

The Austronesians in Madagascar and on the East African coast: surveying the linguistic evidence for domestic and translocated animals

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Abstract

The Malagasy language is generally linked to the Barito languages of Borneo and recent research suggests that these languages are part of the Sama-Bajaw group. It is assumed the dispersal of the Sama-Bajaw occurred in the 7th century or thereabouts, impelled by the expansion of the Srivijaya Malay. This is in line with the current archaeological dates for settlement in Madagascar which fall within the period 5-7th centuries AD. The role of the Malay in this process, as the protagonists with experience of open ocean voyaging may well explain why Malagasy terms in this lexical field are all Malay borrowings. However, this does not fully explain the evidence for Austronesian presence on the East African coast, as textual and other evidence suggests that there were contacts around 0 AD.

Trying to develop a single model to account for the late dates of settlement on Madagascar, and the rather different nature of evidence for the East African coast has proven difficult, and it is here proposed that the reason is that the two migrations were essentially unrelated. Austronesian navigators were crossing the Indian Ocean prior to 0 AD, probably for trading reasons but may have come from a different region, perhaps the Philippines. There is no direct linguistic evidence for this, but cultural evidence is presented in Blench (1994).

The original settlers on Madagascar seem not to have transported domestic animals directly and therefore carried a memorised terminology to apply to animals they encountered on the island itself. Interactions between human populations has allowed the interchange and re-application of vocabulary, such that Bantu words have entered Malagasy and Austronesian terms have now spread into Bantu languages. Recent zoogeographic research suggests the translocation of domestic and wild species across the Mozambique Channel and between the islands. An intriguing example of this is the Malagasy name for the wild pig, *lambo*, which reflects Austronesian names for 'bovine'. Given the importance of pigs in Austronesian culture, such a replacement may seem surprising, but it seems that the ancestors of the Malagasy transported very large wild pigs from the African mainland as a food source, and these seemed more comparable to cattle than pigs. In the meantime, the importation of mainland cattle brought the Bantu name *nyombe*, which replaced exist Austronesian terms. The term *lambo*, in turn spread to Shimaore, the Bantu language of Mayotte, where it is applied to the dugong.

The paper explores this and other Malagasy domestic animal terminology for indications of historical interactions between populations. Surprisingly, almost all names for domestic animals are borrowed from languages of the coastal Bantu and Austronesian traces are found only in fossil forms. This may reflect the nature of the voyage; if the navigators were using the Equatorial current to cross the Indian Ocean without staging points, then it may not have been possible to keep domestic animals on the journey.

1. Introduction

Malagasy is often seen as a poor relation in Austronesian studies, remote from the core area and with little to contribute to comparative research. Nonetheless, it is one of the Austronesian languages with a large number of speakers (ca. 15,000,000) and is well documented. Curiously, the chronology of the settlement of Madagascar and the place of Malagasy in the Austronesian family tree remain under discussion. This continuing uncertainty undoubtedly reflects the mixed heritage of the language; apart from its core structures, it has picked up substantial amounts of Malay from different eras and areas (Banjar and Sumatra), Bantu lexical items from the adjacent mainland and possibly words from other, now-vanished speech-forms. If nothing else, as a test of the comparative method in determining these different strata in the lexicon, it remains of considerable interest.

Another element in Malagasy studies that links with the broader debates on Austronesian is the adaptation of inherited vocabulary to a wholly new natural environment. Madagascar is famous as a 'living laboratory' of evolution, and its separation from the African mainland some 50 million years ago resulted in the evolution of a very distinctive flora and fauna. The prosimians (lemurs) and the baobabs are perhaps the most well-known, but some 35% of the flora and 90% of the fauna are endemic, occurring nowhere else in the world. The absence of human populations for most of this period, permitted the evolution of 'naïve' species, susceptible to both predation from humans and competition from other animals, wild and domestic. The consequence of this has been a radical re-arrangement of the pre-settlement balance of nature, a re-patterning that is reflected strongly in the lexicon of Malagasy. This paper¹ looks at the terminology for domestic and translocated animals, since the impact of these has been considerable and throws unexpected light on prehistoric interactions with the East African mainland.

2. The settlement of Madagascar

A controversial text, the *Periplus of the Erythraean Sea* (Casson 1989), a first century seaman's guide to the coast, appears to suggest Graeco-Roman mariners or their contacts had some knowledge of Madagascar, perhaps making an appearance in the text as the 'Great island of Menouthias', a source for tortoise-shell. The East African coast was almost certainly visited by Austronesian mariners from an early period, probably as early as 0 AD (Blench 1994). We now know that the maritime cultures of the Indian Ocean had begun to reach the islands off the East African coast much earlier than previously thought. Chami (1999) has reported evidence for Graeco-Roman trade which confirms the reports of the *Periplus*. Such traders could hardly reach these smaller islands and completely miss Madagascar, but it may imply they did not settle. Whatever the date of the arrival of the source population of Madagascar, it is clear that they interacted extensively both with the maritime coastal populations and the settled farming groups along the coast. Pliny, in his *geography*², refers to the 'men who come across the great ocean on rafts [*rati*]' in contrast to the coastal traders. These could be Austronesians, if *rati* is an attempt to describe an outrigger canoe, a craft that would then be quite unfamiliar to traders on the east coast of Africa. Despite this, archaeology in Madagascar has so far uncovered no site earlier than the 5th century AD, which seems remarkably late (Dewar 1994). No Stone Age sites have so far been identified on Madagascar and palynological evidence seems to support a more recent human incursion on the landscape³. Indirect arguments for earlier dates have been advanced based on a butchered hippo-bone and faunal extinctions, but are so far inconclusive.

However, another type of evidence *does* seem to imply that the transoceanic navigators met populations already in residence. Malagasy traditions insist that a small, dark-skinned people, the Vazimba [=Mikea], were already present on the island. The Mikea were hunter-gatherers, and indeed groups with this name still exist (Johnston & Birkeli 1920; Birkeli 1936; Dina & Hoerner 1976; Trucker 2003). Given the early

¹ I would like to thank Martin Walsh for general discussions on these topics as well as drawing my attention to the intricate byways of porcine terminology. Martin Walsh, Sander Adelaar, Derek Nurse and Malcolm Ross have kindly commented on the text of the paper. Paul Sinclair has assisted with discussions of the archaeology of Madagascar. Some of the conclusions of the paper have been radically changed following discussions in Palawan and I would particularly like to acknowledge the paper by Bob Blust on the affiliation of Sama-Bajaw.

² Online text at http://www.ukans.edu/history/index/europe/ancient_rome/L/Roman/Texts/Pliny_the_Elder/5*.html

³ However, archaeological survey on Madagascar has been almost entirely of settlement sites and cave sites in the interior have not been given the attention required to be sure there were no Pleistocene populations (Sinclair, p.c.).

movements of humans out of the Horn of Africa and the settlement of both the Andamans and the Pleistocene sites in insular SE Asia, it would not stretch credibility to suppose a population of low-density hunter-gatherers had crossed the Mozambique Channel at an unknown but early date.

The general pattern is that the highland areas are dominated by lighter-skinned, more ‘Indonesian’ populations and the coastal lowlands by darker ‘African’ populations. Not all of these were necessarily Bantu; the Bara, a tall group who are principally pastoralists, rather suggest Nilotes or Cushites. However, all the languages spoken on Madagascar today are Malagasy lects, except for an enclave of Swahili in the northwest. Whether this means the African component was forcibly transposed to Madagascar or came over as part of a colonising exercise is hard to determine. Kent (1970) has argued that specific mainland peoples moved across the Mozambique Channel leading to the genesis of particular subgroups, but the precise sources of much of the African component remains indeterminate.

The Malagasy language can now be linked to the dispersal of the Sama-Bajaw occurred in the 7th century or thereabouts, impelled by the expansion of the Srivijaya Malay. This is in line with the current archaeological dates for settlement in Madagascar which fall within the period 5-7th centuries AD. The role of the Malay in this process, as the protagonists with experience of open ocean voyaging may well explain why Malagasy terms in this lexical field are all Malay borrowings. However, this does not fully explain the evidence for Austronesian presence on the East African coast, as textual and other evidence suggests that there were contacts around 0 AD.

Trying to develop a single model to account for the late dates of settlement on Madagascar, and the rather different nature of evidence for the East African coast has proven difficult, and it is here proposed that the reason is that the two migrations were essentially unrelated. Austronesian navigators were crossing the Indian Ocean prior to 0 AD, probably for trading reasons but may have come from a different region, perhaps the Philippines. There is no direct linguistic evidence for this, but cultural evidence is presented in Blench (1994).

If it is the case that there were two distinct phases of contact with the East African coast, then the residual influences are quite distinct. Table 1 is a preliminary list, expanded from Blench (1994), of non-Malagasy culture elements that appear to have travelled between East Africa and the Austronesian region.

From the Austronesian region	To the Austronesian region
Elephantiasis	African malaria
Insular SE Asian fighting cocks	Frame-xylophone
Flat-bar stick-zither	? goat breed ⁴
Leaf-funnel clarinet	

3. The Malagasy language and its Bantu neighbours

3.1 General

Malagasy is spoken on the island of Madagascar and by several communities on Mayotte in the Comores. Malagasy is the national language and has a standard written form. The exact degree of mutual intelligibility of Malagasy lects is difficult to estimate because of the widespread diffusion of a standard variety. However, it is clear that a substantial amount of the lexical variation represents the impact of various East African coastal languages on particular regions.

The Dutch scholar Adriaan van Reeland, recognised the relatedness of Malay, Malagasy and Polynesian in the early eighteenth century, providing a preliminary outline of the Austronesian phylum (Reelandus 1708). Although Malagasy is an accepted member of Austronesian, its precise genesis has been much debated. It is generally considered to belong genetically to the Barito languages, today spoken in Kalimantan (Simon 1988). However, it has clearly undergone considerable influence from Malay, whence it draws many nautical and other technical terms (Adelaar 1989, 1994, 1995, in press). Blust (this conference) has

⁴ See §4.4 for discussion of this possibility

presented evidence that the Sama-Bajaw languages of the sea-nomads in the Philippines are in fact related to the Barito languages, and it is possible their movement from Borneo and the westward movement of the pre-Malagasy are a response to the seventh century expansion of the Srivijaya Malay. Apart from Austronesian inherited vocabulary, Malagasy has numerous loans from the Bantu languages of the East African coast, from Swahili and other Bantu languages, which probably post-date the Swahili borrowings. No loans from Cushitic languages have yet been identified, but it would be surprising if they were wholly absent. Other elements in the lexicon are from trade languages of the Indian Ocean, notably Arabic and Hindi (Beaujard 2003).

If it is the case that the incoming Austronesians encountered a resident population, then it may also be that there is a residuum of non-Austronesian vocabulary reflecting this. Johnston & Birkeli (1920) describe the former hunter-gatherer groups and give samples of the languages of the Vazimba and Baūsi [=Beosy] languages. Once evident Bantu and Austronesian loans are eliminated, the residual lexical items have no evident affiliation. Stiles (1991, 1998) was later able to confirm at least some of the Birkeli material, and it is thus not difficult to imagine that terms from populations once more widespread have made their way into Malagasy proper.

3.2 Malagasy dialects

Malagasy is divided into numerous dialects, the most important of which are Merina, Tanala, Betsileo, Antankarana, Tsimehety and Sakalava. These have a large amount of common core vocabulary, but also a significant corpus of ‘rogue’ lexemes whose source is yet to be identified. The origin of these are probably to be found either in the language of the Mikea groups or in the languages of the East African coast (cf. Simon 1988 for early pointers in this direction). Beaujard (2003) has attempted to establish a stratification of Austronesian arrivals in Madagascar through loanwords although his attempts have met with some scepticism, from Adelaar, for example. The Comores, despite their small size, have two distinct Malagasy dialects, Kiantalaotsy and Kiboshy Kimaore. Kiantalaotsy is spoken in just three villages, while all the remaining communities speak Kiboshy Kimaore. In 1987, there were some 19,000 speakers of both Malagasy lects (Gueunier 1988).

Compared with other African languages, early records of Malagasy are surprisingly good. In particular there is a dictionary, broadly representing Southeastern dialects by Etienne de Flacourt, dating from 1658 (Ferrand 1905). Other important lexical sources are listed in the bibliography and given in Table 2. Dictionaries such as Dubois (1917) and Elli (1988) seem not be available outside Madagascar, although some of their information is available in cross-citations. There is some valuable material available on the internet, www.zomare.com/biblio3.html includes a *Lexique des dialectes du Nord* at www.zomare.com/ldn.html and a *Lexique Sakalava* is posted at http://www.zomare.com/lts_ab.html.

Some Malagasy dialects have a significant parallel vocabulary, associated either with social hierarchy or with possession rituals. The Tandroy and Sakalava in particular, have elaborate sets of alternative lexemes for many common terms. The origin of these words is often opaque and they are included here in the quest for etymologies, which may include for obscure Austronesian sources.

3.3 Bantu

Today, the dominant language along the coast facing Madagascar is Swahili down as far as Mozambique, with a variety of Bantu languages related to it in the immediate interior. Even within Mozambique, a language such as Ekoti appears to originate from settlements of pre-Swahili speakers. Depending on the date proposed for the interactions between the Austronesian migrants and the coastal peoples of East Africa, the peoples involved in this initial encounter would have been considerable more diverse. Two thousand years ago, the first Bantu farmers would have just begun to explore the coastal region and much of the land would have been dominated by Cushitic-speakers, both pastoralists and hunter-gatherers, as well as (apparently) a maritime culture along the coast, whose ethnic affiliations are at best uncertain. Speakers of Nilotic languages (Maa, Turkana etc.) were not far inland and were apparently known to coastal traders, to judge by remarks in Pliny (Blench 1994).

Of the offshore islands, the most important are the Comores. Despite their relative proximity to Madagascar, the Comores do not seem to have been settled until the 9-10th centuries (Allibert & Verin 1994). Nonetheless, once begun, this process seems to have been strongly linked to the trade between the coast and Madagascar and there has clearly been lexical flow between the Malagasy spoken on the Comores and Comorian proper. The Comorian language is divided into four dialects;

Dialect	Isle
Shingazidja	Grande Comore
Shindzwani	Anjouan
Shimwali	Mohéli
Shimaore	Mayotte

Descriptions of these languages are found in Rombi (1979, 1984) and its broader relation to other Swahili lects in Nurse and Hinnebusch (1993).

3.4 Sources

The data tabulated in this paper are drawn from a variety of sources, given in Table 2;

Lect	Source
Mikea	
Baūsi	Johnston & Birkeli (1920), Stiles (1998)
Malagasy	
SE dialects	Ferrand (1905)
Merina	Abinal & Malzac (1921)
Antaisaka	Deschamps (1936)
Tanala	Beaujard (1998)
NE dialects	www.zomare.com/ldn.html
Sakalava	Thomas-Fattier (1982), http://www.zomare.com/lts_ab.html
Tandroy	Rajaonarimanana & Fee (2001)
Kiŕoŕoŕo	Guenier (1986)
Bantu	
Shingazidja	Lafon (1992), Ahmed Chamanga & Gueunier (1979)
Shindzwani	Ahmed Chamanga (1992)
Kimaore	Ahmed Chamanga & Gueunier (1979), Blanchy (1996)

There are slight variations between some sources, mostly orthographic conventions (such as whether a final -i is spelt -i or -y) but the data is generally consistent. Malagasy orthographic 'o' is pronounced /u/, but the sources has been quoted as they stand.

4. Domestic and translocated animals

This sections discusses the names for individual species of domestic animal and the likely etymologies of their Malagasy names.

4.1 Horse

The horse is probably not very ancient in SE Asia and would have been unknown in Kalimantan 1500 years ago. Nonetheless, given the many Malay forms in Malagasy, it is surprising the Malay *kuda* is not reflected here. Malagasy simply borrows from French or Arabic (at least in the 1658 source), while Comorian borrows from Arabic. Table 3 shows the terms for 'horse' in Malagasy and Comorien lects;

Table 3. Terms for 'horse' in Malagasy and Comorien lects				
Lect	Witness	French	English	Comment
Malagasy				
SE Dialects	farasa	<i>cheval</i>	horse	< Arabic نرس
NE dialects	sevaly	<i>cheval</i>	horse	< French
Merina	soavaly	<i>cheval</i>	horse	< French
Tanala	soavaly	<i>cheval</i>	horse	< French
Kiboshy	farasy	<i>cheval</i>	horse	< Arabic نرس
Bantu				
Shingazidja	farasi	<i>cheval</i>	horse	< Arabic نرس
Shindzwani	farasi	<i>cheval</i>	horse	< Arabic نرس
Shimaore	farasi	<i>cheval</i>	horse	< Arabic نرس

The date of the introduction of the donkey is uncertain, but a word for *âne* is recorded by de Flacourt in 1658 (Ferrand 1905) so it must predate this era. The donkey has two names in Malagasy, Kiboshy *ampondra*, reflected in Comorien *mpundra*, cognate with Swahili *punda*, and *biriky*, from French *bourrique*. New breeds may well have been introduced in the colonial period.

4.2 Cattle

Wild bovids are found on some SE Asian islands, notably the buffalo, but also other spp. such as Bali cattle. Domestic buffalo are now widely spread in the Austronesian region. However, none of the typical terms for wild and domestic bovines in Austronesian, such as **qanuaŋ*, *karbaw* =[carabao] and **tamaraw* seem to survive in Malagasy. Dempwolff (1938) reconstructed Proto-Malayo-Polynesian **lambu*, 'bovine', based on Malay *lambo*, bovine, and Maanyan *lambo*, buffalo (see discussion in Adelaar 1995). This term, however, is now applied to 'pig' (see Table 6) although there is evidence that it originally applied to cattle when first introduced. Helbig (1982:592) records *lambo* for the wild bovid (*Bos sondaicus*) chased by Dusun hunters in Borneo and Simon (1988:233) speculates that this term already had the meaning of 'wild game'. Beaujard (1998:453) notes that the original meaning of *lambo* in Tanala was 'cattle' and that this sense still survives in archaic terms such as *lambohamba*, 'twin cows', the name of the royal shrine of Sandrañanta. However, the dominant term in Malagasy, *ŋombe*, is borrowed from coastal Bantu languages and has virtually entirely displaced **lambu*, which is now applied only to porcines. Table 4 shows the names of 'cattle' in Malagasy and Comorien lects;

Table 4. Terms for 'cattle' in Malagasy and Comorien lects				
Lect	Witness	French	English	Comment
Malagasy				
SE dialects	anghombe	<i>boeuf</i>	cattle	< Coastal Bantu
Merina	umbi	<i>boeuf</i>	cattle	< Coastal Bantu
Tanala	a(ñ)omby	<i>boeuf</i>	cattle	< Coastal Bantu
Vezo	anumbe	<i>boeuf</i>	cattle	< Coastal Bantu
NE dialects	rejoy	<i>boeuf immolé pour un enterrement</i>	cattle for a burial	
NE dialects	baria	<i>boeuf sauvage</i>	wild cattle	
Sakalava	aumbi	<i>boeuf</i>	cattle	< Coastal Bantu
Sakalava	baria	<i>boeuf</i>	cattle	'royal' vocabulary, used during trances
Sakalava	sambilu	<i>bœuf mythique</i>	cattle	one-horned cow in folktales
Tandroy	añombe, aombe, ambe	<i>boeuf</i>	cattle	< Coastal Bantu
Tandroy	bekofoke	<i>boeuf</i>	cattle	<i>doany</i> speech, possession vocabulary
Tandroy	be oro	<i>boeuf</i>	cattle	<i>doany</i> speech, possession vocabulary
Tandroy	lebefa	<i>boeuf</i>	cattle	<i>doany</i> speech, possession vocabulary. ? < French <i>le boeuf</i>
Kifoshy	a(ŋ)umbi	<i>boeuf</i>	cattle	< Coastal Bantu
Bantu				
Shingazidja	mbe	<i>boeuf</i>	cattle	
Shindzwani	ɲombe	<i>boeuf</i>	cattle	
Kimaore	ɲombe	<i>boeuf</i>	cattle	

Simon (1988:233) points out that the similarity between *lambo* and the term *aombe* for 'cattle' may have led to confusion or at least convergence in some cases. In Shimaore beef is called *ambomaty*, which appears to be a conflation of *lambo* and *aombe* plus 'dead'. A number of other terms for cattle given above are recorded in specialised vocabulary but no etymologies are yet available.

The Austronesian term *lambo* also survives in the vernacular names of the dugong, *Dugong dugon*. A typical Malagasy form is *lamboharano*, which Decary (1950) translates as *sanglier d'eau*, literally 'wild boar of the water'. However, there is every reason to believe that this originally meant 'bovine of the sea', a presumably unintentional calque of the antiquated English term 'sea-cow'. To add further to the complexity, the term for dugong in Kifoshy, is *lamboara*, which was in turn borrowed into Shimaore, the local Bantu language⁵. Adelaar (in press) derives this from a Malay name for 'large fish, whale', *lembwara*, but another possible etymology is *lambo* 'pig' + *ala* 'forest', 'bush' and perhaps by extension 'wild'. Table 5 shows the names of the dugong in Malagasy and Comorien lects;

Figure 1. Indian Ocean dugong



⁵ Thanks to Martin Walsh for drawing my attention to this

Lect	Witness	French	English	Comment
Malagasy				
Ile St. Marie	lambondano		dugong	
Ile St. Marie	lamboaran		dugong	
Sakalava	truzun dambu	<i>dugong</i>	dugong	lit. 'whale' + 'pig'
Tandroy	lambondriake	<i>vache marine, dugong</i>	dugong	riake = 'sea'
Ki6oshy	lambuara	<i>dugong</i>	dugong	? < Malay <i>lembwara</i> , 'large fish, whale'
Bantu				
Shingazidja	nguva	<i>dugong</i>	dugong	common Swahili
Shindzwani	nguva	<i>dugong, lamantin, sirène</i>	dugong	common Swahili
Shimaore	lambwara	<i>dugong</i>	dugong	< Malagasy

Zoologists⁶ report a small population of dugongs at the southern reefs of Île Sainte-Marie and give the Malagasy name for the dugong as *lambondano*, claimed to mean 'wild pig of the coral'. This is an error, as the Malagasy for 'coral' is *harana*. The correct source is *-ndano* = *-ndrano* < *andrano* 'in the water' < *rano* 'water' (Gueunier 1988) and the translation should be 'pig of water'⁷. The Ki6oshy term, **lamboara**, apparently loaned into Shimaore, looks suspiciously like the name for 'wild pig' (see next section) although it is difficult to see how this would be applied to the dugong, since the *ala* element means 'forest'. To add to the etymological free-for-all, Adelaar (in press) notes that Malagasy *truzun*, whale, is apparently derived from Malay *duyung*, dugong and then compounded with 'pig' to make a new term for dugong in Sakalava, thereby completing the reversal of 'whale' and 'dugong' noted above. Dugongs are highly threatened in Madagascar and the Comores and the UNEP action plan for their conservation reports that these names are unknown to younger fishermen⁸.

4.3 Pig

The history of the domestic pig in Africa is highly controversial (Blench 2000). Conventional wisdom has it that the pig was domesticated in the Near East around 9000 BP and also in Asia at a similar date, as the ancestral wild forms are separated by more than half a million years (Jones 1998; Giuffra *et al.* 2000). Larson *et al.* (2005) use mtDNA sequences from wild boar to argue for multiple domestications across the entire range of the pig. Crossbreeding European with Asian pigs in the nineteenth century has blurred the genetic picture and since both types were brought to Africa, the overall picture is very mixed. The ancestor of the Eurasian pig, *Sus scrofa*, is native to north Africa, and its range extends along the Atlantic coast. The Maghreb race is sometimes known as *Sus scrofa barbarus* and there was in addition a Saharan race known as *sahariensis* (Epstein 1971, I:314). Pig populations were found from northwest Africa to the Nile Valley, down the Nile and into the Ethio-Sudan borderlands. Whether they spread any further into Sub-Saharan Africa is still in doubt; Murdock (1959) considered that evidence for cultural embedding made it likely that there were old populations of pigs in various parts of the continent. This is possible but has yet to be confirmed by archaeozoology. Domestic pigs are also reported from ninth century Natal (Plug 1996).

Figure 2. *Potamochoerus* among trees



⁶ <http://www.sirenian.org/sirenews/11APR1989.html>

⁷ Thanks to Martin Walsh

⁸ See <http://www.tesag.jcu.edu.au/dugong/doc/dugongactplan.pdf>

One of the more surprising pig populations in Africa are the feral pigs on Madagascar and the Comoro islands, *Potamochoerus larvatus*⁹ (Vercammen et al. 1993; Kingdon 1997; Garbutt 1999). Madagascar has a modern pig industry of French inspiration, but the wild pig is apparently related to the mainland bushpig, *P. larvatus*. These pigs have undergone some adaptive radiation and show signs of semi-domestication, even though there is no evidence for traditional rearing of *P. larvatus* on the mainland. Some zoologists¹⁰ divide these *Potamochoerus spp.* into two subgroups;

Potamochoerus larvatus larvatus from Mayotte (Comoro Is. and western Madagascar);
Potamochoerus larvatus hova from eastern Madagascar.

but the evidence for this is disputed. Jori (op. cit.) gives the *lamboala* and *lambosui* for the two races recognised on the island; but this is not confirmed by the dictionaries.

The Malagasy bushpigs appear to be most closely related to the southern African form *P.l. koiropotamus*, which currently ranges from mid-Tanzania southwards. This suggests that they originally came from somewhere between the central Tanzanian coast and the Cape. If this is correct, then the ancestors of the Austronesian migrants who reached Madagascar may have captured wild pigs on the African mainland, transported them to Madagascar, and made an attempt to domesticate them. Certainly the Malagasy pigs must have been translocated from the mainland at some point in the past but perhaps not by the proto-Malagasy but by the unidentified Austronesians who preceded them on the coast. Presumably the introduction to the Comores was from western Madagascar, more recently still. Rather than comparing them to pigs, they gave the feral *Potamochoerus* the name for bovines familiar from their home island. Perhaps their large size compared with the island pigs of SE Asia may have inspired this analogy with cattle.

Pigs are a highly typical Austronesian domestic species (e.g. Lynch 1991) it would seem likely they were carried to Madagascar with their names. But it seems that the Austronesian migrants were not transporting domestic pigs and that furthermore there were no mainland pigs to be adopted into their subsistence systems. Proto-Austronesian is **babuy*, which presumably applied originally to the wild pig, *Sus taivanus*, on Formosa, where Paiwan has *vavuy*, 'wild pig'. At the level of Malayo-Polynesian, the need to distinguish 'wild' and 'domestic' became evident and PMP has **babuy halas* for 'wild pig' and **babuy banua* for the domestic type. Somewhat inconsistently, there is another PAN term for domestic pig, **beRek*, reflected, for example, as Puyuma *verek* (Ferrell 1969). Blust (2002) suggests the following explanation, 'It now appears likely that the meanings of PAn **babuy* and **beRek* were not complementary, but partially overlapping: **beRek* meant 'domesticated pig', while **babuy* meant 'pig' in general, with qualification where needed'. In other words, rather than a distinction between wild and domestic, the contrast is between specific and generic. PAN has a term for 'wild boar', **waNiS-an*, although this is confined to Formosan languages and seems to have no reflection in Malagasy.

Figure 3. Family of Potamochoerus



There is no trace of a typical Bantu root for domestic pig, such as is attested in Comorian. Proto-Bantu for pig is **gǝdǝbè*, which is found widely across the Bantu zone. The domestic pig may therefore have arrived late in many parts of Madagascar, as it is known by a loanword, *kisoa*, from French *cochon*. Table 6 shows the terms for 'pig' and 'wild boar' in Malagasy and Comorien lects;

⁹ Blench (2000) omits all mention of this remarkable population.

¹⁰ Described by Jori at http://pigtrop.cirad.fr/fr/petits_curieux/SV_Potamochoere_Mada.htm

Table 6. Terms for 'pig' and 'wild boar' in Malagasy and Comorien lects				
Lect	Witness	French	English	Comment
Mikea				
Baūsi	kazani		wild swine	?
Malagasy				
SE dialects	lambou	<i>cochon, sanglier</i>	pig	< Austronesian
Masikoro	mous	<i>cochon</i>	domestic pig	
Merina	kisoa	<i>cochon, porc</i>	domestic pig	< French
Merina	lambo resy	<i>cochon, porc</i>	domestic pig	< Austronesian
Merina	lambo	<i>sanglier</i>	wild boar	< Austronesian
Sakalava	buruku	<i>sanglier</i>	wild boar	< Austronesian or Port. <i>porco</i> ?
Sakalava	komankuru	<i>sanglier</i>	wild boar	
Sakalava	kamankory	<i>cochon</i>	domestic pig	
Sakalava	lambu	<i>porc</i>	domestic pig	< Austronesian
Sakalava	lambu dihi	<i>sanglier malgache</i>	wild boar	< Austronesian
Antaisaka	kosoa	<i>cochon, porc</i>	domestic pig	< French
Tanala	lambo	<i>sanglier</i>	wild boar	< Austronesian
Tanala	koso(a), kisoa	<i>cochon, porc</i>	domestic pig	< French
Tandroy	lambo	<i>sanglier</i>	wild boar	< Austronesian
Tandroy	koso(ñe), kisoa	<i>cochon, porc</i>	domestic pig	< French
Tandroy	kongo¹¹ lahy	<i>jeune sanglier</i>	young wild boar	
Kiḡoḡshy	lambu	<i>cochon, sanglier</i>	pig, boar	< Austronesian
Bantu				
Shingazidja	purunku	<i>cochon, sanglier</i>	pig	< Malagasy dial. or Port. <i>porco</i> ?
Shindzwani	puruku	<i>cochon, porc, sanglier</i>	pig, boar	< Malagasy dial. or Port. <i>porco</i> ?
Shindzwani	nguruwe	<i>cochon, sanglier</i>	pig, boar	cf. PB *gḡdḡbè
Shimaore	puruku	<i>cochon, porc</i>	pig	< Malagasy dial. or Port. <i>porco</i> ?

The Masikoro term, *mous*, is only given in de Flacourt (Ferrand 1905:84) and its origin is obscure. An intriguing etymological problem is the #*puruku* root, which resembles Portuguese *porco*, pig, and is asserted to be the source of the typical Comorian forms. However, the Sakalava also apply it to 'wild boar', which would presumably have been familiar to the Sakalava long before the Portuguese incursions. Another candidate might be the rather similar Austronesian root. Blust (2002:93) observes 'Finally, PAn **beRek* 'domesticated pig' became Proto-Oceanic **boRok* 'pig', a form which would better account for the back vowels in the Malagasy terms.

4.4 Goat

The terms **kambij* or **kandij* for goat are common in the Philippines, Borneo and Malaysia. **kambij* was probably borrowed from Malay, but the source of **kandij* is undetermined (Blust 2002:104). Goats were introduced in the Austronesian region during its expansion, perhaps from South India. The Malagasy and Comorien terms for goat seem all to be drawn from Swahili or other Coastal Bantu. Table 7 lists the terms for 'goat' in Malagasy and Comorien lects;

¹¹ Martin Walsh links this with *mkonge*, a term for large bushpigs in the SW dialects of Kiunguja (Zanzibar)

Table 7. Terms for 'goat' in Malagasy and Comorien lects				
Lect	Witness	French	English	Comment
Malagasy				
NE Dialects	bengy	<i>chèvre, cabri</i>	goat	?
Sakalava	uze	<i>chèvre</i>	goat	< Coastal Bantu
Sakalava	bengi	<i>chèvre</i>	goat	?
Merina	usi vavy	<i>chèvre</i>	goat	< Coastal Bantu + ?
SE dialects	ossi	<i>chèvre, cabri</i>	goat	< Coastal Bantu
Tandroy	masikatolike	<i>chèvre</i>	goat	<i>doany</i> speech, possession vocabulary
Tandroy	ose	<i>chèvre</i>	goat	< Coastal Bantu
Tanala	osy	<i>chèvre</i>	goat	< Coastal Bantu
Tanala	bengy	<i>cabri</i>	kid	?
Kiboshy	bengy	<i>cabri</i>	kid	?
	bengi, benge	<i>chèvre</i>	goat	?
Bantu				
Shingazidja	mbuzi	<i>chèvre</i>	goat	< Coastal Bantu
Shingazidja	bēnge	<i>cabri</i>	kid	?
Shindzwani	mbuzi	<i>chèvre</i>	goat	< Coastal Bantu
Shimaore	mubuzi	<i>chèvre</i>	goat	< Coastal Bantu

The mysterious term *bengi*, which appears both in Malagasy dialects and Comorien, probably originally meant 'kid', has no obvious coastal origin. It does, however resemble Malay *kambij*. When it is remembered that Malagasy typically erodes from the front, the Malay form is a possible source for *bengi*. The other Austronesian root for 'goat' is **kandij*. Blust (2002:104-5) says;

The introduction of domesticated goats clearly postdates the Austronesian settlement of insular Southeast Asia, but it is difficult to make a more precise statement... reflexes of **kandij*, which are distributed from Itbayaten in the northernmost Philippines (*kadiñ*), through Pangasinan in north-central Luzon and Bikol in southeast Luzon (both *kandij*), to Kayan and Kenyah in central Borneo (*kadij*), but do not occur in Malay or any other language that functioned as a lingua franca over wide areas of insular Southeast Asia .

A strikingly similar form occurs on the East African coast¹². The forms in the Bantu languages are as follows;

male goat (n.): ***-ndenge** (9/10)

Rabai *ndenge* (9/10) 'he-goat'; *kadenge* (12/13) ~ *kidenge* (7/8) (diminutive)

Kamba *nthenge* (9/10) 'male goat'; *kathenge* (12/13) 'small male goat' [A];

Pare *ndhenge* ~ *nzenge* (9/10) 'he-goat'; *kandhenge* ~ *kanzenge* (12/13) 'young he-goat' [N].

The phonology of this word and its absence from Giriama (and other Northern Mijikenda) suggest that it may be a relatively recent loan into Southern Mijikenda from Daiso or Kamba. Although this cannot be conclusive, the absence of a clear etymology for **kandij* in Austronesian and its occurrence in regions related to the hypothetical origin of Malagasy make it possible that goats (or words for them) were transported across the Indian Ocean. The absence of such a form on Madagascar would then be evidence for a direct East Africa-SE connection.

4.5 Sheep

Sheep are probably quite recent in the Austronesian world and would certainly not have been on outriggers from insular SE Asia. All Malagasy terms for sheep are derived from Swahili lects, for example, *kiMvita yonzi*, as presumably Comorien.

¹² Martin Walsh kindly compiled this list for me.

Table 8. Terms for 'sheep' in Malagasy and Comorien lects				
Lect	Witness	French	English	Comment
Malagasy				
SE dialects	anhondri	<i>mouton</i>	sheep	<Swahili lects
Merina	undri	<i>mouton</i>	sheep	< Swahili lects
Sakalava	ondrikondriki	<i>mouton</i>	sheep	< Swahili lects
Sakalava	angundri	<i>mouton</i>	sheep	< Swahili lects
Tandroy	añondry	<i>mouton</i>	sheep	< Swahili lects
Tandroy	bakara	<i>mouton</i>	sheep	?
Tandroy	aondrikondrike	<i>mouton</i>	sheep	<i>doany</i> speech, possession vocabulary
Tanala	a(ñ)ondry	<i>mouton</i>	sheep	< Swahili lects
Kiboshy	baribari	<i>mouton</i>	sheep	?
Bantu				
Shingazidja	gõndzi	<i>mouton</i>	sheep	< Swahili lects
Kimaore	baribari	<i>mouton</i>	sheep	?

The reduplicated form in Sakalava seems to have been adopted into Tandroy as *doany* spirit language. The origin of the term *baribari* on the Comores is unknown.

4.6 Dog

As with pigs, dogs would seem to be a typical Austronesian domestic species (Lynch 1991) and yet the evidence for their transport to Madagascar is hard to establish. The names for the domestic dog on Madagascar all seem to be adopted from neighbouring Bantu languages. Curiously, the 'native' dog is all but extinct, crossbred with imported European breeds, particularly the Bichon group. One of the more notable is the *Coton de Tulear*, a descendent of the extinct *Coton de Reunion* which appeared at the pirate and slaving port of Tulear, Madagascar, during the 17th Century¹³. Adopted by the ruling Merina, it became known as the 'Royal Dog' of Madagascar. A indigenous dog, the Morondava Hunting Dog, was crossbred with the Coton. The ruling Merina controlled the breed closely and forbade both coastal peoples and non-noblemen to own a Coton. At the turn of this century, conquering French colonists adopted the Coton as well. The Coton is the "Official Dog of Madagascar," and has been honoured on a postage stamp (Figure 4).

Figure 4 . Postage stamp showing the Coton de Tulear dog



Table 9 shows the terms for 'dog' in Malagasy and Comorien lects. None of these resemble any Austronesian terms although the migrants from SE Asia would surely have been familiar with dogs in their home territory.

¹³ This information adapted from <http://members.aol.com/cotonnews/history.html>

Lect	Witness	French	English	Comment
Mikea				
Baūsi	bokahoko		dog	
Malagasy				
SE dialects	amboa	<i>chien</i>	dog	< Swahili
NE dialects	kiva(hy)	<i>chien</i>	dog	
Merina	amboa	<i>chien</i>	dog	< Swahili
Sakalava	f-androaka	<i>chien</i>	dog	
Tanala	amboa	<i>chien</i>	dog	< Swahili
Tanala	alika	<i>chien</i>	dog	much rare than amboa
Tandroy	amboa	<i>chien</i>	dog	< Swahili
Bantu				
Shingazidja	mbwa	<i>chien</i>	dog	
Shindzwani	mbwa	<i>chien</i>	dog	
Shimaore	mbwa	<i>chien</i>	dog	

Blust (2002) points out that terms for dog in Austronesian are highly unstable, and links this with the practice of eating dogs. Even within Austronesian there are languages which borrow English 'dog', so perhaps the Malagasy situation is not atypical.

4.7 Cat

The domestic cat seems to be a fairly recent introduction into this region. Most Malagasy lects have a variant of *piso* (Tandroy, Tanala, Antaisaka) which may either be directly from English *pussy* or perhaps Hindi *pus*. Flacourt recorded *pis*, *pisse* in 1658 and Ferrand (1905:77) compares this to Arabic *biss* (بیس). Shimaore *paha* is from Swahili *paka* with a weakening of the velar.

4.8 Poultry

Guinea-fowl

It seems unlikely that the domestic guinea-fowl is indigenous to Madagascar and may well have been translocated. A widespread term in almost all lects is *vitro* (Tanala, Antaisaka), which has no obvious etymology. Also used is *akanga* (Tandroy, Tanala), borrowed from a Bantu language (cf. also Shingazidja, Shimaore *kanga*). Tandroy also has *pinjo* for young guinea-fowl.

Chicken

The common Malagasy for chicken is *akoho* (Merina, Tanala, Tandroy, Antaisaka, Sakalava, Kifoshy) but curiously the origin of this term cannot be definitely assigned to Bantu or Austronesian. Swahili and many coastal languages have *kuku*, while Comorien has *ŋkuhu*, and Shambala *ŋguku*. Forms such as *koko* are also scattered through Austronesian (e.g. Amis *koko*², Waropen *koko*) although in the Philippines and adjacent regions, the dominant form is #*manuk*, the original meaning of which was 'bird' (Blust 2002:94). The Tandroy language has two *doany* (spirit possession) terms for chicken, **fitsimoke** and **voromasy** of unknown origin. The correspondence between the weakened velar in C₂ position in Malagasy and Comorien is quite striking, and Comorien retains the Bantu nasal prefix. The loss of a nasal and its replacement with a- is also attested for 'cattle' (Table 4) so it is likely that the chicken was not of Austronesian origin but brought to Madagascar from the Comores. Needless to say, this is quite surprising, as the chicken is an almost archetypical species spread around the Pacific by Austronesian navigators.

Barbary duck

The Barbary duck is actually of South American origin and was spread around the world by the Portuguese. It seems to be a recent (19th century?) introduction into Madagascar and has a variety of names, often ideophonic. Flacourt's 1658 dictionary only refers to the *sirire*, which is a wild duck species (*Dendrocygna viduata*). Antaisaka *dokotri*, Tandroy *dokitse*, Tanala *dokotra*, Kifoshy *dokitri*, Shimaore *dukutsi* all appear to be borrowings from English. Surprisingly there are no borrowings from French. Merina *ganagana*,

Antaisaka *kana* and Tandroy *girigiry* are probably all imitative of the sound of the duck. Shimaore *gana* is apparently a borrowing from Kiboshy. All other Comorien lects all have *bata*, as does Swahili, probably originally Portuguese *pato* or Arabic *batt*.

Turkey

The turkey, like the domestic duck, is not mentioned in de Flacourt and also probably dates from the nineteenth century. The most widespread term is *vorontsiloz* which is *voro*, bird, plus an unknown qualifier. Other terms recorded are Tandroy *beilamba*, *kolokoloke*, *vorombe* and Antaisaka *bitsy*. Shimaore has *kulukulu*, which appears to be a borrowing from a Malagasy dialect (cf. Tandroy).

Goose

The goose is yet another introduction resulting from British contact with Madagascar in the nineteenth century. Tandroy *giso*, Tanala *gisy*, Merina *gisa*, Comorien *gisi* are all adopted from English *geese* [not *goose*].

5. Conclusions

The most striking conclusion to be drawn from this survey of the terminology of domestic animals in Malagasy is the virtually complete absence of Austronesian lexical sources. Even the species that the migrating Barito could be well expected to transport seem to be absent or only reflected in fossil terms. Despite the deep and extensive influence of Malay on Malagasy vocabulary and well-established Malay terms for livestock, these were not adopted into Malagasy¹⁴. This may reflect the nature of the voyage; if the navigators were using the Equatorial current to cross the Indian Ocean without staging points, then it may not have been possible to keep domestic animals on the journey. Despite speculations about Cushitic livestock keepers on Madagascar (for example, the Bara) there is no evidence for any livestock terms of Cushitic origin (cf. for example Mous & Kießling 2004). There has been some discussion as to whether this is gender-related, but the arguments are fairly weak (Adelaar in press), given that domestic animals are usually divided between the sexes.

The explanation must be historical and presumably relates to the nature of the migrants and their previous experience. If, as seems likely, the transoceanic navigators first reached the coast of the mainland, they may have been fishermen and traders with no very strong intent to colonise and they may have arrived well before the movement to Madagascar, around 0 AD (Blench 1994). Intensive interaction on the coast would then have established an embedded system of livestock production that was not only new, but entirely borrowed from the Coastal Bantu, in a period before the now-dominant Swahili existed. Adelaar (in press) discusses the words for food and its preparation, but these are very mixed, as some, like the word for cassava, must date from a much more recent era. Nonetheless, the occurrence of a large number of Malay nautical terms either indicate intensive interaction with the Malay (Adelaar in press) or perhaps a distinct migration of a Malay-speaking population, a possibility considered by Beaujard (2003). It may be that only further intensive archaeology will suggest a more satisfying interpretation of the data.

Another surprising finding is the late introduction of many domestic species, such as horses, donkeys, domestic pigs, cats, turkeys, ducks and geese and the prevalence of loanwords from either English or French. Neither Arabic nor Hindi seem to have played any significant role in the evolution of livestock terminology. Although Flashman visited Madagascar in 1845, we can assume he was not responsible for the introduction of domestic animals and it is likely that English missionaries based on the island during the nineteenth century were the main source.

On the linguistic front, a very typical procedure in adapting Bantu lexemes is the deletion of the nasal prefix. *Mbuzi* become *usi*, *ɲombe* becomes *ombe* etc. Donkey, *ampondra*, has so far escaped this process, perhaps because it is more recent. Sometimes the prefix survives optionally between the new a- prefix and the stem, thus Tandroy *a(n)ombe*. Simon (1988:230) suggests that the deletion was motivated by an interpretation of the velar or palatal nasal as the Malagasy article *ny-*. However, this fails to explain the persistence of forms

¹⁴ This was first observed by Dahle in 1883, according to an unreferenced remark in Johnston & Birkeli (1920)

such as *a(p)ombe* and it is just as likely that the a- prefix was first added, the intervocalic nasal had a tendency to be deleted in some dialects and the resulting ao- diphthong was unstable, leading to deletion of the a-. Apart from this, the main change typical of Malagasy is the conversion of final -di/-dzi to -dri, a sound change occurring in ‘donkey’ and ‘sheep’, and in the case of Comorien, loaned back into a Bantu language to create a highly atypical form.

Although the sources of much of the vocabulary is transparent, a number of words without sources are given in the tables above, both within the main lexicon and from spirit languages. It may well be that some of these can be identified through a deeper acquaintance with the Austronesian and Bantu roots of Malagasy.

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