

CHAPTER 1

The word for ‘snake’ in Thémároú, Bolyu, Bit, Kra, Jiamao, and Oceanic : A Lapita Connection?

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[ABSTRACT]

The word for ‘snake’ in the Kri-Mol language of Thémároú, **kobuat**, spoken in central Laos matches well the Jiamao word **buat** in Hainan. In turn, both of these show obvious connections with Bolyu **mbuut** in western Guangxi, Bit **muut** in Phongsaly, Laos, and Green Gelao **bu³⁴to³¹?** in Ha Giang, Vietnam. The next closest forms, phonologically, are to be found in near Oceania and western Polynesia such as Lakona **mwat**, in locations coinciding with the Lapita cultural complex. The two groups of cognates, Mainland Southeast Asia and Oceania, are closer to each other than either is to the languages of the northern Philippines, the Batanes or Taiwan from whence the Lapita culture is said to have originated. Hence a puzzle exists which this paper examines, taking into consideration evidence from historical linguistics, archaeology, the anthropology of hunter-gatherers, and human genetics. One conclusion is that Austro-Tai or Pre-Austro-Tai groups on the East and Southeast Asian mainland ranged much further inland and southward than has been previously recognized and may have been primarily non-Negrito hunter-gatherers, predating the so-called Neolithic farmers who later, it is believed, populated Mainland and Insular Southeast Asia and Oceania.

1. Introduction

Deep in the Annamite rain forest, above the Nakai plateau, near the headwaters of the Theun River in Khammouane Province of Laos, resides a group of nomadic foragers calling themselves Thémároú, that is, ‘people of the forest.’ The wilderness there is vast, and in former times, these hunting and gathering people would spend three years to complete a single cycle through its immensity before returning to an original starting point. Their language belongs to a branch of Austroasiatic (AA) called Vieto-Katuic, specifically the sub-branch named Kri-Mol or Vietic (Chamberlain 2018), the large and ancient group of languages to which Vietnamese belongs. During their voyages through the jungle, they would visit known sites of wild tubers, their dietary starchy staples, taking care in cutting to leave portions of the roots so as to enable an even better yield when next visited. For protein they relied primarily upon the pungent flesh of the hog-badger. Of course other fauna would be included, but only those dwelling upon the ground, as blowguns were unknown to them and the Thémároú used no crossbows or bows of any kind. Other vegetal parts of the diet included various stalks, piths,

shoots, and fruits but no leafy vegetables. Their stews, cooked in bamboo tubes, were entirely vegetal, for to mix meat and vegetables together was forbidden.

Among the many unique lexical items found in the Thémároú language, the word for ‘snake’ is particularly striking, rendered here as: **kobuat**.

This paper examines the implications of correspondences for this word that are found in widespread locations and what this distribution might mean for prehistoric studies of mainland Southeast Asia, Austronesia and the links between the two. It is admittedly speculative, and we should of course beware of using a single humble taxon in this manner, but the associated forms and their locations do constitute a puzzle that is not readily solved and from which there is much to be learned.

The essential features of the approach taken here are multidisciplinary, drawing upon linguistic, archeological and genetic findings, set against a backdrop of cultural typology, geography, and diverse lifeways of the ethnic groups under consideration. Some ethnozoological information will be examined as well.

2. Linguistic Evidence – kobuat, buat, mbuat, bu³⁴to³¹?, muut, and mwat

In the realm of folk systematics (e.g. Berlin 1992), ‘snake’ belongs to that category of taxa called Life Form (LF), the main categories being bird, fish and snake. The zoological boundaries of such categories are of course flexible and may vary considerably depending upon the language. Pythons may not be classed as snakes, softshelled turtles may be classed as fish, and, as in Bulmer’s classic paper, the cassowary is not a bird. One way of determining the category is by looking at linguistic use of LFs in naming, something that folk taxonomists have not approached in a rigorous way, or have not done at all as in some studies of disembodied LFs, which liken biological categories to the color spectrum in physics (Chamberlain 1992).

From the perspective of diachronic semantics, snakes are sometimes confused with worms, or the word for a particular snake such as python may become the word for snake (Chamberlain 2019), or myths and rituals may intervene and the name for a snake may be intentionally deceptive to avoid cultural taboos against uttering the real name as seems to have happened in Kra-Dai languages in parts of Guangxi and northern Vietnam where pythons were renamed as skinks (*ibid*). Often confusion originates with data collection in the field where linguists themselves have not been schooled in the identification of even the most common varieties of fauna found in the tropics. However, the term for ‘snake’ discussed here is remarkably stable, confusion with ‘worm’ and ‘moray eel’ standing out as the only semantic variations noted so far.

Returning to **kobuat**, the word for snake in related languages of the neighboring river valleys of the Nrong to the south and the Sot to the north, differ yet again:

Nrong: Kri: ǰāyaar , Phoong: th/ǰāyaar , Mlengbrou: tăyaar

Note here a probable three-way contact between Kri-Mol, the Proto-Austronesian (PAN) reconstruction ***Sular** (Blust 1999); ***ular** (Wolff 2010), and Proto-Hlai ***lja:f** (Norquest 2007); ***ila B** (Ostapirat 2004) ‘snake.’

Sot: Atel(1): kopee , Atel(2) kǎpee , Maleng: kǎpee , To É: kǎpɛɛ

Possibly a reflex of Proto-Malayo-Polynesian (PMP)/Proto-Western-Malayo-Polynesian (PWMP) ***nipay** (e.g. Karo Batak in Sumatra: nipe; Punan Kelai in Borneo: pè’).

Even further to the north, in the lowlands below the plateau, yet another etyma is found:

Ahoe: luk, Ahao: luk , Ahlao: luk

And finally, Mol (Mường) and Vietnamese use reflexes of the more universal Proto-Austroasiatic form ***k-m-sap** reconstructed by Diffloth (1968):

Viet-Muong: Việt: con rắn, Mường: t’ap, sap
 Toum-Ruc: Phong: tuu siŋ, Toum: siʔŋ ,
 Liha (1): tau fəŋ, Liha (2): tu fʌʔŋ

These latter forms agree also with Cheut and Ruc located to the south of the plateau, connected to Viet-Meuang via coastal Vietnam.

Cheut: Tha Xang: pɤsɨŋʔ, Ruc: pǎsɨŋ , Mây: kuɛŋ³

Thus, within the relatively confined area of the Nakai rainforest, in the adjacent river valleys of the Sot, the Theun and the Nrong (Noy), are found three snake taxa with links to Austronesian. The links for Thémarou *kobuat* are discussed below.

The family tree for Vieto-Katuic is shown in Figure 1. The languages in red font are spoken by hunter-gatherers. Two additional groups whose languages are now extinct, called Thay Kap Kè and Thay Phu’, were also hunter-gathers inhabiting the Nam Gnouang River basin most probably belonged to the Ahoe-Ahlao subgroup (Chamberlain 2015). Note that of the four main sub-branches, only Viet-Muong has no extant hunter-gatherer groups.

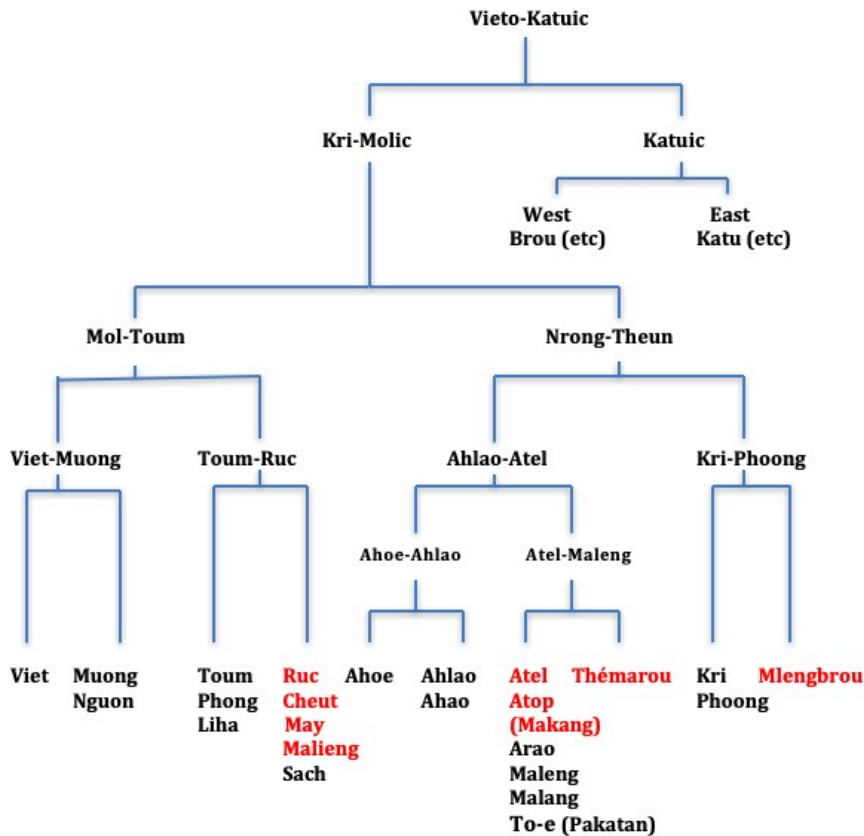


Figure 1: The Vieto-Katuic Phylogenetic Tree
Source: Chamberlain (2018)

Then, **kobuat** has a curious cognate (I am going to call these forms “cognates” assuming that they were such at a substrate level) in the language of Jiamao, **buat**⁷ ‘snake,’ spoken on the island of Hainan. Jiamao is sometimes taken to be a highly divergent form of Hlai (a Kra-Dai language), dialects of which are spoken in the southern half of the island. Norquest (2007) and Thurgood (1992) however, consider it to belong to an unidentified linguistic isolate with no clearly definable relatives. Whatever the classification, the word for snake would seem to indicate that the language was once spoken on the mainland before migration to Hainan, and here it was separate from the other more homogenous dialects of Hlai (called Li in Chinese histories).

Others (eg Hsiu 2017) have speculated on various lookalikes between other language groups and Jiamao. The fact of Jiamao’s abnormality invites this sort of speculation. One of the possibilities, he suggests, would be Khmer /puah/ or Proto-Bahnaric ***fəs**, and while I do not completely disregard this, the correspondence with Kri-Mol seems unlikely since at this level in Mon-Khmer finals are fairly stable and I do not know of any other -uat ~ -əs/h

correspondences, the expected change would be *-s > -yh. So in fact the agreement of Thémároú with Jiamao is more credible, despite the crossing of language family boundaries, indicative of a linguistic contact or substrate form.

Other links exist. Culturally, the Hlai bark cloth from Hainan (Xinhua 2007), made from the *Antiaris* tree, appears nearly identical to that of Nakai, and the Thémároú in particular. Also, the sap from the same tree is used to make poison arrows among the Kri and Phoong. This would not, however, explain the hunter-gatherer livelihood pattern found in most of the Kri-Mol branchings (Chamberlain 2018). But such a group of Austronesians could have been the branch that became Oceanic as opposed to WMP.

According to phytolith analysis carried out by Wu et al (2016) human agricultural activity in Hainan began about 5600 BP, contemporaneous with estimated dates for Austronesian on Taiwan. But “intensive” cultivation did not take place until much later, 2640 to 1880 BP, in concert with the beginning of deforestation (Boróvkva et al: 2018). The later dates are problematic as they do not coincide with the oldest movements of Hlai to Hainan estimated at c. 3-4,000 BP by Ostapirat (2005), nor with the beginnings of Lapita culture in the Bismarck Archipelago c. 3500 BP. Perhaps at issue here is the term “intensive,” implying that a putative non-intensive agriculture, perhaps swiddening, was in fact being practiced. And swiddening, it should be pointed out, is not synonymous with deforestation. It could be that “intensive” refers to wet rice cultivation.¹

Another curious cognate is Bolyu **mbuut**⁷ ‘worm’. Bolyu is spoken in Longlin County in western Guangxi where they are found living in close proximity with White Gelao, a Kra language, from whom they have borrowed heavily (Hsiu 2016). Bolyu belongs to the Pakanic branch of Austroasiatic, but consensus as to its wider associations is still lacking. Probably related is Green Gelao **bu**³⁴ **to**³¹² ‘worm’ (Mazo et al 2011). Although the morphology might be problematic, its geographical location adjacent to Pakanic and Pramic warrants its inclusion here.

Finally, courtesy of Nathan Badenoch (pers. comm.), to this picture we need to add a form from the Bit (Kbet, Khabet) language originally spoken on the Phongsaly-Lai Chau border (Lao-Vietnam) area, not far from Khang (Pramic), to which it is closely related. Bit (the autonym is **Psiin** ‘person,’ cognate with **Ksing** of **Ksing Mul**, a closely related language) belongs to the Pramic branch of Austroasiatic, that includes languages spoken in Houa Phan as well as Xaynaboury provinces in Laos and Nan Province in Thailand. Thanks to Badenoch’s attention to detail, more is known about this language on a micro level. First there is the compound (**kuak**) **muut** glossed as ‘long caterpillar, no hair, long body.’ There is also an expressive **klmuut-klmuut** ‘describing the wriggling or slithering movement of a worm or snake.’ In Bit

¹ Wet rice cultivation among the Hlai in Hainan, was unique in using the stomping technique wherein cows or buffaloes are driven through the wet fields in lieu of plowing. There are no terms for plow in either Proto-Hlai or Proto-Kra (Chamberlain 2016: 51) indicating wet rice cultivation was a late innovation.

expressive morphology, it would be assumed that **muut** is the base form, **klmuut** would mean ‘resembling a snake,’ and **klmuut-klmuut** indicates the motion or movement (although the non-reduplicative form does not exist).

Other possible related forms include:

	Jiamao	zɔ:t ⁸ , jɔ:t ⁸	‘worm’ (Liu 2008)
Kra:	Buyang (Yalang)	lat ³³ (ŋau ³¹)	‘snake’ (Liu 2008)
	Qabiao	pu ³³	‘worm’ (Liang et al 2007)
	Gelao (Dagouchang)	mɔ ³¹ hu ⁵⁵	‘worm’ (Li 2006)
Pakanic:	Mang (Jinping)	mə ³¹ tuat ⁵⁵	‘worm’ (Gao 2003)

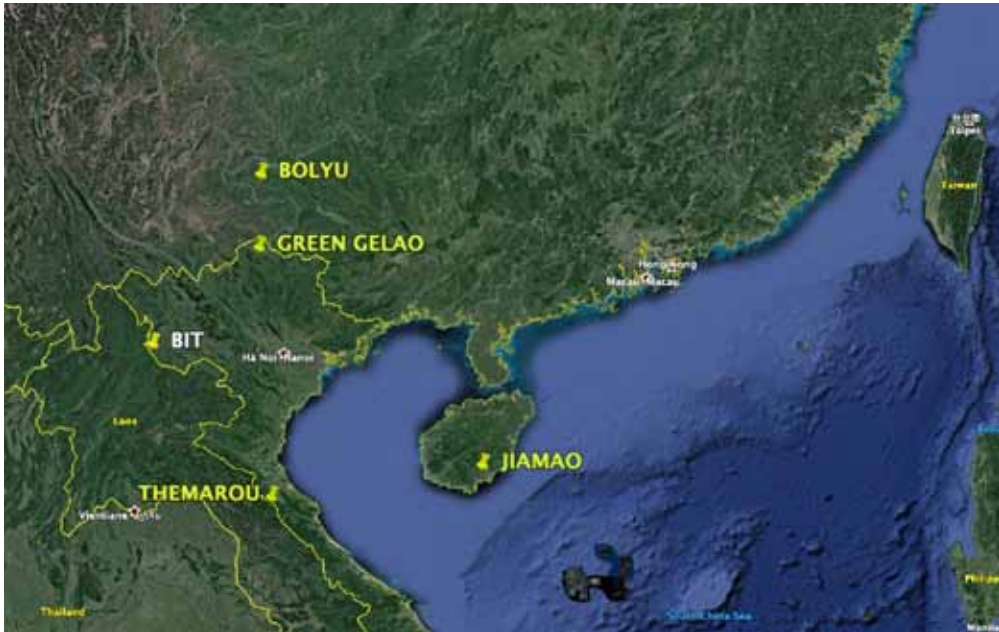


Figure 2: Locations of mainland contact forms for *kobuat*

2.1 Oceanic forms closest to those on the mainland²

I will not delve too deeply into the intricacies of Austronesian subgrouping other than to mention that Oceanic is usually considered to be one branch of Eastern Malayo-Polynesian (Blust and Trussle 2018). The other branch is South Halmahera-West New Guinea. The Eastern Malayo-Polynesian branch seems not yet well-formulated and to date no reconstructions have been offered. The homeland of Oceanic is thought to be in the Bismarck Archipelago, a location where several high order branchings

² The Austronesian forms cited in this paper, unless otherwise indicated, are taken from either the Austronesian Basic Vocabulary Database at <https://abvd.shh.mpg.de/austronesian/>, or the Austronesian Comparative Dictionary of Blust and Trussle (2019). At the former site, authors are requested to cite Greenhill, S.J., Blust, R., & Gray, R.D. (2008) which I hereby do. I will not, however be citing the dates forms were retrieved.

are found, and hence the area of greatest linguistic diversity (Pawley and Ross 2007). This coincides with the location of the earliest Lapita archaeological remains, and from here the linguistic and cultural trail moves eastward (*ibid*). The homeland of Proto-South Halmahera-West New Guinea is thought to be Cenderawasih Bay, to the west of the Bismarck Archipelago next to the Bird’s Head of western New Guinea (Komholz 2014).

The main thesis has been that Proto-Malayo-Polynesian was one of ten main branches of Austronesian spoken on the island of Taiwan, and the only one to have moved off the island and to have spread widely around the world from Easter Island in the far east to Madagascar in the far west.

The reason for introducing this topic is the close match for our ‘snake’ taxon found in Austronesian, *limited in distribution specifically to the Lapita portion of Oceanic*, but reconstructed by Blust and Trussle (2018) as Proto-Oceanic. The pattern could be formulated as:

$$(__) (C) + (V) + \{(C_{Labial}) + (w/u)\} + (C) + V + C_T + (V)$$

*where () = optional, {} = one or the other or both

Proto Oceanic *mwata ‘snake’ ; *qumata (< PMP *bulati ?)

For example:³

Lakona	mwat	‘snake’
Loniu	mwat	‘snake’

Some languages have preserved a velar element, reminiscent of the Thémarou pre-syllable:

Bali-Vitu	yumata	(Bismarck Archipelago)
Mwotlap	na-ŋmwat	(Vanuatu)
Hiw	ŋwata	(Vanuatu)
Niue	gata	(Samoa-Tonga)

Reflexes are found in the Bismarck Archipelago to the north of Papua New Guinea, south and eastwards to the Solomons, Vanuatu, Fiji, New Caledonia, Tonga, and Samoa. Cognates are also found in parts of Micronesia, not belonging to the Lapita cultural complex, where there is some semantic variation, thus:

³ This is a separate etymon from other PAN reconstructions for ‘snake’ such as *SulaR; *qúlej; *ular; *buLay.

Proto-Micronesian *m^wata ‘worm’ (Blust and Trussle 2018)⁴

Woleaian	mwat(a)	‘underground worm’
Nauna	m ^w at	‘worm’
Kiribati	m’áta	‘worm’

And:

PCMc (et al 2003) ***lapw[ou]so** **‘moray eel’** (Bender

Woleaian	labuto	‘eel, snake, worm’
Pulo-Annan	napwuto	‘moray eel, sea snake’
Sonsorolese	rabwuto	‘moray eel’

A form found in one Negrito language group in the Philippines does however suggest the possibility that cognates did exist there at one time.

Proto-Manide-Alabat *matawú ‘snake’ (Negrito languages Southeastern Luzon)

Manide	púʔo	‘snake’
	matawú	‘snake: boa’ [= python]

This proto form is especially interesting. Negrito languages in the Philippines, as pointed out by Reid (2013), tend to preserve older forms of Austronesian spoken by peoples with whom they first came into contact, and from whom they subsequently fled, quite possibly to avoid having their heads hunted (*ibid*).

The group considered most closely related to Oceanic shows the following forms:

South Halmahera-West New Guinea (SHWNG)

Biga	amato	'worm'
Watubela	kuwatawatal	'worm'
Pulau Arguni	wata-gor	'worm'
Koiwai (Irian Jaya)	wa'arwá'ar	'worm'
Irarutu	sawat	'snake'
Buli	gugulat	'worm' [gu 'snake']
Andio	dondoluwate?	'worm' [Sulawesi]

⁴ Apart from sea snakes, few snakes are indigenous to Micronesia, most having been introduced recently. However snakes of the genus *Ramphotyphlops*, small blind borrowing snakes, are present, and closely resemble worms. Some mystery surrounds their indigeneity as some of the islands, for instance the Carolines, were only formed within the last 2,000 years. <https://insider.si.edu/2012/04/mystery-in-the-pacific-blind-snakes-on-young-islands-have-scientists-puzzled> . This could imply that the islands may have been settled after the Lapita period, rather than before as the geography might suggest.

One conclusion from the Thémároú, Bolyu, Bit, Kra, and Jiamao evidence is that antecedents of Lapita Oceanic survived on the mainland of Southeast Asia quite far south and inland. The “East Asian Mainland” designation needs to be more carefully defined. Unexplained is the relationship of the intervening languages, much more remote phonologically, that range from Taiwan through the Batanes to the hunter-gatherer Northern Agta discussed below.

In other words, there is an apparent linguistic leapfrogging from the mainland and Hainan over the Philippines to Lapita and Micronesia on the other side.

2.2 Other directions within Austronesian

In Formosan, Bashiic, and Northern Agta, a number of phonologically more distant yet probable cognates can be found as well, identified by using a formula similar to that above:

() + {(C/V) + (**labial occlusive or rounded vowel**) + (C)} + V + C_{T/2} ()

for example:

Formosan

Atayal C’uli’ (Mayrinax)	quruʔ	‘snake’
Atayal C’uli’ (Skikun)	maquʔ	‘snake’
Atayal - Squliq	mquʔ	‘snake’
Seediq – Sakura	qúyuʔ	‘snake’
Kavalan LTs	qruqut	‘worm’
Siraya	qalo:qot	‘worm’
Bunun Iskuvan	ivut	‘snake’
Southern Bunun	ʔivutáð	‘worm’
Puyuma Chipen	quléd	‘worm’
Puyuma Nanyang	u ed	‘worm’
Yami	u’əd	‘worm’

Bashiic: (Batanes)

Imorod	aowed	‘worm’
Itbayaten	alwatiʔ	‘worm’
Babuyan	ohed	‘worm’
Ivatan Basco	ʔohid	‘worm’
Isamorog	ohed	‘worm’

Agta: (Northern Luzon)

Central Cagayan Agta	ʔalikkwuad	‘worm’
Dupaningan Agta	urad	‘worm’

Mamanwa (Negrito)	ʔolod	‘worm’ (northeastern Mindanao)
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Perhaps:

Jiamao	zɔ:t ⁸ , jɔ:t ⁸	‘worm’	(Liu 2008)
Mang (AA)	mə ³¹ tuat ⁵⁵	‘worm’	(Gao 2003)
Buyang (Kra)	lat ³³ (ŋau ³¹)	‘snake’	(Liu 2008)
Gelao (Kra)	mɔ ³¹ hu ⁵⁵	‘worm’	(Li 2006)
Qabiao (Kra)	pu ³³	‘worm’	(Liang et al 2007)

Island SEA

POC	*mwata ~	‘snake’	(Blust and Trussle 2018)
	*qumata		
PMc	*m^wata	‘worm’	(Bender et al. 2003)
PCMc	*lapw[ou]so	‘moray eel’	(Bender et al. 2003)

South Halmahera-West New Guinea (SHWNG)

Biga	amato	‘worm’
Watubela``	kuwatawatal	‘worm’
Irarutu	sawat	‘snake’
Buli	gugulat	‘worm’ [gu ‘snake’]

Manide-Alabat ***matawú** ‘snake’ (Negrito languages in S. Luzon)

PMP	*bulati (Zorc)	‘worm’	(Austronesian Database)
	*qali-wati (Blust)	‘worm’	(Austronesian Database)

3. Snakes in Austronesia

Zoologically speaking, what are we to assume led to this particular chain of contacts? First, why would this particular word be so well preserved and so mobile? One distinct possibility is that for the seafaring Austronesians, or coastal dwelling peoples generally, the most commonly encountered serpents are sea snakes. As can be seen in Figure 3, some, such as the yellow-bellied sea snake, are ubiquitous and occur in abundance in all of the waters from Formosa, the southern Chinese and Vietnam coasts on through the islands of Oceania, even to the so-called “snake-free” islands of Tonga and Hawaii.

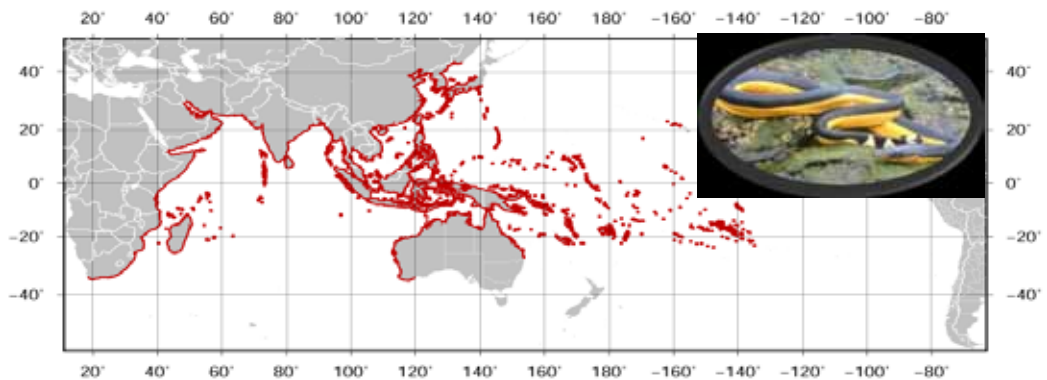


Figure 3: Distribution of the Yellow-Bellied Sea Snake
(Source Wiki Commons)

Second, forest snakes likewise occur in most environments where the *mwata taxon exists in Oceania, many of them conspicuous members of the *Boidae*, genus *Candoia* or Pacific tree boas.

Another type of snake known as long tailed blind snakes, genus *Ramphotyphlops*, are found throughout Southeast Asia and the Pacific, closely resemble worms, as shown in Figure 4. It is therefore not surprising that the linguistic forms are closely related. The species shown here is one of two that that were recently discovered in the Caroline Islands of Micronesia (Wynn et al 2012).



Figure 4:
*Ramphotyphlops
hatmaliyeb*
Source:
Smithsonian 2012

4. Lapita Archeological Evidence and DNA

The word “Lapita” originated in 1952 when American archeologist Edwin Gifford excavating a site in New Caledonia inquired as to the name of the location. The response was *xapet’a*, interpreted as *lapita*, which means simply ‘place where one digs’ in the local Haveka language (Montaigne 2010).

Lapita language and culture appeared suddenly and spread rapidly from western Melanesia to western Polynesia. As David Burley writes in Bedford et al (2018):

The Lapita migration from Near Oceania to western Polynesia was indeed a “fast train”. It was undertaken by an Austronesian-speaking group (or groups) that, while originating from the Bismarck Archipelago, had virtually no genetic admixture with their Papuan neighbors. The Lapita peoples of Vanuatu were quickly replaced by a second wave of Papuan colonizers. That this migratory wave occurred elsewhere in the Reef/Santa Cruz Islands, New Caledonia and presumably Fiji, but not Tonga, can be implied. The implications are consequential and substantive for Oceanic archaeology and our understanding of Polynesian origins. Polynesians are the ancestral vestige of Lapita peoples.

The geographical distribution of reflexes of POC *mwata are limited to the area containing the Lapita culture remains. The only exception is Micronesia, and even here there are some close resemblances of pottery stamping motifs between the Marianas and Lapita, for example Achugao (from Saipan) and New Caledonia (Bellwood et. al. 2011: 335), though the Marianas samples are not considered as Lapita, and *mwata reflexes are not found here. For example, the Achugao shard shown below in Figure 5 (1500-1000 BC) slightly predates its Lapita twin (1200-1000 BC) implying a movement from the north. The distribution follows the DNA flow from Formosa and East Asia, through northern Luzon and Micronesia, to Lapita (but not including the modern Chamorro in Saipan). Notably, DNA of Lapita skeletal remains has been shown not to be mixed with Papuan or modern Melanesians at the earliest levels,⁶ a classic example of how language and DNA can remain separate.

⁶ See Weule (2016).



Figure 5: Comparison of pottery shards from Marianas and New Caledonia (from Bellwood et. al. 2011)

Although Lapita remains have not been found in the Solomons, reflexes of *mwata are found in many of the languages there.

The study of Lapita is not without controversy, but combined evidence from historical linguistics, human genetics, and archaeology essentially confirms that Neolithic Lapita settlers appeared suddenly in the Bismarck Archipelago at approximately 1500 BC, and dispersed rapidly to the south and east to encompass New Caledonia, Vanuatu (New Hebrides), Fiji, Tonga, and Samoa. At least one site was found on the coast of the Papua New Guinea mainland. The area defines rather starkly a Lapita cultural complex that is taken to be the foundation of Austronesian spread over all of Melanesia and Polynesia eventually reaching Hawaii and Easter Island. I will not address the issues raised by opponents of this scenario because they deal almost exclusively with archaeological matters, pointing out, for example, the existence of non-Austronesian pre-Lapita cultures in some locations, which may or may not have influenced Lapita settlement patterns. But in any event this does not detract from the fact of our snake taxon's well-defined distribution that coincides with the with distribution of Lapita sites plus Micronesia.

In support of this, a number of extinct fauna have been identified in Lapita sites whose demise is considered anthropogenic, including two remarkable species of giant 2.5 meter land tortoises (*Meiolania damelipi* and

the horned *Meiolania platyceps* – (see Figure 6),⁷ and a terrestrial crocodile (*Mekosuchus kalpokasi*) especially from New Calodonia, Vanuatu, and Fiji (White et. al. 2016; Skoglund et. al. 2016). The spiked club-like tail of the tortoises resembled that of the *ankylosaurus*. This indicates not only that the islands were uninhabited prior to the arrival of the Lapitans, as the tortoises, along with hundreds of species of birds, disappeared within 300 years of their arrival, but that tortoise hunting – rather than a quest to expand agricultural land – may have encouraged the rapid dispersal of the hunters throughout Melanesia and Western Polynesia and enabled subsequent ecological changes resulting from extinction of the enormous herbivores (Hawkins 2016). Indeed the eastern limits of Lapita dispersal in Samoa and Tonga were only slightly beyond the known limits of the eastern range of the Meiolaniids in Vanuatu and Fiji (*damelipi*), and the southern limits in New Caledonia (*platyceps*).



Figure 6: *Meiolania platyceps* (Source Wikipedia Commons)

Unfortunately, however, while such information does aid in defining the extent of Lapita and the range of POC *mwata reflexes, it still does not explain the ultimate connection with Jiamao, Thémároú, Bolyu, Bit, and Kra. So far the only reliable cognates in the northern Philippines are in Agta, which are definitely related to earlier forms for ‘snake/worm’ in the Batanes and Taiwan. But the taxa from Micronesia and Oceanic Lapita and the Southeast Asian mainland are phonologically more closely related to each other than either is to the Agta-Taiwan cognates. Hence the puzzle.

In addition, why *mwata reflexes are not found beyond Samoa and Tonga is puzzling if Lapita is to be considered the ancestor of all Polynesia.

In 2016, DNA analysis of four Lapita skeletons from old cemeteries on Vanuatu and Tonga showed that the Lapita people are descended from peoples of East Asia and came to the islands from mainland East Asia through Taiwan and Philippines (Skoglund et. al. 2016). Again, apart from Agta there is no

⁷ There is still some uncertainty regarding the classification of *damelipi* under the *Meiolania* genus as the osteological and DNA examination of the archaeofauna remains continues (Hawkins et. al.2016:2).

evidence of our ‘snake’ taxon from the northern Philippines. The DNA analysis did not include Hainan or Mainland Southeast Asia south of the Red River, so direct genomic connections with Lapita bypassing the Philippines remain unconfirmed and probably has not been seriously considered. Nevertheless, the linguistic evidence is clear.

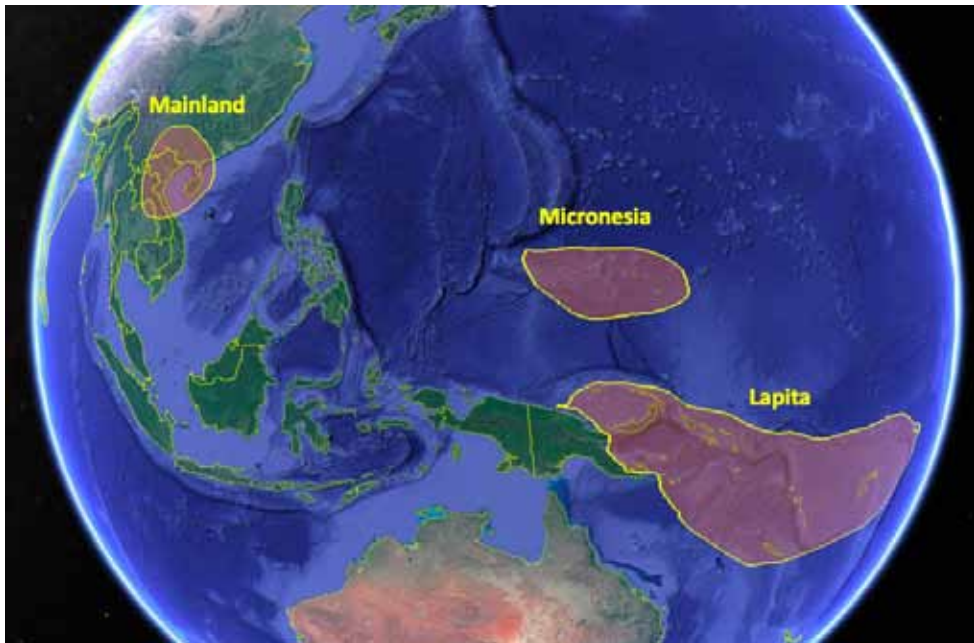


Figure 7: The Range of Mainland forms and Oceanic reflexes of
*mwata

(Source: Adapted from Wikipedia Commons)

That the distribution of reflexes for POC *mwata is limited to the area of the Lapita culture, plus a number of islands in Micronesia, remains key (see Figure 7). It indicates that Lapitans, more than 3,500 years ago were a homogenous group, the Micronesian linguistic connection does point towards Fomosa via northern Luzon. But the Jiamao-Thèmarou-Bolyu=Bit-Kra link suggests a more complex explanation, one that includes inland southern China and northern Vietnam, as well as the coastal areas south of the Red River, adjacent to the Mã, Cà, Cửa Sốt, and Gianh Rivers, basins that later, with the invasions of the Chinese in the Han Dynasty, became centers of colonization in the form of commanderies named Jiuzhen, Huai Huan, Jiude, and Rìnán (Jihnan) respectively. The Kri-Mol (Vietic) diversity inland in central Laos, and the geographic spread of the Katuic side of Vieto-Katuic, point to an inland rather than a coastal point of origin for that branch of Austroasiatic which must have at some time encountered Pre- or Proto-Austronesians. This would help to account for the Bolyu and Kra connections. The form's occurrence in a Kri-Mol (Vietic) language implies considerable linguistic

plurality in these areas among ancestors of Kri-Mol, Jiamao, Hlai, and Austronesian.

Finally, Bellwood et al (2011: 336) points out that the pottery stamping tradition began in the middle Yangzi region of China, not in Taiwan, and is also found in Neolithic Thailand and both southern and northern Vietnam so a mainland origin seems certain. This is a broad distribution, but does encompass the areas where our ‘snake/worm’ terms are found. *Since* other islands in Micronesia, apart from the Marianas, share the ***mwata** taxon; and *since* the Marianas and Lapita share the stamped pottery tradition (that originated on the mainland); and *since* Chamorro is a WMP language like most of the Philippine languages; and *since* Chamorro people are genetically distinct from other Oceanic peoples (Hung 2011); it is logical to postulate the existence of a prior wave of Austronesians originating on the mainland and directly linked to the Lapita ancestors, but who were displaced by other MP speakers in northern Luzon and Saipan. The language changed in Luzon and Saipan, while the pottery tradition continued on through Lapita as well as the old language. This could be the missing link that connects Lapita to the mainland. The dating and the locations look to be in agreement.

5. Connecting Hainan, Kra, and Taiwan

On Hainan, the Jiamao (Kamau) people are located in the southeast corner of the island. Whether their arrival on the island predates that of other Hlai is unknown. But if this were the case it would help to account for the early dating of Lapita (3,600-3,100 BP) and their relationship to Thémarou. Some maintain that Jiamao people were Hui (Chinese Muslims) arriving in the 10th and later in the 15th centuries (Thurgood 1992), though this sounds suspicious since Jiamao people are animists and not Muslims.

Another interesting group on Hainan that lends a sense of antiquity to its settlement is Gelong or Cun. A paper (Li et al: 2010) analyzes the Y-Haplogroup frequency correlations of Gelong with other groups, the highest being that between Gelong and Gelao [Guizhou] (0.962), Atayal [Taiwan] (0.866) and Paiwan (0.776) [Taiwan] (*ibid* 465). Other frequencies are considerably lower as seen in the table below:

Table 1: Correlation analysis of Y-haplogroup frequencies between the Gelong and other populations (source based on Li et al 2010: 465)

Language Groups	Correlation
Gelong-Gelao	0.962
Gelong-Atayal	0.866
Gelong-Paiwan	0.776
Gelong-Kam	0.414
Gelong-Sui	0.401
Gelong-Han-JX	0.443

Gelong-Hmong	0.417
Gelong-Hlai	0.329
Gelong-Zhuang	0.321
Gelong-Bouyei	0.003
Gelong-Han-FJ	0.023
Gelong-Mien	0.187

FJ=Fujian Province, JX = Jiangxi Province

That the divisions are so stark is of great interest. Within Kra-Dai, Hlai and Zhuang are further than Kam and Sui. And Bouyei (linguistically and geographically contiguous with Zhuang) is furthest of all. Norquest considers Cun or Gelong closest to Nadoua, but distinct from other Hlai dialects. Together they comprise his Northwest Central Hlai that he views as a mixture of Hlai and Chinese.

The Taiwan – Gelao connection I will presume supports a Kra – Chǔ association and the ultimate west to east expansion of Chǔ in the direction of Austro-Tai and Taiwan.⁸ The proposed Chǔ division into Kra (southwest) and Hlai (southeast) is even more plausible in light of the recent craniometric study of Matsumura et al (2019) discussed below, describing a “second wave” of modern humans from northwest Asia southwards dated at approximately 9-4 kya. Also, when triangulated, the points of Guizhou – Taiwan – Hainan discussed above encompass a space which roughly includes the next closest Y-haplotype groups of Kam, Sui, Han-Jiangxi, and Hmong. Taken together this distribution implies a bloc of Pre-Austro-Tai covering the in-lands (Guizhou, Guangxi, the Red River basin) eventually to the coastal areas inclusive of Formosa and Hainan to points at least as far south as present-day Quang-Binh in Vietnam and adjacent parts of Laos (Khammouane and Borikhamxay) to interface or blend with Vieto-Katuic further inland.

6. Kri-Mol Hunter-Gatherers and Connections with Hainan and Beyond

The Thémarou, for whom **kobuat** is the word for ‘snake,’ are nomadic foragers. After several visits beginning in 1996, in 2004 they informed the author that following a devastating epidemic, they came to reside on the outskirts of the ethnic Brou village of Vang Chang on the upper Theun River, just over the boundary of the Atak Ruut spiritual territory.⁹ They say that having lost most of their elders who knew and understood the ways of the forest, they could no longer continue this type of existence. Their numbers had

⁸ For details see Chamberlain (2016) and Miyake’s reconstruction demonstrating the linguistic relationship between Kra and Chu.

⁹ In fact a Thémarou man had related this to me during my second visit in 1997, and though I recorded the story, it remained untranslated until my fourth visit in 2004.

dwindled to 43 in total. Originally the hunter-gatherers on the Nakai Plateau were essentially peripatetic, constantly on the move, albeit at a leisurely pace, spending 1-3 years (depending on the group and its location), before returning to a starting point, usually by a river where bark cloth (from *Antiaris toxicaria* [Moraceae]) could be soaked and pounded, and fish, poisoned by the bark, could be eaten. They had no durable material culture, all technological needs being met by bamboo and other types of vegetation.

On the whole though, apart from political interference, hunting and gathering as a lifestyle is remarkably stable. Negritos in the Philippines, despite having been overrun linguistically by Austronesians, are still mostly hunter-gatherers and have remained so for many thousands of years (Reid 2013). The same is true of the Negrito groups in Thailand, Malaysia and the Andamans. Given the common hunter-gatherer propensity for lack of autonyms, which I suggest correlates with linguistic flexibility and having no particular attachment to a “mother-tongue,” it is not surprising that while language changes, lifestyle does not.

A recent paper by Hsiao-chun Hung (2019b) describes “prosperous and culturally complex” hunter-gatherers, living precisely in the mainland area discussed here, though earlier, c. 5,000-3,000 BC, separate from the more traditional category of Neolithic farmers who arrived after this period. The two groups obviously intermixed, as in the Man Bac site in northern Vietnam and elsewhere (Hung 2019b: 11). The social dynamics of this relationship are unknown. What is important is the existence of non-nomadic foragers, but what is missing from the picture are non-coastal nomadic hunter-gatherers such as those found today in Central Laos and North-Central Vietnam; along the western Thai-Lao border; peninsular Malaysia; and the Andamans. These are sometimes referred to as immediate-return hunter-gatherers (Kosumba 2005:339) or nomadic foragers. But though they leave few traces for archaeologists, we must assume their existence at early periods given the widespread locations to the east, to the west and in the far south of mainland SEA. Also if more modern practices are any clue, exchange relationships likely existed between deep forest hunter-gatherers and intermediary groups with links to the coast. It is unfortunate that we do not have DNA samples from the Nakai hunter-gatherers.

Another trait I have observed is lack of anxiety with respect to food. This trait does not fit well with the transition to farming hypothesis and the quest for land. I would maintain that while this might work for so-called culturally complex foragers, for the immediate-return variety, there is no motivation to make such a transition. Perhaps the terms “prosperous” or “affluent” as synonyms for “culturally complex” are less than ideal because, from a nomad’s point of view, affluence means having all of one’s needs met with the least amount of effort. An Atel man described to me the feeling of security and comfort he experiences while in the forest, knowing that there are things to eat all around him. From this perspective, complexity is a form of poverty because of all the effort needed to survive. Cultivation is the ultimate poverty: preparation of fields, wading around in the mud of the paddy, plowing with buffaloes, having to wait for long periods before the crop is ready to eat, and

so on. Gérard Diffloth has noted (pers. comm.), that the complexities surrounding animal naming and mythology in Semai, an agricultural Aslian group, are not present in the cultures of various Semang nomadic foragers who live not far away.

It is acknowledged by archaeologists that aquatic foraging and fishing are typologically separate from deep forest foraging (eg Higham: 2008), and we note the correlation between river or seashore dwelling and culturally complex hunting and gathering. Forest dwelling foragers are a distinct cultural type, and as mentioned leave few traces for archaeologists. It is perhaps these latter that Ingold (1999: 54) had in mind when he wrote: “The distinctiveness of hunter-gatherer sociality lies in its subversion of the very foundations upon which the concept of society, taken in any of its modern senses, has been built.” That is, there is also a psychological difference that does not manifest itself materially. Thus, suffice it to say, complex hunter-gatherers, hypothetically speaking, would be more likely than nomadic foragers to adopt a farming lifestyle, not necessarily because of an intrusion of farmers.

The Kra-Dai peopling of Hainan took place from the southwest; Hlai (Li) inhabited the mainland prior to arrival of the Tais (Chamberlain 2016) and; they occupied areas quite far south at least to Ha-Tinh or Quang-Binh. Note the original location of Sek in Quang-Binh, a Be-Tai language most closely related to Northern Zhuang in Guangxi and Ong-Be on Hainan (*ibid*). This should be borne in mind when explaining the language contacts between Kri-Mol, Kra, Jiamao, and Lapita-Oceanic. The Hlai languages on the mainland eventually assimilated to Tai but only after some of their numbers had dispersed to Hainan sometime between 4000-3000 BP, according to Ostapirat (2008), based on the lack of Chinese influence on the language which would have been present had the island been settled by the Hlai after the Qin-Han invasion of the south in the 3rd century BC, and the absence of cognates for ‘iron’ which dates from approximately 500 BC on the mainland, indicating a Hlai movement to Hainan prior to that period. Also both Kra and Hlai lack the otherwise ubiquitous term for ‘crossbow’ (*hnaa C) found in Tai and Kam-Sui, as well as Austroasiatic and Hmong-Mien language families. The crossbow appeared in ancient China earlier than iron, at around 700 BC (the Hlai used only longbows or flatbows). Terms associated with rice cultivation are likewise not cognate with Tai, Kam-Sui or Kra.

Apart from the revelations of Hung’s paper (2019b) just mentioned, two aspects of population movement on the mainland seem to me important. First, the study by Matsumura et al (2019) just mentioned in which craniometric analysis indicates that in addition to the west to east “out-of-africa” route for human dispersal in Southeast Asia, a second north to south spread began in Eurasia. This accounts for the early Negrito presence which has recently been confirmed as Hoabinian (McColl et al 2018) and their subsequent replacement by non-Negritos (Southern Mongoloid) who arrived from the north, and at some points became identified with the Neolithic farming tradition that moved into Taiwan and then to the rest of Austronesia, as the story goes. It can be inferred that the general flow of human and linguistic dispersal from Eurasia

into East and Southeast Asia moved from north to south, albeit with a number of micro movements from west to east or vice-versa.

Second, a proposal by Truman Simanjuntak (2017) reminds us that in addition to Austronesian, there was another mainland movement identified with Austroasiatic, that moved south eventually ending up in peninsular Malaysia where their languages have been preserved by the Orang Asli. He sees it as a mainland parallel to the insular spread of Neolithic farmers from Taiwan through the Philippines and the rest of insular Southeast Asia, though this theory is becoming more and more less credible (Klamer: 2019). The mainland movement is supported by the presence of many AA branches along the way, such as Pakanic, Palaungic, Pramic, Khmuic, Vieto-Katuic, Bahnaric, Khmeric, Pearic, and Nicobaric and Monic. But the point of origin of the AA movement has not been pinpointed and when the far western AA branches of Khasian and Munda are considered it remains even more problematic.

The strongest evidence is from Monic, both from the inscriptions and from the almost extinct language of Nyah Kur or Chao Bon who once inhabited the Phang Hoei and Dong Phaya Yen mountain ranges in central Thailand, and the parallel Phetchabun Range slightly to the west. Old Mon principalities, dating at least from the 6th century when the oldest inscriptions were written, were located in northern Thailand and Laos, as well as in Central Thailand in the vicinity of Lopburi where they were known as the Dvaravati Kingdom. Their closest linguistic relatives are in the far south of Thailand and Malaysia as well as in the Nicobar islands. The name proposed to include all of these groups (Aslian, Mon, and Nicobar) is Nico-Monic (Gérard Diffloth pers. comm.). In other words, this would have been an inland movement, not a coastal one. The AA substrata in some Sumatran languages belongs here as well.

Also plausible is another mainland movement south but further to the east so as to include Blench's (2018b) earliest forager peopling of Taiwan implying the existence of non-agricultural people on the mainland, a lifestyle of which Kri-Mol are the repository. As mentioned, forest peoples would not have left behind material artifacts easily discoverable by archaeologists. The Austronesian substrat implies language shift due to early contact with Neolithic AA groups, ancestors of Katuic, moving from the west or northwest to form the branch now known as Vieto-Katuic. That the Vieto- or Kri-Mol side of this branch may have been originally pre-AN is a good possibility, some of the substrat belonging to PAN, some to MP, and some specific to Oceanic. That they in turn had been in contact with older Negrito populations is certain.

No doubt some were coast dwellers, but some would have inhabited the nearby tropical forests before being displaced or absorbed by farmers. The only non-Negrito hunter-gatherer groups on the mainland remain in the Thai-Lao border area (Mlabri), and in Central Laos and north-central Vietnam (Kri-Mol). Much like the Negrito populations in the Philippines, the languages of the Mlabri are difficult to classify with lexicon related to Palaungic, Pramic or Khmuic, or to no identifiable grouping (Rischel 1995). Likewise, Kri-Mol languages are replete with non-AA lexicon. It is sad that lexical studies have

lagged so far behind phonological reconstruction in historical linguistic research.

Most fascinating in Kri-Mol are the direct linkages with Hainan and Austronesian emanating from the interior of the Nakai forests in adjacent river valleys as shown below with taxa for ‘snake.’

Table 2: ‘snake’Taxa from Kri-Mol languages in Nakai,
Khammouane, Laos

‘snake / worm’				
Proto Language	Proto Form	River Valley	Examples ¹⁰	Other Related ¹¹
PAN (Blust (1999) (Wolff 2010)	*SulaR *ulaR	Nrong (Noy) On [ʔɔɔn]	Kri: ʃăyaar Phoong: th/ʃăyaar , Mlengbrou: täyaar	Proto-Hlai *lja:ɦ / *ila B
PMP/PWMP (Blust 1999) (Zorc 1995)	*nipay	Sot	Atel: kopee , kāpee	Karo Batak: nipe (Sumatra) Punan Kelai: pè’ (Borneo)
POC PMc (Blust and Trussle 2018)	*mwata ‘snake’ *m ^w ata ‘worm’	Theun	Thémarou: kobuat	Jiamao: ʔuat ⁷ Bolyu: mbuut ‘worm’ Green Gelao: ʔu ³⁴ to ³¹ ? ‘worm’ Nauna: mwat Loniu: mwat

The Atel, the Thémarou, and the Mlengbrou are hunter-gatherers of the immediate-return variety, whereas the Kri and Phoong would be classified as emergent swiddeners. The Kri although seemingly sedentary, rotated their village(s) approximately every three years between seven specific locations (until recently being subjected to government villagization policies), all the while cultivating rice and maize in rotational dry fields (Chamberlain et al 1996). Although possessed of crossbows, an unusually large number of animals are interdicted, perhaps a throwback to non-projectilized style of hunting and gathering practiced by the other groups. Houses were temporary,

¹⁰ From Chamberlain (2018).

¹¹ Jiamao (Norquest 2007); Bolyu (Li Xulian 1999); Green Gelao (Mazo 2011); Nauna and Loniu (ACD); Punan (ACVD); Karo Batak (Blust 2002).

constructed of bamboo with *Livistona* palm leaf roofing. (For locations see Figure 8)



Figure 8: Locations of Nakai Kri-Mol languages with links to Austronesian

Kri-Mol languages, including those in the interior, contain both Hlai and Austronesian related lexicon (see Figure 1). Furthermore, every sub-branch of Kri-Mol contains at least one hunter-gatherer group. Most of these belong to the type that leaves no material footprint for archaeologists (cf Chamberlain 2018). But at least three, Ruc, May¹² and Malieng, on the eastern side of the Annamites, may belong to Hung’s culturally complex variety, and live, or lived until recently, in caves, that is, with a quasi-sedentary home base and tools such as the crossbow. The Sách, probably under the influence of their namesake the Tai speaking Sek (cf Chamberlain 1998) even became wet rice cultivators. Others fell under the sway of Chinese colonists, underwent creolization, and became the Vietnamese. One can envision a west to east movement of Vieto-Katuic into a pre-Austronesian hunter-gatherer territory of Kri-Mol ancestors, with a subsequent language shift to Austroasiatic. A similar event must have occurred in peninsular Malaysia. This would explain the impacts of the Neolithic invasion and the Austronesian (and other?) substrat in Kri-Mol.

I therefore believe that the view of Austronesian on the mainland has been too narrow: (1) by locating them only on the coast; (2) by locating them

¹² Babaev and Samarina (2018).

only in the north, mostly opposite Taiwan in Guangdong and Fujian; and (3) by assuming a Neolithic farming origin. Blench (2018b) points out rather well that it is unlikely AN diversity on Taiwan is the result of a single movement from the mainland, and the mainlanders would have included hunter-gatherers, nomadic and otherwise. With respect to Lapita and the **mwata* connection, the current mainland cultures of Thémároú, Bolyu, Bit, Kra and Jiamao suggest a prosperous forager or recently emerged swidden cultural type for the ancestor of Lapita.

7. Other Linguistic Connections

In addition to the multi-familial ‘snake’ taxon found in Thémároú, a number of other words can be found which are potential contact forms with Hlai, Jiamao and AN. They are without doubt the remnant of an earlier presence on the mainland, pre-Austronesian preserved in the Annamite rainforests and along the coast. Most of my data are animal names. Some examples are:

7.1 Kri – Mol – Hainan

- (1) ‘porcupine’ *Atherurus*’ Proto-Hlai **təhín?* ‘porcupine’ Phong: tɔ:l, Liha: tən
- (2) ‘bat’ Toum: ɲɤk ɲɤ:k, Liha: ɲɤk, Proto-Hlai **Curu:k* ‘bat’ (> ɣuk ~ vuuk)
- (3) ‘frog’ Jiamao: la:p⁸ ‘toad’ (N p.389), Ahoe and Cheut: kəlp
Also: Proto-Kri-Mol **g--t*, PH (Ostapirat) **gaat* ‘frog’ (cf Chamberlain 2018: 120)
- (4) ‘water lizard (*Physignathus*)’ Proto-Central Hlai **rju:ŋ* ‘lizard’, Atel: kăyaŋ (related to PMP **duyŋ* ‘dugong’?)
- (5) ? ‘macaque’ Ph: vɔ:k T: vauk Lh/SM: vɔ:k, du:t
Ahoe: doo Ah: dɔ̌: Ahl: dɔ̌:
Li (Stübel) Süd: *nuc*, Weiß: *noh*, Geshor: *nok*
(OR ‘langur’ Ahoe: tănɔɔ Ah: tănɔɔ Ahl: tănɔɔ)
- (6) ‘sambar’ Phong: kăđǰ: Atel: kăđǰ: ? Greater Hlai: **rə:y?* ‘deer’
from PMK **draay* (Diffloth 1968)

7.2 Kri-Mol – Hlai – Austronesian

- (7) ‘pig’ PAN **beRek*, PMP **beRek*
Proto-Hlai **C-ləc* (e.g. Lauhut: lac⁷) ‘wild pig’

Kri-Mol

Toum: kuul lauk, Mường: kuyh³³ lɔy³¹, Viet: (lợn) lợn
‘wild pig’
Atel: cālɔay ‘Heude’s pig, Indochinese warty pig, *Sus bucculentus*’
Tai (var.) tuu lɔy ‘Heude’s pig’

- (8) ‘porcupine’ *Hystrix*’ Pre-Hlai **C-dəy* Proto-Hlai **dəy* ‘porcupine’
Ahoe: yǰ: Ahao: yǰ: Atel: ǧyi: Maleng: yǰ: To É: ʔyǰ:

AN-WMP (Blust and Trussle 2018)

Malay: suji ‘embroidery, etymologically from the porcupine quill’

Sundanese: suji ‘quill of a porcupine’

Old Javanese: suji ‘spine, quill (of a porcupine)’

(9) ‘butterfly’ Jiamao: ɬaŋ⁵ ɬwa¹ (Norquest)

PAN

*baŋbaŋ ‘butterfly, moth’ [doublet: *beŋbeŋ, etc.]
(Blust and Trussle 2018)

Formosan

Puyuma (Tamalakaw) Hali-vaŋbaŋ ‘butterfly, moth’

PMP

*baŋbaŋ ‘butterfly, moth; butterfly fish’

WMP

Yami	alibaŋbaŋ	flying fish
Ilokano	kuli-baŋbaŋ	butterfly, moth

Kri-Mol: (Chamberlain 2018)

Ahoe-Ahlao	Ahoe: peŋ pɔɔt	
Atel-Maleng	AT(1): pɔt pɔŋ AT(2): pɔt pwaŋ Ml: pɔt pɔŋ	
TE: pit pɔɔŋ		
Themárou	poŋ pɔt	
Kri-Phoong	Kri: kǎpoŋ pùt	P: puŋ pɔt
Mlengbrou	talaŋ pɔt pwaŋ	
Cheut	TX: loŋ pɔŋ Ruc: loŋ ² pɔŋ ⁴ , lǎŋ pwaŋ	
	Mây: luaŋ pwaŋ	Sách: pwaŋ pwaŋ

7.3 Tai – Hlai – Austronesian

(10) Proto-South-Central Tai *top ‘*Pelochelys bibroni*’ or ‘*Rafetus*’

BT, WT, TV: (too) top ‘Giant Soft-shell turtle’ *Pelochelys* or *Rafetus*’

Savina Tay: (tu) tɔp

Thô of Backan (EFEO) : (tua) tɔp

Proto Hlai

*thu:p ‘point-nosed turtle (Norquest)’

*ʔti:p ‘soft-shell turtle (Ostapirat)’

Hlai (Li from Stübel (1937))

Weiss: thöeb ‘turtle’

Geshor: thob ‘turtle’

PAN (‘river tortoise, softshell turtle’)

*qatipa (Wolff)

*qaCipa (Blust)

Formosan

Atayal: qesipa ‘soft-shelled turtle *Trionix sinensis*’ (Tsuchida 1976:266)

Thao: qcipa ‘soft-shelled turtle *Amyda sinensis*’

Northern Philippines (Yap 1973)

Kallaban, Keleyqiq: kateb ‘turtle’

Ifugao, Rayninan: attob ‘turtle’

PWMP *qantipa ‘turtle sp. (Blust)

WMP

Pangasinan: ansipa
‘river turtle’ (Tsuchida 1976:291)

Kapampangan: antipa ‘animals like turtles’

Simalungun Batak: antipa ‘sea turtle’

Note that for *Pelochelys* the phonologically closest lexemes occur on a line from northwestern Vietnam through Hainan to the northern Philippines.

8. Conclusion

Pottery dates in the northern Philippines predate, but overlap, with those of the Marianas (Hung et al 2011) suggesting that an earlier pre-Lapita or pre-WMP group existed, ranging from the Thémároú-Bolyu-Jiamao territory to an area perhaps in the Batanes or northern Philippines and the Marianas before being overrun later by WMP. This would account for the lack of ***mwata** reflexes in the northern Philippines and suggests that the modern languages of the northern Philippines displaced an earlier (non-Negrito) population that had already intruded upon or had begun to displace Negrito groups. The same seems to have happened in the Marianas where the dominant language Chamorro may have replaced an earlier Lapita language since ***mwata** reflexes are found nearby in other parts of Micronesia. That is, the pottery evidence from Saipan and the linguistic evidence from other parts of Micronesia, may indicate a more immediate northern origin for Lapita culture since the linguistic evidence from northern Luzon is not there. Kra-Hlai-Jiamao would be the earlier Austro-Tai link. It ranged quite far south and would account for the contact with Thémároú. Bolyu, in close relationship to White Gelao, might have shared the taxon with Kra as there is good evidence

of Kra-Austroasiatic links (Ostpirat 2017). The Green Gelao form belongs here as well, along with Bit and others as cited above. The time depth for the interactions would be approximately 6000-3500 BP, beyond that linguistic reconstruction is less reliable.

While it is not possible at this time to explain in full the mainland SEA-Lapita connection there are a number of possibilities that have been touched upon. It does seem clear that there were pre-Austronesian and/or Austro-Tai languages on the mainland in areas further inland and further south than previously acknowledged. Sek is a good example, located in the same geographical area as Kri-Mol which has links both with Hainan and with Austronesian. The interaction of mainland groups would have included at least four cultural types: (1) hunter-gatherers of the immediate-return variety with no projectile weapons; (2) immediate-return hunter-gatherers with crossbows; (3) affluent or culturally complex hunter-gatherers; (4) sedentary emergent swiddeners. The first two, while largely invisible to archeology, remain accessible to linguists, depending on the degree to which they may have survived into the present. All four of these types occur within the Kri-Mol sphere setting them apart as a linguistic grouping compared to strictly swidden branches such as Katuic to the southwest, Bahnaric and Chamic to the south, Khmuic and Pramic to the north, and of course Hmong-Mien. Kra-Dai has both wet rice (Kam-Tai) and swidden (Kra and Hlai) branches.

Among extant East and Southeast Asian peoples, the situation is mirrored only by Aslian cultures in the Malay Peninsula. In traditional Southeast Asia and the Pacific, few societies are sustained by agriculture alone. This has always to have been the case. The exaggerated importance in the literature of all disciplines attached to "Neolithic farmers" therefore seems misplaced and is no doubt primarily due to modern-day focus on economics and civilization that pervades our thinking about the past. At the very least, hunting and gathering needs to be a major part of the equation, especially in the islands where as we have seen, Lapita is responsible for mass extinctions of terrestrial and avian fauna. The quest for new hunting grounds is perhaps even more important as a motivation for migration than the need for farmland.

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Appendix - Non-Austroasiatic Faunal Lexicon in Kri-Mol

A number of faunal terms found in the Kri-Mol languages appear to be unrelated to those in other Austroasiatic languages. Some, as we have seen, have cognates in other language families such as Austronesian or Hlai or Jiamao. Others may be vestiges of earlier languages spoken by Australo-Melanesian (Negrito) groups. This is not meant to be an exhaustive list. No doubt etyma from other semantic fields will yield many more such forms. We can only speculate that the areas where Kri-Mol languages are spoken today were at one time home to numerous cultural types and languages linking the mainland to the islands of Southeast Asia and Austronesia.

Mammals

Elephant

Ahoe	yɔɔ	
Atel	ʔyɯɯʔ	
Kri	yɯɯ	
Phoong	yɯɯ	
& (Mnong [Rölöm])	jɔː	(MK Database)
	Not found elsewhere in Bahnaric)	
Ahoe and Maleng	tāmok	

Rhinoceros

Atel	cɔɔm	
Thémarou	cɔɔmʔ / caɔmʔ	
Phoong	caam	

Pig

Mường Houa Phan	poŋ ⁵⁵ (lawʔ ³¹)	‘hog badger’
Phong	puŋ	‘wild pig’

Porcupine *Hystrix*

Ahoe	yii	
Ahao	yii	
Ahlao	yii	
Atel	yii , gʷii	
Pre-Hlai	*C-dəy , PHl *dəy	
PMP ...		

Porcupine (*Atherurus*)

Mường Houa Phan	tɔʰu	
Phong	tɔɔl	
Liha	tɔn	
Ahoe	ntel	
Proto-Hlai	*tɛʰin	
Ahao	thǎloɔ	
Ahlao	ɲɛk	
Thémarou	ɲiɔk	

Bear *Ursus thibetanus*

Atel	rɯm	
Thémarou	rɯm	

Ahlao	ʃaduul
&Khsing-Mul	su:l ‘bear sp.’ ?
&Khm̥u [Cheuang]	huəl ‘bear sp.’ ?
Bear <i>Helarctos malayanus</i>	
Mlengbrou	cāmok
Hog Badger	
Atel	kātiʔl
Thémarou	kaatiiʔl
Cheut	kātuh
Otter (species not distinguished)	
Liha	paak
	dɛɛn
Atel	mǎŋwɔn , myuan
Thémarou	ʃimuur
Kri	muyaan keʔ
	mupɛŋ
Mlengbrou	mupaan
Bat	
Atel	spʌtʰ (fruit bat)
Mleng	sǎpat
Thémarou	sǎpat
Giant Squirrel <i>Ratufa bicolor</i>	
Phong	kǎŋaŋ
Toum	yɑŋ
Liha PL	kǎyɔŋʔ
Liha SM	ŋaŋ
Ahao	kǎʃaaŋ
Atel	kǎʃaaŋ
Phoong	kǎsɔɔŋ
Ahoe	kǎʃɛw
Thémarou	kǎʃɛɛw
Kri	kǎyur
Mlengbrou	tǎnoŋ
Cheut	tɿam
Squirrel (general)	
Atel(1)	kǎŋɿɿm
Atel(2)	khǎŋɿɿm
Mleng	kǎram
Squirrel (<i>Tamiops</i> ?)	
Phong	mɛɛn
Toum	mɛn mɛɛn
Liha	mɛn mɛɛn
Ahao	kǎmɛɛn
Ahlao	kɛn mɛɛn
Atel(1):	mɛn mɛɛn
Atel(2):	muʔl

	Thémarou	mɯc
	Mlengbrou	tāmac nua
	Kri	liləŋ
	Mlengbrou	tiliŋ
Flying Squirrels (<i>Hylopetes</i> and <i>Petaurista</i>)		
	Phong	khlɯŋ
	Toum	pɛɛl
	Liha PL	baʔan
	Liha SM	paen
	Ahoe	caa loop
	Ahlao	kal yar
	Atel	săpqaʔ (Large)
	Thémarou	ʃăpɔɔ
	Kri	ʃaapoʔ
	Mlengbrou	săpɔʔ
	Atel	tɛr (small)
	Kri	tɛr
	Kri	tɔnaa
	Cheut	tăcɯl
	Ruc (Løi)	chajur ⁴
Tree Shrew <i>Tupaia belangeri</i> Northern Tree Shrew		
	Liha	vɔc vɔɔc , vɔy vɔɔc
	Ahao	ʃuəŋʔ
	Ahlao	ʃuəŋ
	&Halang	kəsɯəj 'greater tree shrew' (MK Database) Not found elsewhere in Bahnaric)
	Atel	kăʔyɔɔt
Rat		
	Atel	ʔeek
	Thémarou	lɯk
Birds		
Bird		
	Ahlao	ʔacaan
	Ahlao	ʔcɔy
	Atel	ʔaa
	Thémarou	ʔɔuʔ
	Kri	ʔooʔ
	Mlengbrou	ʔaaʔ
Rufous-Necked Hornbill <i>Aceros nipalensis</i>		
	Atel	ʃtɯk
	Thémarou	sitɛɛʔl
	Mlengbrou	căbooʔ
Brown Hornbill <i>Anorrhinus tikelli</i>		
	Phong	mlɔl
	Toum	maul

Ahoe	mlɛl
Ahao	mlææ
Atel	mlɛl
Thémarou	mǎlɛɛw
Kri	mlɛl
PHoong	mlɛl
Mlengbrou	mɛl
Green Pea Fowl, Peacock <i>Pavo muticus</i>	
Phong	kǎyuu
Reptiles	
Snake	
Ahoe	luk
Atel	kopee , kǎpee
Thémarou	kobuat
Jiamao (Hainan)	buat⁷
Kri	ʃǎyaar
Poong	th/ʃǎyaar
Malieng (Peiros)	a:zai.52?
Mlengbrou	tǎyaaʀ
Python	
Mlengbrou	krɔw
Physignathus (Water Lizard) <i>Agamidae</i>	
Atel-Maleng	kǎyaan , kǎyaon
Proto-Central Hlai	*rju:ŋ ‘lizard’
Thémarou	karɯm
Cheut	pɔɔʔ
Water Monitor <i>Varanus salvator</i>	
Toum:	khlak
Frog	
Ahoe-Ahlao	kǎlɣp
Cheut	kəlɣp
Jiamao (Hainan)	la.p ⁸ ‘toad’
Toad	
Cheut	ʔutuuʔ
Rục (Lợi)	kutôot ⁴ , kutuot ⁴
Soft-Shell Turtles <i>Trionychidae</i>	
Mường	taj ⁴
Ahao	pǎtayh
& <i>Khmer Surin</i>	<i>kthiaj</i> (?)
Toum	taʔac
Phong	peet
Liha	lɛɛŋ
Atel	puɣ
Thémarou	phɯl
Kri	buɣ

Arthropods

Chicken Louse, bird mite *Anoplura*

Atel ʃãpɛɛ

Cicada *Homoptera: Cicadidae*

Maleng taat

Mosquito *Diptera: Cucilidae*

Toum paaw

Atel ʃãvwaŋ

Kri cwaɾəvwaŋ

Cheut keep

Ant *Hymenoptera*

Kri-Phoong kaapaar

Mlengbrou tãmiir

Grasshopper *Orthoptera: Acrididae*

Toum bok baay

Atel naɾ , naɔiʃ

Thémarou naɔyh

Crab (land)

Phong laap

Liha yaap

Ahoe sɛɛp

Thémarou kãpiɿ

Shrimp

Atel kɔɔ