲɛɛk	
Thémarou	ɲie̯k			
Kri-Phoong	Kr: cookɤt^{h}	P: skɯt		
Mlengbrou	cukɤt			
Cheut	tukɤl			

While the Vietnamese and Mường forms are consistant for Hystrix, forms for the smaller species are absent from dictionaries. Sometimes the erroneous gloss 'hedgehog' (a palearctic animal) is given. The lexical variation for both species is remarkable given that they are common and well-known.

Hystrix hodgsoni and ***Atherurus macrourus***. All languages differentiate two species of porcupine, although some in the Phong-Toum subgroup have adopted a Lao-Tai borrowing for Atherurus, possibly because the flesh of this animal is considered medicinal by many of the Tai speakers and it may be a commonly traded species.

There is considerable lexical variation between subgroups as can be seen in this comparative table.

	Phong-Toum	Ahoe-Thavng	Atel-Maleng	Kri-Phoong	Cheut
Hystrix	*ɲ/y [ii] m	*ɣ/ʔy [i̱i̱]	*ɣ/ʔy [i̱i̱]	*k [ɛ/e] l/r	*k[ă] ɲ [ɯ] ŋ
Atherurus	* [n]t [ɔ/e] l	[thă̱l o̱o̱]	*ɲ [ɛɛ] k	*c/s [o/u] k ɤ/ɯ] t	* [tu] k [ɤ] l

Also, it should be noted that for *Atherurus* in the Ahoe-Thaveung branch, the Ahoe taxon corresponds to the Phong-Toum form, while Ahlao corresponds to Atel-Malang. The Cheut form would appear to correspond to Kri-Phong *Hystrix*.

Hystrix Porcupine

Atherurus Bush-Tailed Porcupine

Dhole, Asiatic Wild Dog **PMK *cuəʔ '(domestic) dog'**
Cuon alinpinus

Việt	sói			
Mường	cɔ k'ɔl^3 , cɔ k'ɔɯ^3 , co/ɔ pa , cɔ ʂɔj^3 , cɔ ʂɔn^3			
Toum-Phong	Ph: cɔkləəl	T: cɔɔ kləl	Lh/PL: klən	Lh/SM: căklən
Ahoe-Ahlao	Ahoe: kăləl	Ah: cɔ̃ɔ̃ kălɑ̰ɑ̰l		Ahl: cɔɔ klɑl
Atel-Maleng	AT(1): kălɑar	AT(2): ʔalɔər	Ml: cɔɔ klɑar	TE: kălɑl
Thémarou	ʃɔ̃y			
Kri-Phoong	Kr: klaar, klɔr	P: tɔl		
Mlengbrou	cɔɔ tɔŋ tɔŋ			
Cheut	klon			

kăl > kl > ʃ , -ɔl > -ɔɯ > -ɔj = Việt sói

"Dhole" is the English common name for the Asiatic wild dog *Cuon alpinus* Pallas 1811. The origin of the word is obscure, but may derive from the same origin as Kannarese / tôḷa / 'wolf', a Dravidian language of western India.

Dholes have an extensive range, that includes India, China, Siberia, Mainland Southeast Asia and Indonesia south through Java. The Southeast Asian subspecies is *C.a. infuscus*. While related to other wild dogs, such as wolves and foxes, it has been a distinct species for over 3 million years. They make a wide variety of sounds, including clicks and whistles. Dholes are also said to be excellent swimmers who often chase their prey into the water. (Fox 1984)

Cuon alpinus. The dhole is interdicted for the Liha and the Phong, but only partially so for the Toum. The Phong say they possess a myth similar to that of the Liha concerning the origin of the interdiction, but this has not been recorded. The Phong described the dhole as a "maa phane boun," that is, "a dog who has made merit."

Interdicted for the Ahao and to some (undefined) extent by the Ahoe. The Ahlao say it is not interdicted but this may be a sort of misdirection.

An old Ahoe man cautioned me that, "when you see a pack of dholes running through the forest don't be deceived, the one in front is not their leader, it's the one off to the side."

Interdicted for Atel, but not for To'e and Maleng, though again this may also be misdirection.

Interdicted for Mlengbrou and Phoong but not for Kri. The Thémarou form / ʃɔ̃y / seems to be the Vietnamese form (sói), which may indicate that the informant was trying to conceal the real name of the dhole from the investigator.

Cuisinier (1948:209) relates that for the Nha Lang, Kri-Mol speakers of Nghê An Province, "c'est le chien sauvage qui est formellement interdit à toute le monde, et plus seulement aux sorciers."

Diffloth (ms. 1973) notes the same interdiction of the dhole among the Aslian groups of Malaysia:

"is considered a man hunter, because if he barks we die, not edible, does not eat humans, only pulls out their eyes, ear drums and anus to kill them as it does to any other prey, cannot be tamed because he can only live deep inside the forest in cool places and cannot stand 'human heat' , comes out once a year"

"Also called 'dog of legends because used to be the domestic dog of people of yore"

"dog of yore"

"Mr. Shaman, because he has extraordinary powers"

"Shaman of the mountains"

(See Appendix for the myth of the dhole and the crow.)

Bears **PMK *cg__w 'bear – both species)**
Ursus thibetanus (Photo below on right)

Việt gấu ...

Toum-Phong	Ph: tăkuu maa	T: kạw maaʔ	Lh/PL: kọw	Lh/SM: kạw
Ahoe-Ahlao	Ahoe: căkuuʔ	Ah: căkuu	Ahl: căkuu	
Atel-Maleng	AT(1) săkuụ luʔl	**AT(2) rɤɤm**	Ml: săkuu	TE: săküü
Thémarou	rɤɤm			
Kri-Phoong	Kr: căkuu	P: skuu		
Mlengbrou	cămok			
Cheut	căkuụ			

Bear (Malasian Sunbear) *Ursus malayanus* (photo below on left)

Toum-Phong	Ph: tăkuu ɲeeŋ	T: kạw cɔɔ	Lh/PL: tam yọw	LH/SM: yạw
Ahoe-Ahlao	Ahoe: căkuuʔ	Ah: căkuu	**Ahl: ʃăduul**	
Atel-Maleng	AT: săkuụ	Ml: săkuu	TE: săküü	
Thémarou	rɤɤm răkɛɛŋ			
Kri-Phoong	Kr: căkuu	P: skuu		
Mlengbrou	cămok			
Cheut	căkuụ			

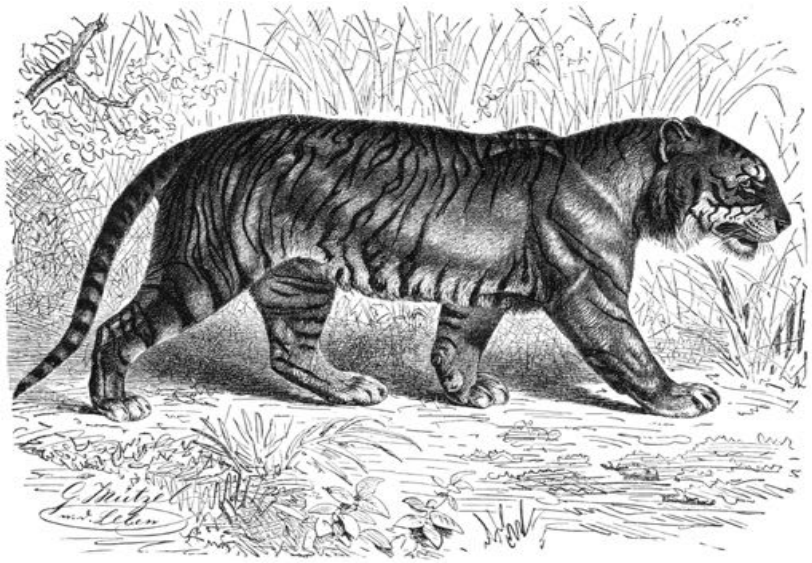
Although there are five etyma for bear, the two species are nowadays differentiated by a modifier to a base form, except for Liha which seems to have two distinct generic level forms. There may be ecological reasons for this if the preferred habitats for the two bears are separate. The situation is not unlike the single taxon for python, even though there are two distinct species in the region as a whole.

Ursids are interdicted by the Kri and the Mlengbrou.

Tiger, Wild Felidae **PMK *klaaʔ**
Panthera tigris

Việt	hổ , cọp				
Mường	k'al[3] , k'aɯ[3] , **hum[1]**				
Toum-Phong	Ph: khaal	T: khaal	Lh: khaan		
Ahoe-Ahlao	Ahoe: pɛw	Ah: kăhaa̰l	Ahl: kăha̰al		
Atel-Maleng	AT(1): vaa̰l	AT(2): vɔɔr	Ml: vɑɑl	TE: ɲaal	
Thémarou	ʃiɨt pɐɛ / pae				
Kri-Phoong	Kr: mɛɛw	P: mɛɛw	[*not the same phnology as 'cat']		
Mlengbrou	kokhloɔʔ				
Cheut	TX: val	BP: tuu haal	Rục (Lợi): kuhal[3]		

Tigers are of course subject to a number of interdictions and religious beliefs that affect its linguistic regularity.



Felidae. Most Kri-Mol languages have a single generic term for 'big cat,' usually glossed as 'tiger' since *Panthera tigris* is commonly the unmarked form. Other cats are distinguished with specific level taxa, as in the following:

Common Name	Phong	Toum	Liha (PL)	Liha (SM)
Felidae	khaal	khaal	khaan	khaan
Clouded leopard - *Felis nebulosa*	- kiiŋ	- kiiŋ	- kiiŋ	- kiiŋ
Golden cat - Catopuma temminicki		- kaol	- tak thɯ̈ɯ̈ (?)	

The Liha of Souan Mone relate that a large black cat / tʌw saaŋ / is very dangerous and eats people. The Liha rarely eat tigers because they are said to be sent by the territorial

spirits to punish wrongdoers by killing and eating them. And, because they eat people, the flesh of tigers should not be eaten (i.e. it would be tantamount to cannibalism).

Leopard cats, *Prionailurus bengalensis*, are universally referred to as 'forest cats' using the taxon for domestic cat, e.g. Liha / mɛɛw phləy /, Phong / mɛɛw phlii/, etc.

Toum has two other feline taxa which have so far not been identified:

/ taaw dɛɛn / 'black leopard cat'
/ taaw vaar / 'regular leopard cat'

The latter form occurs in the taxon /kal vaar/ 'yellow marten *Martes sp.*'

For Thémarou there is a three-way generic distinction, and two additional specific taxa:

ʃi̱i̱t pɐɛ / paɛ	'tiger'
than saa doo	'leopard'
că l̥om	'clouded leopard'
mɛɛw nlou	'golden cat'
mɛɛw kaa	'leopard cat'

Another large feline, the golden cat, *Catipuma temminckii*, was described by some as the most ferocious. Whereas most of the big cats back down and run away when confronted by the humans and their barking dogs, the golden cat will stay and fight.

All Felids strictly interdicted by the Ahao and the Ahoe as a totemic, ancestral, animal. For the Ahao the interdiction is said to be a lineage interdiction of the /caw lu̱u̱ʔ/ lineage, and the same applies to the dhole. They have a myth in which a group of Thaveung capture and kill a tiger and all die as a result, therefore the animal is sacred. It is also called "grandfather."

In Ahoe the *secret* name is /puu ʔɔɔʔ /.

All cats interdicted by the Kri and the Mlengbrou, and at least the larger ones by the Phóng.

Other extant species of felines, the marbled cat *Pardofelis marmorata*, the jungle cat *Felis chaus*, and the fishing cat *Prionailurus viverrinus* were not specifically identified.

Other Felids identified in the Kri-Mol speaking areas:

Leopard *Panthera pardus* (top left)

Clouded leopard *Neofelis nebulosa* (top right)

Golden Cat *Catopuma temminckii* (bottom left)

Leopard Cat *Prionailurus bengalensis* (bottom right)

Civet **PMK *c-m-piik**
Viverridae

Việt	cầy
Mường	təŋ[53] (Houa Phanh)
Brou	sa.pi̱ak

Toum-Phong	Ph: kămɔŋ	T: maong	Lh: mɔŋ
Ahoe-Ahlao	Ahoe: taamuaŋ	Ah: tămuuŋ	Ahl: tămuuŋ

Atel-Maleng	AT(1) cănɐ̱ɐ̱k	AT(2): cănɛɛk	Ml: cinɛɛk	TE: tămuaŋ
Thémarou	cinɛɛk			

Kri-Phoong	Kr: cupaak	P: ʃăpɔɔk
Mlengbrou	cupɯak	

Cheut maŋ

In spite of the large number of civet species residing in the Kri-Mol realm, there seems to be a single taxon, although separate for each subgroup, that refers to civets generically. This might even mark the development of a LF taxon, on a par with bird, fish and snake, albeit a late one. Indeed the taxa for bird and snake were probably later developments as well in this area.

***The Vietnamese confusion between cầy and chôn indicates a lack of familiarity with forest environments and faunal terms generally, suggesting that Sino-Vietnamese was a more urban development.

Binturong **PMK *tyuuʔ**
Arctictis binturong

Việt cầy mực, chôn mực (inky civet)

Toum-Phong T: maoŋ taoɲ kuan

Atel-Maleng	AT: tăyuụʔ	Ml: tăyuu
Thémarou	tăyuu	
Kri-Phoong	Kr: trăyuʔ	P: tăyuụ

The Nrong-Theun languages have good cognates, so we can assume an original Proto-Kri-Mol form.

Classified as a civet in Mol-Toum (rather than a bear as in some parts of Laos). Interdicted by the Kri.

Hog Badger
Arctonyx collaris

Việt	lửng (= B1 tone, Tai borrowing, but not via Mường)		
Mường	poŋ^{55} lawʔ^{31} (from Houa Phanh – see discussion for 'wild pig')		
Bit	pluur 'hog badger' (Arctonyx collaris)		
Toum-Phong	Ph: muụ	T: kul cɔɔ	Lh: maw
Ahoe-Ahlao	Ahoe: maaluul	Ah: măluul	Ahl: măluul
Atel-Maleng Thémarou	AT: kătiʔl̥ kaatiiʔl	Ml: kătiʔl	TE: kătiḭl
Kri-Phoong Mlengbrou	Kr: baalor maaloor	P: bălu̱u̱l	
Cheut	kătuh		

Arctonyx collaris. Apparently not eaten very often by many groups because the flesh is said to be very smelly. But the Toum claim that the meat is good for the health.

The Ahlao (and also the Phong) say there are two kinds of 'hog badger', but the second (smaller) one may be the ferret badger.

Hog badgers are one of the main food animals of the Atel and Thémarou. They are chased with the aid of dogs until they and run into their burrows. Then they are dug out and slain with bamboo spears.

A closely related animal is the ferret badger, which is kept separate.

Ferret Badge
Melogale moschata / personata

Việt	chồn bạc má bắc	
Mường	cầy hủ hỉ	
Ahoe-hlao	Ahoe: laa ʃuay	Ahlao: kul khiiʔl
Atel-Maleng	Ml: cɔɔ ʃuay	TE: ʔaaʃuay
Thémarou	ʔaaʃo̤o̤y	

Kri-Phoong	Kr: kaʃaŋ suum
Mlengbrou	tasụm

Marten (Yellow-throated) **? *(k)sar 'binturong, linseng'**
Martes flavigula

Việt	cầy lông hoe (??)			
Mường ?				
Toum-Phong	Ph: kal kaal	T: kal kaal	Lh/PL: thɔn thɔɔn	Lh/SM: ɲɛɛ
Ahoe-Ahlao	Ahl: căkaal			
Atel-Maleng	AT: skaar	Ml: săkaal	TE: săkaal	
Thémarou	caakaar			
Kri-Phoong	Kr: căkaar	P: skaal		
Mlengbrou	căkɔɔrʔ			

The Liha Sop Mone form may refer to 'mongoose'. Otherwise this is a very regular taxon in Kri-Mol. Interestingly, during a visit to a Toum village, a similar marten had been killed by a hunter that morning (Ap 30, 97), but when it was cooked it was said to be smelly and inedible. In this case the marten was an all-yellow species that is quite rare.

Otter(s) **PMK *bs__ʔ**
Aonyx and Lutra

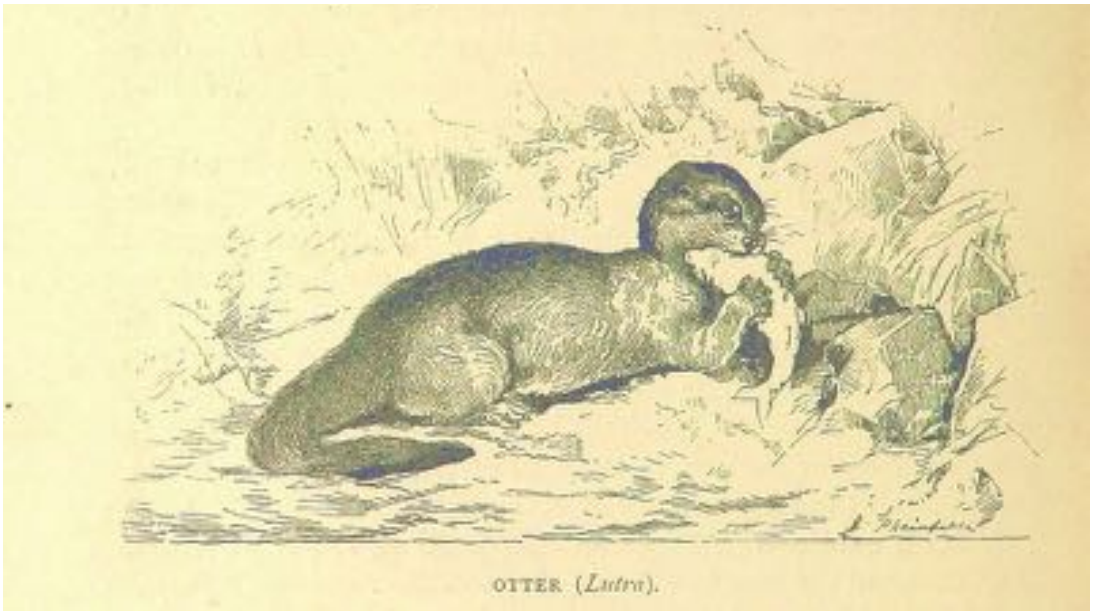
Việt rái

Toum-Phong Ph: see T: sããyʔ **Lh/PL: paak, dɛɛn**
Ahoe-Ahlao Ahoe: paasɤɤʔ Ah: păʃʌʌ, păʃaa Ahl: păʃʌʌ

Atel-Maleng AT(1): măɲɔɔn AT(2): myɯan Ml: măɲɑɑn TE: măɲɔɔn
Thémarou măɲɯɯn
Kri-Phoong Kr: muyaan keʔ P: măɲaan
(Kr: muɲɛŋ - another species)
Mlengbrou muɲaan

Cheut TX: pəsɐ̨ɐ̨ʔ BP: păʃee Rục (Lợi): pusê[3]

Lutrinae. Separate species of otters were distinguished only by the Liha of Phou Lane where the Oriental Small-Clawed Otter *Aonyx cinera* was referred to as /taaw **paak** (said to be the smaller of the two) and /taaw **dɛɛn**/ (larger).



Bat(s)
Chiroptera

Việt dơi

Toum-Phong T: ɲɤk ɲɤɤk Lh/PL: ɲɤk [NB Proto-Hlai *Curɯ:k ‘bat’ > ɣɯk ~ vɯk etc.]

Ahoe-Ahlao Ahoe: ʔaakiw Ah: kew keę̱w Ahl: kiw kiiw

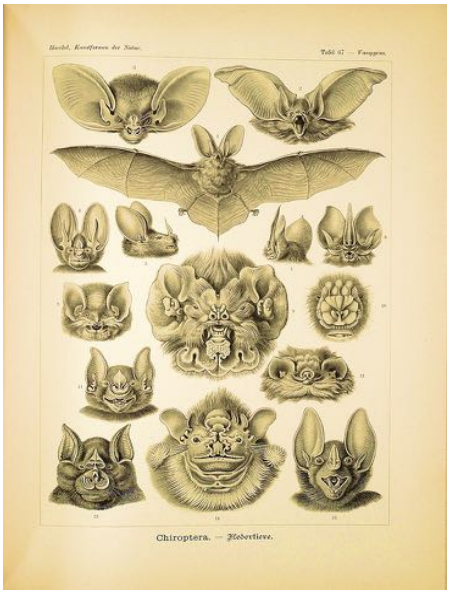
Atel-Maleng AT: spʌt^{h} (fruit bat) Ml: săpat
Thémarou săpat

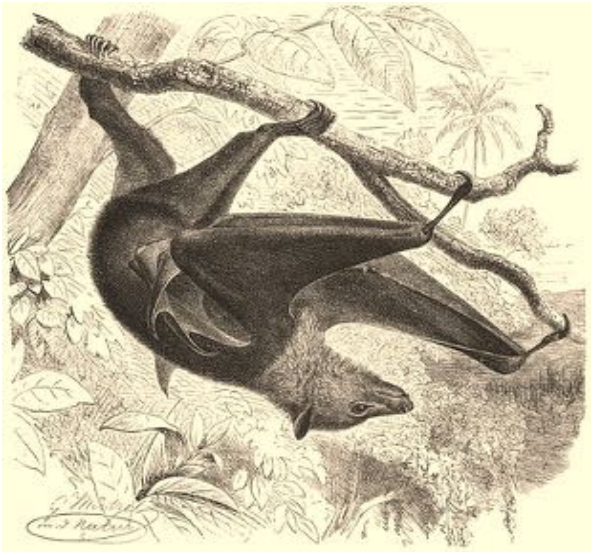
Kri-Phoong Kr: yayɛŋ
Mlengbrou yuŋ yɛ̃l

Cheut PB: kăcɛt Rục (Lợi): kachet[3]

Small Bats

Atel-Maleng AT: kwrɛ̱ŋ Ml: kurɛ̱ɛ̱ŋ TE: kuṛèèŋ
Kri-Phoong Kr: krɛŋ P: kurɛŋ



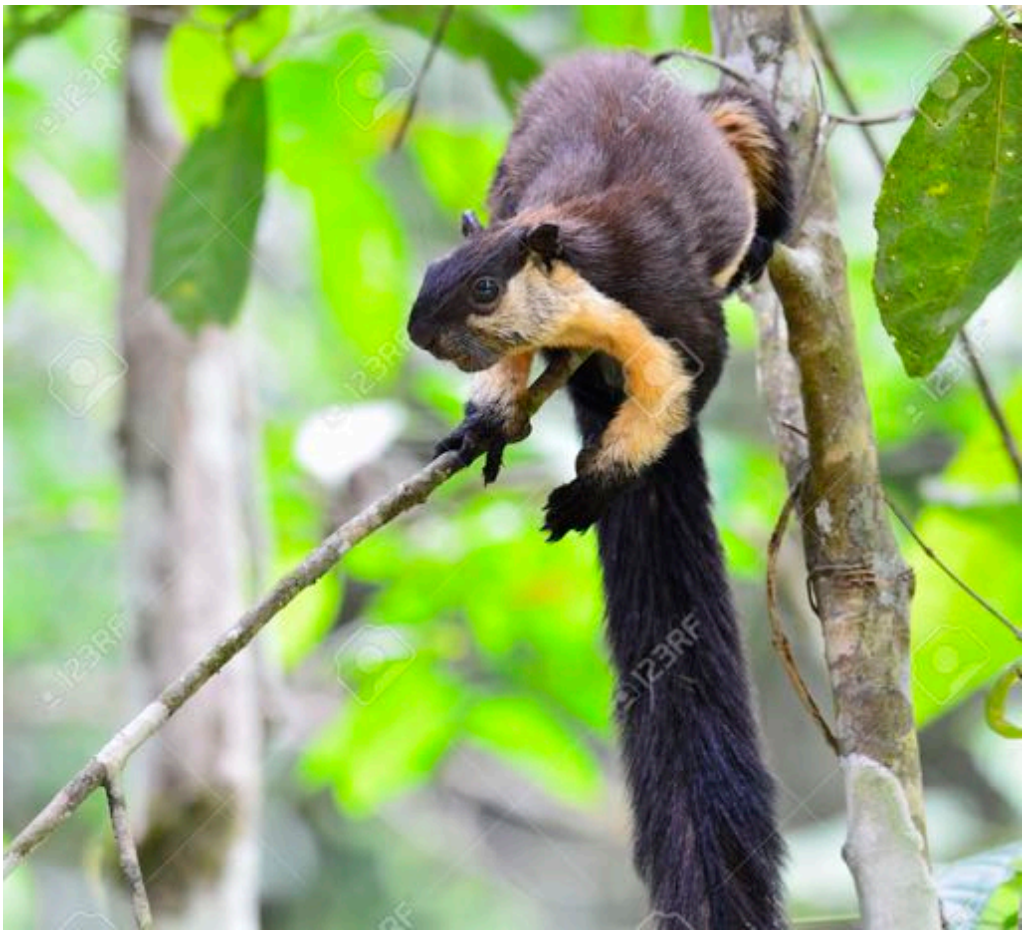


Giant Squirrel
Ratufa bicolor

Lao	kadaaŋ C3			
Toum-Phong	Ph: kăɲaaŋ	T: yɑŋ	Lh/PL: kăyəŋʔ	Lh/SM: ɲaŋ

Ahoe-Ahlao	Ahoe: **kăʃɛw**	Ah: kăʃɑɑŋ	Ahl: kāʃɑn
Atel-Maleng	AT: kăʃɑɑŋ	Ml: kăsɔŋ	TE: kăʃɔŋ

Thémarou	**kăʃɛɛw**	
Kri-Phoong	Kr: **kăyɯr**	|P: kăsɔɔŋ
Mlengbrou	tănoŋ	
Cheut	**tr̥am**	



Squirrel (1) (Lao *kăhɔɔk*) **PMK *pruək**
Sciuridae sp.

Việt sóc
Mường chuət[5] , dol dol , touɯ touɯ , ton ton

Toum-Phong Ph: phlɔɔk T: phlɔɔk Lh: phlɔɔk

Ahoe-Ahlao Ahoe: kăcaak Ah: kăcããk Ahl: kăcaak

Atel-Maleng AT(1): kărɣ̰ɣ̰m AT(2): khărɤɤm Ml: kărɑm

Thémarou kăcaa̱k

Kri-Phoong Kr: tɔtɔrɔc | P: kăcaak[h]

Mlengbrou hoak

Cheut cimook Rục (Lợi): chưmok[3]

Squirrel (2) (Lao *kănay*)

Toum-Phong T: pal pɛɛw Lh/PL: kon pɛɛw Lh/SM: pɛɛw
Lh/PL: phlɔɔk phuang Lh/SM: phlɔɔk pɔn

Ahoe-Ahlao Ah: kăcaa̱k kătak Ahl: kăcaak kătak
Atel-Maleng AT: kăcaak Ml: kăcaak TE: kăcaak

Mlengbrou **tămac** nua (?) (cognate with Thémarou below)

Squirrel (3) (Lao *len*) (Tamiops ?)

Toum-Phong Ph: mɛɛn T: mɛn mɛɛn Lh: mɛn mɛɛn
Ahoe-Ahlao Ah: kămɛ̰ɛ̰n Ahl: kɛn mɛɛn
Atel-Maleng AT(1): mɛn mɛ̰ɛ̰n AT(2): mɯʔl Ml: mëën TE: mɛɛn
Thémarou **mɤc**
Kri-Phoong Kr: lilaŋ | P: mɛɛn
Mlengbrou tiliŋ

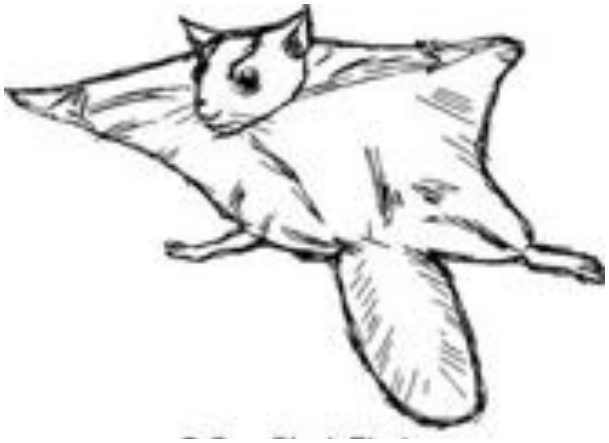
Flying Squirrels **PMK *sŋl(əə)k**
Hylopetes (small) , *Petaurista* (large)

Việt	sóc bay , chồn bay		
Toum-Phong	Ph: khlɤŋ	T: pɛɛl	Lh/PL: baʔan Lh/SM: paen

Ahoe-Ahlao	Ahoe: caa loop	Ahl: kɑl yɑr

Atel-Maleng	AT: tɛr (sm)	
	AT: săpɑ̤ɑ̤ʔ	Ml: săpɑ̤ɑ̤ (Lg)
Thémarou	ʃăpɔɔ	
Kri-Phoong	Kr: ʃaapɔʔ	P: kăpɔɔ
	Kr: tɛr	
	Kr: tɔnaa	
Mlengbrou	săpɔʔ	

Cheut	tăcu̱l	Rục (Lợi): chajur[4]



Tree Shrew(s)
Tupaia belangeri Northern Tree Shrew

Toum-Phong	Lh/PL: vɔc vɔɔc	Lh/SM: vɔy vɔɔc

Ahoe-Ahlao	Ahoe: ʃuan	Ah: ʃu̱a̱nʔ	Ahl: ʃuəɲ

Atel-Maleng	AT: kăʔyo̱o̱t	Ml: kăyoot
Thémarou	kăyuət	
Kri-Phoong	Kr: kăyɑɑt	P: kuyɔɔt
	Kr: kăcaak	P: kăcaak
Mlengbrou	kăyuɔt	
	kăcaak	

The second forms in Kri, Phoong and Mlengbrou are for a smaller species which may be confused with a small squirrel (Squirrel 2 above). Identification from the pictures was difficult and the Lao terms are only a proximate guide. Although there is only one species listed for Laos, the Lao language has two distinct lexemes as well: *kătɛɛ* and *kăcɔɔn.*

Bamboo Rat **PMK *kmpuuy ‘mole; bamboo rat’**
Rhizomys

Việt	giúi , dũi			
Brou	ku.pi̤:			
Toum-Phong	Ph: kăpuṳy	T: **sɔɔ**	Lh/PL: puuy	Lh/SM: puṳy
Ahoe-Ahlao	Ahl: ʔɔɔʔn (< Tai)			
Kri-Phoong	Kr: cituyʔ	P: tuṳy		
Mlengbrou	tṳy			
Cheut	tuy			

Could not elicit in Atel-Maleng and Thémarou.

Rhizomys. In Ahlao the *concealing* name is / kăʃaŋ tɑk / ‘red teeth’.

There is also a smaller species of bamboo rat (the Hoary Bamboo Rat), that seems not to be recognized (or perhaps is the only one occurs in the area). This smaller species is called /tuun/ in Lao, which can also mean ‘mole’. It seems to be an old Chinese loan in Tai, originally ‘hedgehog’ in Chinese north of the Yangtze.

The bamboo rat is an integral part of marriage for the Mlengbrou. The couple must go into the forest together to find a bamboo rat. This becomes the main food offering at the ceremony.

Laotian Rock Rat / Sruirrel-Rat
Laonastes aenigmamus

Although well-known by local villagers in Khammouane and Quang Binh, this animal was not discovered until 1996, and then only technically described in 2005. Local Tai/Lao villagers call it *khanyou*. Since the species is found in Kri-Mol speaking areas, there are probably local names, particularly in Cheut, Ruc and Sach which are mentioned specifically by Vietnamese biologists – though the local names are not provided. There is a discontiguous range and the rock rat is found again in Hin Boun district near the Ahoe areas and perhalps elsewhere.

Biologically this animal is of great interest as it represents what taxonomists refer to as a lazarus species, thought to belong to the fossil family *Diatomyidae* extinct for 11 million years until its discovery in Laos. It lives in forested limestone karst areas and in appearance indeed resembles a cross between aa rat and a squirrel.

Unfortunately I was unaware of the discovery when I was carrying out fieldwork and so possible Kri-Mol names for this fascinating creature are so-far unrecorded. I include it here to call attention to its existence for linguists who may be working on these languages in the future.

https://en.wikipedia.org/wiki/Laotian_rock_rat

Rat **PMK *kn(iə)ʔ [cf small squirrel' Lao kanay]'**
Muridae

Việt chuột
Mường hre , ʒe , re . he , chuət , ($t^{h}ee^{33}$ [Houa Phanh])

Toum-Phong Ph: kănɛ̱ɛ̱ T: nɛ̱ɛ̱ʔ Lh: nɛ̱ɛ̱ʔ

Ahoe-Ahlao Ahoe: ʔeek Ah: ʔeek Ahl: ʔiik
Atel-Maleng AT: ʔeek Ml: ʔiik TE: ʔeek

Thémarou lɤk
Kri-Phoong Kr: lɤk P: lɤk

Cheut Rục (Lợi): kunê[1]

Macaque	**PMK *_wɔɔk**		Brou: tămɪɪr , tămɯɯr		
Việt	khỉ				
Mường	βɔk , ɣɔk . bɔk, k'i[4]				
Toum-Phong	Ph: vɔɔk	T: vauk	Lh/PL: vɔk	Lh/SM: vɔɔk	
	Lh/SM: duut [NB Li (Stübel) Süd: *nục*, Weiß: *noh*, Geshor: *nok*]				
Ahoe-Ahlao	Ahoe: doo	Ah: ɗo̱o̱	Ahl: ɗɔɔ		
Atel-Maleng	AT(1): mɑ̨ɑ̨m	AT(2): mɯam	ML: mɑɑm	TE: mɑɑm	
	AT(1): **ruʔɛ̨ɛ̨ŋ**			TE: khuŋ	
Thémarou	mɔɔm				
Kri-Phoong	Kr: ɗɔo̱	P: mɑɑm			
Mlengbrou	doɑ				
Cheut (??)	TX: ʔuluup	BP: luup	Rục (Lợi): môom[4] , kumah[1]		
	TX: sak = 'langur' ?				

Macaca sp. Liha (PL) has two other forms: / vɔɔk daak / 'water macaque' and / taaw dəʔəŋ / 'short-tailed macaque'. There are at least four species of macaque in this part of Laos: *M. leonina* (northern pig-tailed), *M. arctoides* (stump-tailed [red face]), *M. fascicularis* (crab-eating [long tail]), and *M. mulatta* (rhesus).

The To'e form / khuŋ / is probably related to /khooŋ / in the local languages of Gnommarath and Boualapha which refers to Francois' (or perhaps the Laotian) Langur, an indication that this primate may inhabit the Corridor area as well, adjacent to the To'e village of Pakatan.

Langur **PMK *swaaʔ**
Cercopithecidae

Viet vọoc , vẹc

Toum-Phong Lh/PL: ɲɯan , khămook

Ahoe-Ahlao Ahoe: tănɑɑ Ah: tănɔɔ Ahl: tănɑɑ **(Brou: tanoa)**

Atel-Maleng AT(1): ʃăvạʔạ AT(2): ʃăvạạ ML: svaaʔ
Thémarou ʃvaa
Kri-Phoong Kr: ʃăvạạ P: ʃvaaʔ

Mlengbrou doɑ tɔʔ

Cheut TX: mwạm (see Macaque) Rục (Lợi): sak[3] 'black & red monkey'
kung[4] 'black monkey'

These forms may refer specifically to the red-shanked or douc langur (in picture and in Lao) *Pygathrix nemaus*.

Liha (PL) distinguishes two kinds of langurs. The Ahoe-Ahlao forms may be related to the Mlengbrou.

Douc Langur (left)
(Red-Shanked Lanagur)
Pygathrix nemaeus

François' Langur
Trachypithecus francoisi

Gibbon **PMK *ryool , *kuaɲ**
Hyobates sp.
Nomascus sp.

Việt vượn

Mường zok , βwɤn^{5} , ɣɯən^{5} , vɯən^{5}

Toum-Phong Ph: kăyoo̱k T: yauk Lh/PL: yauk
Ahoe-Ahlao Ahoe: kayɑk Ah: yook Ahl: yook
Atel-Maleng AT(1): yɑuk^{h} AT(2): yauk Ml: yo̱o̱k TE: **tăɣɔɔŋ**
Thémarou yɑuk

Kri-Phoong Kr: kwaɲ P: kwaɲ
Mlengbrou kwaɲ

Cheut TX: yoo̱k BP: ʒook / ʒok Rục (Lợi): ijok^{3}

Lar Gibbon (left)
Hylobates lar

Southern White-Cheeked Gibbon
Nomascus siki

Slow Loris
Lorisidae

Việt cu ly gầy

Bengal slow loris Nycticebus bengalensis
Sunda loris Nycticebus coucang
Pygmy slow loris Nycticebus pygmaeus

Mlengbrou l̥ụ̈ụ̈ tị̈ŋ

Unable to elicit a name for this relatively common animal, except in Mlengbrou. There may be a prohibition involved.

Pangolin **PMK *b-rn-j__l**
Manidae

Việt		tê tê			
Mường	?				
Toum-Phong		Ph: kăbuul	**T: khluut**	Lh/PL: baon	**Lh/SM: khluut^{h}**
Ahoe-Ahlao		Ahoe: kăbol	Ah: kăbool	Ahl: kăbool	
Atel-Maleng		AT(1): kabor	AT(2) bɔɔl	Ml: kăbɑɑr	TE: kăbɔl
Thémarou		kăbor			
Kri-Phoong		Kr: kɔrbɔr	P: kăbor		
Mlengbrou		kăboor			
Cheut		TX: mbor	PB: bool	Rục (Lợi): kumbor[1] , m-bor[1]	

The two species are not lexically differentiated. The form is regular throughout the languages studied here with the exception of Toum and Liha with a separaye etymon.

CHAPTER 4 – KRI-MOL BIRDS

Bird
Duck
Hawk, Kite, Eagle
Osprey
Owl
Fish Owl
Dove, Pigeon
Hornbills
Greater
Wreathed
Pied
Rurous-necked
Brown
Green Peafowl, Peacock
Grey Peacock
Pheasants
Drongo
Crow
Quail, Partridge
Button quail
Coucal
Bulbul

Bird (LF) *Aves*	**PMK *(k-)ceem**		
Việt Mường	con chim cim[1,2]		
Toum-Phong Ahoe-Ahlao	Ph: ciim Ahoe: ʔaciim	T: tuu ciim Ah: **ʔacɑɑŋ**	Lh: ciim Ahl: **ʔcɔy**
Atel-Maleng Thémarou Kri-Phoong Mlengbrou	AT: ʔɑɑ ʔɔuʔ Kri: ʔooʔ ʔɑɑʔ	Ml: ʔɑɑ P: ʔoo	TE: ʔɔɔ
Cheut	TX: nc̣im	Rục: ĭcim	

Duck **PMK *ʔadaaʔ**
Anseriformes: Anatidae: Anas

Việt	vịt		
Toum-Phong	Lh: vi̱i̱t (-daak)		
Ahoe-Ahlao	Ahoe: ʔatɤɤ	Ahl:ʔatɛɛ	
Atel-Maleng	At: vịtth	Ml: viit	TE: vi̱i̱t
Thémarou	vịtth		
Kri-Phoong	Kr: vi̱i̱tth	P: vi̱i̱tth	
Mlengbrou	kɯap kɯap		
Cheut	TX: vi̱i̱t	Rục: vịt	

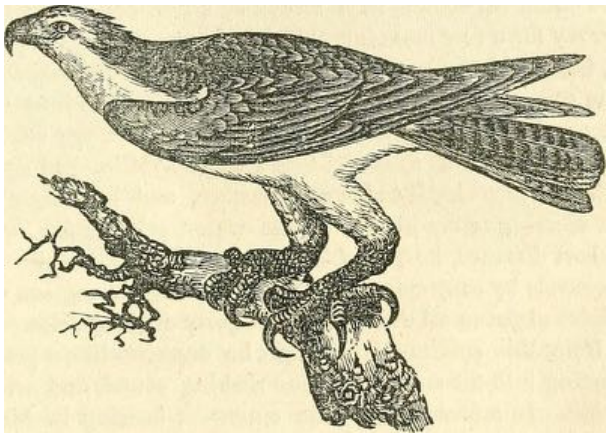
Hawk, Kite, Eagle
Falconiformes: Accipitridae

Toum-Phong	Ph: t. hɛɛl	T: t. hɛɛl	Lh: t. hɛɛn
Ahoe	Ahoe: hl̥		
Atel-Maleng	AT: hɛʔl	Ml: hɛɛl	TE: hɛɛl

Kri-Phoong	P: ʔ. kălạ̈ạ̈ŋ
Mlengbrou	kălạ̈ạ̈ŋ

Perhaps confusion with Osprey.

There are some 46 species of hawks, eagles and kites (inclusing falcons) in Laos so its difficult to differentiate. Informants seem not to make fine distinctions except for the osprey. And even here identification is not certain.



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Osprey **PMK *k(a)laaŋ**
Falconiformes: Accipitridae (Pandion haliaetus L.)

Việt	lang
Mường	tráng (GD)

Toum-Liha	Ph: t. klaaŋ T: t. klaʔaŋ Lh: t. klaʔaŋ
Ahoe-Ahlao	Ahoe: kaalaaŋ Thaveung: kalaaŋ 1 (GD)
Atel-Maleng	AT: kaalaa̤a̤ŋ Ml: kălaaŋ TE: kălaaŋ
Thémarou	kăl kalaa̤a̤ŋ tălɯɯŋ
Kri-Phoong	Kr: kălaa̤a̤ŋ P: ʔ. **vɔɔ**
	k. kăyɔɔ
	k. pa̤a̤y
	k. kiŋkwɛr

Note: The Kri forms are undoubtedly species of haws, kites, eagles and falcons.

Owl
Strigiformes

Việt	con cú [C tone]
PT	*gaw C
Bit	pkɔɔ ‘owl; general term for owls’

Phong-Toum	Ph: boo	T: baaw	Lh: baaw
Ahoe-Ahlao	Ahoe: bɔɔ		
Atel-Maleng	AT: bɔʔɔ	Ml: bɔɔ	TE: bɔʔɔ
Thémarou	păcoo (? not sure of identity)		
Kri-Phoong	Kri: pɔɔŋ pɔɔŋ (horned owl)	P: kuu (all owl species)	
Mlengbrou	ʔ. boo		
Cheut	Rục: pó		

Note Kri: ʔ. mi̱m , ʔ. koo (round-headed owls)

* Thémarou seem to be the same as 'pigeon.' There may be some lexical confusion between doves and owls but I'm not sure why this should be the case as the morphology is so different. The Vietnamese form for dove is *chim **bồ** câu*. (Perhaps related to the calls??).

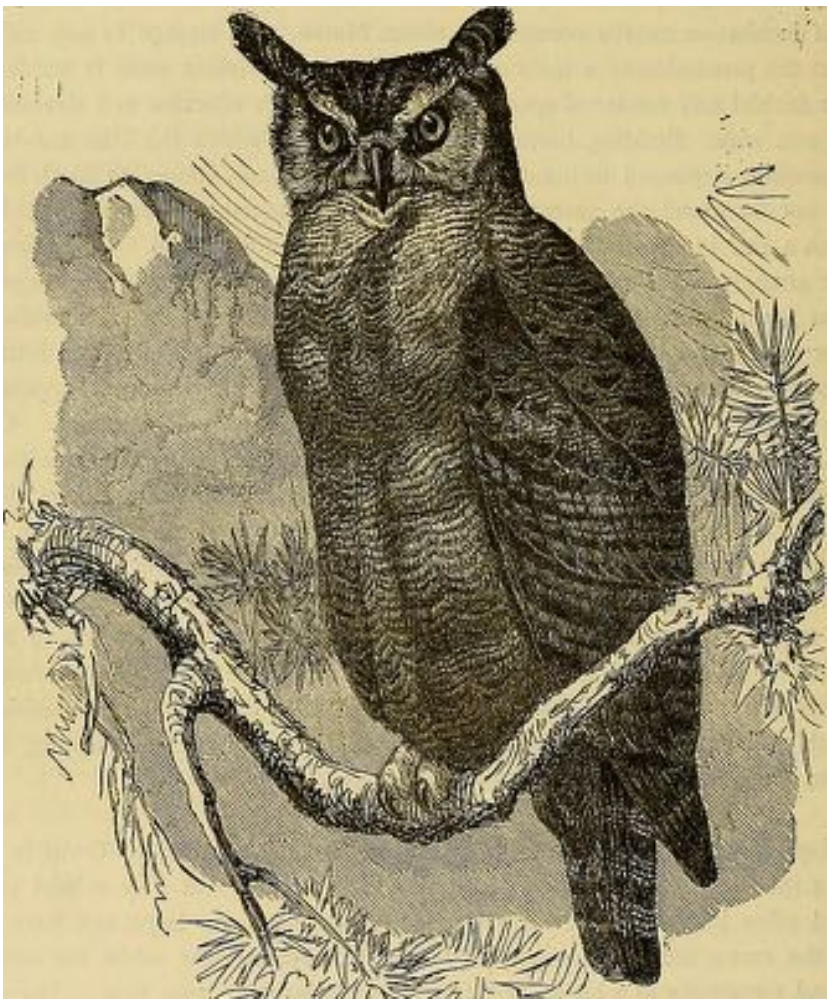
Fish Owl
Bubo

Toum-Phong	Lh: thu thii
Atel-Maleng	TE: ʔ. thɯɯ thɯɯ
Thémarou	ʔ. thɯɯ tịh
Kri-Phoong	Kri: kălạạn thuu thii

Note: Could be a confusion with 'nightjar' or 'frogmouth'. (??)
Also: Lao = /nok thii B1 thii B1/ and BT 'nightjar' /tɯɯ tɯɯ/.

There may be superstitions attached to this bird. In BT for example, hearing the call is a bad omen, and the onomonopoeic representation.

Note reduplicative or expressive disyllabic form in other AA languages ??



Doves / Pigeon

Columbiformes: Columbidae

Việt	chim bồ câu (A)
PT	*khraw A
Toum-Phong	Ph: t. cuu cuu (-pɯŋ) T: t. kow kow Lh: kuu kuu (kuu ʔɯŋ)
Ahoe-Ahlao	Ahoe: păkuu
Atel-Maleng	AT: păcoo ML: păkuu TE: păkuu
Thémarou	păcoo
Kri-Phoong	Kri: tăkoo P: tăkuu
Mlengbrou	pikuu
Cheut	Rục: bɔ̀ kău

Hornbills (Coraciiformes: Bucerotidae)

The five main species of hornbills for which separate taxa exist in Kri-Mol languages: Conservation of Hornbills in Thailand:

https://www.researchgate.net/publication/257602982_Conservation_of_Hornbills_in_Thailand

Cf. Sanguansombat , W. 2005. Thailand Red Data: Birds . Office of Natural Resources and Environmental Policy and Planning (ONEP) , Bangkok, Thailand.
Conservation of Hornbills in Thailand (PDF Download Available). Available from: https://www.researchgate.net/publication/257602982_Conservation_of_Hornbills_in_Thailand [accessed Sep 13, 2017].

Great Hornbill
(Buceros bicornis)

Wreathed Hornbill
(Rhyticeros undulatus)

Oriental Pied Hornbill
(Anthracoceros albirostris)

Rufous-necked Hornbill
(Aceros nipalensis)

Brown Hornbill
(Anorrhinus tickelli)

Greater Hornbill **Proto-AA *trɯaŋʔ**
Buceros bicornis

Việt	chim hoàng, chim hồng hoàng (species not specified)		
Mường: ??			
Bit	ceem truəŋ ‘plain-pouched hornbill’		
Toum-Phong	Ph: kuu hl̥aaŋ	T: koo r̥ɑ̤ɑ̤ŋ	Lh/SM: koo ɣaaŋ
Ahoe-Ahlao	Ahoe: ʔɑŋ l̥ɤŋ	Ah: thiiŋ	
Atel-Maleng	AT: tarɒ̰ɒ̰ŋ	Ml: thrɔɔŋ	
Thémarou	ʔ. tărɯa̤ŋ		
Kri-Phoong	Kr: ʔ. traaŋ / tza̤ɑ̤ŋʔ	P: cɔɔŋ	
Mlengbrou	triən		

Wreathed Hornbill
Rhyticeros undulatus

Toum-Phong	Ph: t. kɯk	T: t. klɤk

Ahoe-Ahlao	Ahoe: kɛ̤ɛ̤ŋ	(possible error for Pied)

Atel-Maleng	AT: koo	
Thémarou	kọ̤ọ̤	
Kri-Phoong	Kr: ʔ. koo	P: ʔ. kuu

Pied Hornbill **Proto AA *krəŋkiəŋ^{ø}**
Anthroceros albirostris

Atel-Maleng AT: kɛɛŋ kɛɛŋ Ml: ʔ. kɛɛŋ

And perhaps, confused with Brown Hornbill:

Lh/SM: ciim nok keeŋ (~ Lao)
Ah: ʔakɛɛŋ

And Wreathed Hornbill:

Ahoe: kɛ̤ɛ̤ŋ

Note the Lao taxon is *nok kɛɛŋ* 'pied hornbill'. This could be an old MK borrowing into Lao and other Tai languages. The bird is only found in the tropics, but is the most common of all the hornbils. It may have been thus the most commonly traded and this must have begun rather early. A fifth century Buddhist monk wrote of them, and Tang sources frequently mention the use of the casques as drinking vessels by local people. In Chinese they were known as *mung dung* or *mung ch'ong* and certain hornbill-shaped war boats were named after them (Schafer 241-2). Though the current range does not include Guangdong and Guangxi, it is probable that originally it was found at least as far north as the Tropic of Cancer.

Bit ceem bɔɔŋ kɛɛŋ 'great hornbill'

Rufous-Necked Hornbill
Aceros nipalensis

Atel-Maleng	AT: ʃtɤk	Ml: ʔ. stɤk
Thémarou	ʔ. sitɛɛʔl	

Kri-Phoong	Kr: ʔ. căbɔ
Mlengbrou	ʔ. căbooʔ

Brown Hornbill
Anorrhinus tikelli

Toum-Phong	Ph: t. mlɔl	T: t. maul	Lh/SM: ciim nok keeng (< Lao)
Ahoe-Ahlao	Ahoe: mlɛl	Ah: ʔakɛɛŋ, mlææ	
Atel-Maleng	AT: mlɛl	Ml: mlɛl	TE: ʔ. mălɛɛl
Thémarou	ʔ. mălɛɛw		
Kri-Phoong	Kr: ʔ. mlɛl	P: ʔ. mlɛl	
Mlengbrou	mɛl		

The species found in Laos is Austen's Brown Hornbill (*Anorrhinus austeni*). In Lao this hornbill is referred to by the playful name of *maa noy*, that is, 'little dog, puppy.'

Green Pea Fowl, Peacock
Galliformes: Phasianidae (Pavo muticus)

Việt	con công		
Bit	kwəəŋ ‘peacock’		
Toum-Phong	Ph: t. **kăyuu**	T: t. klaoŋ	Lh: t. kuaŋ
Ahoe-Ahlao	AhoeL kaavɑŋ	Ah: kaavn̰ŋ	
Atel-Maleng	AT: kăvn̰ŋ	Ml: kăvɑŋ	TE: kăvɑŋ
Thémarou	ʔ. vooŋ		
Kri-Phoong	P: voŋ vaaw	Kri: voŋ vạạw	('argus pheasant')
Mlengbrou	kaa vɯŋ		
Cheut	TX: kakooŋ	Rục: kàvoŋ	

Grey Pecock
Phasianidae

Atel-Maleng	AT: kɔŋ kɔɔc (male) koo koor (female)
Kri-Phong	Kri: koŋ kooyʔ
Bit	ceem bɔŋ kɔɔy ‘peacock pheasant’

Pheasants

Phasianidae

Việt	chim trĩ

Toum-Phong	Ph: t. klɔɔl	T: t. klool	Lh:	kloon
Atel-Maleng	AT: kălɯŋ	TE: kălɯŋ		
Thémarou	ʔ. ʃɛɔŋ ('siamese fireback')			
Kri-Phoong	Kri: kălɯŋ	P: kălu̱ŋ		
Mlengbrou	kălu̱ŋ			

Drongos
Dicuridae

Toum-Phong	Ph: ciim viaŋ	T: ciim viaŋ (large) ciim kok (small)	Lh: ciim tooy kaa
Ahoe-Ahlao	Ahoe: **kăcoɔŋ**		
Atel-Maleng	AT: khɔy lɔɔy	Ml: ʔ. khălɔɔy	
Thémarou	pălɔɔy		
Kri-Phoong	Kri: khilooy	P: ʔ.kălooy	
Mlengbrou	ʔ. ʔaveạ̄ŋ		

There are two main species, one has a longer bifurcated tail and is more outstanding.

Crow
Corvidae

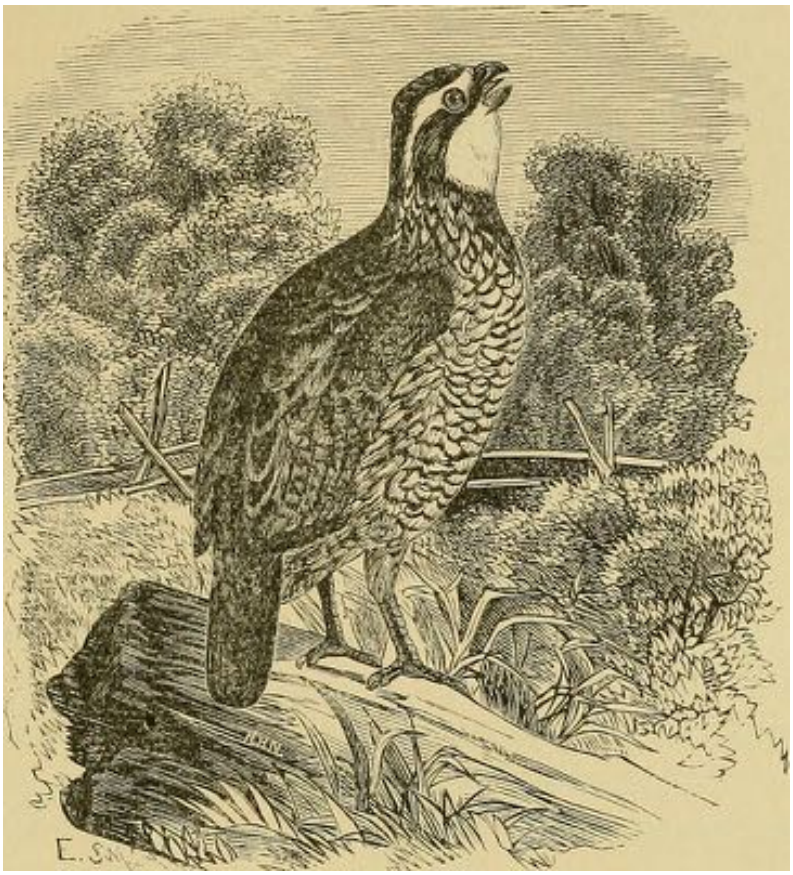
Việt	con quạ (C)
Mường	ak[3,5]
Lao	too kaa A , nok kaa A

Toum-Phong	Ph: t. ʔaak ʔaak	T: t. ʔaak ʔaak	Lh: t. ʔaak ʔaak
Ahoe-Ahlao	Ahoe: kăʔaak		
Atel-Maleng	At: ʔaak	Ml**:** ʔ. ʔaak	
Thémarou	ʔaak ʔaak		
Kri-Phoong	**Kr:** krăʔaak	P: ʔ . ʔaak	
Cheut	Rục: ăʔák		

Quail
Coturnix sp.

Việt	chim con cút, chim rẽ (chim đa đa ‘partridge’)
Lao	nok khɔɔ B1
Toum-Phong	Ph: kăyaaŋ TL yaaŋ
Ahoe-Ahlao	Ahoe: kăyaaŋ
Atel-Maleng	TE: kæyaaŋ (At: kăyaʔaŋ ‘partridge’)
Thémarou	prooc tɔɔh (prooc = partridge [Lao nok thaa A])
Kri-Phoong	Kr: kɔŋ krɔɔc (kăyaaŋ ‘partridge’)
Mlengbrou	krăyaaŋ
Bit	ceem prɔɔc ‘blue-breasted quail’

Quails and partridges (*Phasianidae*) are similar in appearance, and thus difficult to differentiate using photos. Button quails, however are usually readily distinguished.



Button Quail
Turnicidae

Lao	nok khum C1
Toum-Phong	Ph: ʔuut ʔuut
Ahoe-Ahlao	Ahoe: ʔut ʔuut
Atel-Maleng	At: ʔut TE: ʔ. ʔuut
Kri-Phoong	P: ʔ. ʔuut
Mlengbrou	bɔɔc (cognate with Thémarou ‘partridge’)
Bit	ʔii ʔoot ‘quail ‘

Coucal
Cuculiformes: Cuculidae (Centropus sinensis)

Lao nok kot

Toum-Phong T: ʔut ʔuut Lh: ʔut ʔuut (seems to be confusion with button quail?)
Ahoe-Ahlao Ahoe: puɪt puɯɯt
Atel-Maleng At: pi̤t pii̤t Ml: pit piit TE: pi̤t pii̤t
Thémarou pii̤t pii̤t
Kri-Phong Kr̤: pi̤t pii̤t
Mlengbrou pi̤t pii̤t

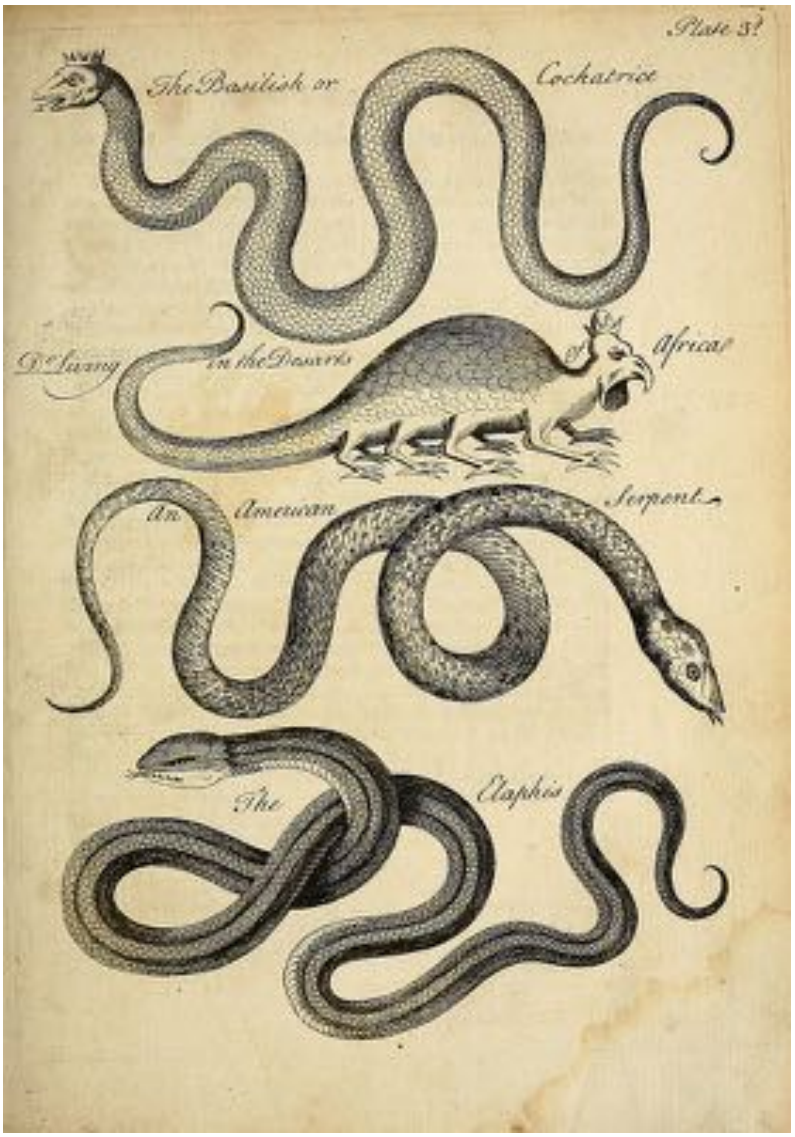
Weak fliers. Usually found on or near the ground, hence the confusion with button quail ?? But they are so different that it is hard to imagine how this would happen. Thus for the time being, since both Toum and Liha provide the same taxeme, this this may be considered an unambiguous adentification. Note however, Phong /t.puɯɯt puɯɯt/ ‘partridge’.

Bulbul
Pycnonptinae

Atel-Maleng	At: phrɻɻʔw	Ml: phrɛɛw
Ahoe-Ahlao	Ahoe: **ʔaciim ʔɔʔ mɔŋ**	
Thémarou	ʔ. prɛɛw	
Kri-Phoong	Kr: pirɻɻw	P: prɛɛw
Mlengbrou	tăkɔy mɛɛw	

CHAPTER 5 – KRI-MOL REPTILES AND AMPHIBIANS

Snake
Python
Cobra
Skink
Agamid
Physignathus
Flying lizard - Draco
Wall lizard - Hemidactylus
Tokay Gekko
Tree monitor
Water monitor
Turtle/tortoise
Testudo impressa
Platysternon
Soft-shelled turtle
Frog
Toad



Snake **PMK *k-m-saŋ , *mar**
Serpentes

Việt con rắn
Mường t'aŋ , saŋ

Toum-Phong Ph: tuu siŋ T: siʔŋ Lh/PL: tau ʃəŋ Lh/SM: tu ʃʌʔŋ

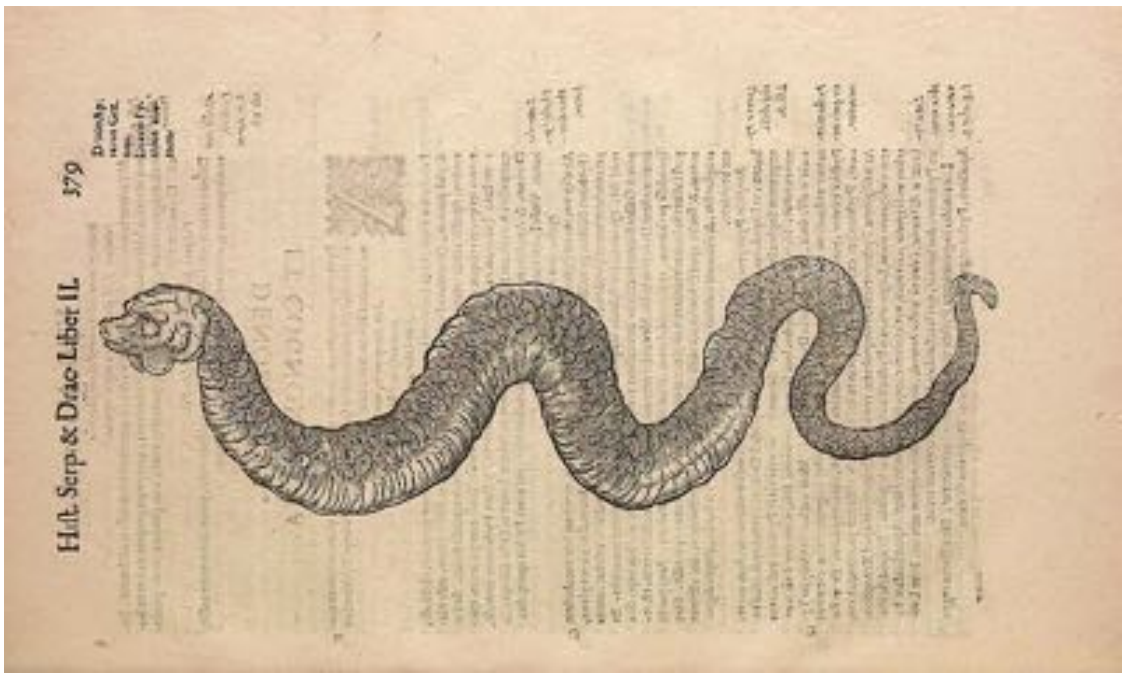
Ahoe-Ahlao Ahoe: luk Ah: luk Ahl: luk

Atel-Maleng AT(1): kopee AT(2) kăpee Ml: kăpee TE: kăpe̤e̤

Thémarou kobɯat [NB – Jiamao (Hainan) /ɓuat[7]/ ‘snake’]

Kri-Phoong Kri: ʃăyaar P: th/ʃăyaar
Mlengbrou tăya̤a̤r

Cheut TX: pɤsiŋʔ Rục: păsiŋ



Python **PMK * t( )lʌn**

Việt trăn
Mường klan^{2} , tlan^{2}

Toum-Phong Ph: tuu klin T: tuu klɤn Lh/PL: tau klʌn Lh/SM: tu klɔʔn
Ahoe-Ahlao Ahoe: luk taalen Ah: luk tălʌn Ahl: luk tălɛn
Atel-Maleng AT(1): k. tălʌn AT(2): k. tălʌn Ml: k. tălʌn TE: k. tălʌn
Thémarou k. klan
Kri-Phong Kri: ʃ. klan P: ʃ. kălʌn
Mlengbrou **krạw**
Cheut: TX: p. lyɤnʔ Rục: (kɔn) pəsiɲ liạn

Top: P. reticulatus

Bottom: *P. molurus*

Cobra
Naja sp.

Việt	rắn hổ (B) mang
Mường	hu^{4} zɤ̌m^{1} , ho mang , hriɲ hu …
Tai	haw B

Toum-Phong Ph: tu siŋ huu T: siʔŋ həu Lh/PL: ʃəŋ həu Lh/SM: ʃʌʔŋ haʔu (< Tai?)

Ahoe-Ahlao Ahoe: luk tayaal kuul Ah: luk coŋ ʔaaŋ (< Tai 'O.h.') Ahl: luk coŋ ʔaaŋ

Atel-Maleng	AT91): k. ʃălu̱u̱m AT(2): k. ʃlɯm Ml: k. săl̤um TE: k. ʃăl̤um
Thémarou	ʃălɯɯm
Kri-Phoong	Kri: ʃ. căl̤um P: ʃ. ʃăl̤um
Mlengbrou	ʃ. căl̤um

Cheut	TX: p. byoo̱ŋ	Rục: p. joŋ , bɤjông^{4}

Toum-Phong and Vietnamese forms seem to be borrowings from Tai. But there are in fact three etyma involved here, and Mường dialects have all three.

It is difficult to get a clear differentiation between the common cobra and the king cobra, *Ophiophagous hanna*. The Ahao-Aflao forms are borrowed from Tai/Lao 'king cobra.'

Skink
Mabuya sp.

Việt thằn lằn

Toum-Phong Ph: t. bul bool T: t. bol bol Lh/PL: t. bon baun LH/SM: t. bun bauʔn

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Ahoe-Ahlao	Ahoe: kaanaal	Ah: kănaal	Ahl: kănaar
Atel-Maleng	AT: kănaar	Ml: kănaal	TE: kănaal
Thémarou	kănaar		
Kri-Phoong	Kri: tălɑ̨ɑ̨	P: kănaar	
Mlengbrou	tăloɔ		
Cheut	Rục (Lợi): kanơal		

Agamid *Calotes sp.*	PMK *pŋkuay [cf Kri-Phoong 'Physignathus']
Việt	đung đạng (?)
Toum-Phong	Ph. t. kădɔɔ T: t. dɔdɔɔ Lh/PL: t. dɔdɔɔ Lh/SM: t. tang dɔdɔʔɔ
Ahoehlao	Ahoe: kaduah Ah: kăduh Ahl: kăduh
Atel-Maleng	AT(1): kăduəh AT(2): thăreah Ml: kăduah TE: kăduəh
Thémarou	taareah
Kri-Phoong	Kri: roŋ rɛ(ɛ)h P: ruŋ rɛɛ
Mlengbrou	dua roŋ riiʔ
Cheut	kurụt

Physignathus (Water Lizard)
Agamidae

Lao kathaaŋ

Toum-Phong Ph: kătaaŋ T: t. tan taan Lh/LP: t. taŋ taaŋ Lh/SM: t. taaŋ
dɛʔɛ

Ahoe-Ahlao Ahoe: kăyɑɑŋ Ah: kăyɑɑŋ Ahl: kăyɔŋ
Atel-Maleng AT(1): kăyɑɑŋ AT(2): kăyaoŋ Ml: kăyɑŋ TE: kăyɔɔŋ
Thémarou kaayo̤o̤ŋ [NB Proto-Central Hlai * rjɯːŋ 'lizard']

Kri-Phoong Kri: tăko̤o̤yʔ P: tăkooy **[cf PMK 'Calotes']**

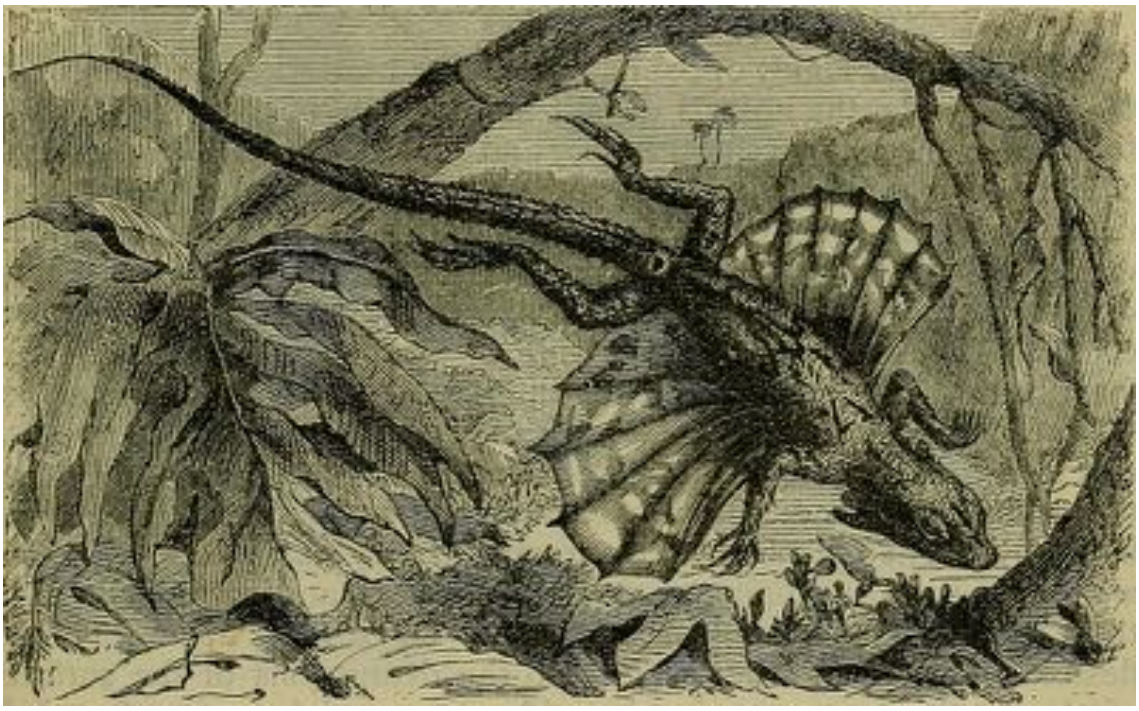
Mlengbrou kătheaŋ

Cheut **po̤o̤ʔ**

Probably Lao borrowed /kathaaŋ B/ from AA languages.

Draco (Flying Lizard)
Agamidae

Toum-Phong	Ph: pɔm piik (< Tai)	T: dɔdɔɔ pɤl	Lh/SM: tu taaŋ
Ahoe-Ahlao	Ah: kăduh ʔapɛ̯ɛŋ		
Atel-Maleng	AT: kăpɑh nɑɑŋ	Ml: mălɛɛp	TE: muu lɛɛp also: pɔm piik (< Tai)
Thémarou	ɲialɛɛt		
Kri-Phoong	Kri: ɲalɛɛt	P: ʔilɛɛt	



Hemidactylus (wall lizard)
Gekkonidae

Toum-Phong	Ph: ɲaa hlian (< Tai)	Lh/PL: ɲaa hɯan (< Tai) Lh/SM: t. ɲaa hɯan
Ahoe-Ahlao	Ahoe: kikiam (< Lao)	Ah: kăliŋ ʔalo̤o̤ŋ
Atel-Maleng	Ml: ɲaa hɯan (< Tai)	
Kri-Phoong	Kri: krap	
Mlengbrou	kăkɯmʔ (< Lao/Yooy *kikiam*)	

All form borrowed from Tai or Lao except Ahao, which looks like an expressive, and Kri -origin unknown.

Tokay Gecko
Gekkonidae

Việt các kè

Most languages do not have a word. Where it is found it is always a form of /kak kɛɛ/ , imitative of the sound of the voice of this lizard. Like *Hemidactylus*, the tokay gekko is limited to areas of human habitation.

Tree Monitor **PMK *trkuɐt**
Varanus bengalensis

Việt	kỳ đà vân
Toum-Liha	Ph / T / Lh : lɛɛn (< Tai)
Ahoe-Ahlao	Ahoe: tăkɔt Ah: tăkɑɑt Akl: tăkɔɔt
Atel-Maleng	AT(1): tăkɑɑt AT(2): tkꟾt Ml: tăkɑɑt TE: tăkɑt
Thémarou	trăkɔɔk (< Brou)
Kri-Phoong	Kri: tăkɔt^{h} P: rkɔɔt
Mlengbrou	tăkɔt
Cheut	ʒkɔt

Absence of the taxon in Thémarou may be due to the deep forest wet evergreen habitat where this species probably does not occur.

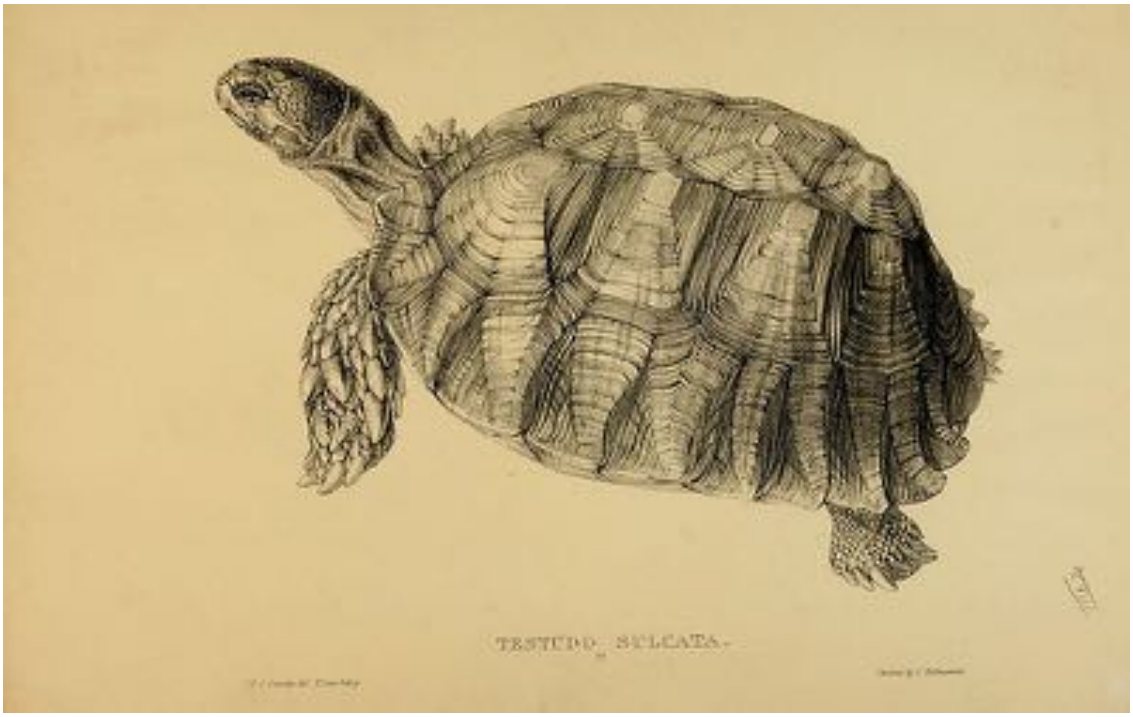
Water Monitor **PMK *r__ʔ**
Varanus salvator

Việt	kỳ đà				
Toum-Phong	Ph: lia	T: tu **khlak**	Lh: hia (< Tai)		
Ahoe-Ahlao	Ahoe / Ah / Ahl : hia (< Tai)				
Atel-Maleng	AT(1) riəʔ	AT(2) hriəʔ	Ml: r̥ia	TE: hr̥ia	
Thémarou	dr̥iaʔ				
Kri-Phoong	Kri: riaʔ	P: riaʔ			
Mlengbrou	rɨə̰ʔ				
Cheut	trɨ̈ɨ̈ʔ	Rục (Loi): tơri[1]			

Both monitors show good solid sets of correspondances. But the Vietnamese terms have no relation. Probably *(kỳ) đà* derives from the Chinese word for 'alligator' that lives/lived in the Yangtse River.

Turtle / tortoise **PMK *ruus**
Chelonidae

Việt	con rúa				
Mường	da^{3} hrɔ^{1} , rɔ^{1} , dɔ^{1} , ʒɔ^{1}				
Toum-Phong	Ph: l̥ɔɔ	T: l̥aaw	Lh/PL: l̥ɔɔ	Lh/SM: tu ɣɔɔ	
Ahoe-Ahlao	Ahoe: l̥ɔɔ	Ah: hɑɑ	Ahl: l̥ɔɔ		
Atel-Maleng	AT(1): r̥ɔɔ	AT(2): roah	Ml: r̥ɔɔ	TE: hr̥ɔɔ	
Thémarou	rɔɔ				
Kri-Phoong	Kri: r̥ɔɔ	P: r̥ɔɔ			
Mlengbrou	rɑɑ				
Cheut	TX: ʔarɔɔ	Rục: ărɔ			



Manouria impressa – Impressed Tortoise

Toum-Phong	Ph: - kaaw	T: - kaaw	Lh/PL: - kaaw	Lh/SM: - phlaʔu
Ahoe-Ahlao	Ah: - hooŋ			
Atel-Maleng	AT: - kăbooŋ	Ml: - kăbooŋ - kaaw	TE: - kăbooŋ	
Kri-Phoong	P: - dɯa (< Tai) , ka:w (E&D)			

Platysternon (Big-Headed Turtle)

Toum-Phong	Ph: - puu luu	T: - pəu ləu	Lh/PL: - puuluu	Lh/SM: - pu lau
Thémarou	- dok dok			
Kri-Phoong	Kri: - dok dok	P: - kwii		
Mlengbrou	- dok dok			

Soft-Shell Turtles **PMK *t(m/r)paaʔ**
Trionychidae

Việt con ba-ba
Mường taj^{4} (cognate with Ahoe-Ahlao + TE) , pa^{2} pa^{2} , ba^{2} ba^{2}

PT *faa A

Toum-Phong Ph: t. peet T: t. peet (sm) Lh/PL: t. peet Lh/SM: t. peeʔt
t. taʔac t. lɛ̤ɛ̤ŋ

Ahoe-Ahlao Ahoe: - paatii Ah: - pătayh Ahl: - pătayh

Atel-Maleng AT(1): - pɯ̰ AT(2): - pɯr | TE: - pătii
Thémarou - phɯ̰l̰
Kri-Phoong Kri: - bɯ̰ P: pɯl
Mlengbrou - pɯl

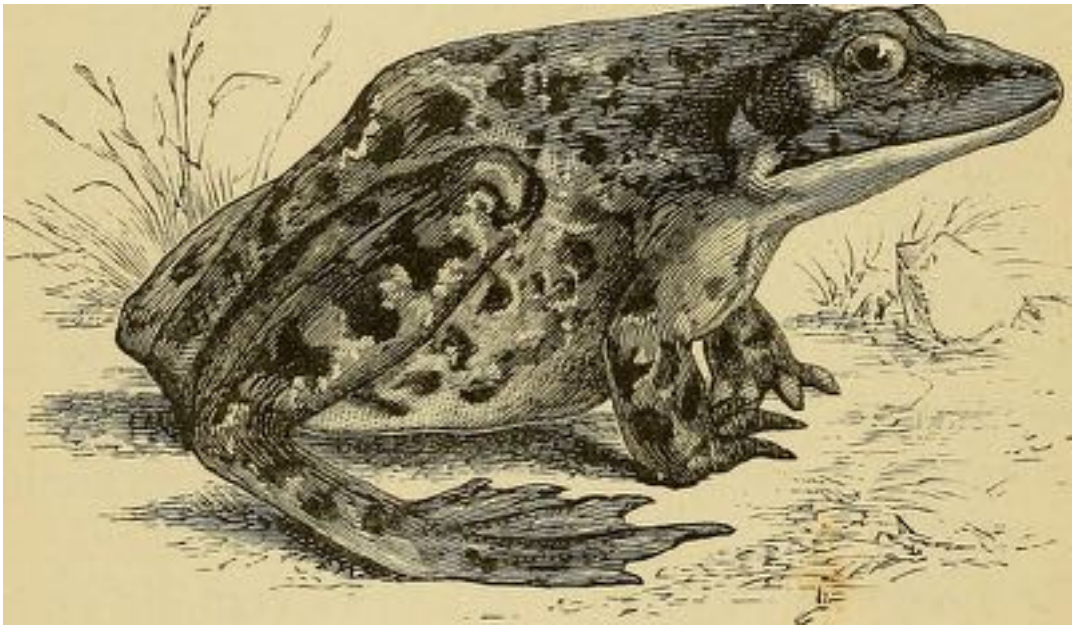
Toum-Phong use the UB classifier, but the rest all use 'turtle'. This is consistent with the Tai languages that are found near the Toum-Phong branch.

That Mường agrees with the Ahoe-Ahlao is interesting.

Frog
Ranidae

Việt	con ếch , con nhái			
Mường	ek[3,5] , ec[3] , kum[1]			
Toum-Phong	Ph: t. kɔɔt	T: kaut	Lh/PL: kɔɔt	Lh/SM: tu ʔeek
Ahoe-Ahlao	Ahoe: **kălɤp**	Ah: kɑp, kụụt	Ahl: kuut	
Atel-Maleng	AT(1): koot	AT(2): kuat	Ml: kop, koot	TE: kop, koot
Thémarou	kuut			
Kri-Phoong	Kri: kɔt	P: kɔɔt		
Mlengbrou	kɒɒt			
Cheut	TX: **kəlɤp**, kuɔt		Rục: kuàk	Rục (Lợi): kôot[4]

/kop/ forms are contact words with Tai. The Kri-Mol root seems to be *k--t. But note Ahoe and TX /kălɤp/. None of the forms except for Liha SM agrees with Vietnamese, and that is probably a borrowing because the village is very close to the Vietnamese border.



Toad **PMK *_(n)r(--)k**
Bufonidae

Việt con cóc

Mường krak, ʒak, rak, hak, pɔ kɔk, bɔk kɔk, bɔŋ kɔk, bɔk kɔk, rak rak

Toum-Phong Ph: kătuu (< Tai) T: r̥ɔk r̥ɔk Lh/PL: l̥ɔk l̥ɔk Lh/SM: tu ɣɔɣɔɔk
Ahoe-Ahlao Ahoe: l̥ɑk Ah: hɑk Ahl: l̥ɔk

Atel-Maleng AT(1): koot ʔarɑk AT(2): kuat ʔrɔk Ml: ʔarɑh TE: koot ʔar̥ak
Thémarou kuut ndrɔk
Kri-Phoong Kri: kɔt ndɔk P: kɔɔt ndrɔk
Mlengbrou kɔn rɔk

Cheut LX: ʔutu̯u̯t Rục (Lợi): kutôot[4] , kutuɔt[4]

Interestingly, in the Nrong-Theun groups, toads are classed as frogs. The Cheut form is a distinct unrelated etyma.

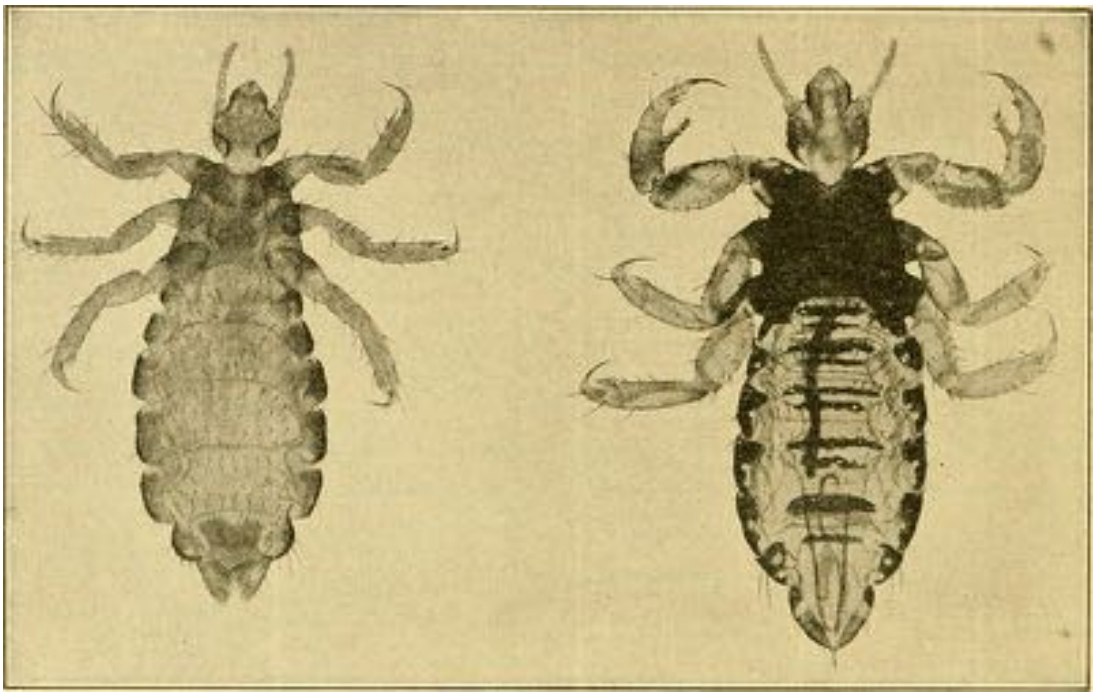
CHAPTER 6 – KRI-MOL ARTHROPODS

Body louse
Head louse
Chicken louse
Tick
Spider
Centipede
Rhinoceros Beetle
Grub (large)
Stinkbug
Cicada
Mosquito
Housefly
Maggot
Bee
Honey
Hornet
Wasp
Ant
Antlion
Termite (white ant)
Termite (adult fly)
Butterfly
Firefly
Grasshopper
Praying Mantis
Flea
Crab
Shrimp

Body Louse **PMK *(c)mr(--)ŋ**
Anoplura

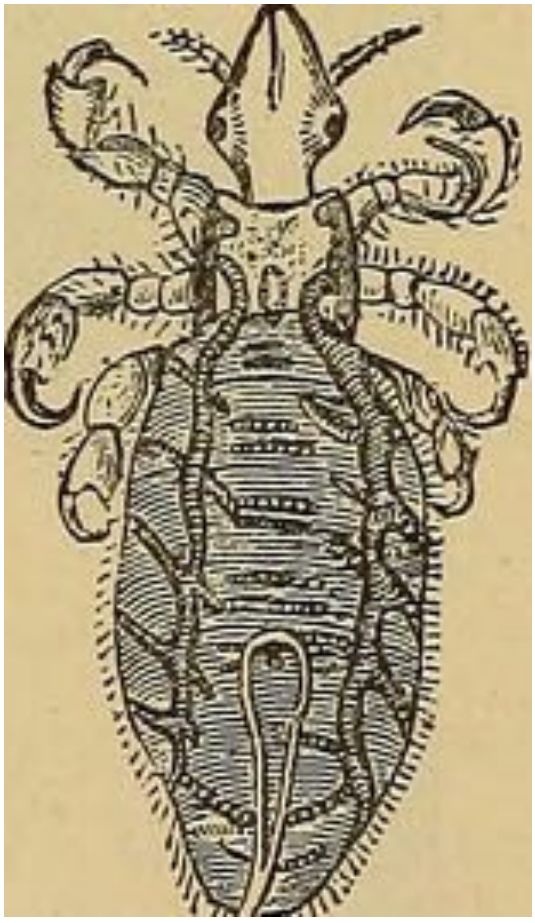
Việt	rận
Mường	p’eŋ^{5} , k’eŋ^{5}

Toum-Phong	Ph: t. pliŋ	T: pliʔŋ	Lh: tu fileŋ
Ahoe-Ahlao	Ahoe: nl̥iŋ		
Atel-Maleng	AT: mr̥iŋ	Ml: mriŋ	TE: măl̥iŋ
Thémarou	măreŋ		
Kri-Phoong	Kri: briŋʔ	P: bri̱ŋ	
Mlengbrou	ciʔ (usual reflex for ‘head louse’ but see below)		



Head Louse **PMK *ceeʔ**
Anoplura

Việt	con chấy			
Mường	ci[3]			
Toum-Phong	Ph: t. ciiʔ	T: ceʔey	Lh: cʌʔʌy	
Ahoe-Ahlao	Ahoe: kʌʌʔ			
Atel-Maleng	AT(1): cii	AT(2) cɛ̱ɛ̱ʔ	Ml: ci̱i̱	TE: ci̱i̱
Thémarou	ci̱i̱			
Kri-Phoong	Kri: ci̱i̱ʔ	P: cii		
Mlengbrou	ciʔ kaw kɤy			
Cheut	Rục (Lợi): chi[3]			

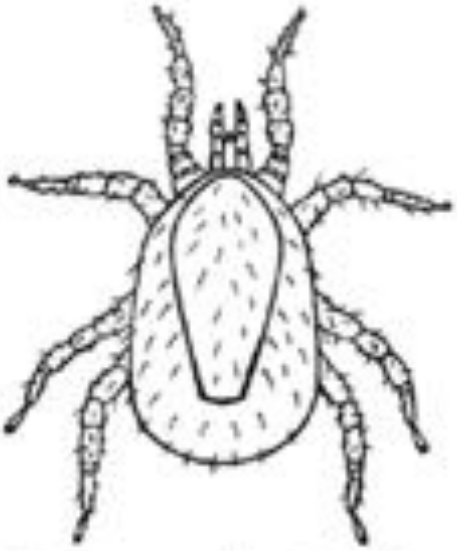


Chicken Louse, bird mite **PMK *maac**
Anoplura

Toum-Phong	Ph: t. maac	T: maac	Lh: mac maac

Ahoe-Ahlao	Ahoe: caapɛ̃ɛ̃		
Atel-Maleng	AT: ʃăpɛɛ	Ml: spɛ̨ɛ̨	TE: săpɛ̨ɛ̨
Kri-Phoong	Kri: ʃăpɛɛ	P: ʃpɛɛ	

Mlengbrou tămat kaa (‘chicken flea’)

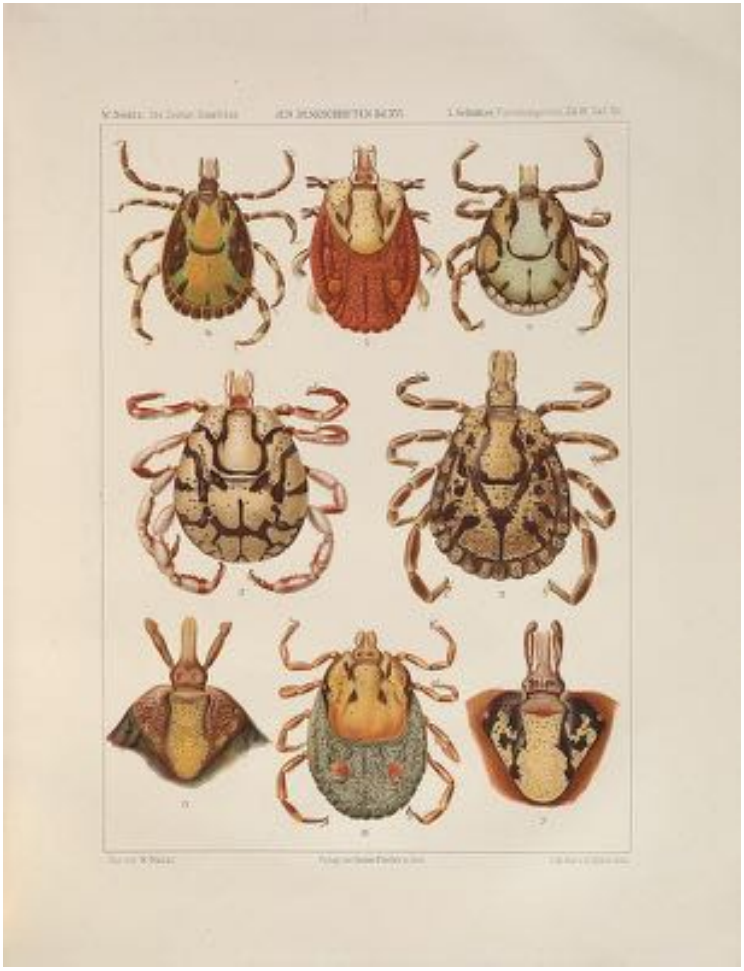


Dermanyssus gallinae, Red mite
(Northern Fowl mite looks similar) 1mm

Menopon gallinae, Common fowl louse, 2mm, yellow

Tick
Arachnida: Acarina

Việt	đánh dấu		
Toum-Phong	Ph: kăpɛɛt	T: pɛɛt	Lh: kăpɛ̃ɛ̃t
Ahoe-Ahlao	Ahoe: kăpɛ̰ɛ̰t		
Atel-Maleng	AT: kăpɛɛt	Ml: kapɛɛt	TE: kapɛɛt
Thémarou	kăpɛɛt		
Kri-Phong	Kri: kăpɛɛt	P: kăpɛɛt	
Mlengbrou	tăpɛɛt		

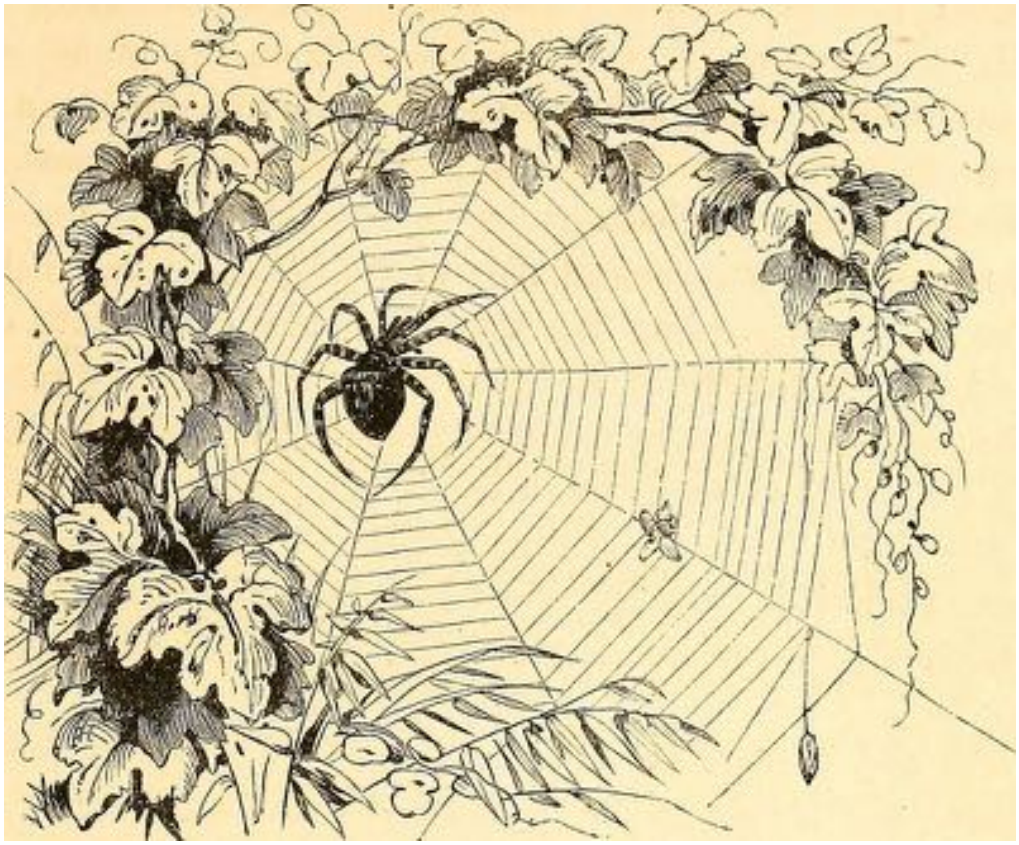


Spider **PMK *b__ŋ**
Arachnida: Araneae

Việt	con nhện		
Toum-Phong	Ph: nuŋ naaŋ	T: nuŋ naaŋ	Lh: ɲuŋ ɲaaŋ
Ahoe-Ahlao	Ahoe: ciŋ kuuʔ		
Atel-Maleng	AT: ɲiŋ	Ml: ɲiŋ	TE: kiŋ kụụ
Thémarou	tuu koo		

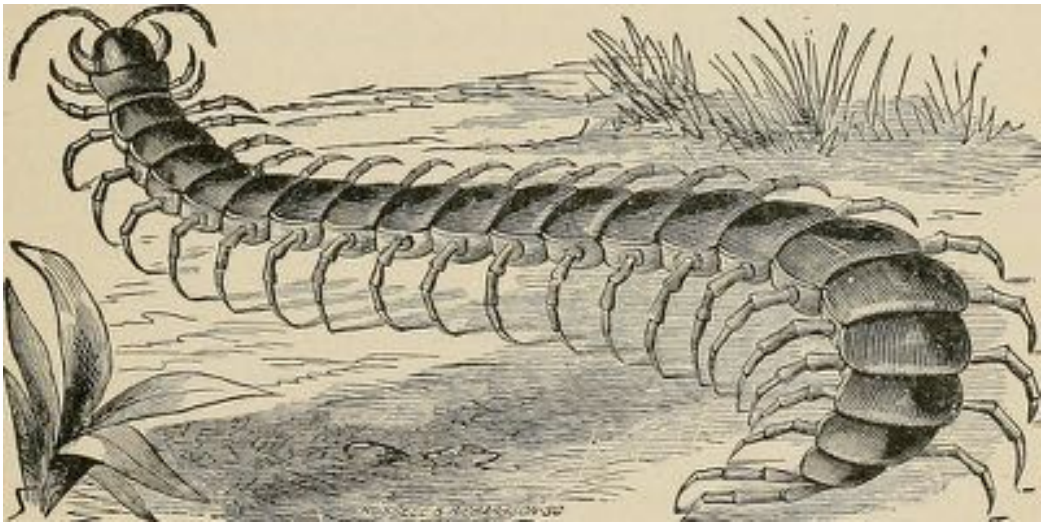
Kri-Phong	Kri: kuŋ	P: kuŋ
Mlengbrou	kuŋ	

Forms with /koo/ may refer to large jungle spiders, that is, a separate taxon.



Centipede **EMK *klʔeep**
Chilopoda

Việt	con rết
Mường	thet[3], set[3]
Toum-Phong	Ph: t. lip siip T: lip siip Lh: liip siip
Ahoe-Ahlao	Ahoe: kăʃiip
Atel-Maleng	AT: kăʃiip Ml: kăsiip TE: kăʃeep
Thémarou	kăʃi̱ip
Kri-Phong	Kri: tuu kăʃiip P: kăʃiip
Mlengbrou	krăʃiip
Cheut	Rục (Lợi): kasip[3]

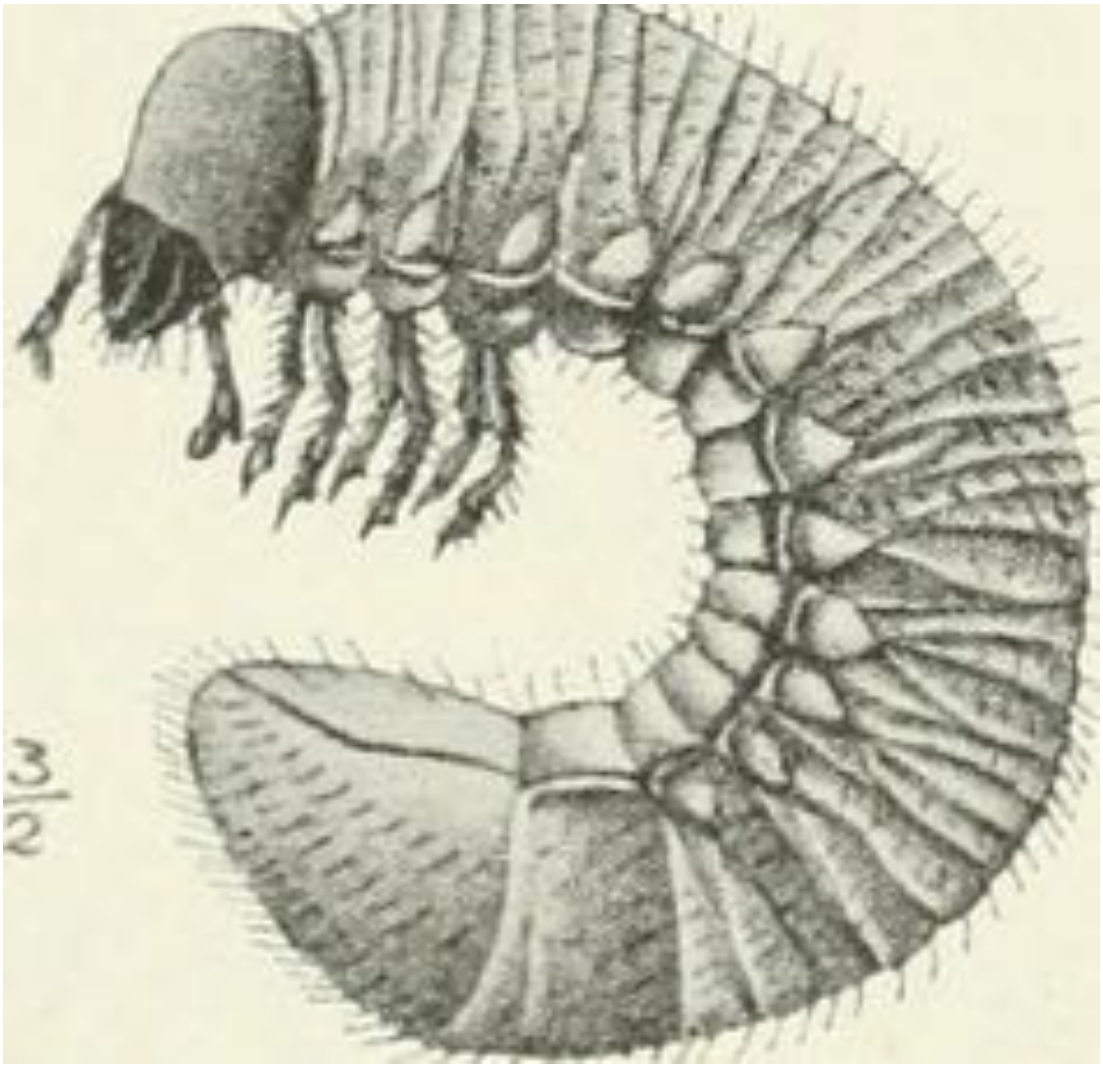


Rhinoceros Beetle / Stag Beetle ?
Coleoptera

Viet	giống bọ hiệu (?)		
Muong ??			
Toum-Phong	Ph: kuɲɛɛ	T: bac ɲɛɛʔ	Lh: kɔn kɔŋ
Ahoe-Ahlao	Ahoe: kaavɯŋ		
Atel-Maleng	AT: ɲi̱i̱ʔ	Ml: ɲe̱e̱	TE: tuu kho̱m
Thémarou	tuu ɲĩĩʔ		
Kri-Phoong	Kri: kătą̱a̱y	P: t. vɯŋ	
Mlengbrou	kăvɯl		

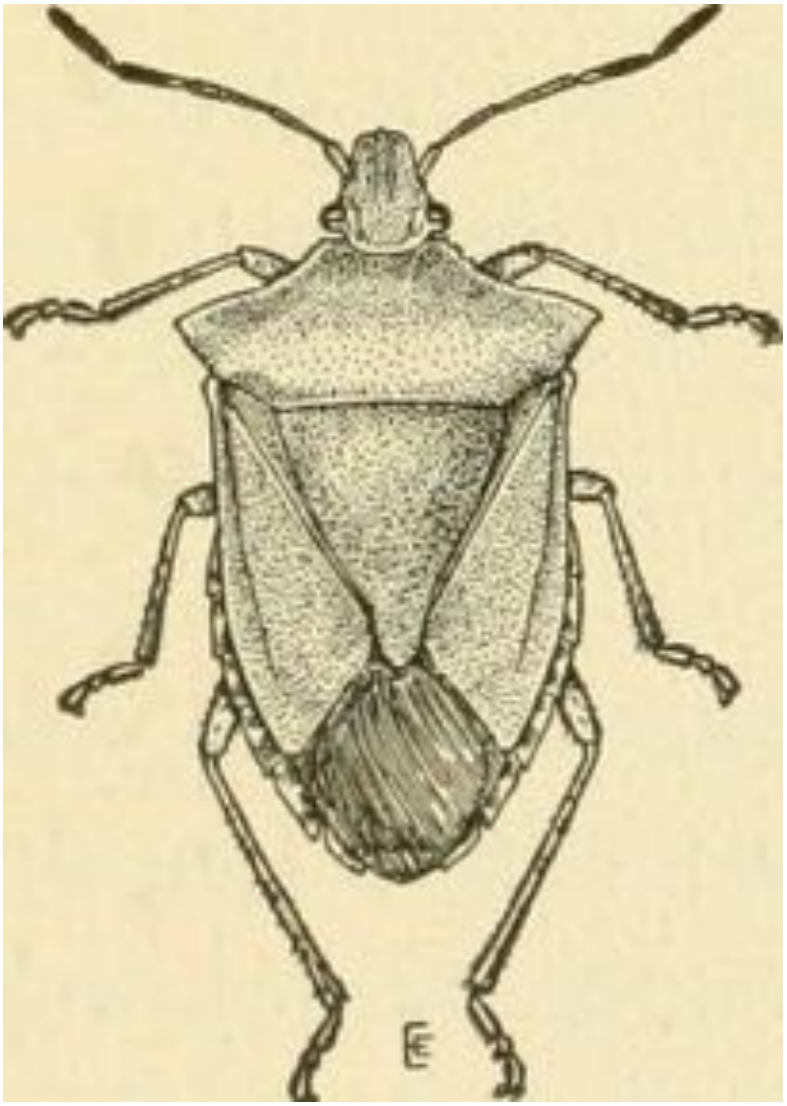
Grub (large) **PMK * kmuar**
Coleoptera (larvae of Rhinoceros Beetle)

Toum-Phong	Ph: kămut	T: mauc	Lh: vɔɔn
Ahoe-Ahlao	Ahoe: mpot		
Atel-Maleng	At: kăpoot	Ml: kăpoot	
Kri-Phoong	P: t. cuun		
Mlengbrou	kuren		



Stink Bug
Hemiptera: Pentatomidae

Toum-Phong	Ph: **buk baaŋ**	T: kɤŋ sɤŋ	Lh: sɔŋ sɔŋ
Ahoe-Ahlao	Ahoe: ʃɤŋ		
Atel-Maleng	AT: păʃɤt ʃɤŋ	Ml: sɤŋ	TE: tuu ʃaŋ
Thémarou	păʃɤt ʃɤŋ		
Kri-Phong	Kri: t. sɔŋ	P: ʃu̯ŋ	
Mlengbrou	tuu ʃɯŋ		
Cheut	raʃɯŋ		



Cicada
Homoptera: Cicadidae

Việt	con ve sầu
Toum-Phong	Ph: cak can (< Tai)
Ahoe-Ahlao	Ahoe: cak can (< Tai)

Atel-Maleng	AT: cak can (< Tai)	Ml: tɑɑt	TE: tɑɑt
Thémarou	tɔɔt		
Kri-Phong	Kri: tɑɑt	P: tɑɑt tărɑŋ	
Mlengbrou	tɔɔt		

Cheut	Be[1] Be[1]

It is curious that northern subgroups use the Tai word, while the others have good cognates. Phoong on the Nam Noy recognize many varieties (as do no doubt the others) even using their various voices to calculate the time of year.

Mosquito **PMK *muəs**
Diptera: Cucilidae

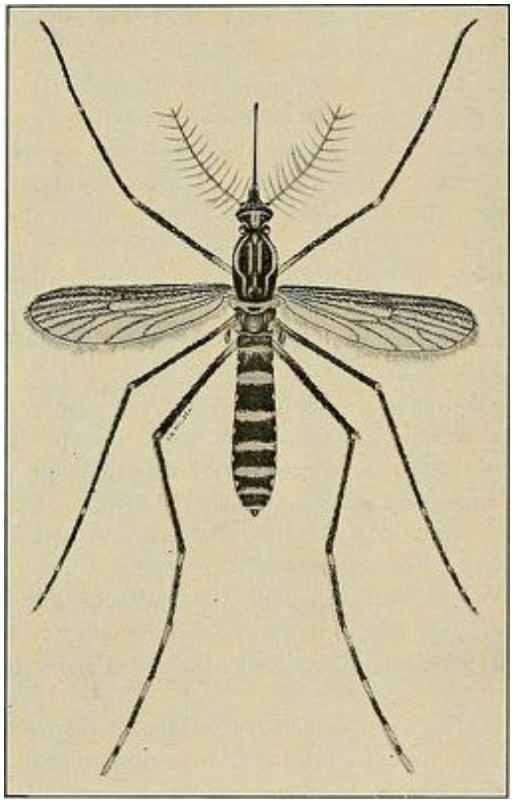
Việt muỗi
Mường məj^{5}, ma^{1} kɤ^{5} , pɔ^{3} , məj^{5} məj^{5} , mən^{5}

Toum-Phong Ph: ŋooŋ T: pa̱a̱w Lh: ŋooŋ

Ahoe-Ahlao Ahoe: căvɯɯŋ
Atel-Maleng At: ʃăvɯɯŋ Ml: svɯɯŋ TE: ʃăvɯŋ
Thémarou ʃivɯɯŋ
Kri-Phoong Kri: cɯrəvɯɯŋ P: ʃvu̱u̱ŋ

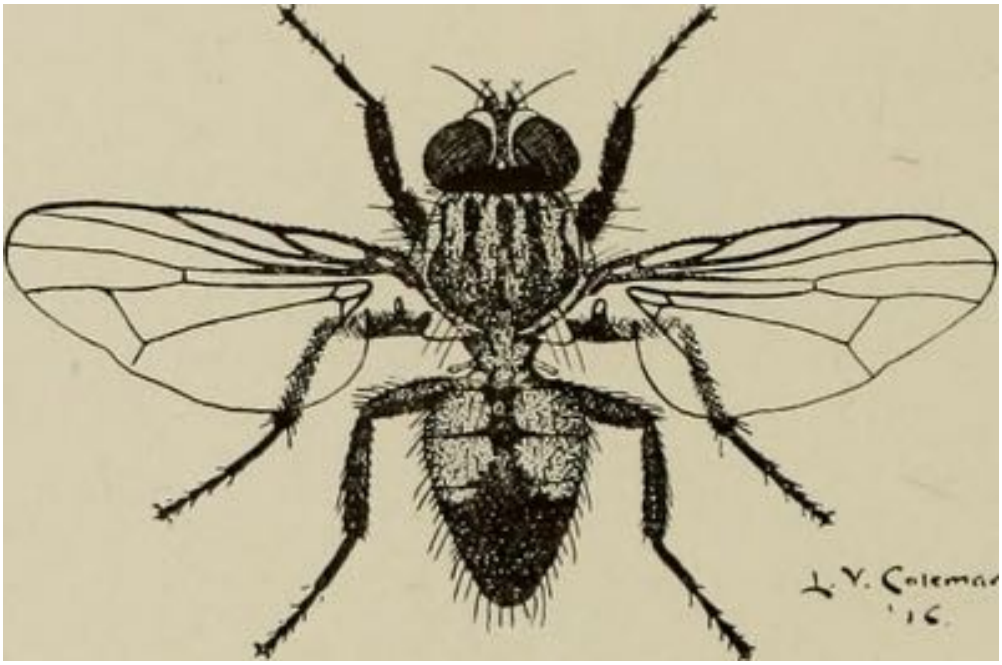
Mlengbrou mɔy

Cheut TX: keep Rục: kép



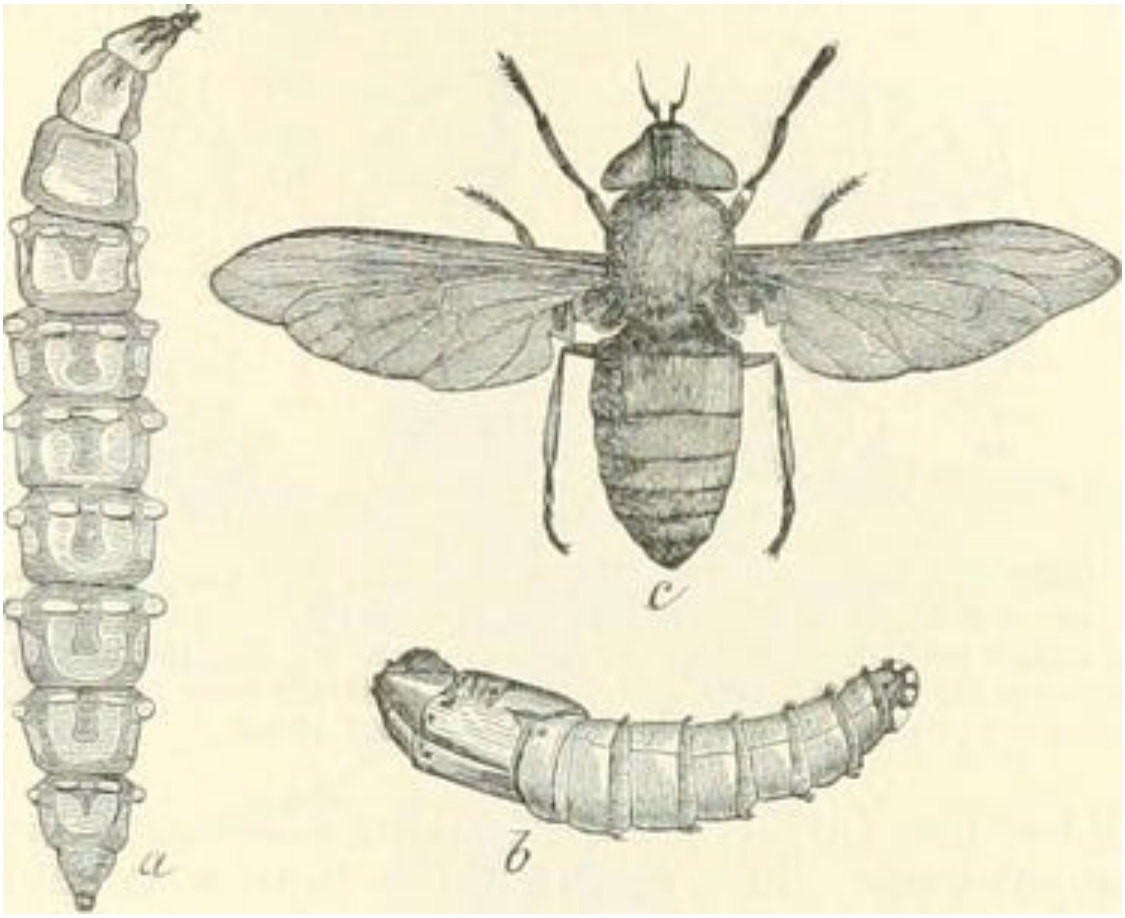
Housefly **PMK *ruəɣ**
Diptera: Muscidae

Việt		ruồi		
Mường		hruaj , ʒuaj , ruaj , huaj , ruaj-ruaj		
Toum-Phong		Ph: t. l̥ɔy	T: t. l̥aoy	Lh: tu ɣɔɔy
Ahoe-Ahlao	(black)	Ahoe: məyh		
	(green)	mălʌŋ		
Atel-Maleng	(black)	At(1): mărɑɑy	At(2): mərɔuy	Ml: --
	(green)	mălaŋ		mălaŋ
Thémarou		mărɔɔy		
Kri-Phoong	(black)	Kri: mărɑɑy		P: mărɑɑy
	(green)	mulaŋ		
Mlengbrou		murðy [murðy carɛɛw = green)		
Cheut		TX: mlaŋ	Rục: murɔy	



Maggot

Việt	sâu non (last syll < Tai - A1)		
Toum-Phong	T: kɛɛl	Lh: cɔɔy	
Atel-Maleng	At: tɛh	Ml: teh	TE: tɛh
Thémarou	tear̥		
Mlengbrou	tɛa̰ʔ		



Gadfly, horsefly **PMK *jɔɔp**
Diptera: Tabanidae

Toum-Phong	Ph: kămuul	T: taup (’gnat’)	Lh: tɔɔp

Ahoe-Ahlao	Ahoe: taamuul		
Atel-Maleng	AT: tămuur	Ml: tămu̱u̱r	TE: tuu mu̱u̱l
Thémarou	tămuur		
Kri-Phong	Kri: t. muul	P: tămuur	
Mlengbrou	tămu̱u̱r		

Bee
Hymenoptera

Viet.	con ong		
Muong	ɔŋ		
Toum-Phong	Ph: ʔɔɔŋ	T: ʔɔɔŋ	Lh: ʔɔŋ
Ahoe-Ahlao	Ahoe: kuaʔ		
Atel-Maleng:	AT: pătɑɑ	Ml: pătɑɑ	TE: pătɑɑ
Thémarou	pătɔɔ		
Kri-Phoong	Kri: paa tɔɔ	P: pătɑɑ	
Mlengbrou	pătɔɔ		
Cheut	Rục: kwi[2]		

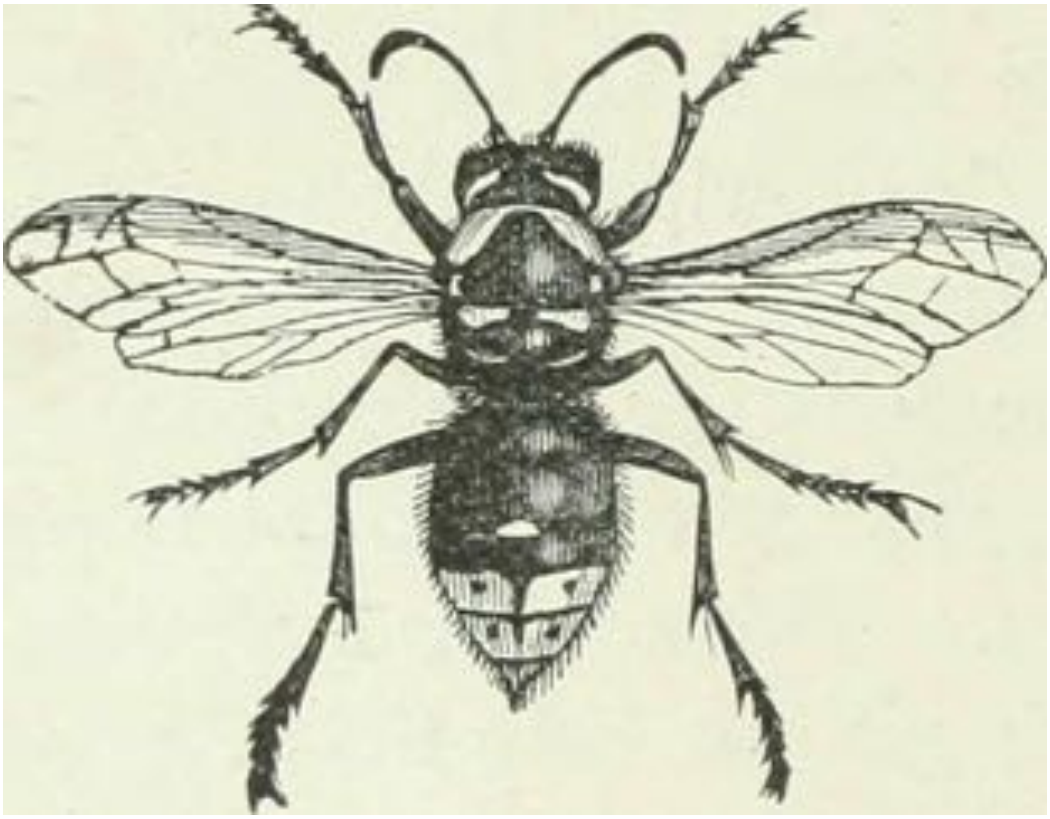
Honey

Viet	mật ong		
Muong	mɤ̌c , mec . mic		
Toum –Phong	Ph: daak mik	T: mec ʔɔɔŋ	Lh: məc ʔɔŋ

Ahoe-Ahlao	Ahoe: laaŋ kuaʔ
Atel-Maleng	AT: laŋ Ml: daak laŋ
Thémarou	dak laŋ
Kri-Phoong	Kri: laŋ paa tɔɔ
Mlengbrou	laŋ krnɛɛt (honey of the small bee)
Cheut	Rục: lôong^{4} kwi^{2}

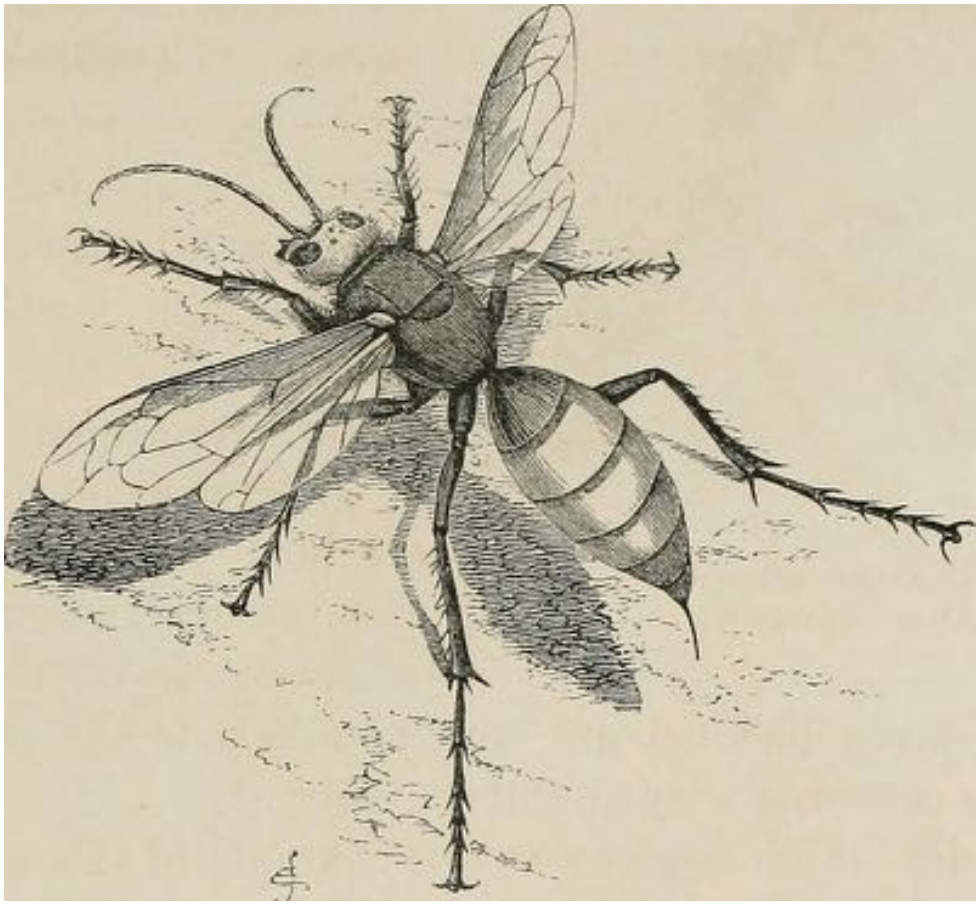
Hornet (nests in ground) **PMK *ʔuəŋ**
Hymenoptera

Toum-Phong	Ph: căʔaan	T: ʔɔɔŋ ceɲ , ʔɔɔŋ kɔɔc	
Ahoe-Ahlao	Ahoe: ʔɑɑŋ , thălee (in stumps) , tuum (in trees)		
Atel-Maleng	At: ʔɑɑŋ	Ml: ʔɑŋ	TE: ʔɑŋ
(in trees)	At: kolɤ̈ŋ	Ml: kăʔaaɲ , kɑl	
Thémarou	kɔɔl kɨ̈i		
(in trees)	kɔɔl ʃălɤŋ		
Kri-Phoong	Kri: ciŋ	P: kɑɑl	
(other types)	kaʔaŋ , ʃɤm , tirii , lɔk cɔɔ		
Mlengbrou	tɨ̈ŋ		
Cheut	Rục: kɔn hɔn		



Wasp
Hymenoptera

Việt	ong vò vè		
Toum-Phong	Ph: kătuul	T: ʔɔɔŋtuul	Lh: ʔɔɔŋ tuun
Ahoe-Ahlao	Ahoe: tool		
Atel-Maleng	AT: ʃăʔɔɔr	Ml: săʔuul	TE: ʃăʔool
Thémarou	ʃăʔuul		
Kri-Phoong	Kri: ʃaaʔoor	P: ʃuʔuul	
Mlengbrou	ʃăʔoor		
Cheut	Rục: vɔvɔ		



Ant
Hymenoptera

Viet	kiến		
Muong	kiən[3,5]		
Toum-Phong	Ph: kɛ̨ɛ̨n	T: kaɛn	Lh: kɛnʔ
Ahoe-Ahlao	Ahoe: kiin		
Atel-Maleng	AT(1): kɛʔn	AT(2): kiə̨nʔ	TE: kɛɛʔn
Thémarou	kianʔ		
Kri-Phoong	Kri: t. kaaŋnaar	P: t. kăŋɑl	
Mlengbrou	tămiir		
Cheut	TX: kiạm	Rục: kêem[4]	

Antlion
Myrmeleontidae

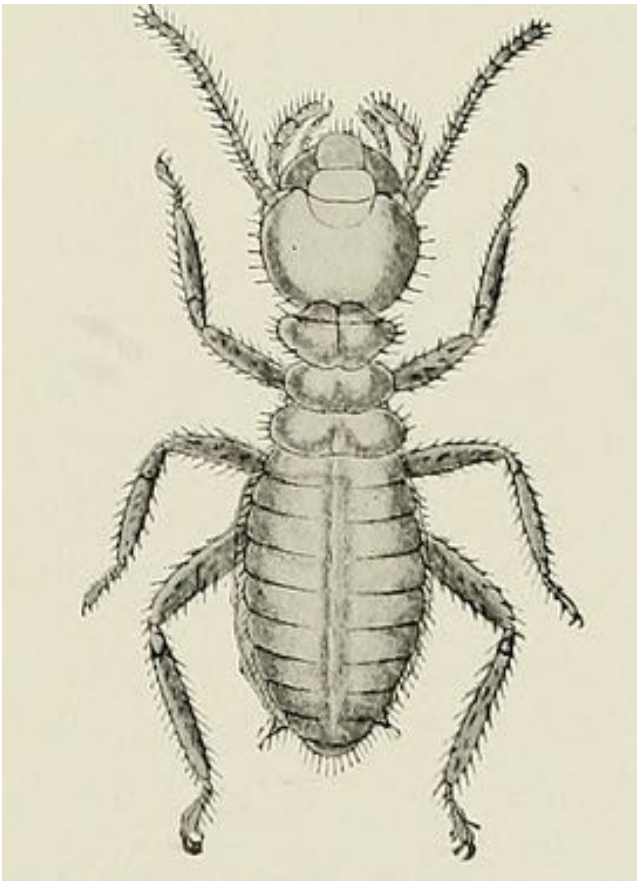
Ahoe-Ahlao	Ahoe: caaveeʔl
Atel-Maleng	TE: ciaveel
Kri-Phong	P: kaakum
Mlengbrou	tuu travɛɛl

The antlion plays an interesting role in many Austroasiatic groups. I do not know the full extent of the range of this practice, but it is certainly widespread. Young girls grasp the antlion and allow it to sink the pincers into their nipples in order to make them more attractive.

The "antlion" is actually the larval form of what are sometimes called "antlion lacewings."

Termite (white ant)
Isoptera

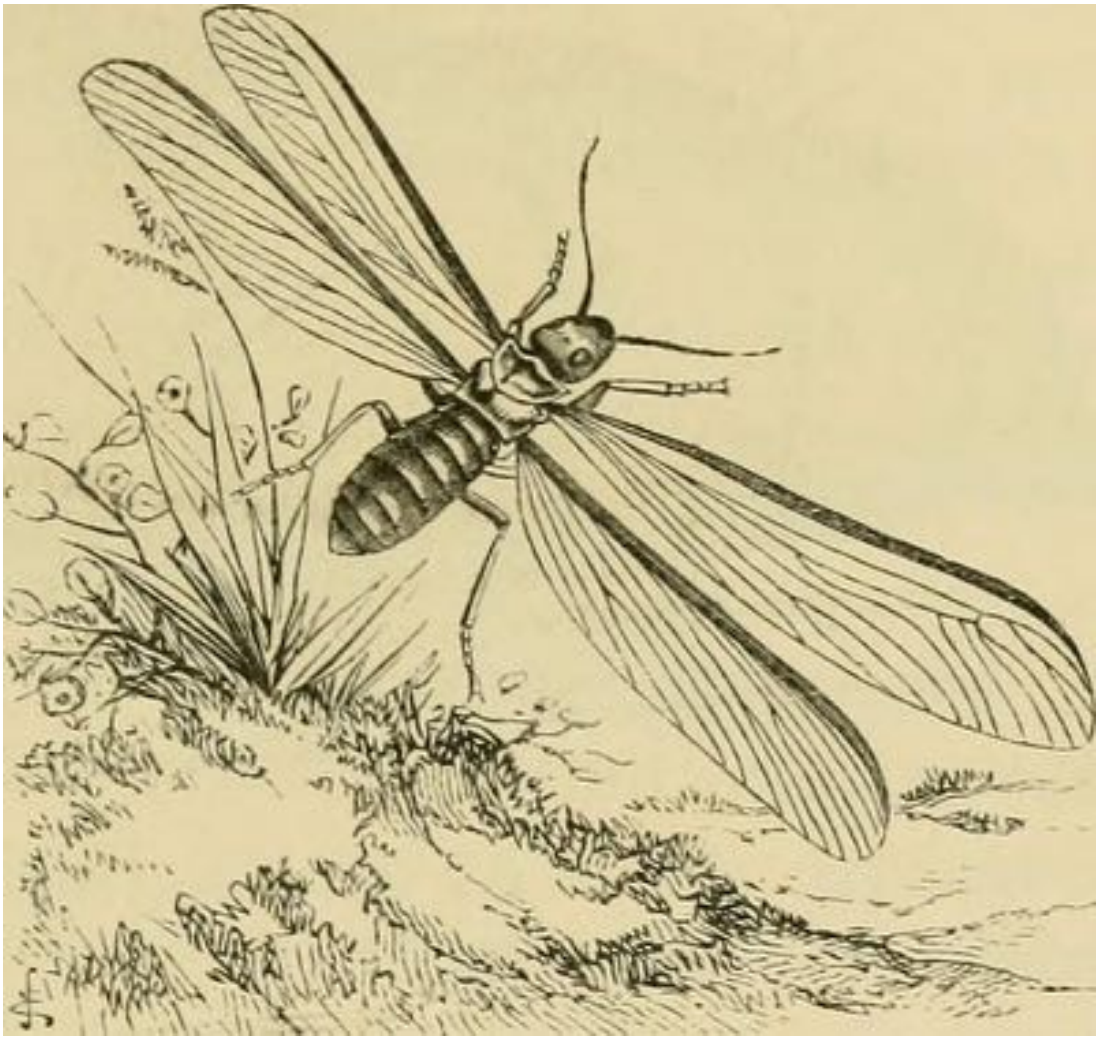
Việt	mối		
Mường	mol^{3} , mowu^{3}		
Toum-Phong	Ph: kămool	T: məl məəl	Lh: mon maʔun
Ahoe-Ahlao	Ahoe: kămɔl		
Atel-Maleng	AT: kămoor	Ml: kămoor	TE: kămooʔl
Thémarou	kămoor		
Kri-Phoong	Kri: kumuur	P: kămuul	
Mlengbrou	kumuur		
Cheut	Rục: kumụl		



Termite (adult fly)
Isoptera

Toum-Phong	Ph: pɤpɛɛ	T: pɔpaal	Lh: tu paɯ paɯ

Ahoe-Ahlao	Ahoe: măŋuə		
Atel-Maleng	At: măyɔɔ	Ml: măyoo	TE: măɲɔɔ
Thémarou	păyuuə		
Kri-Phoong	Kri: priyɔɔ	P: păyə̤ə̤	
Mlengbrou	prəyoɔh		



Butterfly
Lepidoptera

Viet	bướm
Muong	pɯəm^{3} , pɯəm^{3} pɯəm^{3} , bɯəm^{3} bɯəm^{3} , bɤ^{1} bɤ^{1}
Toum-Phong	Ph: pam paam T: pam paam Lh: bom bɯap

Ahoe-Ahlao	Ahoe: peŋ pɔɔt
Atel-Maleng	AT(1): pɤt pɔŋ AT(2): pɤt pɯaŋ Ml: pɤt pɔɔŋ TE: pit pɔɔŋ
Themarou	poŋ pɤt
Kri-Phoong	Kri: kăpoŋ pùt P: puŋ pɤt
Mlengbrou	talaaŋ pɤt pɯat

Cheut	TX: loŋ pʌn̰ŋ Rục: lơang^{2} pơang^{4} , lăŋ pɯəŋ
	Mày: lɯaŋ pɯaŋ Sách: pɯaŋ pɯaŋ

"Arem"	lɛp lɛʔ

Firefly
Lampyridae

Viet	đom-đóm	
Muong	tom tɛ , tom dɛ , dum dɛ , tɤp tɛ	
Toum-Phong	Ph: dii doom T: taum taum	Lh: dak di daʔum

Ahor-Ahlao	Ahoe: seŋ haŋ hɔɔŋ	
Atel-Maleng	AT: seŋ tãũm	Ml: sɛŋ tɑɑm

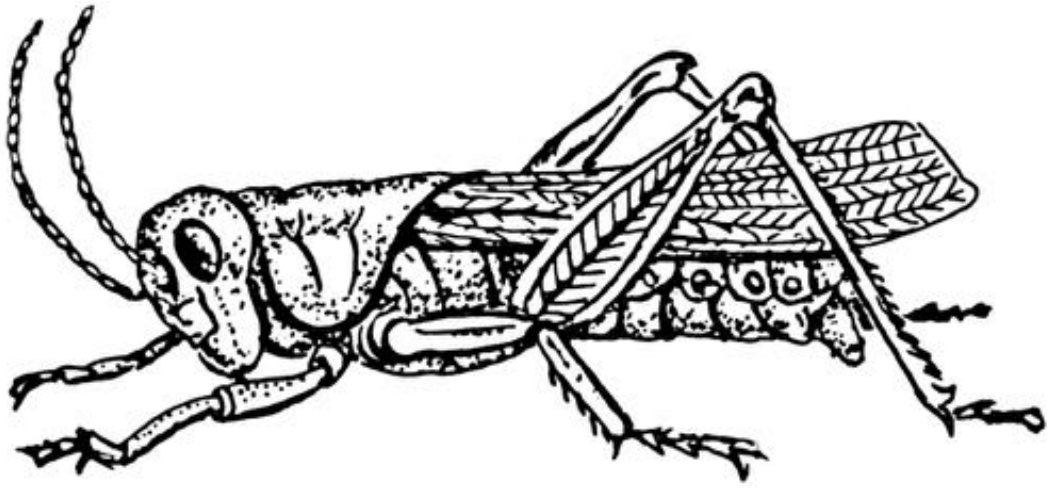
Themarou	toŋ tay	
Kri-Phoong	Kri: tuŋ tɛh	P: tuŋ tɛɛ

Mlengbrou	tuu cq̱q̱w	
Cheut	PS: loŋ tɛʔ	Rục: putông[1]

Grasshopper
Orthoptera: Acrididae

Việt	châu-chấu
Mường	$co^{3/5}$ $co^{3/5}$, co^{1} co^{3} , co^{3} $lo^{3/5}$, co^{3}

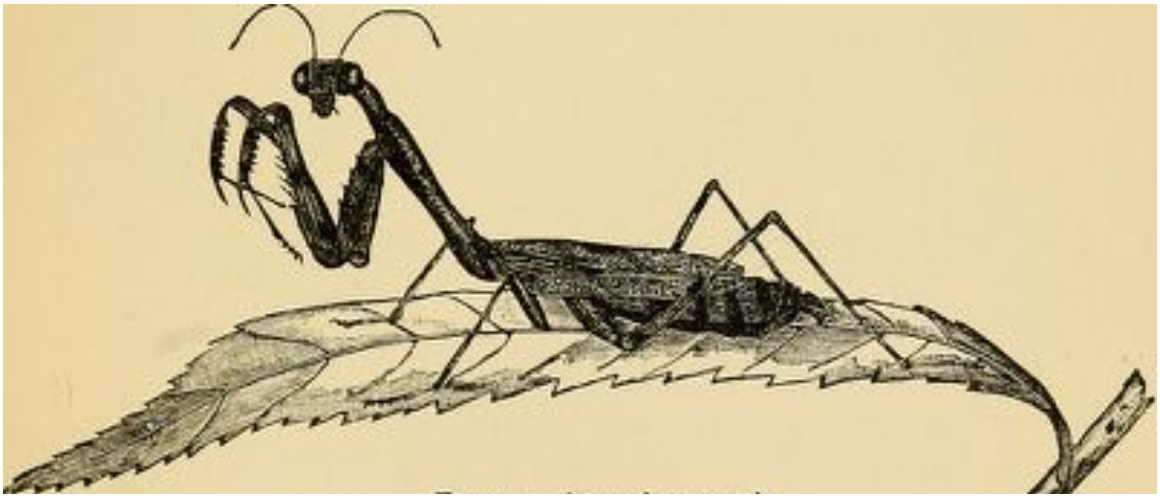
Toum-Phong	T: bok baay		Lh: bok baay		
Ahoe-Ahlao	Ahoe: ɲɤh				
Atel-Maleng	At(1): ɲaʂ	At(2): ɲɔɔiʃ	Ml: ɲɑɑʂ / -h	TE: ɲɔyh	
Thémarou	ɲɔyh				
Kri-Phoong	Kri: ɲɔyh	P: ɲɑɑy			
Mlengbrou	ɲoyʔ				
Cheut	TX: coụʔ	Rục: cúcú			



Praying Mantis
Dictyoptera: Mantidae

Việt	con bọ ngựa
Mường	ɣwɛn^{5} ɣɔ^{1} , vɛn^{5} vɔ^{1} , ŋɯə^{5} tlɤj^{1} (Nguổn)
Toum-Phong	Ph: kat kɔɔŋ T: kat kɔɔŋ Lh: kat kɔŋ

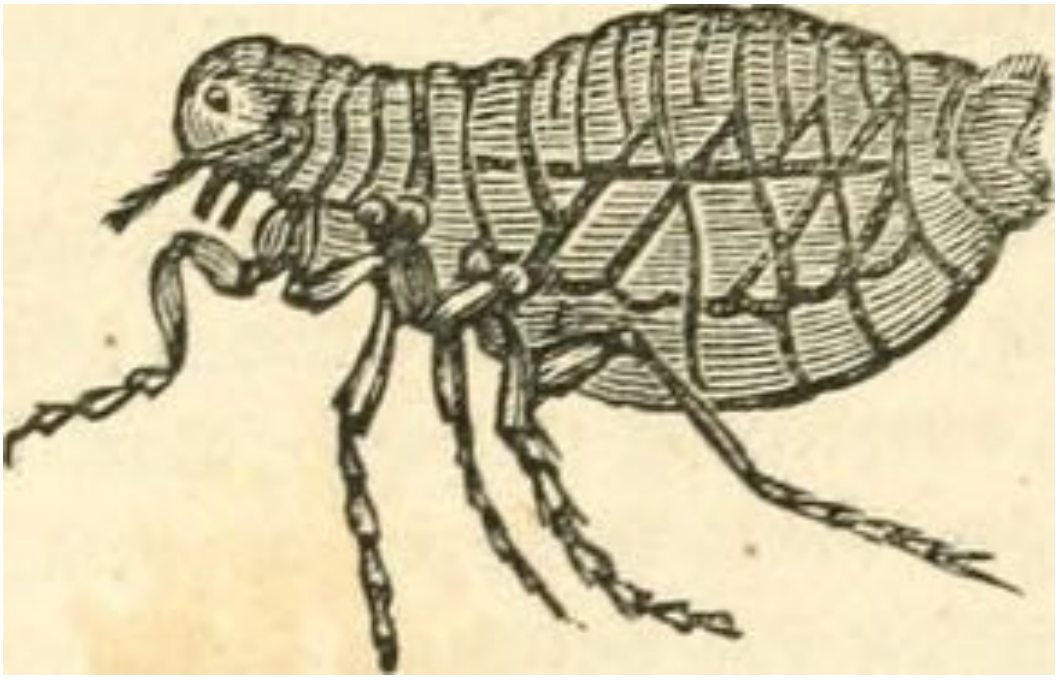
Atel-Phong	At: koy kooy Ml: kǫy kǫǫy TE: tuu kɔɔy kɔɔy
Thémarou	kuuy kuuy
Kri-Phoong	Kri: toŋ koŋ (<Brou?) P: t. con kămooc
Mlengbrou	kuŋ klɔy pam
Cheut	Rục (Lợi): thạj



Flea
Siphonaptera

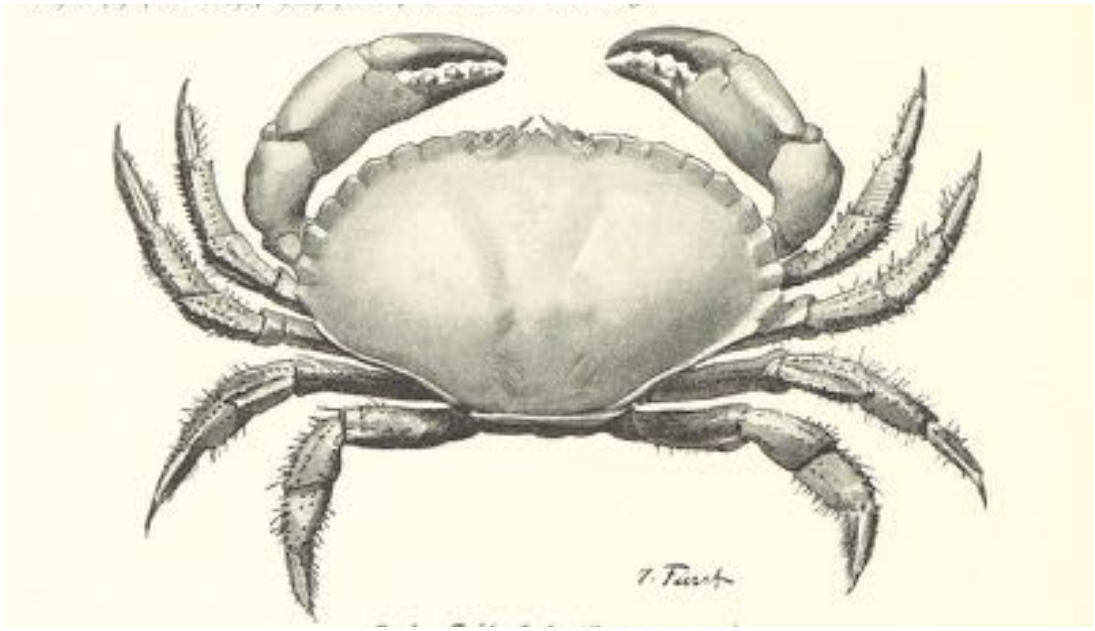
Việt	bọ chét		
Mường	ta^{2} ma^{2} , da^{1} ma^{1}		
Toum-Phong	Ph: cɛɛt	T: cɛ̨ɛ̨t	Lh: kɛt

Ahoe-Ahlao	Ahoe: tămek		
Atel-Maleng	AT: tămac	Ml: tămac	TE: tămac
Thémarou	tămat		
Kri-Phong	Kri: tămat	P: mat	
Mlengbrou	tămat cɔ̨ɔ̨		
Cheut	chame^{1}		



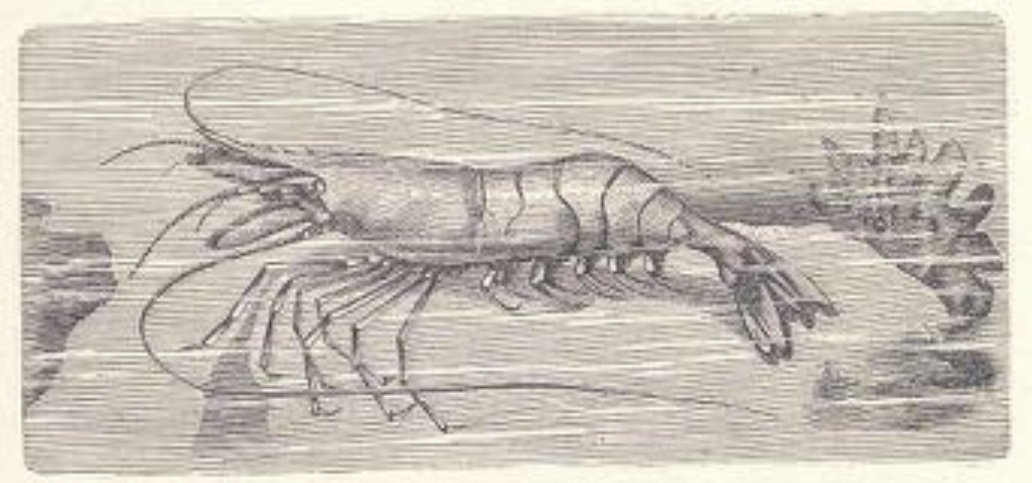
Crab (land) **PMK *ktaam**
Arthropoda: Crustacea

Việt	sam		
Toum-Phong	Ph: l̥aap	T: l̥aap	Lh: ɣaap
Ahoe-Ahlao	Ahoe: sɛɛp		
Atel-Maleng	AT: kăpee	Ml: kăpii	TE: kăpi̱i̱
Thémarou	kăpi̱i̱		
Kri-Phong	Kri: kataam	P: kătaam	
Mlengbrou	kătą̱a̱m , raap		
Cheut	Rục: katəm		



Shrimp
Crustacea

Viet	tôm		
Muong	t'om , som		
Toum-Phong	Ph: kaa kuŋ		
Ahoe-Ahlao	Ahoe: kɔɔ		
Atel-Maleng	AT: kɔɔ	Ml: kɑɑ	TE: kɔɔ
Kri-Phoong:	Kri: ʃǫm	P: t. ʃom	
Mlengbrou	ʃoom		
Cheut	Rục: achợng , ăcuàŋ		



CHAPTER 7 – KRI-MOL DOMESTIC ANIMALS

	PHONG	TOUM	LIHA (SM)	AHOE	AHLAO	CHEUT
A. Buffalo	kluu ↗	klou ↰	klaw	khwaay		kiluu ↘
B. Ox	ŋuə ↓	paaw ↤	pɔɔ	ŋuə		pɔ̰ɔ̰ ↰
C. Horse	maa ↘	maa ↘	ŋuə ↘	maa		ŋɤɤ̰ʔ
D. Pig	kuul ↘	kuul ↘	kuun	kuʔl ↘	kulʔ	kuu̯
E. Goat	bɛɛ ↰	bɛɛ̃ ↘		bɛɛ		
F. Chicken	kaa ↗	kaa ↰	kaa ↰	kaa ↗	kããh	rkaa ↘
G. Fish	kaa ↘	kaa ↗		kaa ↰	kããʔ ↘	ʔăkaaʔ ↰
H. Duck	viit ↘	viit^{h} ↘	vi̯it	ʔatɤɤ ↰	ʔatɛɛ	vi̯it
I. Dog	cɔ̃ɔ̃ ↤	cɔɔ ↗	cɔɔ ↗	cɑɑ ↰		ʔăcɔ̃ɔ̃ʔ
J. Cat	mɛɛw ↗	mɛɛw ↤	mɛw ↰	mɛɛw ↰		

	ATEL	MALENG	TO'E	THÉMAROU	KRI	PHONG	MLENGBROU
Buffalo	ciloo ↘	căluu ↰	căloo ↗	ciluu ↘	ciloo	ʃăloo ↰	căloo ↰
Ox	ŋuə	ŋuə		bɔɔ ↘	pɔɔ	pɔɔ ↗	ŋuə
Horse	măŋɯ̀ɯ̀ʔ ↘	măŋɤɤ ↘	mɤɤ ↘	(no word)	măŋɤɤ	măŋɤɤ ↘	măŋɤɤ ↘
Pig	kur	kur	kuul	kur/l	kul	kuur	kul
Goat		bɛɛ			bɛɛ	bɛɛ ↘	bɛɛ
Chicken	kaa ↘	kaa ↗	kaa ↗	kaa ↗	kaa ↓	kaa ↗	kaa ↘
Fish	ʔakããʔ	ʔakãã ↘	ʔăkaa ↘	ʔkaa ↘	ʔakaa ↘	ʔakãã ↘	(no word)
Duck	vi̯it ↘	viit ↰	vi̯it	vi̯it^{h}	vi̯it^{h}	vi̯it	kɯap kɯap
Dog	cɔ̃ɔ̃ʔ	cɑɑ ↘		cɔɔ ↘	cɔ̃ɔ̃ʔ	cɑɑ ↘	cɑʔ ↤
Cat	mɛɛw ↰	mɛɛw ↰		mɛɛw ↰	mɛɛw ↰	mɛɛw ↰	mɛw ↰

Source: Chamberlain 1997

PART THREE – IN THE END …

Thémarou Family at Ban Vang Chang on the upper Nam Theun 1996
(Photo by author)

CHAPTER 8 – CONCLUSIONS: WHAT IT ALL MEANS

The Proto-Kri-Molic People and Their Homeland – Faunal Evidence
On the surface our Bestiary is about faunal lexicon and language, and historical linguistics, and phylogenetic classification. But it is also about the deeper issue of considering the boundary between the wild and the civilized. In the domain of historiography it offers an alternative to histories and reconstructions that are intent upon "civilizing the past," to use Bas Terwiel's elegant expression.

The foremost question to be posed is: what inferences can be made from examination of the faunal lexicon, expecially concerning food, religion, history, epistemology as well as linguistic subgrouping? To a large degree these are, and should be, inseparable. Acknowledging the primacy of linguistics is paramount, as insignts offered by this discipline provide the frame into which history and anthropology can be placed.

The (sedentary) Liha myth cited here and discussed in the appendix, testifies to the transformation (domestication) of the dhole and the crow into the dog and the chicken. It is a myth told from the point of view of sendentists. For the Atel and other hunter-gatherers, the dog is the only domesticated animal, and the chicken remains wild. There is a clear linguistic differentiation between the etyma for 'dhole' /kălɑɑr , ʔalɔər/ and for 'dog' /cɻ:ʔ/. There is also a clear distinction between wild and domestic pigs, with /skɑɑl/ or /skɻʔɻr/ 'wild pig' and /kur/ 'domestic pig,' but interestingly in this case they both derive from the same root. The domestic form has to be considered as a later borrowing from other sedentary Kri-Mol groups.

Many factors intervene when discussing lexical clues to prehistory and ancient culture. Nevertheless, there are some principles that apply, such as that which might be referred to as the ***bedbug princlple***: *if there are no beds, there will be no term for bedbug*. If there are no walls, there is no term for wall lizard. And so on, no agriculture implies no terms for rice paddy, seedling, straw, irrigation ditch, paddy bund, plow, harrow, transplant, husk, pound, thresh, mortar and pestle. No iron, no rust. These are of course elementary logical common sense types of inference.

An examination of ethnozoological taxonomy in Proto-Kri-Mol reveals several important gaps where taxa for organisms closely associated with sedentary human settlements are absent unless as a form borrowed from a non-Kri-Mol language or another Kri-Mol language of a different cultural type, and thus cannot be reconstructed in the proto language. Consistantly lacking are native taxa for synanthropic or commmensal species such as:

House (wall) lizard (*Hemidactylus*)
sparrow
common mynah – blackbird - starling
house wood termite (Vietnamese borrowed from Tai)
silkworm
sandfly (small triangular-shaped fly common in kitchens and bathrooms)
cockroach
bedbug

a second kind of chicken louse or mite (the kind that also lives on horses)
gall midge
mole cricket

The last two are associated with rice farming. Given that these species exist at the proto level in language families of similar time depth such as Tai, their absence here would imply that the original Proto-Kri-Mol people were hunter-gatherers with no agriculture, no permanent houses and no villages. Note that even a cave shelter such as used by the Rục, is merely a place to return to periodically as opposed to a permanent home. Interestingly, there seems to be no parallel for cave dwelling on the Lao side of the Cordillera. But the idea of returning to a fixed location after cycles of foraging was described in some detail by the Atel, the Thémarou, and the Mlengbrou.

All of the hunter-gatherer people feel a strong desire for return to their spiritual territories when they are relocated. A Mlengbrou man whom we found living in a Brou village along Route 12 below the Ak Escarpment, said he needed to return to the Nam One area every three days or he would become ill, about a one-day walk. This particular individual committed suicide with a grenade about a year after we had met with him in 1997. Only 12 speakers of the language remained as of 2004. The original population in the 1940s was described as consisting of two groups, one of 15 families and the other of 10.

The Thémarou who were resettled from Keng Parang (*Atak Ruut*) to the outskirts of the Katuic Brou village of Vang Chang on the upper Nam Theun, just outside their own territory, eventually established an alternative settlement to the northeast, about a six-hour walk over a mountain, in their original homeland, where they began to grow corn, providing an economic excuse for them to reside most of the time in their own spiritual territory. Thémarou people prefer to eat corn rather than rice, though their original dietary staple consisted of wild tubers which no doubt continues to be a supplement to corn. The main source of protein was hog badger meat. This population has remained stable at about 43 since we first met with them in 1996.

The Atel, Makang, and Atop of the upper Nam Sot and Houay Kanil streams were relocated in three places: to the Arao-Malang village of Tha Meuang in the old territory of Tanout; to the outskirts of the Sek village of Na Kadok; and to the edge of Na Thone, a Tai Thène village perhaps twenty kilometers east of Na Kadok, this latter is located about eight kilometers from their original resettlement location of Pong Keut inside the Nakai-Nam Theun Protected Area. As they all remained close to the protected conservation area near their original homelands, they were also able to return frequently to the forest, and many families had spread out along the Nam Sot, also to grow corn and avoid living in a village.

Following on from this, it is necessary to speculate on the proximate geographical locations of the Kri-Mol peoples at the time Chinese colonists arrived beginning in the Han Dynasty (206 BCE-220 CE). Clinging to the coastal areas, the Chinese established commanderies at the mouths of major rivers including the Red (Jiaozhi), the Mã/Chu (Jiuzhen), the Cả (Huai Huan), the Cửa Sót (Jiude) and the Gianh (Jihnan). So far as can be known, based on the principle of relative dialect diversity as an indicator of time

depth and Urheimat, the Kri-Mol groups had two primary distributional characteristics, inland and southerly. This original habitat can further be specified according to faunal names which relate well to evergreen and wet evergreen forests. Witness, for example, the especially rich set of cognates for the five major species of hornbills. Of the ten Kri-Mol sub-groupings distinguished here, eight are located in or near the lush forests of the Annamites.

Linguistically, there is a band extending from south to north along the eastern slopes of the Cordillera, not including the coast. Here we find Cheut, Rục, Mày, Mã Liềng, and Sách, as well as Nguồn. This would account for the close relationships of the more northerly Toum-Phong with Cheut, as well as that between Mường to the north and Nguồn to the far south. Modern Vietnamese (or Sino-Vietnamese) was probably born of the Sinicized creolization of the ancestors of these latter two subgroups, Mol and Nguồn, beginning perhaps in the commanderies at the Gianh, the Cả, and the Mã in ways that are not fully understood, in part because the dialectology of Vietnamese itself has not been thoroughy studied.[15] But preliminary work such as that by Alves (2002), Hoàng (1989),and Shimiza Masaaki (2016), strongly indicates greater diversity within Central and North-Central Vietnamese dialects, coinciding historically with the gradual movements north culminating in attacks on Hanoi and the establishing of Đại Cồ Việt, the Vietnamese nation, in the 10th century.

Based on the faunal evidence it can be suggested with some confidence that Proto-Kri-Mol peoples were hunter-gatherers inhabiting the hinterland forests of the Annamites in present-day north-central Laos and Vietnam, specifically in the vicinity of the present day provinces of Nghê An, Ha Tinh, and Quang Binh but with greater diversity on the Lao side in Borikhamxay, and Khammouane. The languages of the Nakai Plateau in Laos are especially archaic, and it is here that the hunter-gatherer cultural type is most pravalent.

The main devisions of Kri-Mol also have their greatest diversity here. The division referred to as Việt-Mường begins in the far south with Nguồn (actually a displaced dialect of Mường), in the vicinity of the Mu Gia pass, on both sides of the Lao-Việt border. Mường proper begins in northern Nghệ An and includes Thanh Hoá and Hoà-Bình with a slight spillover into Houa Phanh province in Laos. Vietnamese is in reality Sino-Vietnamese (there is no non-Sino variety), originally a coastal creole, with huge numbers of Sinitic loanwords (seventy percent of the lexicon according to Phan, 2010) though with Austroasiatic core vocabulary. The next most closely related subgroups are Cheut (Cheut, Rục, Sách, Mày, Mã Liềng) also in the south adjacent to Nguon, and Toum-Phong (Liha, Phong, Toum) further to the north in Khamkeut District in Laos, and Hà Tĩnh and southern Nghệ An in Vietnam. The remaining five subgroups, Ahoe-Ahlao, Atel-Maleng, Thémarou, Kri-Phoong, and Mlengbrou are all found on the Nakai Plateau and adjacent river basins slightly to the north. These five groups are more conservative in their phonology and retain a number of faunal terms not found elsewhere in Austroasiatic, a kind of Formosa for the Kri-Mol Branch of Austroasiatic, isolated biophysically by the Ak Escarpment rather than by the South China Sea.

[15] See however, Hoang (1989), Kondo (2012) and Shimizu (2016) which well support the homogeneity of the northern dialests.

As can be seen in the following table, the majority of cognate clusters center around the Nakai Plateau and the areas immediately adjacent to the north and northwest (Ahoe-Ahlao) where access to the plateau is a more gradual slope. In some cases the taxa from these areas seem to be transitional between the plateau and points further north.

Table 8 Main cognate areas for Mammals

	Coast	North		Nakai Plateau and Adjacent							South
	Vietnamese	Mường	Toum-Phong	Ahao-Ahlao	Ahoe	Atel-Maleng	Thémarou	Kri	Phoong	Mlengbrou	Cheut
elephant	1	1	1	3	2	2	2	2	2	2	4
rhino	1	-	2	2	2	3	3	2	3	-	4
gaur	1	-	2/3	2	2	2	2	2	2	2	4
sambar	1	1	1	1	2	1	3	1	1	1	1
muntjac	1	-	2	4	3	5/3	5	3/6	3	3	1
wild pig	1	2	3	3	3	3	3	3	3	3	4
serow	1	2	2	2	2	2	2	2	2	-	2
Hystrix	1	1	1	2	2	2	3	3	3	3	4
Atherurus		1	1	2/3	1	3	3	4	4	4	5
dhole	1	1	1	1	1	1	1	1	1	1	1
bear *t.*	1	1	1	1	1	1/**2**	2	1	1	3	1
bear *m.*	-	-	1/**2**	1/**3**	1	1	4	1	1	1	1
tiger	1/2	3/**4**	3	3	4	3	3	4	4	5	3
civet	1	-	2	2	2	3	3	4	4	4	2
binturong	1	-	2	3	3	3	3	3	3	-	-
Hog badger	1	-	2/3	4	4	5	5	4	4	4	7
Ferret badger	1	2	-	4	3	3	3	5	-	5	-
marten	--	-	1	1	1	1	1	1	1	1	-
otter	1	-	1/2	1	1	3	3	3	3	3	1
Bat, lg	1	-	2	3	3	4	4	5	5	5	6
Bat. Sm	-	-	-	-	-	1	1	1	1	-	-
Giant squirrel	-	-	1	3	2	3	2	4	3	5	6
Squirrel (1)	1	2/3	1	4	4	5		1	4	1	6
Squirrel (2)	-	-	1	2	2	2	-	-	-	3	-
Squirrel (3)	-	-	1	1	1	1	2	3	1	3	-
Petaurista	-	-	1/2	4	3	5	5	5	5	5	6
tree shrew	-	-	1	2	2	3	3	3	3	3	-
bamboo rat	1	-	1/2	1	1	1	1	1	1	1	1
Rat	1	1/2	2	3	3	3	4	4	4	-	2
macaque	1	2/1	2	3	3	4	4	3	4	3	5/4
Langur	-	-	1/2	3	3	4	4	4	4	3	5/6
Gibbon	1	1/2	2	2	2	2	2	4	4	4	2
pangolin	1	-	2/3	2	2	2	2	2	2	2	2

Table 9 Main cognate areas for Arthropods

	Coast	North		Nakai Plateau and Adjacent							South
	Vietnamese	Mường	Toum-Phong	Ahao-Ahlao	Ahoe	Atel-Maleng	Thémarou	Kri	Phoong	Mlengbrou	Cheut
Body louse	1	2	2	2	2	2	2	2	2	2	3
Head louse	1	1	1	1	1	1	1	1	1	1	1
Chicken louse	-	-	1	2	2	2	2	2	2	1	-
tick	-	-	1	1	1	1	1	1	1	1	-
centipede	1	1	2	2	2	2	2	2	2	2	2
large grub	-	-	1	1	1	1	-	3	--	4	
Stink bug	-	-	1/2	2	2	2	2	2	2	2	2
cicada	1	-	2	2	3	3	3	3	3	3	1
mosquito	1	1	2	3	3	3	3	3	3	1	4
housefly	1	1	1	1	1	1	1	1	1	1	1
maggot	1	-	2/3	-	4	4	4	4	4	4	-
gadfly	-	-	1/2	1	1	1	1	1	1	1	-
wasp	1	-	2		2	3	3	3	3	3	1
termite	1	-	1	1	1	1	1	1	1	1	1
Termite fly	-	-	1	-	2	2	2	2	2	2	-
grasshopper	1	1	2	3	3	3	3	3	3	3	1
Praying mantis	1	-	2	-	-	3	3	3	3	3	(3)
flea	1	-	1	-	2	2	2	2	2	2	3
crab	1	-	2	-	2	3	3	1	1	1/2	1

The Wild and the Civilized

Much ado had been made of the purported relationship between Vietnamese language and the Đông Sơn bronze age culture. Linguists such as Alves (2014, 2016) list the "civilized" vocabulary of Sino-Vietnamese, words such as 'roof tile' or 'harrow' and many others. Of course this is not Proto-Kri-Molic lexicon, but rather layers of Chinese that were much later creolized with Kri-Mol, at different time periods from what were, no doubt, differing Chinese dialects. Even a cognate for 'harrow' in Rục is cited, as if the hunting and gathering cave-dwellers of Quang Binh had cultivated lowland wet-rice fields. In fact, so far as I can see, if the Sinitic lexicon is subtracted and only the native vocabulary considered, these Dongsonian temptations disappear. There can be no bedbugs where there are no beds. (And 'bed' in Vietnamese is a Chinese word as well, there is no Proto-Kri-Mol bed.)

An additional factor is commonly ignored: it would be hard to prove that the so-called Early Sino-Vietnamese words were not filtered through Tai before being acquired by Vietnamese. Most if not all of the Early Sino-Vietnamese vocabulary are found in Proto-Tai and Proto-Kam-Tai as these peoples had indisputedly longer and closer

relationships with Old Chinese. I have elsewhere (Chamberlain 2016) addressed the Kra-Dai presence in the Red River basin as has the historian Catherine Churchman in her brilliant work *The people Between the Rivers*, referring to the territory between the Pearl and the Red Rivers (2016).

More complete dialectology of Vietnamese, especially lexicon, needs to be carried out. We know from historical sources, that Đại Cồ Việt was established in the 10th century in Jiaozhi by attacks from the south (cf Keith Taylor 1983), not from local uprisings in the Red River basin. But we know few details regarding the interactions of the various Chinese groups and the local Kri-Mol populations at each of the commanderies. Good detailed dialectology of Vietnamese in the central and north-central regions may help to unravel at least some of this.

In fact no one has carried out a complete reconstruction of Proto-Kri-Mol, and when such is mentioned, it almost always refers to Proto Việt-Mường + Cheut and perhaps including Toum-Phong. That is, the left branch of Kri-Mol on the tree employed here. It should be remembered that our classification is based upon faunal lexicon, rather than a more traditional comparative phonology though preliminary examination seems to support this as well. But until such information is available, I would maintain that faunal lexicon is something very close to human life and livelihood in and around the forest, and thus of great comparative value; at the pinnacle of a hierarchy of semantic domains if you will.

With respect to this, I have shown elsewhere (1977) that animals outrank plants in the biotic realm, and this seems to be universal. I alluded then (49) to Rorschak tests carried out by Huzioka (1962) in northern Thailand where some 60.5 percent of the responses identified the abstract shapes as animals or animal body parts, compared to 11.6 percent for plants. The remainder were associated with humans or religious objects. It was found (in Tai languages and in English) that whereas many dozens of plants are named after animals, almost no animals are named after plants except in the most unusual or artificial scientific contexts.

There also seems to be a kind of inferiority complex (for lack of a better term) built into Vietnamese and Chinese interlanguage pragmatics that must be traceable back to the time when ethnic Chinese dominated the Kri-Mol peoples in various localities or interacted with them in various asymmetrical or feudal ways. For an analogous situation we need look no further than the inferiority found in English vis-à-vis French, where we observe in English that lexicon associated with "high" culture is usually French in origin (see Pyle 1976). We also see this same process at work between Vietnamese and Mường, where the autonym *məl / məɯ* of the Mường became the pejorative term *mọi*, and as Đại-Việt moved south was applied to all of the non-Vietnamese peoples encountered, considered uncultured by the Sinicized Vietnamese.

Domestication

With respect to the propadeutic of André Haudricourt (1977) who noted the juxtaposition of domestication relationships in Europe where humans are nourished by goats and cows, and Asia where dogs and pigs are nourished by human faeces, two sets of circumstances are apparent. (1) the dog is unquestionably the earliest domesticated

animal as attested in the Liha myth of the dog and the crow, and the special place accorded the dhole in other AA cultures. Most AA languages distinguish '[domestic] dog' and '[wild] dhole.' (2) the pig in Kri-Mol seems caught-in-the-act of becoming domesticated with distinct domestic and wild terms derived from the same root in Atel-Maleng, and including Mường and Cheut where separate etyma for wild pig have developed.

Atel-Maleng (wild)	AT (1): skɑɑl	AT(2): skạʔu̯r	Ml: skool	TE: skɔɔl
(domestic)	AT: kur		Ml: kur	TE: kuul

Cheut (wild)	TX: truu̯t	BP: ɻoot^{h}
(domestic)	kuɻ	

Mường (wild)	lɔj^{1} (locations 1-22 Thanh-Hoá and points north)
	kuyh^{33} lɔɒyʔ^{31} (Houa Phanh)
(domestic)	kuj^{3} , kul^{3} , kun^{3}

In the case of Atel-Maleng, we see the origin of the domestic 'pig' in the form of the phonologically more archaic 'wild pig.' The form for domestic pig then seems to have simplified to a form that is quite similar throughout the rest of the branch. Cheut and Mường, both of which have separate etyma for 'wild pig' then acquired the derived form.

Mường may have another interpretation, and this involves a second species, Heute's Pig or Yellow Pig, which seems to occur only to the south of the Cả basin. It has a separate taxon in Atel-Maleng and Toum-Phong, and in Mường territory (where the species is not known to occur), has become the main word for 'wild pig,' further evidence of a south to north movement of Kri-Molic. Even Vietnamese has retained this form as a doublet with *lợn* in certain contexts:

Việt	lợn **lòi** bầy 'group of wild pigs' (EFEO wordlist)
	nanh lợn **lòi** 'boar's tusk' (EFEO wordlist)[16]
Mường	lɔj^{1} (locations 1-22) ~ kuj kɔ ~ lɤn kɔ
Toum-Phong	Ph: lɔɔy, **pɯŋ** T: kuul lauk Lh: lɔɔy
	[NB **poŋ**^{55} lawʔ^{31} (Mường Houa Phanh) 'hog badger']
Atel-Maleng:	AT: călɑɑy

As already mentioned, this same word has been widely adopted by Tai groups in the area, many of whom originated from locations further north that abutted on Mường.

And then, the Li or Hlai (Hainan) reconstruction of Nordquest (2007:589) is especially noteworthy,

[16] Words for 'tusk' in Vietnamese are borrowed from Tai, nanh < nɛɛŋ A1 'boar tusk', ngà < ŋaa A2 'elephant tusk.'

Proto-Hlai *C-ləc e.g. Lauhut: lac[7] ‘wild pig’

The finale palatal stop of Hlai corresponding to the palatal glide of Kri-Mol, good evidence for the existence of Hlai on the mainland, a factor rarely taken into account in the study of the early history of Vietnam (cf. Chamberlain 2016).

This may be a clue to the dating of the arrival of Mường in Juizhen (vicinity of Thanh Hoá). Li broke away from the Kra-Dai mainstream prior to the introduction of iron during Zhou around the 6th c. BCE, prior to the Qin and Han invasions of the south as Hlai does not show the widespread infusion of Old Chinese loans found in Kam-Tai (Ostapirat 2008), and must have arrived on the island before the arrival of Be-Tais in the south. If Hlai took with them the ‘wild pig’ lexeme, it would have been borrowed from Kri-Mol sometime between 600 and 221 BCE.

The widespread term for ‘crossbow’ (PT *hnaa C) that may have spread around the same time, likewise does not occur in Hlai. In fact the crossbow is not used by the Hlai peoples on Hainan (cf Stübel 1937), nor by the hunter-gatherers of the Nakai plateau. All Hlai used the long-bow, and the Nakai hunter-gatherers used no bow at all.[17]

Other potential Hainan contact forms include:

‘snake’ Thémarou: kobɯat Jiamao: ɓuat[7]

‘sambar’ Ph: kădi̯: AT kădi̯:ʔ Greater Hlai: *ɾəːyʔ ‘deer’

‘porcupine H.’ Ahoe: yi̯: Ah: yi̯: AT(2): g^{y}i: Ml: ɣi: TE: ʔyi̯:
Pre-Hlai *C-dəy Proto-Hlai *ɗəy ‘porcupine’

‘porcupine A.’ Ph: tɔːl Lh: tɔn Proto-Hlai *tɕ^{h}inʔ ‘porcupine’

‘bat’ T: ɲɤk ɲɤːk Lh/PL: ɲɤk Proto-Hlai *Curɯːk ‘bat’ (> ɣɯk ~ vɯk etc.)

‘frog’ Ahoe and Cheut: kəlɤp Jiamao laːp[8] ‘toad’

‘water lizard (*Physignathus*)’ AT: kăyaoŋ Proto-Central Hlai * rjɯːŋ ‘lizard’

? ‘macaque’ Ph: vɔːk T: vauk Lh/SM: vɔːk, duːt
Ahoe: doo Ah: ɗo̯: Ahl: ɗɔ: Li (Stübel) Süd: *nục*, Weiß: *noh*, Geshor: *nok*]
(OR ‘langur’ Ahoe: tănɑɑ Ah: tănɔɔ Ahl: tănɑɑ) ?

Norquest also notes ‘butterfly’ Jiamao: ɓaŋ^{5} ɓɯa^{1} , Pre-Jiamao * ɓəŋ^{x} ɓʌːŋ which he suggests may be related to Proto-Austronesian *qari-baŋbaŋ. However note Kri-Mol forms such as:

AT: pɤt pɯaŋ Thémarou: poŋ pɤt Cheut: loŋ pʌe̯ŋ Sách: pɯaŋ pɯaŋ

[17] Futher south, below the Ak Escarpment, among the Cheut of Boualapha, the crossbow is much in evidence.

Probably though, ‘butterfly’ is not the best word for comparative phonological purposes as it tends to be subject to expressive and reduplicative forces in many languages. English *butterfly* and its playful twin *flutterby* is a good example. Jiamao, also known as [thaay], is highly divergent and some linguists such as Thurgood and Norquest consider that it belongs to a separate unknown linguistic stock . Debate on the issue exists however, and Ostapirat (2008) considers it to be a language that split off early from the Hlai mainstream.

Another wild-domestic pair exists with ‘gaur’ the wild bovine. All of the Nrong-Theun languages plus Toum and Phong consistently have some form of *S-ŋo:l/r. But Cheut has simply ‘buffalo’ *ciluu* or *ciəluu*, and Vietnamese has *bò tót* ‘bull.’ Liha (PL and SM) have *klʌw plʌy* and *kloo phlay* ‘buffalo+forest.’ That is, in these latter cases the animal has been named from the point of view of the “civilized” (non-forest) side of the paradigm.

Other aspects of the wild-civilized dichotomy can be found in the analysis of the Liha myth in the Appendix below.

Our bestiary remains decidedly incomplete. In fact it baely scratches the surface when discussing the natural history of the animals named from the perspectives of the various peoples. Much of the data collected has not been included since positive identifiaction is a constant problem in the field, or the fact that some names were collected only from a single language. One must necessarily rely upon photographs and field guides. The taxa for species included here are mostly reliable, but many items were not collected because of time constraints. Fish, annelids, and many arthropods are missing. But as can be seen from the present work, I hope, zoonomy (so-named by Gérard Diffloth), is a richly frewarding field and can contribute much to the disciplines of history, prehistory, anthropology, philology, and folklore, in addition to historical linguistics, all benefitting from the comparative method. I sincerely hope that scholars of future generations will not find it beneath them to occupy their time, as Aelian says in the epigraph, “with foxes and lizards and beetles and snakes and lions,” for such time, I predict, will not be wasted.

APPENDIX 1 – THE CIVILIZATIONAL NARRATIVE[18]

The Liha Myth of the Dhole and the Crow
Most people died, but there was one old man who had lived 300 years and still had not died. So they [the ones who died] went up to the Mphloey [the chief heavenly spirit] and complained that they were always dying whereas there was an old man who had lived 300 years and was still alive.

So he [the Mphloey] sent three children down to enquire after the old man. They went and found him fishing.

"Hey, old man, have you ever seen stones float upwards ?"

"Ohhhh..., you youngsters, I am more than 100 years old and still haven't seen this."

"Are you the one who is 300 years old?"

"Yes, that's me."

"Then, come with us."

"I must take my dog and chicken home first."

"[No] we go now."
"What will my dog and chicken do?"

"Then you tell us what to do."

[18] Adapted from Chamberlain (2003).

"Alright then, no one must destroy my dog and chicken. Whoever shoots and hits [the dog and chicken] will get impetigo; whoever shoots and misses will have their flesh rot. Do not shoot them, do not hit them. Let them go."

"Then now you come with us."

So they took him away. He did not return home. For this reason the dhole and the crow cannot be killed or eaten.

The old man's admonition is given in the form of a rhyme using the Phou Thay language: / *ɲiŋ thɯɯk lɛɛw pen hit , ɲiŋ phit lɛɛw pen pɯay*. In an earlier recitation by the same informant, the leg was specified:

> *if you shoot, shoot the leg,*
> *if you hit, may you get impetigo,*
> if you miss, may your flesh rot.

An Interpretation – Wild and Civilized

This is a complex myth, but is at least partially comprehensible through comparisons with other Kri-Mol practices and beliefs. Indeed it provides a metonym for the analysis of the Kri-Mol situation as it exists on several divergent planes, and is therefore a useful beginning for our examination of the ethnography of Nakai and associated areas.

Since the Kri-Mol peoples appear to have been living in a relatively undisturbed fashion for more than 2,000 years (judging from the linguistic time-depth that separates these languages from modern Vietnamese), investigation of their languages and cultures is of the highest priority. They are, in fact, the key to systemic understanding of the whole network of inter-ethnic and ethnobiolgical relationships that have evolved over this period. Furthermore, without the diachronic vantage point offered by the diverse array of Kri-Mol groups that are still extant, this understanding would be largely inaccessible.

Thus, in order to understand the myth, it is necessary to jump from the sedentary lowland village-oriented Liha of Khamkeut, to the nomadic hunters and gatherers of the upper reaches of the rivers descending from the Annamite chain in Nakai. Within the confines of the recently established conservation area five such groups remain: *Atop* of the upper Nam Sot; *Atel* of the upper Houay Kanil and Nam Mone; *Makang* of the lower Houay Kanil; *Thémarou* of the upper Nam Theun; and the *Mlengbrou* of the Nam One (The remaining two groups are Rục in Vietnam and Cheut in Boualapha. The gap between Liha and these other branches of Kri-Mol, although relatively short in geographical distance, represents a span of at least 1,000 years in time and possibly more.

As an example, the Atel rely to a considerable degree on the meat of sambars and muntjacs killed by dholes. If they come upon the meat within two days the flesh remains edible, longer than that it rots and becomes infested with maggots. The crow frequently guides the Atel to the kills, either by their loud calls or when they are seen

with morsels of meat in their beaks. Because of this close relationship, dholes and crows are never killed or eaten by the Atel.

Among the Mlengbrou the situation is similar. (It may even extend to bears and tigers which are interdicted animals for them as well.) They say that the dholes may be followed by the strong odor which they exude and when a kill is discovered and the dholes have been chased away, a front leg of the dead animal is cut off and given back to the dholes.

The Thémarou also participate in the dhole relationship, but apparently not to the same extent as the Atel. (Their familiarity with the dhole, however, is evidenced by the fact that two varieties, 'yellow' and 'black', are distinguished.) The preferred meat for this group, they say, is hog badger.

As may be seen in the forms for the three interdicted animals provided below, linguistic variation, indicative of a considerable time depth, separates Liha and the remaining groups of nomadic foragers in the Nakai-Nam Theun protected area:

	Liha	Atel	Thémarou	Mlengbrou
dhole	căkləɔn	kălɔɔr	ʃ̰yʔ	cɔɔ tɔŋ tɔŋ
bear	kạ̈w , yạ̈w	săkụ̈ụ̈	rɤɤm	cămok
tiger	khaan	vạ̈a̱l	ʃïi̱t	kokloɔʔ

Thus it is to be concluded that the dhole/crow interdiction is a very ancient one that underlies the cultures of all the Kri-Mol groups in Laos and is also present among the *Nha Lang* (the Kri-Mol groups of Nghê An Province in Vietnam) according to Cuisinier (1948:209). Diffloth notes a similar interdiction among the Semai in Malaysia.

The dog and the chicken may be interpreted as domesticated counterparts of the dhole and the crow. Thus the *wild versus domestic* theme emerges quite starkly. But the sense of the transformation remains unclear.

Why is the old man a keeper of the domestic side of the paradigm? And where does the heavenly spirit tradition come from (called / mplɤɤy/ in Liha, and translated by the narrator as /thɛɛn A1/, a Tai-type figure). In fact, there is a three-way distinction involved here, ordinary humans, the *Mphloey* (heavenly spirit), and the old man.

From an alimentary point of view, dholes in fact consume the flesh of the live dying animal (which humans cannot do) and in the killing and putrification, convert the flesh to a raw or partially digested (fermented) state, prior to the point where the human comes upon the kill and fire is used to cook the meat. The dhole is the converter of life into death and then from death into life, comparable to the heavenly spirit (a god of the sedentists). Because of this they cannot be killed and eaten.

Note here that Lévi-Strauss (1964) in his well-known treatise *The Raw and the Cooked*, seems not to have considered the "pre-raw" status of the live animal as opposed to its

dead but uncooked ("raw") flesh. I am indebted to Charles Pyle (*On the Duplicity of Language*) for the following analysis from American culture which sheds light upon our interpretation of the myth:

> "Raw "does not mean "natural" but rather, precisely, "uncooked." The raw state is a situation that is calculated from the point of view of the cooked, and projected back from the finished state to the prior state. So although the raw is chronologically prior to the cooked in any particular situation, the raw state is conceptually subsequent to the cooked state. And, of course, "uncooked" does not mean the same thing as "natural." ... So in sum, the raw/cooked distinction is subsequent to the living/dead distinction. First is the living state, then the dead state, and the raw/cooked distinction is a distinction within the category of the dead.

For the Atel and the Mlengbrou the dhole is the medium through which this whole process is enacted. The dhole transforms first the living into the dead, and second the dead into the raw. He is the intermediary between life and death, and he is thus sacred, and his flesh is taboo. The crow, as the messenger between dhole and human, announces the death of the deer and hence is also sacred. Through the conversion of the natural into the raw, they themselves become domesticated.

But furthermore, the dhole and the crow as agents of interdiction, implement the function of the father, that is, the Old Man. As in Freud, we see him clearly here in the myth as the uncastrated (i.e. he never dies) father of the primal horde (the people who die, who are castrated), who is murdered through a pact among the brothers (the three children sent by the Mphloey) to establish the law, the interdiction (the pronouncing of the injunction by the Old Man in the myth), which is none other than the taboo against incest. The Old Man is murdered (castrated) in the name of civilization or in order for the Liha to become civilized. [The stones are perhaps the testicles of the Old Man, and their floating is an unnatural (civilized) act.]

And as further proof, the Liha have a prohibition against eating the flesh of animals killed by other animals, that is, they have forbidden (repressed) the very act which made the dhole and the crow sacred in the first place. This is the ultimate denial, the denial that gives birth to civilization. It is the Liha equivalent of Pyle's example just cited, the prohibition against knowing, which is in fact the pretense of ignorance. There is also a specific prohibition against the use of wild animals in sacrifices.

For the Liha, another distinction between the dog and chicken on the one hand and the dhole and crow on the other, is that the former may be sacrificed and eaten, whereas the latter, as this myth explains, cannot. Furthermore, in their essence, all sacrifices are human sacrifices, and human sacrifice (castration) is a substitute for (re-enactment of) symbolization, a sacrifice for civilization. Lacan (67) writes, "It is in the Name-of-the-Father that we must recognize the support of the symbolic function which, from the dawn of history, has identified his person with the figure of the law." Thus, all sacrifices are substitutions, sacrifices of the real for what is not real. The myth of the dhole and the crow is in principle fact a prohibition against the sacrifice of the real, or, in this case, the substitution of the real by the imaginary. "Thou shalt not kill the dog and call it a

dhole," or, “Thou shalt not abandon the real (the wild) for the symbolic (the domesticated).” And the penalty for doing this is death, as in the Atel belief that the result of mixing wild food with domestic/cultivated food is a lethal poison. From an alimentary point of view, the essence of civilization is sedentism, and the essence of sedentism is domestication, and the essence of domestication is sacrifice, that is to say, symbolization.

In the first recitation of the myth, the curse placed on the animals involves the leg. A possible interpretation of this might go as follows: The leg is the means of nomadism, to be shot in the leg would be to effect sedentism. Thus, impetigo (the itch) results from sedentism, especially the fleas and lice associated with dogs and chickens. Putrified flesh, on the other hand, is associated with the kills of the dhole, the meat that becomes gamey before the crow shows the way to the nomads. In this form, however, it may be equated with cooking, being fermented and partially pre-digested. The foreleg of the dead animal is also the offering made by the Mlengbrou back to the dhole.

The result of the sacrifice (of the dhole and the crow via the substitution of the dog and the chicken) is the village (civilization), as opposed to nature (wilderness). So according to this myth, which is performed in its own enigmatic (wild) language, the wilderness is good, nurturent, where food is already partially digested (fermented), and preferable to the village (the place of itching and impetigo).

Pyle (*Natural Logic*) concludes:

> The natural means of sustaining the brute force of life entails the death and consumption of other living beings, which we then call sustenance. The death of the other sustains the life of the killer and eater, and thus establishes a hierarchy of death and priority in terms of sustenance within the realm of brute being which is an iconic enactment of the mastery of death and, if not of birth, at least of the sustenance of life. Death and food become the medium in which power and control are most primitively expressed. (173)

The human-dhole relationship as it has existed among the Kri-Mol peoples might be classed as pre-hunting, that is, killing via the dhole. Hunting proper, when it does occur, may be defined as imitative of the dhole with the aid of the dog. Indeed, according to some authorities, the dholes themselves are described as foragers (Venkataraman, et.al. 1995).

REFERENCES

Alves, Mark J. 2016. Identifying Early Sino-Vietnamese vocabulary via linguistic, historical, archaeological, and ethnological data. *Bulletin of Chinese Linguistics* 9.264-295.

_____. 2014. A Note on the Early Sino-Vietnamese loanword for 'rake/harrow'. *Cahiers de Linguistique Asie Orientale* 43.32-38.

_____. 2005. The Vieto-Katuic hypothesis: lexical evidence. In *Papers from the 15th Meeting of the Southeast Asian Linguistic Society.* Canberra, Pacific Linguistics 169-176.

Benjamin, Geoffrey. 1985. In the long term: three themes in Malayan Cultural Ecology. in *Cultural Values and Human Ecology in Southeast Asia*. eds. K. Hutterer, T. Rambo, and G. Lovelace. Michigan Papers on South and Southeast Asian Studies. The University of Michigan. Number 27.

Berlin, Brent. 1972. Speculations on the growth of ethnobotanical nomenclature. *Language in Society* 1.51-86.

_____. 1973. Folk systematics in relation to biological classification and nomenclature. *Annual review of ecology and systematics* 4.259-71.

Berlin, Brent, D. Breedlove, and P. Raven. 1973. General principles of classification and nomenclature in folk biology. *American Anthropologist* 76.327-331.

Brown, Cecil H. 1984. Language and Living Things: Uniformities in Folk Classification and Naming. Rutgers University Press, New Brunswick..

Cadière, M.L. 1905. Les Haute Vallées du Sông-Gianh. *BEFEO* V.349-367.

Chamberlain, James R. 2016. Kra-Dai and the proto-history of southern China and Vietnam. *Journal of the Siam Society* 104.27-77.

____. 2014. Vietic speakers and their remnants in Khamkeut District (Old Khammouane) in Festschrift for Prof. Udom Warotamasikkhadit (forthcoming 2016).

____. 2003. Eco-spatial history: a nomad myth from the Annamites and its relevance for biodiversity conservation. In Landscapes of Diversity: Indigenous Knowledge, Sustainable Livelihoods and Resource Governance in Montane Mainland Southeast Asia. Proceedings of the III Symposium on MMSEA, 25-28 August 2002, Lijiang, P.R. China., ed. Xu JianChŭ and Stephen Mikesell (with assistance of Timmi Tillmann and Wan Shum). Kunming: Center for Biodiversity and Indigenous Knowledge, Yunnan Science and Technology Press.

_____. 1998. The origin of the Sek: Implications for Tai and Vietnamese history. *Journal of the Siam Society* 86: 27-48.

_____. 1997. Nature and Culture in the Nakai - Nam Theun Conservation Area. Unpublished manuscript, Vientiane.

_____. 1992. Biolinguistic systematics and marking. The third International Symposium on Languages and Linguistics: Pan-Asiatic Linguistics vol III. Chulalongkorn University, Bangkok

____. 1991. Tai-Kadai Considerations in Southern Chinese and Southeast Asian Prehistory. The High Bronze Age of Southeast Asia and South China. Hua Hin, January 14-19, 1991.

_____. 1977. *An Introduction to Proto-Tai Zoology*. Ph.D. Dissertation. University of Michigan, Ann Arbor.

Chamberlain, James R., Charles Alton, Latsamay Silavong, and Bounleung Philavong. 1996. *Socio-Economic and Cultural Survey of the Nam Theun 2 Project Area*. Care International. Vientiane.

Chamberlain, James R., Charles Alton, Latsamay Silavong, Panh Phamsombath, Khammanh Siphanxay. 1997. *Social Action Plan for the Nakai-Nam Theun Catchment and Corridor Areas.* IUCN, Vientiane.

Cheminaud, Guy. 1939. *Mes Chasses au Laos* (Tome I). Paris: Payot.

Churchman, Catherine. 2016. The People Between the Rivers: The Rise and Fall of a Bronze Drum Culture, 200-750 CE. London: Rowman and Littlefield.

Cuisinier, Jeanne. 1948. *Les Mường: géographique humaine et sociologie*. Paris: Institute d'Ethnologie.

Diffloth, Gérard. 1997. The Mon-Khmer Family of Languages: An Introduction. unpublished ms.

Diffloth, Gérard .1991. Vietnamese as a Mon-Khmer Language. Papers from the First Annual Meeting of the Southeast Asian Linguistics Society , pp. 125–39.

_____. 1968. Semai ideology, animal names and by-names. Ringlet (Pahang), unpublished manuscript.

Enfield, Nick and Gérard Diffloth. 2009. Phonology and sketch grammar of Kri: A Vietic language of Laos. *Cahiers de linguistique – Asie Orientale* 38 (1).3-29.

Ferlus, Michel. 1997. Le maleng brô et le vietnamien." *Mon-Khmer Studies* 27.55-66.

_____. 1996. Langue et peuples viet-muong. MKS 26.7-28.

_____. 1990. Sur l'origine des langues Việt-Mường. MKS 18-19. 52-59.

Fox, Michael W. 1984. The Whistling Hunters - Field Studies on the Asiatic Wild Dog (Cuon Alpinus). State University of New York Press, Albany.

Freud, Sigmund. (1961) *Civilization and its discontents*, in The Standard Edition of the Complete Psychological Works of Sigmund Freud. Trans. James Strachey. The Hogarth Press and the Institute of Psycho-analysis, London.

Good, Ronald D. 1964. *The Geography of Flowering Plants*. London: Longmans.

Gressitt, J. Linsly. 1970. Biogeography of Laos. *Pacific Insects Monograph* 24. 573-626. Honolulu: Bishop Museum.

Grossin, Pierre. 1933. Notes sur l'Histoire de la Province de Cammon. Hanoi: Imprimerie d'Extrême Orient.

Haudricourt, André. 1977. Note d'ethnozoologie: le rôle des excreta dans la domestication. L'Homme, XVII/2-3, p. 125-126 [rééd. dans La technologie, science humaine, Éd. Maison des sciences de l'Homme (Paris).

Hoàng Thị Châu. 1989. *Tiếng Việt trên các miền đất nước: Phương ngữ học* [Vietnamese of each region: Dialectology]. Nhà xuất bản Khoa hoc Xã hôi, Hà Nôi, Việt Nam.

Huzioka, Yosinaru. 1962. Rorschach tests in farming villages of North Thailand. In *Nature and Life in Southeast Asia,* ed. T. Kira and T. Umesao, Vol 2, Kyoto.

Kondo Mika. 2012. A preliminary survey of the isoglosses in Vietnam, Papers from the First International Conference on Asian Geolinguistics, December 14-15, 2012, Aoyama Gakuin University, Tokyo, Japan: 45-64.

Lévy-Strauss. 1964. The Raw and the Cooked: Introduction to the Science of Mythology, Volume One. University of Chicago Press.

Li, Fang-Kuei. 1959. Classification by vocabulary: Tai dialects. *Anthropological Linguistics* 1.2.15-21.

Luppe, Albert. 1934. *Mường̀s de Cua-Rao: Etude Monographique.* Imp. d'Extrème-Orient, Hanoi.

Macey, Paul. 1907. Etude ethnographique et linguistique sur les K'Katiam-Pong-Houk, dits: Thai Pong (Province du Cammon-Laos). *RI* 5.1411-24.

MacKinnon, John R. and Kathy MacKinnon. 1974. *Animals of Asia: The Ecology of the Oriental Region*. New York: Holt, Reinhart and Winston.

McColl, Hugh, et.al. 2018. Ancient Genomics Reveals Four Prehistoric Migration Waves into Southeast Asia. BioRxiv preprint first posted online Mar. 8, 2018; doi: http://dx.doi.org/10.1101/278374.

Nguyến Phú-Phong, Trân Trí-Dõi, and M. Ferlus. *Lexique Vietnamien*- Rục -*Francais*. Université de Paris VIII, Sudestasie.

Nguyến Văn Lợi. 1993. *Tiếng Rục*. Nhà Xuất Bán Khoa Học Xã Hội. Hanoi.

Nguyễn Văn Tài. 2004. Ngữ Âm Tiếng Mường: Qua Các Phương Ngôn. Hànòi: Nhà Xuất Bản Tư Điền Bách Khoa.

Norquest, Peter K. 2007. A Phonological Reconstruction of Proto-Hlai. Ph.D. Dissertation, University of Arizona.

Ostapirat, Weera. 2008. The Hlai Language, In The Tai-Kadai Languages. Eds. Anthony V.N. Diller and Jerold A. Edmondson. New York and London: Routledge.

Phan, John D. 2010. Re-Imagining "Annam": A New Analysis of Sino–Việt– Mường Linguistic Contact. Chinese Southern Diaspora Studies, Volume 4.

Pyle, Charles. 1976. Soft Facts. www.academia.edu/25491169/SOFT_FACTS

_____. 1990. *Natural Logic*. Jackson, Michigan, unpublished manuscript.

_____. 1995. *On the Duplicity of Language*. Jackson, Michigan, unpublished manuscript.

_____. ol 1997a. *Lacan's Theory of Language.* Paper from the conference: Proving Lacan: University of Missouri Symposium, June 1996. (Forthcoming: "Lacan's Theory of Language: The Basic Framework," in *Psycho-analysis and the Force of Evidentiary Knowledge*. David Metzger and Ellie Ragland, University of Illinois Press, Champaign-Urbana.)

_____. 1997b. Lacan's theory of language: the symbolic gap. in *Critical Essays on Jacques Lacan*. Ed. Ellie Ragland. Twayne Publishers, MacMillan Publishing, New York.

Robequain, Charles. 1929. *Le Thanh Hoá*. EFEO, Paris et Bruxelles.

Schafer, Edward H. 1967. *The Vermillion Bird*. University of California Press, Berkely.

Shimiza Masaaki. 2016. A phonological basis for rethinking Vietnamese isoglosses. *Papers from the 3rd International Conference on Asian Geolinguistics*. Royal University of Phnom Penh (RUPP).

Taylor, Keith W. 1983. *The Birth of Vietnam.* University of California Press, Berkeley.

Udvardy, Miklos D.F. 1969. *Dynamic Zoogeography: With Special Reference to Land Animals*. New York: Van Nostrand Reinhold Co.

Venkataraman, A.B., Arumugum, R. and Sukumar, R. (1995). The foraging ecology of the Dhole (Cuon alpinus) in Mudumalai Sactuary, Southern India. *Journal of Zoology, London* 237:543-561.

Vô Xuân Trang. 1987. (Situation préoccupante des Rục de Binh Tri Thien.) Song Huong 28, Hue.