

Does Kordofanian constitute a group and if not, where does its languages fit into Niger-Congo?



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1. Introduction

Kordofanian is conventionally defined as four groups of languages spoken in the Nuba Hills of Kordofan, southwest of Khartoum in the Sudan (Schadeberg 1989). The first record of a Kordofanian language is probably Rùppel (1829) who recorded a list of *Schabun* (modern Shirumba). Dabitz (1985) presents a valuable compilation of sources for research on the Nuba Hills up to the date of publication. The parallels between the alternating affix systems of Kordofanian and those of other branches of Niger-Congo have been remarked since Meinhof (1915-1919), but the exact relationship has remained unclear. The inclusion of Kordofanian in Niger-Congo (Greenberg 1963:149 ff.) has scarcely been questioned, although Greenberg himself later said that ‘grammatical’ features had played a great role in this classification (Greenberg 1972:190). He says, ‘It is not too much to state that in at least one instance, that of Niger-Kordofanian, grammatical resemblances were treated as more decisive than lexical ones’. In modern terms, Greenberg relied more on a typological feature than on, for example, cognate lexicon. The sources of much of Greenberg’s data were the studies of Nuba Hills languages by Stevenson (1956-7, 1962-4). Stevenson was heavily influenced by Bantu morphology and semantics and tried to fit the affix systems of the languages he studied into a frame of nominal classes with semantic assignments. This not only produced some odd results, but also led Stevenson to include one group of languages *not* generally considered to be Kordofanian today, the Kadu languages [=Tumtum, Kadugli-Krongo].

An isolated subsequent publication was the grammar and dictionary of Moro, a language of the Heiban group (Black & Black 1971) but the next major advance in data availability was when Thilo Schadeberg made available both unpublished archive materials and the results of his surveys of Kordofanian (Schadeberg & Elias 1979; Schadeberg 1981a,b, 1994). This is often thought to set the seal on their classification as part of Niger-Congo although Schadeberg (1981a:7) himself expressed a sceptical view and apparently regarded the issue as far from settled. Schadeberg says, ‘Greenberg’s affiliation of Kordofanian with Niger-Congo has ... never been seriously challenged. Many authors, however, take a more cautious position, leaving Kordofanian unclassified. Such reticence seems wise in view of the paucity of our knowledge about these languages and their relationships’. Schadeberg (1981d:123), later reprised in Schadeberg (1989), also provided a more comprehensive overview of Kordofanian, in particular setting out a table of correspondences between Kordofanian affixes and those occurring in other branches of Niger-Congo¹. The persuasive morphological feature of Kordofanian that has led to its assignment to Niger-Congo are its alternating C(V) prefixes, so characteristic of much of Niger-Congo (Williamson & Blench 2000). However, once Kadu (which also has functioning prefixes) is cut loose then the argument becomes considerably weakened. Either the Kadu prefixes (which resemble Talodi) are borrowings or they are chance resemblances. What seemed to be a genetic argument is now seen to be merely typological. In any case, only two and a half of the four groups of Kordofanian languages have fully functioning prefixes. The Katla-Tima and one subgroup of the Rashad languages have arguably reduced or lost noun-class affixes.

In the same year as the two documentary volumes were published, Schadeberg (1981c) argued in print that Kadugli-Krongo [now referred to as Kadu] be excised from Niger-Congo and assigned to Nilo-Saharan. Most subsequent authors who have considered the issue have followed Schadeberg, notably Dimmendaal (1987), Stevenson (1991), Bender (2000) and Blench (2006b). This view has largely triumphed, with only Ehret (2000) remaining a significant objector. The consequence of this reassignment of Kadu was to further weaken Greenberg’s case for the classification of Kordofanian, since the support for many of Greenberg’s shared innovations was reduced. Schadeberg (1981c:293 ff.) noted the problem of using solely lexical data because of the lexical diversity within Kordofanian, arguing that there are often so many forms to choose from that it is relatively easy to uncover look-alikes, but far more difficult to prove these are cognates. Nonetheless, the contribution by Schadeberg (1989) on Kordofanian in Bender-Samuel (1989) has widely been taken as acceptance for a Niger-Congo affiliation.

¹ Note that Schadeberg (1981d, 1989) still include Kadugli in Kordofanian, although the text expresses scepticism about their membership.

Greenberg's (1963:153) argument was buttressed by a series of sound-meaning correspondences and he puts forward some 52 Niger-Kordofanian cognates. However, once the Kadu ('Tumtum') languages are taken out of the comparative list then the actual number of proposed cognates is much reduced². The sum of these exceptions makes the published case for the inclusion of Kordofanian in Niger-Congo unimpressive. Williamson (2000) gives some datasets illustrating likely correspondences between some Kordofanian affixes and those in other branches of Niger-Congo. Not all of these would convince the sceptical observer, and many examples ('three', 'four', 'five') use lexical items also found in neighbouring Nilo-Saharan languages, and thus not necessarily buttressing the case for genetic affiliation. Nonetheless, this represents an important start in developing a more convincing case. However, the significance of Kordofanian for the overall reconstruction of Niger-Congo, requires more and better arguments. Increased availability of data on several languages has made this a more credible enterprise. New data on some Kordofanian languages has become available from unpublished studies of SIL, Sudan (Crocker 1984a,b; Guest 1997a,b; Guest 1998a,b,c,d; Watters 1995, Norton 2000).

Another related question is whether there is good evidence for the unity of Kordofanian; do the four families usually recognised really form a single branch of Niger-Congo and are there actually four families? One of the unproven assumptions in the literature is that Kordofanian, with or without Kadu, forms a coherent group. Schadeberg (n.d.) in an unpublished conference handout, presents a very limited dataset, although none of the examples presents a common lexical item covering all four putative branches. This unity does not follow from Greenberg's lists, which show a set of overlapping lexical items including Kadu, rather than a series of distinctive innovations that conjoin all four branches of Kordofanian. Schadeberg (1989) compares the affix system with other branches of Niger-Congo, but this is problematic for Katla-Tima, where affixes are lacking or reduced. Kordofanian languages are broadly characterised by a numerous alternating affixes, which vary from one language to another and which apply to classes of highly variable membership. To turn Schadeberg's argument around, look-alikes can be found if you search hard, but are these true cognates? Neither Greenberg nor Schadeberg cite a convincing shared innovation that links the four groups and indeed, the extensive borrowing in the Nuba Hills area makes it difficult to find lexical items that are not shared by neighbouring Nilo-Saharan languages such as Kadu, Nubian, Nyimang and Temein. At least three possibilities need to be considered;

- ❖ Kordofanian languages do form a group
- ❖ Kordofanian languages do not form a group, and observed similarities are due to intensive borrowing
- ❖ Some groups are related, other not. For example, Heiban and Talodi may be related, but Katla-Tima might be essentially independent

These outcomes need to be combined with a variety of possibilities for their Niger-Congo affiliation. Resolving this issue will not be easy because of the difficulty of disentangling the effects of intensive borrowing in a situation of highly imperfect knowledge of neighbouring languages. For the present, possibility c) is accepted as a working hypothesis.

The links between the nominal affix systems of Heiban and Talodi look credible and for the present, the likelihood that these two families are related is accepted. Schadeberg (n.d.) highlights the similarities between the nominal prefixes in Rashad and the Talodi languages. However, a problem remains concerning the affiliation of the language known as Lafofa or Tegem. Schadeberg (1981b) includes it within Talodi, while acknowledging that it is extremely remote from the rest of the group. He includes an extended wordlist collected by Robin Thelwall in an Appendix. Stevenson (1962-64) also treats Lafofa as highly distinctive and places it in a branch of its own. Stevenson's unpublished mss. include wordlists of both Lafofa (approximately corresponding to Thelwall's wordlist and a list of the Amira dialect which turns out to be of considerable importance for classification purposes. The affiliation of Lafofa is considered in §4.

² Though the evidence strongly suggests that Kadu languages have borrowed extensively from other Niger-Congo languages formerly present in the Nuba Hills which have now vanished.

Kordofanian also presents a major problem in linguistic geography. It is isolated from the remainder of Niger-Congo and any model to explain its situation will ultimately need to address the question of when and how its speakers arrived in the Nuba Hills (cf. Thelwall & Schadeberg 1993). If Kordofanian turns out to be several unrelated groups this will be even more surprising, since it requires there to have been a corridor which was open over a defined period. The presence or absence of cognates with subsistence technologies, such as hunting equipment, large animals, livestock and crops can also provide evidence for dating the connection between Kordofanian and the body of Niger-Congo (Blench 2004, 2006a). Regrettably, there is effectively no archaeology in the Nuba Hills, and we have no idea about the dates of first settlement. However, there is evidence for dates of human occupation in regions further north and this can be incorporated into a palaeoclimatic model of migration.

2. Excursus on method

Our understanding of the place of the Kordofanian languages within Niger-Congo is intimately linked to our broader models of Niger-Congo. Previously Niger-Congo has been assumed to have small number of subgroups, largely using categories defined by Westermann and Greenberg. More and more these are turning out to be the products of ‘lumping’, of assuming geographical groupings and discounting the effects of contact. The dismemberment of Atlantic is an obvious consequence, but Ubangian is also clearly a construct with no validity. We also need to throw out individual languages such as Bijogo, Ikann, Fali which simply do not fit within previous assumed groupings. It is almost certain that Niger-Congo presents a much more spiky ‘tree’ than previously assumed. But a tree is still a useful working hypothesis, if mediated by extensive language contact and dialect chain diversification. Language phyla exist within history, and migration and diversification are driven by climatic factors, change in resource availability and technological innovation.

Much of the debate around Greenberg’s hypotheses concerning other regions and language phyla, Amerind, Indo-Pacific, Eurasiatic, has started with the premise that he was ‘right’ concerning Africa, and therefore perhaps he will be proven right in these other areas, whenever conservative linguists recognise his insights. Until a few years ago, this seemed to be true. But in one case after another in Niger-Congo, doubts have arisen concerning the validity of its various branches. Kordofanian, Kwa, Atlantic, Ubangian and Benue-Congo have all been called into question and it seems that his omnium-gatherum approach is less and less valid. To go forward requires an evidence-based approach and a view of the data cleansed of existing classificatory models.

Importantly, innovation, lexical, phonological and morphological, marks subgroups and nodes in the evolution of any language phylum. Broadly speaking, there is a relatively small body of features that we can assign to a hypothetical proto-Niger-Congo, because they would have to be attested in every major branch to be credible. If, for example, a variety of Niger-Congo branches do not appear to have noun classes or any trace of their former presence, we cannot reasonably assign noun-classes to the proto-language. A similar argument applies to verbal extensions. These are innovations that define particular nodes partway through the evolution of the phylum. The body of roots that can genuinely be attested in proto-Niger-Congo is quite small, but increases as we consider branches that split away more recently. Hence we can assign more than a thousand roots to proto-Bantu, but many fewer to proto-Benue-Congo. If we want to assess the likelihood that a group of languages split from the main tree at a particular stage, then we need to know what common lexicon it shares with which other branches. This requires the compilation of extensive data tables for the whole phylum. If the claim were, for example, that Katla-Tima shares a special relationship with Benue-Congo, then we would expect phonological and lexical innovations to show this. If the only such shared features are also attested elsewhere in Niger-Congo, including in languages which share much less of the common roots that can be identified for Benue-Congo then the hypothesis must be discarded in favour of a weaker claim.

The core of the argument of this paper is contained in a series of data tables in the Appendices, which show cognates between the various branches of Kordofanian considered in this paper and the larger set of Niger-Congo roots. Evidently this is an enormous body of data and only a sample is given here, focusing on body parts. A second Appendix is given showing the particular links of Lafofa with Niger-Congo which illustrate

its particular situation. The Kordofanian data depends heavily on the unpublished wordlists of Roland Stevenson, a catalogue of which is given in Blench (1997). The originals of all Stevenson’s materials are lodged with the UCLA library. Sources are given in abbreviated form, but should be expanded in any finalised version of this paper.

3. The Rashad and Katla-Tima languages

3.1 The Rashad group

The Rashad languages consist of two major clusters, Tagoi and Tegali. These are subdivided into dialects as follows (**Table 1**);

Table 1. Members of the Rashad group

	Dialect name	Common name
Tegali	Gom	Rashad
	Tegali	Tegali
	Umale	Tumale Kajakja
Tagoi	Goy	Tagoi
	Orig	Turjok Moreib

Schadeberg (1989:70) notes that there may be other lects spoken on adjacent hills. No reports of the status of these languages following the displacements of the Civil War in Sudan yet exist.

Unusually, the two groups are differentiated by the presence and absence of noun-classes (Stevenson 1962-4). Orig has quite a rich array of alternating prefixes, suffixes of uncertain function and concord (Schadeberg & Elias 1979). Despite this, the Rashad languages have a distinctive common lexicon and are treated as related. Stevenson (1963:85) gives some examples of these common glosses;

Table 2. Rashad-Tagoi noun comparisons

Gloss	Rashad		Tagoi	
	sg.	pl.	sg.	pl.
stone	erɲan		y-erɲan	
tooth	ɲin		t-iɲin	
hand	ɲön		c-iɲin	
grain-basket	ɔre	ɔre nde	w-ɔre	yɔri-ɔn
star	lep	lep-ε	t-εlep	η-εlp-ɔt
drum	ildan	ildanε	k-ildan	h-aldan-it

Source: Stevenson (1962-4)

The possible explanations for this difference are discussed in Schadeberg (1989:76). Meinhof (1916:71-72) considered that the clusters were unrelated and similarities were thus due to massive borrowing. Tucker & Bryan (1966:270) considered the class-prefix system must have been borrowed, ‘adopted’ in their term, a view also taken by Stevenson (1963:86). Alternatively, the nominal classes of Tagoi were the ‘original’ system and Rashad simply lost them as Greenberg (1963) and Schadeberg (1989:77) suppose.

There is something rather unsatisfactory about this; for several reasons. The first is that the purported former noun-prefixes of Rashad appeared to have vanished leaving no trace, either tonally or segmentally. Second, many Rashad nouns still have non-productive and non-concordial suffixes, which look like the plural markers of Tagoi. It does look, as Stevenson (1963:86) says, that ‘the class prefixes were a later acquisition by the Tagoi subgroup’. Schadeberg (1989:77) argues that ‘such borrowing of a whole noun class system –if it exists at (cf. Mbugu!) – is extremely rare’. But there is increasing evidence that languages can rebuild noun-class systems under the influence of persistent bilingualism with a result that does not closely resemble

existing neighbour languages. Two examples with the Niger-Congo domain are Gade (the only language within Nupoid to have a complete nominal affix system) and Usaghade (a similarly exceptional language within Lower Cross (Connell 1990). These languages are neighbours to noun class languages but their actual systems cannot be said to be borrowed. Rather they have built these systems via contact and persistent bilingualism. Rashad may thus be another example of the same process.

3.2 The Katla-Tima group

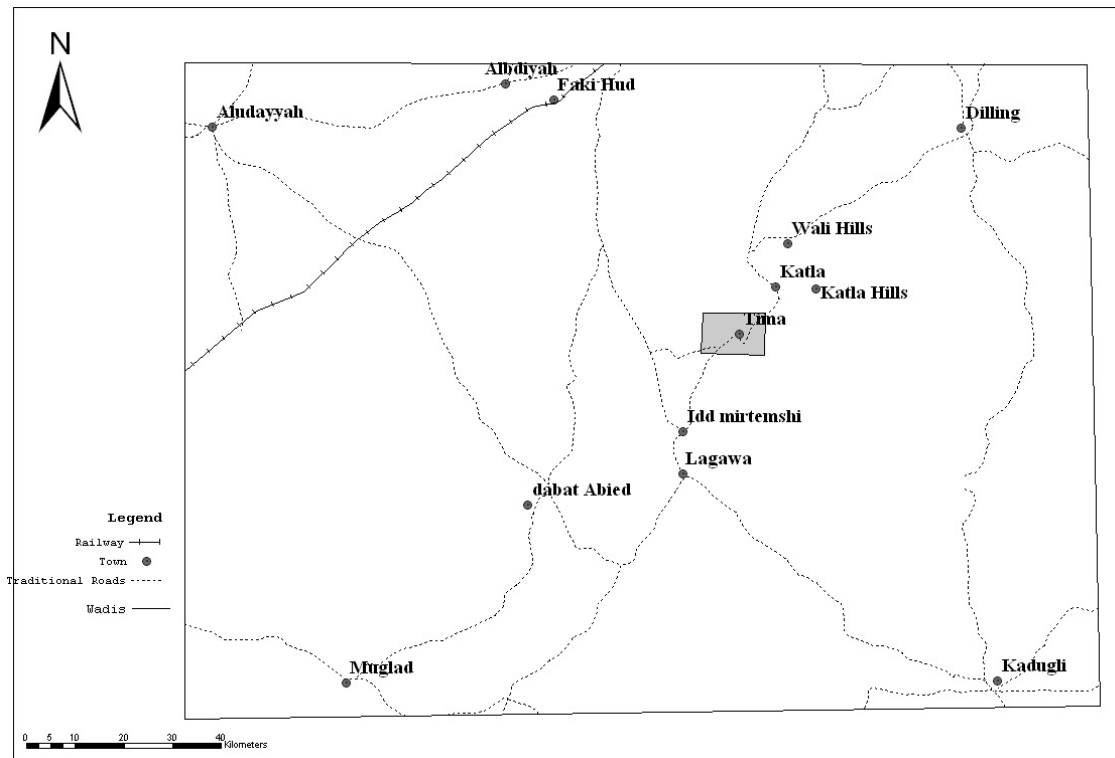
The Katla-Tima languages are spoken some fifty miles southwest of Dilling in the Katla Hills (Map 1). Table 3 shows the reference and alternate names of these languages. Julud is a dialect of Kaalak.

Table 3. The Katla-Tima languages

Reference Name	Alternate names
Kaalak	Katla
Julud	Katla dialect
Domurik [dò-mùrìk]	Tima, Lomorik, Lomuriki, Tamanik, Yibwa

One Tima person is *kò-mùrìk* pl. *ì-mùrìk*.

Map 1. The Katla-Tima area



Source: Mubarak (2009)

The earliest record of these two languages is Meinhof (1917), who presents a morphology sketch and a small lexicon as well as some evidence for grouping these languages together. Kaalak and Domorik are poorly documented, although research is under way in both of them³. Various aspects of Domurik [Tima] are covered in Dimmendaal (2009, 2010a,b,c). A fascinating aspect of Kaalak are the presence of labial-velars /kp/ and /gb/, which would without other evidence would suggest a Niger-Congo affiliation. These sounds are extremely rare globally, and confined to Niger-Congo and Central Sudanic. They are thus unlikely to be the result of contact. Some examples are;

³ Thanks to Gerrit Dimmendaal for giving me access to ongoing research.

leopard kpajaŋ
 chicken kprek
 father agba

Cognates in Domurik have labialised velars.

Table 4 shows a sample of cognate items in Kaalak and Domurik to indicate that they do form a group.

Table 4. Kaalak-Domurik cognates

	Kaalak	Domurik
ear	gʊnɔ	kɔnɔ
head	gac	k-ah
mouth	ŋeŋ	kɪŋɛ
hair	gagam	k-aam
dog	gu	k-uu
friend	bɔɔŋ	kɪ-bʌʌŋ
eat	olak	yʌluk-
die	bulak	bʊlɔk-

Source: Adapted from Dimmendaal (2010a)

One of the few extended academic works on Tima is Mubarak (2009) which proposes that Tima has a system of five singular prefixes and one plural prefixes on nouns. However, there is an argument that Tima has no noun-classes properly defined, simply a system of number-marking. Despite claims that there is some semantic correlate to the classes, this is very weakly supported. The plural markers are all allomorphs of i/i/y- prefixed to the noun, and there are underlyingly just two singular markers, kV-, where V is an underspecified vowel or zero, and t-/tʃ-/t-. Singulars with no prefix are also recorded. The presence of t/k number markers should ring a bell with regional specialists, since these are typical number markers in Nilo-Saharan languages and in no way indicative of true noun classes. Kaalak has a similar system, except that the plural prefix is usually zero, as shown in Table 5;

Table 5. Number marking in Kaalak and Domurik

Gloss	Kaalak		Domurik	
	sg.	pl.	sg.	pl.
dog	g-úú	úú	k-uu	y-uu
ear	g-uno	uno	k-ónó	y-ónó
fish	g-úmûŋ	úmûŋ	k-úmòŋ	í-mòŋ

Mubarak (2009) describes the prefixes on adjectives as ‘agreement’ but in fact these are simply invariant types of number-marking. When the head-noun is singular, the adjective takes an a- prefix, and when plural, the prefix is ɪ- or its allomorphs.

In summary, Kaalak and Domurik initially appear to have prefix alternation like other Kordofanian languages. However, it turns out that through persistent allomorphy, these can be reduced to two singular and one plural affix. The two singular affixes are identical to the number markers found widely in neighbouring Nilo-Saharan languages, and it is most likely that these have simply been borrowed. I therefore suggest that Kaalak and Domurik have no noun classes and that they have adapted morphemes from nearby languages to mark number.

3.3 Do they fit together?

Stevenson (1957:51) claimed that there were specific lexical resemblances between Rashad and Katla. Table 6 presents some examples of such items.

Table 6. Katla-Tima and Rashad common glosses

Gloss	Kaalak	Domurik	Tegali	Rashad	Kajakja	Tagoi	Moreib	Orig
bark of tree	kpu	kwáh				k-awár /h-		
blood	iyáá				wiyá			
ear	gu-no/u-	kò-nòò /i-		nu/-n				
foot	kàt <i>pl.</i> a-		ékán					tègàn
go		idj				nde		
head		k-aah /y-					k-ai /s-	
mouth	ɲɛɲ	kɪ-ɲɛ/ɪ-		ɲger				
sun	gɪɛ /ààɛ	kinéè(?) /i-		áne				yàn
tongue		k-iläŋi /-~		áŋa				

A list like this is far from perfect evidence, and there is not enough material to detect regular correspondences. However, it does suggest that the forms without prefixes are primary. For example, Rashad has ‘ear’, ‘sun’ and ‘tongue’ with no affixes and these are present in Kaalak and Domurik for the cognate stems. Many of the external Niger-Congo cognates of ‘ear’ have a velar in the prefix (cf. Appendix Table) and this may have travelled as a frozen form (which is possible, given Dogon *sugunu*) and was then re-interpreted as a number marker. The most economical explanation otherwise is that the original form was more like Rashad; that the form for ‘sun’ had an initial vowel and this was analysed as a plural in Kaalak and Domurik. Only more extensive evidence will clarify this picture.

4. The problem of Lafofa (Tegem-Amira)

The Lafofa cluster consists of at least two languages, Tegem and Amira. Documentation of Tegem (Lafofa) goes back at least to Brenda Seligman (1911). Lafofa has generally been considered as somehow related to the Talodi group, although Stevenson put it on a separate branch of its own. Schadeberg (1981b) again treats it as Talodi but it comes out as extremely remote on his lexicostatistic counts. Documentation is far from complete, but we have a reasonably long wordlist by Robin Thelwall in Schadeberg (1981b) plus a variety of other sources. Tegem is a noun-class language and shares some prefix alternations with the Talodi group, although the morphophonology of stems can make it difficult to identify cognates. When Tegem is compared with Niger-Congo, something surprising emerges; shared cognates are often not reflected elsewhere in Kordofanian languages. Even more strikingly, some of these are cognate with Ijoid (e.g. ‘moon’) which is a rare Niger-Congo secondary gloss. Tegem has words connected with hunting (‘bow’, ‘dog’, ‘elephant’, ‘baboon’) not attested in other Kordofanian languages. Evidence for this is presented in Appendix II. All of which suggests that Tegem is a separate branch of Niger-Congo and that specific similarities with Talodi may in part be due to contact. The only data on Amira seems to be an unpublished wordlist by Stevenson; however, as the data tables show, Amira sometimes seems to be more conservative than Tegem in retaining matching forms for the Niger-Congo lexicon.

5. Palaeoecology and the present location of Kordofanian

As a Niger-Congo branch, Kordofanian is a tempting construct, as the languages are all in close geographical proximity and remote from the heartland of the phylum. So it must have seemed likely that the Kordofanian languages represented a single migration from West Africa, and that they diversified *in situ*. However, the linguistic evidence for this is shaky at best. At present it seems likely that the Kordofanian languages fall into three or four distinct groups;

- a) Heiban-Talodi
- b) Lafofa (Tegem)
- c) Katla-Tima and Rashad

Reservations must still be entertained about the subgrouping of Katla-Tima and Rashad.

Furthermore, although all putative Kordofanian languages seem to have branched off the Niger-Congo tree fairly early, there is no evidence this was contemporaneous. As there is no linguistic evidence that any of these groups were farmers, this must have been at period when foraging was the dominant subsistence mode. Intriguingly, only one group, the Lafofa (Tegem) show clear evidence of hunting with bows and dogs; perhaps the other groups were spear or net hunters (a division which still obtains among some African foragers today). Lafofa is the only language grouping where names for hunted mammals appear to show cognates (elephant and baboon).

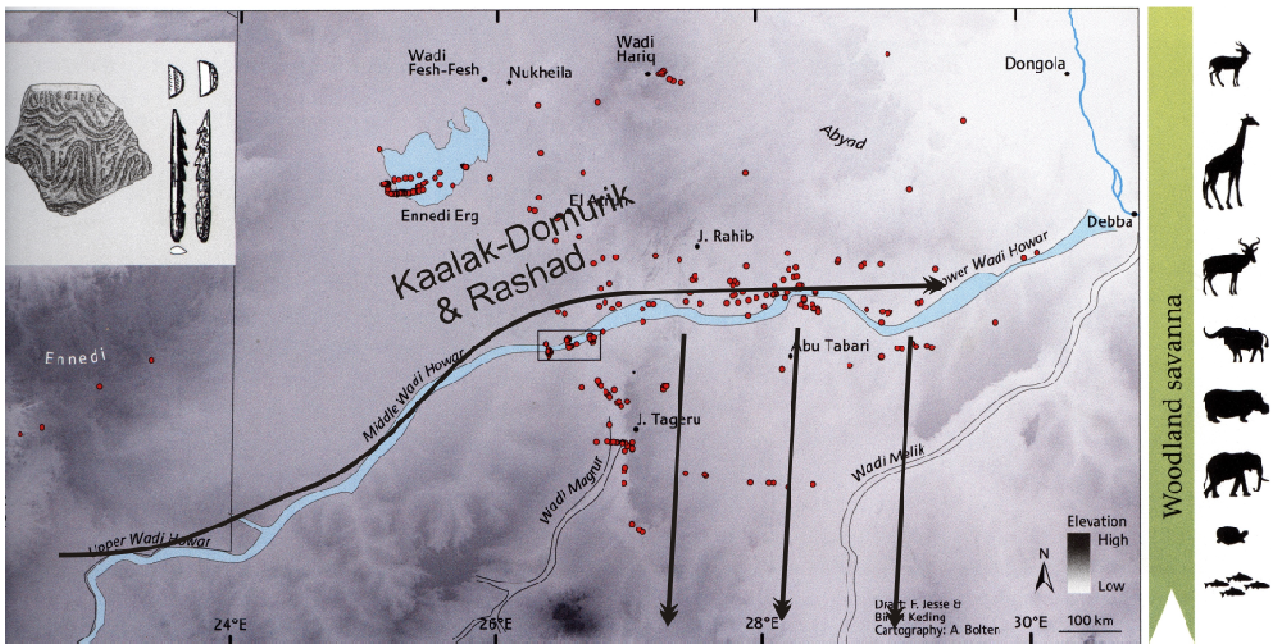
What might be the explanation for this pattern? There seem to be three possibilities;

- Niger-Congo originates in the Nuba Hills (unlikely)
- Multiple separate migrations
- A single migration consisting of a multi-ethnic, multi-linguistic grouping

Assuming we can discount the possibility that Niger-Congo originates in the Nuba Hills, the other hypotheses point to the existence of a corridor between the Sahelian region of West Africa and Kordofan in the pre-agricultural period. There must have been some attractive resource which would have lured hunters to move eastwards across dry savanna ca. 8-6000 BP. As so often in African prehistory, an aquatic corridor is a possibility. Although the possibility of an earlier green phase in Saharan prehistory had been recognised since early in the twentieth century, the first solid dates were placed on this epoch in Ritchie & Haynes (1987) who postulated a pluvial period for the eastern Sahara 9000-4500 BP, on the basis of Holocene lake sediments. Stable freshwater conditions existed from 9400-3800 years BP, with an intensive occupation phase 6300-3500 BP (Hoelzmann al. 2001). In particular a major watercourse, the now-vanished Wadi Howar, which was flowed between 9000-4500 BP before breaking up into a series of lakes. Isotopic data from freshwater molluscs such as *Etheria elliptica* show that the seasonal climate at that period resembled much of East Africa today rather than the hyper-arid conditions at present (Rodrigues et al. 2001). There is every reason to think this would have been a major concentration of large hunted animals (Jesse & Keding 2007). At least four pottery phases can be distinguished, although we cannot presently correlate these with individual ethnolinguistic demographic movement. Blench (1999b) has previously proposed the Wadi Howar as a corridor for the movement of Cushitic-Chadic pastoralists migrating from the Nile Confluence to the Lake Chad area. But it may have served earlier as a channel for the Niger-Congo peoples heading eastwards in pursuit of both fish and hunted animals. When the climate began to dry up around 4500 BP, they would have been forced further south. The subsequent expansion of Saharan and other Nilo-Saharan branches would have isolated the hunters in the Nuba Hills (and also resulted in the loss of aquatic vocabulary which might have provided clues to this mode of subsistence).

Figure 1 shows a speculative model of the first wave of movement eastwards along the Wadi Hawar, including the hypothetical ancestors of the Kaalak and Domurik as well as the Rashad groups. This period is within the window 5-4000 cal BC and is characterised by a microlithic toolkit and dotted wavy-line pottery.

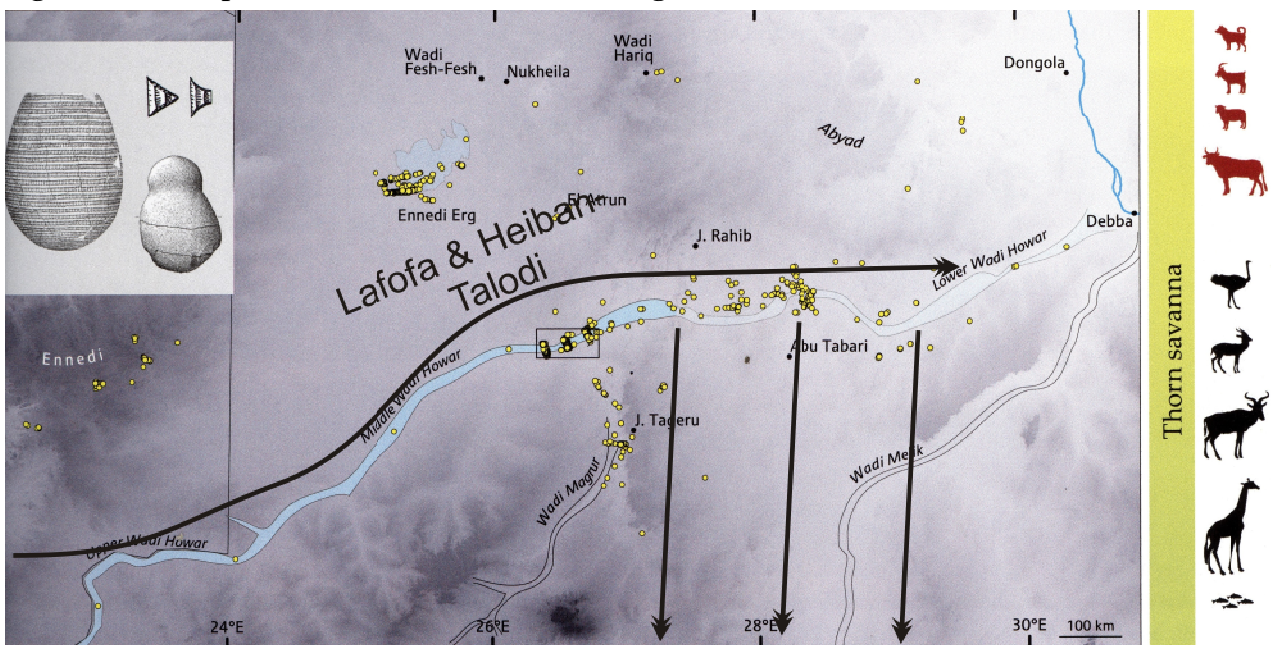
Figure 1. First phase of westward movement along the Wadi Howar



Source: Adapted from Jesse & Keding (2007)

Figure 2 represents the period 4000-2200 cal BC and is characterised by thorn savanna, a new microlithic toolkit and *Leiterband* pottery. Although there are the earliest evidence for livestock at the end of this period, there is no evidence that Kordofanian peoples were involved with raising stock.

Figure 2. Second phase of westward movement along the Wadi Hawar



Source: Adapted from Jesse & Keding (2007)

6. An ethnozoological approach to the Kordofanian migrations

One approach to understanding Kordofanian migration and settlement is to compile data on names for items relevant to subsistence for clues to the salience or otherwise of particular species for particular Kordofanian groups. At present, this is only possible for some species of large hunted animal; trees, plants and smaller

animals are too poorly or inaccurately represented in the literature to be useful. At the same time, our data on some West African animal names is also too patchy to allow for convincing comparisons. For example, although the rhinoceros and the ostrich are certainly found in West Africa, what vernacular names we have are fragmentary and form no pattern. As a consequence, even if we could compare Kordofanian with the rest of Niger-Congo, no convincing conclusion could be drawn.

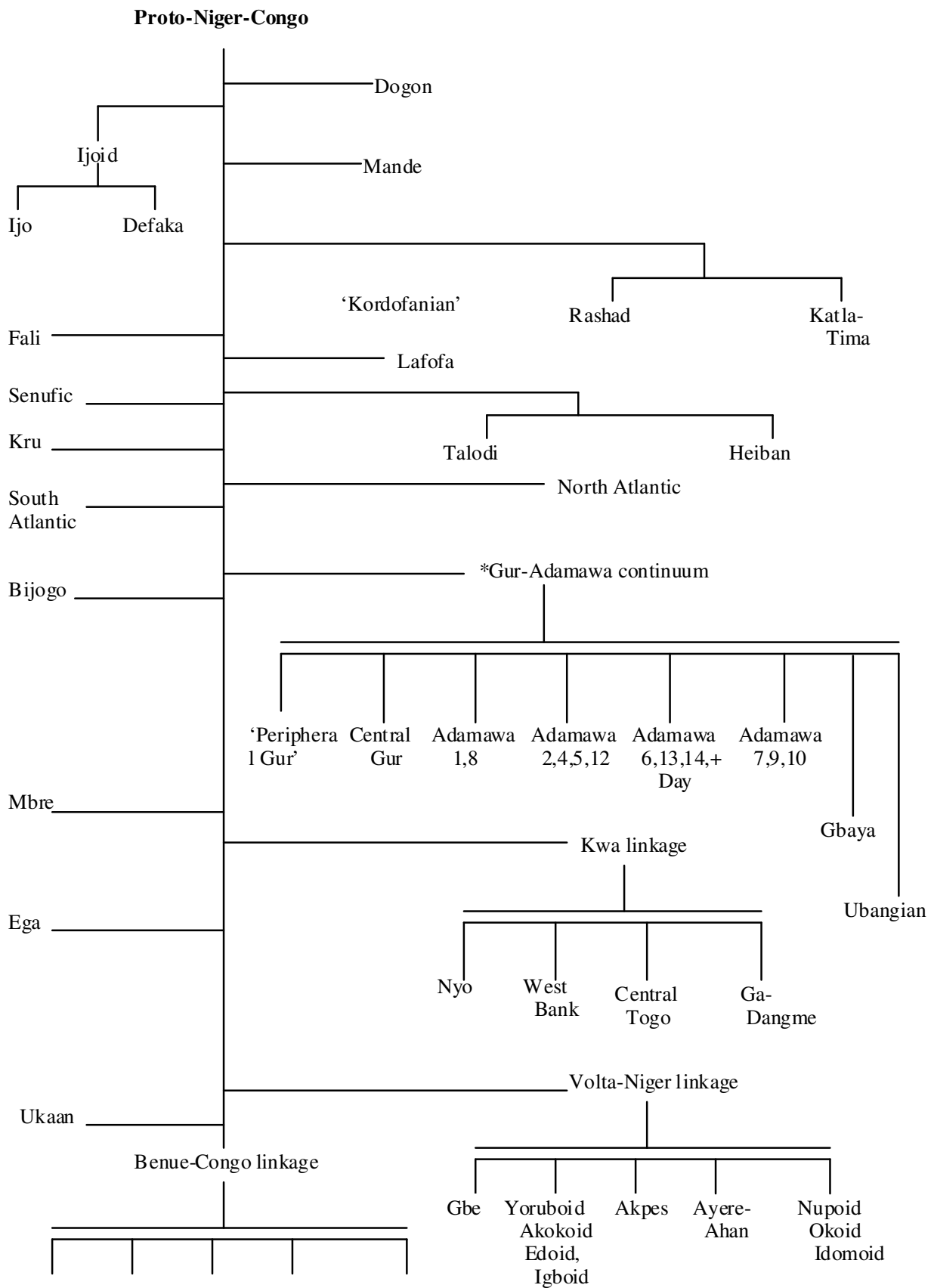
To begin this process, Appendix III compiles the names of some large animals found in the Nuba Hills, for whatever languages there are attestations. The data is less than ideal; on the whole, evidence for tigers in Kordofan is currently lacking. The transcription is generally adopted from the sources; this means a multiplicity of diacritics, especially for dentals, for which the IPA equivalents are doubtful. Due to the indefatigable Stevenson, data on animal names in Heiban is better attested than for other languages; I have adapted his compilations as the basis for the Appendix. As a result, some species which are of interest, such as the porcupine and the rhino are absent. Future research may help fill these lacunae.

Two points of interest emerge from the datasets so far compiled. First, the vernacular terms recorded for various Kordofanian groups bear scant resemblance to one another; it is as if they all adopted or created the lexicon from different sources without reference to one another. More etymological work may uncover some of the sources of the vernacular names; ‘elephant’ for example, is almost certainly a borrowing from Nilo-Saharan. For most species, it appears that a proto-form can be reconstructed; this suggests that the names were created at an early period and subsequently diversified. For ‘lion’ the terms are rather varied, even within Heiban, pointing to taboo replacement. Secondly, they do not resemble West African Niger-Congo roots, except for the Lafofa cognates already noted. Negative evidence is difficult to present; the basis for this assertion is comparison with my compiled tables of Niger-Congo animal names. A published version of some of these appears in Blench (2007b). The interpretation of this is not clear, but it does suggest that for the original migrants, hunting may not have been a very salient activity. One possibility is that the migration along the Wadi Howar was oriented around aquatic subsistence, fisheries and the spearing of hippos and crocodiles, an activity also attributed to the early Nilo-Saharans (Drake et al. 2010). Only when the deteriorating climate pushed the Kordofanians southwards did they begin to take notice of the open savanna species. At present this is just a suggestion and a more grounded hypothesis awaits more detailed subsistence data.

7. The place of Kordofanian within Niger-Congo

If it is accepted that Kordofanian does not constitute a genetic unity, then the problem remains as to the placing of individual branches within the broader framework of Niger-Congo. The data tables in the Appendices give a broader overview of the possible cognates of individual Kordofanian lexemes, and these can be taken as general indications of the likely place of specific branches. Figure 3 presents my most recent version of the Niger-Congo ‘tree’ with all the usual reservations.

Figure 3. Niger-Congo restructured



Some of the underlying assumptions of the tree are as follows;

- a) That language groups such as Mande, Dogon and Ijo, which have no evidence for noun classes represent the earliest branches of Niger-Congo. This is also supported by the absence of many common lexical roots attested in Atlantic, Benue-Congo and elsewhere.
- b) That the Katla-Tima-Rashad group dates from this period and that the noun classes in Tagoi are locally developed through contact.
- c) That Lafofa is quite distinct from Heiban-Talodi, although migrating eastward at a similar period, after the development of noun-class systems and that similarities between Lafofa and Talodi are due to contact

8. Conclusion

In conclusion, there appear to be issues of method, data and analysis. Historical linguistics has recently been partly hijacked by typologists, geographers and spurious mathematical modelling. But the classic methods do not seem to have been falsified, merely bypassed, a sort of classification by assertion. We need to re-affirm the importance of not assuming anything is a genetic group without reasonable evidence. This includes;

Not assuming typological features (such as the presence of noun classes) are proof of genetic affiliation
Not assuming a few lexical similarities between languages in contact are evidence for genetic affiliation
Not making a linguistic model of a group of languages which appears to contradict evidence from other disciplines.

Obviously, although the datasets are gradually improving for Kordofanian, the material on many languages remains confined to wordlists. Moreover, contradictions between different transcriptions suggests we have a long way to go in sorting out the phonology of many languages and therefore applying parts of the comparative method remain for the future. Moreover, a lack of analytic understanding of the verbal systems has meant that many attestations seem to have incorporated morphology, so establishing the root which can be compared to external lexemes is still problematic. Nonetheless, the opening up of Kordofan now makes it possible to accelerate the process of analysing one of the most linguistically challenging areas of Africa.

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APPENDICES: DATA TABLES

1. Cognates of Kordofanian with other Niger-Congo branches

1. Family	ear/to hear Subgroup	#-n(y)u[ku][lu] Language	Attestation ear	II hear	Gloss	Source
		PWS		nú-		W
Dogon		*Dogon	sugunu			Ho04
Ijoid		P-Ijò	—	nãã		KW
Ijoid		Defaka		nãa		Je83
Rashad	Tegali	Rashad	nu/-n		ear	RCS
Rashad	Tagoi	Tagoi		ɲinná		RCS
Katla-Tima		Kaalak	gu-no/u-		ear	RCS
Katla-Tima		Tima	kɔ-nɔ /i-		ear	GS
Mande			—			
Kordofanian	Lafofa	Tegem		ɲa?	hear	Sch81b
Kordofanian	Proto-Heiban		*g-aani/n-		hear	Sch81a
Kordofanian	Proto-Talodi		*g-eenu/w-		hear	Sch81b
Kordofanian	Talodi	Asheron	ge-nu/we-		hear	No00
Atlantic	North	Fulfulde		nan-	<i>entendre</i>	No89
Atlantic	North	Wolof	nɔpp		ear	Wi07
		Bjco	ganu			Sg
Atlantic	South	Bullom	nu-i			W
Atlantic	South	Baga Sitemu		-ne		Sg
Atlantic	South	Gola	ke-nu		<i>öhr</i>	We21
Kru		Grebo	nóá		<i>oreille</i>	ALKrCI
Kru		Dida		nú	<i>entendre</i>	ALKrCI
Senufo		Nafaara	níígé			ALGCI
Gur		Lobiri	nũũ			ALGCI
Gur		Baatonun		nua		W
Bijogo		Bijogo	kɔ-nnɔ /ɲa-		ear	Sg
Kwa		Alladian	núkù			ALKwCI
Kwa	GTML	Animere	gu-ɲû /a-		ear	Ca
Kwa	GTML	Logba		nu	to hear	W
Kwa		Gonja		nù		Sn89
VN	Igboïd	Igbo		-nɔ		Wi72
EBC	Cross River	Korɔp	lu-nuɲ			St
Bantu			—			BLR3

2. Family	#deNe Subgroup	tongue Language	Attestation	Gloss	Source
		PWS	-lima	<i>Zunge</i>	W
		PWN	-lélum-, -lúm-	tongue	M
		PWN	-lima, -liami-	tongue	M
Ijoid		Defaka	mënduo	tongue	KW
Ijoid	Ijo	Oporoma	mélí	tongue	KW
Katla-Tima		Domorik	k-iläŋi /-~	tongue	RCS
Rashad	Tegali	Rashad	áɲa	tongue	RCS
Mande		Busa	léná		
Kordofanian	Lafofa	Tegem	ləŋɲi, lɛɲi	tongue	Sch81b
Kordofanian	Talodi	Talodi	ʈu-luŋɛ pl. l-iluŋɛ	tongue	RCS
Atlantic	North	Fulfulde	ɗemngal	<i>langue</i>	Mo89

2.					
	#deNe	tongue			
Family	Subgroup	Language	Attestation	Gloss	Source
Atlantic		Bedik	i-dēm /ə-	tongue	Wi07
Atlantic		Baga Fore	lem	tongue	Wi07
Atlantic	South	Temne	rəmer	tongue	Wi07
Kru		Aizi	mrɔ	langue	ALKrCI
Kru		Dewoin	milã	langue	ALKrCI
Gur	Oti-Volta	Bieri	dem-fa /-i	langue	Ma75
Adamawa	Mumuye	Zing	rèè-tè	tongue	Sh83
Adamawa	Jen	Munga Doso	lyêm	tongue	UK
Gbaya		P-Gbaya	*lembe	langue	Mo95
Ubangian		Baka	milí	langue	Br10
Kwa	GTML	Adele	à-limán	langue	Ro
Kwa	GTML	Giseme	gí-déné pl. ì-	tongue	
Kwa	Gbe	Ewe	àdɛ	langue	Ro
Kwa		Ga	lí'léí	tongue	Kr99
VN	Igboïd	Igbo	ílé	tongue	
VN	Nupoid	Nupe		tongue	Ba14
EBC	Plateau	Tyap	a-lyám	tongue	
EBC	Plateau	Ganang	di-ləm /a-	tongue	
EBC	Jukunoid	Wapan	nénè	tongue	
EBC	Upper Cross	Lokukɔli	rémilê/ rá-	tongue	St
EBC	Lower Cross	Efik	édémè	tongue	Co91
Bantoid	Mambiloid	Wawa	léêm	langue	
Bantoid	Tivoid [?]	Esimbi	o-námə /ɔ-	tongue	SIL
Bantoid	Beboïd	Noni	lēmé	langue	PP
Bantoid	Ekoid	Mbe	le-lém	tongue	Po06
Bantoid	Grassfields	Ambele	-lémá	langue	PP
Bantoid	Grassfields	Ngie	inémí	tongue	SIL
Bantoid	Grassfields	Mankon	-lémə	langue	PP
Bantoid	Grassfields	Limbum	r-lee/ m- [M]	tongue	SIL
Bantoid	Ring [?]	Ndemli	l ^w ámli	tongue	NM
Bantu		PB	-deme	tongue	
		CB	-dúmi	tongue	G

3.					
	#kulu	skin, hide			
Family	Subgroup	Language	Attestation	Gloss	Source
		PWS	-ku, -kua (+Nasal)	Haut	W
		PWS	-ge, -gel-	Haut	W
		PWN	-kwuba	skin, bark, husk	M
		PWN	-puk-, -puak-	bark, skin	M
Dogon		Tebul Ure	gudugo		RMB
Ijoid		P-Ijɔ	*ɔpařãð	bark	KW
Ijoid		Defaka	ikpá	skin	KW
Katla-Tima		Kaalak	kpu	bark of tree	Gi
Katla-Tima		Domurik	kwáh	fresh bark	GS
Rashad	Tagoi	Tagoi	k-awár /h-	bark	RCS
Mande		Kpelle	kəɓ	peau	Cr81
Kordofanian	Talodi	Ngile	k-ítɪ pl. w-úɪ	bark	Sch81b
Atlantic	North	Nalu	ma-kũ/ a-	skin	Wi07
Atlantic	South	Gola	ókɔɔ	skin	Wi07
Kru		Kuwaa	kũ`	peau	ALKrCI
Gur		Bieri	kwanu	peau	Ma75
Gur		Dagaari	gbani	peau	Ma75

3.						
Family	#kulu Subgroup	skin, hide Language	Attestation	Gloss	Source	
Adamawa		Mumuye	koo	skin	Sh83	
Ubangian	Ngbaka	Mundu	kǒnò	<i>peau, écorce</i>	Mo95	
Ubangian		Baka	kòto	<i>peau</i>	Br10	
Kwa	GTM	Siwu	ò-kó /sì-	skin	RMB	
VN	Nupoid	Nupe	epà	leather, hide, skin	Ba14	
VN	Idomoid	Idoma	apu			
EBC	Upper Cross	Hohumono	èkpá / ì-	skin	St	
Bantu		PB	pú	skin, bark, peel	BLR 4790	

4. leg, foot						
Family	#[k]p[ar]aga Subgroup	Language	Attestation	Gloss	Source	
		PWS	-kua-	<i>Bein, Fuß</i>	W	
Dogon		Donno So	paga	leg	Ho04	
Ijoid		Defaka	pára	leg	Je83	
Katla-Tima		Kaalak	kàt pl. a-	foot	RCS	
Rashad	Tegali	Tegali	ékán	foot	RCS	
Rashad	Tagoi	Orig	tègàn	foot	S&E	
Mande		Vai	kèŋ	foot	K	
Mande		Guro	gǎŋě	<i>jambe</i>	ALMSCI	
Kordofanian	Koalib	Koalib	kaga	foot	RCS	
Kordofanian	Talodi	Asheron	zε-gek/nε-	leg	No00	
Atlantic		Fulfulde	koyngal /-dê	leg	Sg	
Atlantic		Nalu	gbaaŋk	leg	Wi07	
Atlantic	South	Gola	kekpa	foot, leg	Wi07	
Kru			—			
Gur		Lorhon	kparaya	leg	ALGCI	
Gur	Oti-Volta	Dagbane	gbale	leg	RMB	
Gur	Oti-Volta	Wama	kwed-i /-a	<i>cuisse</i> (<i>jambe, pied</i>)	Ma75	
Adamawa		Mono	ɓàl	<i>pied</i>	E	
Adamawa		Mambay	ɓà ^ɕ ná	<i>pied, jambe, roue</i>	EA	
Ubangian	Sango	Kpatiri	gala ⁺	<i>pied</i>	Mo95	
Ubangian	Mba	'Dongo ko	kàŋà	<i>pied</i>	Mo95	
Ubangian			ku-	<i>cuisse</i>	Br10	
Kwa		Animere	dikpari	foot	Ring	
VN		Proto-Igboïd	ó-kpà(á)	leg	KW	
VN		Nupe	egbà	leg	Ba14	
EBC	Kainji	Reshe	ú-kánà a-		RMB	
EBC	Cross River	Obolo	ú-kót		Co91	
EBC	Upper Cross	Olulumo	kèkát̄ / ì-	leg	St	
Bantoid	East Beboïd	Noni	ékâlě	foot	Lu	
Bantoid	East Beboïd	Kemezung	gbô/gô	leg	SIL	
Bantoid	Grassfields	Bafut	à-kòrò		BCCW	
Bantoid	Ring	Wushi	kwó	leg	Hy	
Bantoid	Ekoid	Bendeghe	è-kád /à-	leg	Cr65	
Bantu		PB	kónò	E F G J K L M N P S	BLR3	

5.	#kulu	knee I			
Family	Subgroup	Language	Attestation	Comment	Source
		PWN	-kwudi-	knee	M
		PWN	-gwùl-	shin; (lower)	M
Dogon		Tebul Ure	kundugɔ	leg	RMB
Ijoid		Biseni	íkóníée	knee	KW
Katla-Tima		Tima	kuruŋa	knee	RCS
Mande		Soninke	xuruŋi/o <i>pl.</i> - onu	<i>genou</i>	VV
Kordofanian	Talodi	Masakin	k-uŋgu /w-	knee	RCS
Atlantic	North	Bedik	ε-dəkəla /ma-	knee	Wi07
Atlantic	South	Gola	ké-gòlo	foot, leg	We21
Kru		Jrewe	kùrù	<i>genou</i>	ALKrCI
Ubangian		Yakoma	li-kūrũ	<i>genou</i>	Mo95
Kwa	Guang	Chumburung	kù-ŋírí?	knee	Sn89
Kwa		Ewe	kòlí	<i>genou</i>	Ro
Kwa	GTML	Igo	ì-lùkù /a-	if metathesis	
VN		Emai	úgú'òè	knee [òè = leg]	SE07
VN	Igboïd	Igbo of Udi	íkperè	knee	KW
EBC	Plateau	Hyam	kpurú	knee	RMB
Bantu		*PB	-kónò	forearm, leg	Me
Bantu		Zones C, H etc.	#-koto, -godo	knee	BLR3
Bantu		Zones E, F etc.	-kónò	forearm, leg	BLR3
Bantu		CB	-gùdu	leg	G
6.	#goro	throat,	voice, neck		
Family	Subgroup	Language	Attestation	Gloss	Source
		PWS	-kùà, -kùàn-	<i>Hals</i>	W
		PWN	-kwànt-	nape of neck	M
Dogon		Jamsay-tegu	kɔ:rɔ	neck	Ho04
Ijoid		P-Ijɔ	kɔŋgɔɔ	neck	KW
Katla-Tima		Kaalak	kɪɾɔk	throat	Gi
Katla-Tima		Tima	kudi ɔɪɾɔk /i- i-	throat	GS
Mande		Mandinka	kaŋgo	voice, neck	
Kordofanian		Moro	lo-gor (<i>pl.</i> ŋo-)	throat	
Kru		Oubi	pòlò	<i>cou</i>	ALKrCI
Kru		Nyabwa	gbó	<i>cou</i>	ALKrCI
Atlantic	North	Joola kujamutay	-kondoor e/s	<i>nuque</i>	Sg
Atlantic	North	Fulfulde	kongol	speech, words	
Adamawa		Mumuye	kórò	windpipe	Sh
Adamawa		Mambay	kwǎ	<i>cou, voix</i>	EA
Ubangian		Zande	gorò	<i>coul/gorge</i>	Mo95
Ubangian		Baka	ngò	<i>cou, gorge</i>	Br10
Kwa		Ga	kùè	neck	Kr99
VN	Nupoid	Nupe	kòrò	neck	Ba14
EBC	Kainji	Gurmana	gɔɾɔgɔɾɔ	nape	RMB
EBC	Upper Cross	Olulumo	kèkàrò/ bə-	neck	St
Bantu			kíngó	neck, nape, voice	BLR3

7. head					
Family	Subgroup	Language	Attestation	Gloss	Source
Katla-Tima		Domurik	k-aah /y-	head	RCS
Rashad		Moreib	k-ai /s-	head	RCS
Atlantic	North	Nalu	n-ki? /a-	head	Wi07
Adamawa	Jen	Dza	kú/EEKÚ	head	UK
Adamawa		Mambay	káálà	tête	EA

8. mouth					
Family	Subgroup	Language	#ŋgeN- Attestation I	Source	
		PWS	-ni,-nia		W
		PWN	-niana		M
Dogon		Toro	áŋa		GCG
Katla-Tima		Kaalak	ŋeŋ		Gi
Katla-Tima		Domorik	kt-ŋe/ t-		RCS
Rashad	Tagoi	Rashad	ŋger		RCS
Mande		Kpelle	na		VV
Kordofanian	Lafofa	Tegem	kip, kaŋ	RCS,Sch81b	
Kordofanian	Heiban	Cwaya	inya <i>pl.</i> yinya	Gu97a)	
Atlantic	South	Mmani	e-ŋeŋ /n-		Wi07
	South	Gola	o-ŋà		We21
		Bwamu	nyii		M
Adamawa	Mumuye	Zing	nyaa		Sh83
Bijogo		Bijogo	ká-na /ŋa-		Wi07
Kwa		Adyukru	néŋ		ALKwCI
Kwa		Selee	kà-ŋa /ñ-		M
Kwa	Guang	Chumburung	ká-nó		Sn89
Kwa		Ga	nàà		Kr99

9. -di(r)- tail, handle, penis					
Family	Subgroup	Language	Attestation	Gloss	Source
Dogon		Jamsay	durɔ		Ho04
Ijoid		Nembe	otumó	vagina; anus; tail	Ka64
Katla-Tima		Domurik	kö-ŋré/ɿ-	tail	RCS
Mande		Mandinka	túlu	handle of pot/basket	VV
Kordofanian	Lafofa	Tegem	duri, twii <i>pl.</i> rii	tail	Sch81b
Kordofanian	Talodi	Masakin	t-udi	tail	Cr84
Kordofanian	Talodi	Asheron	gɔ-ŋik/rə-	tail	No00
Kordofanian	Heiban	Koalib	t-ia/d-	tail	RCS
Atlantic		Palor	luk	(Ø-/y-)	Sg
Atlantic	South	Sherbro	lóm	tail	Pi63
		Bijogo	e-ɔnɔ /ŋa-	queue	Sg
Kru		Kuwaa	ŋidewúlú	queue	ALKrCI
Gur		Wama	du-re/-ya	queue	Ma75
Gur	Oti-Volta	Safalaba	zuri	queue	Ma75
Adamawa	Mumuye	Zing	dèñ	tail	Sh83
Gbaya		P-Gbaya	*dòm	queue	Mo95
Ubangian		Baka	somu	queue	Br10
Kwa		Ega	ùlù	queue	ALKwCI
Kwa		Agni	dúvù	queue	ALKwCI
Kwa		Ga	dúnàà	tail, anus, buttocks	Kr99

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VN	Yoruboid	Yoruba	ìrù	tail	Ab58
VN	Edoid	Egeṅe	ù-tùmù		E83
VN	Edoid	Degema	ò-dúdù	penis	
VN	Ayere		ùndu	penis, tail	
VN	Akokoid	Arigidi	ìndù	penis	
VN	Igboïd	Ọṅca	ódò		KW72
VN	Nupoid	Ebira-Koto	ìrètù	penis	
EBC	Plateau	Hasha	i-jum /ju-		RMB
EBC	Plateau	Ningye	ndum pl. dundum		RMB
EBC	Plateau	Fyem	dum		N
EBC	Plateau	Izere	kú-rùm /a-		Ga
EBC	Plateau	Ce	u-ndú /i-	tail	RMB
EBC	Jukunoid	Kuteb	ù-tùm /à-	horse-tail	Sh81a
EBC	Cross River	Baan	du		
Bantoid	Mambiloid	Vute	dūúm		Co

10. Family	root II Subgroup	Language	Attestation	Gloss	Source
		PWS	-li-	<i>Wurzel, Ader</i>	W
		PWN	-líul-, -líl-	root	M
		PWN	-tin-	root (trunk)	M
Ijoid		Defaka	tĩ ili	tree root	Je83
Katla-Tima		Domorik	k-í' dín /y-	root	RCS
Atlantic		Baga	-sìn /sê-	root	Wi07
	South	S Bullom	thiŋ(k)	root	Wi07
Adamawa	Mumuye	Zing	ɲin-ri	root	Sh83
Ubangian		Manza	lĩ	<i>racine</i>	Mo95
Kwa		Chumburung	lɔŋ	root	Sn89
VN		Nupe	edĩ	vein, artery	Ba14
EBC		Tẹẹ	li	root	NB01
Bantoid		Mbe	èlì	root	Ba65
Bantu		CB	-dí, -yídı	root	G
		CB	-tínà	root	G
		PB	dì	root	BLR3

2. Lafofa cognates with other Niger-Congo branches

11.		belly					
Ph	Family	Subgroup	Language	Attestation	Gloss	Source	
AA	Chadic	West	Hausa	tumbi	animal stomach	Ab49	
NS	Saharan	West	Kanuri	tùmbí	belly	Cy94	
NS	ES	Ama	Ama	tùní	intestines	Ki96	
NC			PWN	-tuimb- (-temb-, -tumb-)	belly, abdomen	M	
NC	Ijoid		Defaka	itò	belly	KW	
NC	Kordofanian	Lafofa	Tegem	tuuri, dùuri	belly	Sch81b	
NC	Kordofanian	Lafofa	Amira	tu	belly	RCS	
NC	Kru		Wobe	tùū ^ˆ	<i>poitrine</i>	ALKrCI	
NC	Gur						
NC	Ubangian		Baka	to	<i>poitrine</i>	Br10	
NC	Kwa		Nawuri	ò-tò	belly	Sn89	
NC	VN		Nupe	tùmbi	stomach of cattle	Ba14	
NC	EBC	Kainji	Cicipu	túmó <i>pl.</i> òtúmó	belly	SM	
NC	EBC	Upper Cross	Agwaagune	í [!] tú	stomach	St	
NC	Bantoid	Beboid	Kemezung	tô	belly	SIL	
NC	Bantu		CB	-tùmbe-, -tùmbu	abdomen	G	

12.		breast					
Ph	Family	Subgroup	Language	Attestation	Gloss	Source	
NS	Shabo		Shabo	du	breast	FI91	
NS	ES	Nilotic	Acholi	tònò	breast	B109	
NS	CS	MMT		nqū	breast	B&W96	
NS	CS		Baka	úlù	<i>têter</i>	Bo00	
NC	Ijoid		P-Ijò	indōū		KW	
NC	Kordofanian	Lafofa	Tegem	đoi	breast	Sch81b	
NC	Kru		Aizi	dri	<i>sein</i>	ALKrCI	
NC	Atlantic	North	Fulfulde	en ⁿ du	<i>sein</i>	No89	
NC	Kwa	GTML	Igo	i-ɖunu /e-			
NC	Bantoid	Tivoid	Oliti	otimba	breast	SIL	
NC	Bantu		PB	tómbò	breast	BLR3	

13.		skin					
Family	Subgroup	Language	Attestation	Gloss	Source		
Kordofanian	Lafofa	Tegem	tùwè <i>pl.</i> rèè	skin	RCS		
Atlantic	North	Sine	đol	skin	Wi07		
Gur		PG	to	<i>peau</i>	Ma79		
Adamawa		Bangwinji	téé	skin	K196		
Kwa		Ga	tótó	skin, bark, fish-scale	Kr99		

14. Family	#ni Subgroup	tooth Language	Attestation	Source
		PWS	*-ni, *-nin-	W
		PWN	-nín-(-nighin-)	M
Dogon		Yanda	ín	RMB
Ijoid		Defaka	nĩã	KW
Rashad	Tegali	Rashad	nym- /-e	RCS
Rashad	Tagoi	Tagoi	ʈ-ɪɲɪn/y-	RCS
Mande		Soso	ɲín	VV
Kordofanian	Lafofa	Tegem	ta-ɲ pl. ka-ɲi	Sch81b
Kordofanian	Talodi	Tocco	c-anyik /k-	RMB
Kordofanian		*PR	*-ɲiɲ	
Kru		Aizi	ɲi	ALKrCI
Kru		Tepo	ɲé	ALKrCI
Atlantic	North	Sereer	ɲiɲ	Sg
Atlantic	North	Diola Her	kãɲiɲ(ə̀k)	SIL93
Atlantic	North	Mankanya	pə-ɲĩ	Wi07
Gur		Deg	ɲìɲì /ɲiɲà	ALGCI
Gur	Oti-Volta	Hanga	ɲini	Ma75
Adamawa		Waja	nu-i	K196
Adamawa	Jen	Dza	ɲi	UK
Ubangian		P-Gbaya	*-ɲin	Mo95
Bijogo		Caravela	ɲa-ɲi /ka-	Sg
Kwa		Abure	éɲĩ	ALKwCI
Kwa	GTML	Lelemi	lè-nyi /à-	
Kwa		Gonja	káɲí	Sn89
Kwa		Ga	ɲãɲɔ̀ɲ	Kr99
VN	Nupoid	Nupe	ɲíká	Ba14
Bantoid	Mambiloid	Ndoro	ɲin	BCCW
Bantoid	Tivoid	Tiv	ɲix	check
Bantu		PB	-yínò	BLR3
Bantu		CB	-yínò	G

15.	#-del	chin, beard				
Family	Group	Language	Attestation	Gloss	Source	
		PWN	-dàd-			M
Kordofanian	Lafofa	Tegem	a'dagi	chin	Sch81b	
Kru	Neyo		tata	<i>menton</i>	ALKrCI	
Ubangian		Gbaya	zèrà	<i>barbe</i>	Ro08	
Kwa	Guang	Nawuri	gà-dàà	beard, jaw	Sn89	
VN	Igboid	Igbo	ad̩ʒh etc.	body hair	COA	
EBC	Lower Cross	Obolo	í-d̩ʒèt	beard	Co91	
EBC	Lower Cross	PLC	*í-d̩èt	hair	Co91	
EBC	Upper Cross	Otonkon	rédďǎ	beard	St	
Bantoid	Mambiloid	Mambila	deh ²		PM	
Bantoid	Mambiloid	Tep	dḕrè	chin	Co	
Bantoid	Buru	Buru	e-d̩́n (a-)		K	
Bantoid	Tivoid	Tiv	índí'ér			
Bantoid	Beboid	Noni	ke-d̩́w		Hy	
Bantoid	Nyang	Kenyang	bɛ-di		M	
Bantoid	Eastern Grassfields	PEG	*-d̩́l`		ELV	
Bantoid	Manenguba	PM	*-jè̀d		He45	
Bantu		PB	-d̩́dù		Mh/Gr	

16.	heart, liver					
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWN	-timu	heart, (liver)		M
Kordofanian	Lafofa	Tegem	ʈ-ín/m-	heart	RCS	
Kordofanian	Talodi	Acheron	simi	heart	RCS	
Kru		Bete Daloa	drɪ	<i>coeur</i>	ALKrCI	
Atlantic	North	Bedik	i-til /mu-sil	heart	Wi07	
Atlantic	South	Baga S	t-im /m-	heart	Wi07	
Adamawa	Mumuye	Zing	sín̩s̩n̩	liver	Sh83	
Gbaya		Bodoe	sè̀è	<i>foie</i>	Ro08	
EBC	Cross River	PUC	* `-ttémà	heart	St	
Bantoid	Furu	Bikyak	ʃím̩	<i>Herz</i>	RK	
Bantoid	Dakoid	Nnakenyare	tém̩		Bo94	
Bantoid	Mambiloid	Mambila	temé ²¹	liver		
Bantoid	Ekoid	Mbe	bù-tèm/bè-	heart	Ba	
Bantoid	Tivoid	Tiv	ʃíma			
Bantoid	Menchum	Befang	ítám̩	heart	Gu06	
Bantoid	Grassfields	Ngyembɔ̀n	tám̩	heart	An	
Bantoid	Ring	Kom	atém̩	heart		
Bantoid		Koshin	ʃǝm̩	<i>Herz</i>	RK	
Bantoid		Ndemli	tím̩	heart	Ng99	
Bantu		PB	*-tíma			

17. meat						
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-ka-	<i>Tier, Fleisch</i>	W	
Kordofanian	Lafofa	Amira	ka'a	meat	RCS	
Atlantic	North	Banhum	ka-xar /-əŋ	flesh, meat	Wi07	
Atlantic	North	Bedik	i-kal /u-hal	fish	Wi07	
	South	Gola	ekenu	flesh, meat	Wi07	
Kru						
Gur		Dəgəse	káásé	meat	Win07	
Ubangian		Mbanza	kāfá	<i>viande/chaire</i>	Mo95	
Kwa		Ga	kòdòlòdò	animal	Kr99	
VN		Nupe	nākā	meat	Ba14	
EBC						
Bantu						

18. #(n)-tóN- horn						
Family	Group	Language	Attestation	Source		
Rashad	Tagoi	Tagoi	ʈ-urɪŋ/ŋ-	RCS		
Kordofanian	Lafofa	Tegem	dui	Sch81b		
Gur		Dəgəse	dātónɛ	Win07		
EBC	Plateau	Izere	ri-tóm /a-	RMB		
EBC	Plateau	Jijili	utuma	RMB		
EBC	Plateau	Pe	u-com /a-	RMB		
EBC	Cross River	Uda	ńdòk	Co91		
Bantoid	Ekoid	Nkim	ń-tâŋ /à-	C		
Bantoid	Mbe	Mbe	ń-táj /bén-	BA		
Bantoid	Buru	Buru	e-θɔŋ /a-	Ko		
Bantoid	Momo	Mundani	ndɔŋ ⁺	PD		
Bantoid	Ring	Aghem	ndóŋ	R		
Bantoid	Grassfields	PEG	*-dóŋ`	ELV		
Bantu	Manenguba	PM	*-tɔŋ	He272		
Bantu		PZA	*-tóngò	J		

19. dog I #gbɛ̀lɛ̀								
Family	Subgroup	Language	Attestation	Comment	Source			
		PWS	-b ú á		W			
		PWN	-bh ú a		M			
Dogon		Bondum	ŋ w ɛ		Ho04			
Ijoid		Kalabari	o b i r i		KW			
		Biseni	e b i r i		KW			
Defaka		Defaka	e b e r e		Je83			
Mande		Tura	gb ɛ́ ɛ́g					
		Susu	b a r e na					
		Mende	n g i l a					
		Boko	gb ɛ́	/-ó				
Kordofanian	Lafofa	Tegem	bɛ -b u i	pl. ɛrui	Sch81b			
Kordofanian	Talodi	Eliri	b w a k	pl. abuk	RCS			
Atlantic	North	Serer	ɔ ɔ x		Sg			
	North	Pepel	ɔ -b o l		Sg			
	North	Manjaku	b u s		Do75			
		Bijogo	e b oo ʈ i	pl. i-	Sg			

Family	Subgroup	Language	Attestation			Comment	Source			
Senufic		Nyarafolo	p	ú	n		ALGCI			
Kru		Guéré	gb	e			ALKrCI			
		Aizi	v	ε			ALKrCI			
Gur		Seme	b	u	-o	/-e	???	ALKrCI		
		Moore	b	a	r	a		Ma75		
		Gurma	b	u		a	-ga	/-mu	Ma75	
		Dagare	b	a	r	e		Ma75		
		Hanga	b	a	'	a		Ma75		
		Gurunsi	Delo	b	a			Ma69		
		Waama	b	ú		u	-ka			
Adamawa		Bariba	gb	o						
		Waja	b	a		ɪ		K196		
		Yungur	b	w		e		RMB		
Ubangian	Sango	Mambei	v	w		a		Eguchi		
		Yakoma	m	b	ò			Mo95		
		Ngbaka		b	ó	n	ḥ		Mo95	
		'Dongo-Ko		ḃ	é	l	à		Mo95	
		Nzakara		b	a	n	á		Mo95	
Bijogo Kwa		Baka	b	ó	l	ó		Br10		
		Bijogo	e	b	o		o	ṭ	Sg	
		Abbey		ɣ	ó				ALKwCI	
		Ebrié		gb				à	ALKwCI	
		GTM	Nyangbo	é-	b	ú			/be-	He68
		Adangme		a	v	u				
	Ga			gb	è		é	Kr99		
	Gen		à	v	ú	n		ALKwCI		
VN	Yoruboid	PY	*a	by			á	KW		
	Edoid	Uhami	à	b	ù		à	E89		
EBC	Nupoid	Gbari	o	m	u			RMB		
	Plateau	Yeskwa	e-	b	u			RMB		
	Jukunoid	Kpan	i-	b	u			Sh80		
Bantoid	Cross River	Efik	e-	b	u		a	Co91		
	Dakoid			v	o	n	a	Boyd		
	Mambiloid	Nizaa		ḃ	o	w		En		
	Tivoid	Esimbi	è	b	ù			SIL		
	Beboid	Noni		b	w		ě			
	Menchum	Befang		b	ú			Gu06		
	Grassfields	Bafut	ḃ	b	ú		è			
	Ring [?]	Ndemli	á	b	ò			Le99		
	Momo	Ngie		b	á	w		SIL		
	Bantu	Ekoid	Mbe		b	o			g	Bamgbose (ms.)
		Duala	m	b	o					
		PB		*-b	ú		à	(9/10)	BLR3	

20. Family	snake Subgroup	Language	Attestation	Gloss	Source
		PWS	-guà-	<i>Schlange</i>	W
		PWN	-ghw(y)ákà	snake	M
Kordofanian	Lafofa	Tegem	weli	snake	RCS
Atlantic	South	Gola	ogwǎ		
Kru		Kuwaa	gběě	<i>serpent</i>	ALKrCI
Gur		Gulmance	wa	<i>serpent</i>	Ma75
		Dɔgɔse	wò-ø /-lǎ̀	snake	Win07
		Dagare	wabo pl. wiri	<i>serpent</i>	Ma75
Ubangian		P-Gbaya	*gók	<i>serpent</i>	Mo95
Kwa		Twi	ɔwó		
		Chumburung	kù-wó	snake	Sn89
		Gun	èwò		
VN	Yoruboid	Igala	éjò		
	Edoid	Èdo	ènyé		
		Igbo	ágwó		
		Nupe	ewa	snake	Ba14
		Idoma	ègwa		Ar64
EBC	Kainji	Srubu	pi-yowo		BCCW
	Plateau	Idun	i-yowo		BCCW
		Horom	yò pl. iyò	snake sp.	RMB
		Cara	yò̀ pl. yó		RMB
		Kulu	iyógó pl. iyogo		Mo
	Jukunoid	Wapan	a-jō		
	Cross River	Yakō	yòl		
Bantoid	Mambiloid	Kwanja	yò̀		
		Vute	ɲóó		Co
	Dakoid	Nnakenyare	yéé		B
		Tiba	yóo		B
	Buru	Buru	èyo /eyó		K
	Tivoid	Tiv	ì-yó		
	Jarawan	Jaku	yò̀yó		
	Nyang	Kenyang	nnyó		Mb
	Beboid	Noone	yo pl. yó		Lu
	Momo	Ngie	ìjùgè		SIL
		CB	-jókà, nyókà		G
21. Family	#-ti Subgroup	tree Language	Attestation	Gloss	Source
		PWS	-tí-, -tú-	<i>Baum</i>	W
		PWN	-ti		M
Dogon		Tegu Ka	time		RMB
Ijoid		Defaka	tĩ	tree	Je83
Ijoid	Izɔn	Ikibiri	těĩ	tree	KW
Kordofanian	Lafofa	Tegem	twii	stick	Sch81b
Atlantic	North	Nalu	n-ti /a-	tree	Wi07
Atlantic	South	Sherbro	tòk	tree	Wi07
Bijogo		Bijogo	ɲu-te /mu-	<i>arbre</i>	Sg
Senufic		Fondondo	tige	<i>arbre</i>	Bo81
Kru		Wobe	tu	<i>arbre</i>	ALKrCI
Gur		Kusaal	tii-ga /-se	<i>arbre</i>	Ma75
Adamawa	Yandang	Bali	tí	tree	K&Y
Ubangian		Mbodomo	tì	<i>arbre</i>	Mo95
Kwa		Ewe	àtí		Ro

21.	#-ti	tree				
Family	Subgroup	Language	Attestation	Gloss	Source	
Kwa		Abidji	tĩ		ALKCI	
VN		Yoruba	ìtí	check	Ab58	
VN	Edoid	Degema	ó-tāĩ /í-		E86	
		Nupe	cǐgbà	tree	Ba14	
EBC	East Kainji	Sheni	u-ti /ma-		RMB	
EBC	Upper Cross	Lokə	kètí / yè-	tree	St	
EBC	Dakoid	Dō	ti		RMB	
	Mambiloid	Warwar	tò			
Bantoid	Tivoid	Esimbi	-tí			
	Menchum	Modele	-tíá			
	Beboid	Noni	-te			
Bantu	Ekoid	Etung	é-tí /à-		Cr	
		Mə̀d̩m̩ba	tí		BCCW	
Bantu		CB	-tí		G	
		PB	tí	tree; stick	BLR 2881	
22.	tree					
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-gi, -gil-, (-git-)	<i>Baum</i>	W	
Kordofanian	Lafofa	Amira	kwa	tree	RCS	
Atlantic	South	Gola	kekuu	tree	Wi07	
Kru		Aizi	ke	<i>arbre</i>	ALKCrCI	
Gur						
Adamawa		Baa	kii /rikii	tree	UKW	
Ubangian		Ndunga-le	gá-	<i>arbre</i>	Mo95	
		Zande	ngūà	<i>arbre</i>	Mo95	
Kwa		Chumburung	kí-yí?	tree	Sn89	
Bantoid	West Momo	Ambele	gé-gyét /bé-	<i>arbre</i>	Pi	
	Tikar	Akuen	ŋgég?	<i>arbre</i>	Pi	
	Tivoid	Batu Angwe	ki-kye /bí-	tree	Ko	
23.	sun					
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-pat-	<i>Sonne</i>	W	
		PWN	bhal-	to shine, light	M	
		PWN	bhang-	shine (bright)	M	
Kordofanian	Lafofa	Tegem	pùù	sun	RCS	
Atlantic	South	Sherbro	pàl	sun	Wi07	
Adamawa		Kamo	fóóré	sun	K196	
Ubangian		Ngbaka	ḃáĩ	<i>soleil</i>	Mo95	
		Ga	hũlũ	sun	Kr99	
VN		Yoruba	bà			
		Èdo	bàá	shine (moon), become red	Ag86	
		Nupe	bá	shine, reflect	Ba14	
Bantu		CB	bád-			

24. moon #-kelu						
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-ki-, -kiu-	<i>Mond</i>	W	
		PWN	-kiul-	moon	M	
Ijoid		P-Ijɔ	akalɔ	moon	KW	
Katla-Tima		Kaalak	gɛlɔ	moon	Gi	
Kordofanian	Lafofa	Tegem	kwɛl	moon	Sch81b	
Kordofanian	Talodi	Masakin	kenā	moon	RCS	
Atlantic	North	Ndut	cein	moon	Wi07	
VN	Edoid	Emai	ùkì	moon	SE07	
Bantoid		Buru	-kwē	moon		
Bantoid	Beboïd	Noni	kwēē	moon		
Bantu		PB	cúngé	moon	BLR3	
		CB	-kúedi	moon	G	
25. star						
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWN	-tsondua? (-tondua)	star	M	
Rashad	Tagoi	Orig	ʈ-ɛ̀lɛp/ɲ-ɛ̀lɛp-ɔt	star	SE	
Kordofanian	Lafofa	Tegem	tɔ-ɾɔɔi /mə-	star	Sch81b	
Atlantic	North	Nalu	ma-saar /be-	star	Wi07	
	North	Sua	(f)-sahan /-an	moon	Wi07	
Kru		Bete G	zèli	<i>étoile</i>	ALKrCI	
Adamawa	Mumuye	Zing	señ	star	Sh83	
Ubangian		P-Gbaya	*sórá	<i>étoile</i>	Mo95	
Kwa		Ga	coco!óbí	morning star, moon	Kr99	
VN	Yoruboid	Yoruba	oǰù	moon		
	Ayere-Ahan	Ayere	osu, oǰu	moon ⁴		
	Nupoid	Nupe	tswā-gi ⁵	star	Ba14	
EBC	Plateau	Mada	ntsē		Pr	
	Jukunoid	Wapan	a-tswí		Sh	
Bantoid	Mambiloid	Tep	swauṣa		Co	
	EG	PEG	*-sàŋ´		ELV	
Bantu		CB	-tónđuà	star	G	

4 ? < Yoruba

5 -gi = 'small' (lit 'small moon')

26.	#te(d)-	fire				
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-tá-	<i>Feuer</i>	W	
		PWN	tem-	burn	M	
Mande		Wan	té		HTT	
		Jeri	tá		Sg	
		Bokobaru	té		RJ	
Kordofanian	Lafofa	Tegem	ʧ-éé	fire	RCS	
Kordofanian	Talodi	Talodi	ʧek	fire	RCS	
Senufo		Kulango	dəgə		M&T	
Atlantic	North	Sine	fidɛl	fire	Wi07	
Atlantic	North	Mankanya	tet	(p-/m-)	Sg	
Atlantic	North	Mankanya	tər	burn	Wi07	
Atlantic	South	Baga Ma	tɛ	burn	Wi07	
Kru		Aizi	lede	<i>feu</i>	ALKrCI	
Gur	Oti-Volta	Bieri	daam	<i>feu</i>	Ma75	
Adamawa		Tuboro	hò'de		B	
Ubangian		'Baka	dè	<i>bruler</i>	Mo95	
Kwa		Ebrie	átè		ALKwCI	
		Mbatto	ódè		ALKwCI	
	Guang	Nawuri	dʲééʔ	burn	Sn89	
VN		Nupe	dĩ	burn	Ba14	
Bantoid	Ekoid	Ejagham	rík	burn	Wa	
Bantu		PB	didò	JLMNRS	BLR3	
		CB	tèem-	burn	G	
27.	stone					
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-ta-, -tali	<i>Stein</i>	W	
		PWN	-thála, -tháli	stone (rock)	M	
Kordofanin	Lafofa	Tegem	t-e/m-	stone	RCS	
Atlantic	North	None	atɔx	stone, rock	Wi07	
Atlantic	North	Konyagi	ì-táká / wà-r	stone, rock	Wi07	
Atlantic	South	Landuma	a-saar /ɛ-	stone, rock	Wi07	
Adamawa		Mumuye	tar-a	stone	Sh83	
		Mambay	sáà	stone	AN10	
Gbaya		P-Gbaya	*tà	<i>pierre/caillou</i>	Mo95	
Kwa		Ga	té	stone	Kr99	
VN		Nupe	tákù	stone	Ba14	
Bantu		PB	tádè	stone, iron ore	BLR3	
		CB	-tádè	stone, iron ore	G	
28.	#-lim-	man				
Family	Subgroup	Language	Attestation	Gloss	Source	
Katla-Tima		Kaalak	-dime /a-	man	RCS	
Kordofanian	Lafofa	Tegem	ka-mee /a-	man, person	Sch81b	
Kru		Nyabwa	jimiẽ	<i>époux</i>	ALKrCI	
Kwa		Ga	àlómó	fashionably dressed woman	Kr99	
EBC	Ogonic	Gokana	dóm	husband	Vo92	
Bantoid	Ekoid	Ejagham	ndùm	husband	Wa	
Bantoid	Ring	Bafmeng	undom	husband	Hy	
Bantoid		Ndemli	lõm	husband	Ng99	

29. to arrive, reach					
Family	Subgroup	Language	Attestation	Gloss	Source
		PWN	thu-, thuk-	come from	M
Katla-Tima		Domorik	diaŋ		RCS
Kordofanian		Lafofa	[kɪ]dʒèn	come	RCS
Atlantic	North	Banhum	dek-t	come	Wi07
	South	Baga Ma	deer	come	Wi07
Kru		Grebo	dí		M
Ubangian		Bare	dí	<i>venir</i>	Mo95
Bijogo		Bijogo	dɛna	come	Sg
Kwa	Central-Togo	Nkonya	dù	reach	Hof
		Twi	du	arrive	
VN		Nupe	tũ	arrive, come	Ba14
Bantoid	Beboid	Noone	tó	come	Lu
		PB	du	come	BLR3
		CB	túuk-	come from	G
30. #rik- eat					
Family	Subgroup	Language	Attestation	Gloss	Source
		PWS	lì, là	<i>essen</i>	W
		PWN	di-	eat	M
Dogon			—		Ho04
Ijoid			—		KW
Banjeri Me		Banjeri Me	dia	<i>manger</i>	Ho04
Katla-Tima		Domurik	áluk	eat	RCS
Mande		Mwi	li		W
Mande		Bozo	dye		W
Kordofanian	Lafofa	Tegem	rri	eat	Sch81b
Kordofanian	Lafofa	Tegem	rik	eat	RCS
Kordofanian	Talodi	Masakin	rigo	eat	RCS
Kru		Grebo	dí	<i>manger</i>	ALKrCI
		Bete Daloa	lí	<i>manger</i>	ALKrCI
Atlantic	North	Wolof	lekk		
		Papel	dɛ?	eat	Wi07
	South	Temne	di	eat	Wi07
Gur		Bieri	di	<i>manger</i>	Ma75
		Hanga	di	<i>manger</i>	Ma75
		Degha	dì	<i>manger</i>	ALGCI
		Kulango	dìgɛ́	<i>manger</i>	ALGCI
Adamawa		Koh	re		U
		Mono	rìʔì		E
Ubangian		Zande	ri	<i>manger</i>	Mo95
Kwa		Abure	li	<i>manger</i>	ALKwCI
VN	Igboid	Proto-Igboid	*dǐ		KW
EBC	Plateau	Eloyi	rí		RMB
	Cross River	Ikom	dí		St
Bantoid	Dakoid	Dǎ	ri	eat	RMB
Bantoid	Beboid	Noni	díé	eat	Lu03
Bantoid	Tivoid	Esimbi	-rī	eat	Stxx
Bantoid	Ekoid	Balep	lí	eat	Cr65
Bantoid	Grassfields	Ndemli	dí	eat	Ng99
Bantoid		Dzodzinka	l̄	eat	P
Bantu		PB	dí	eat	BLR3
	Jarawan	Bada	li	eat	

31.	#-(m)bale	two, twins				
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-bà-		W	
		PWN	-bàli		M	
Ijoid		P-Ijò	mãamõ		KW	
Mande		Jogo	fàlá		VV	
Kordofanian	Lafofa	Amira	pelě	two	RCS	
Atlantic		Nalu	bele	two	Wi07	
	South	Temne	kàbarí	twin	Da66	
Kru		Konobo	buwe	<i>deux</i>	ALKrCI	
Adamawa		Mumuye	bá	bear twins	Sh83	
Adamawa		Mambay	bàti	<i>deux</i>	EA	
Gbaya		P-Gbaya	*bùà	<i>deux</i>	Mo95	
Kwa		Nyangbo	èbà	two	Ca	
VN	Yoruboid	Yoruba	ibeji	twins	Ab58	
VN	Nupoid	Nupe	èbà	twins	Ba14	
VN	Edoid	Èdo	èvá	two	Ag86	
VN	Idomoid	Idoma	èpà		Ar64	
EBC		P-Ikaann	wà		Abd	
EBC		Efik	ìbà		Ad	
EBC	Plateau	Cori	fali		Di	
EBC	Jukunoid	Kuteb	ifě		RKo	
Bantoid	Furu	Bikyak	fá		RK	
Bantoid	Beboid	Naki	fā		Go	
Bantoid	Ekoid	Balep	bé-fál		Cr69	
Bantoid	Grassfields	Ambele	bè		Ng01	
Bantu	Grassfields	Yamba	bá		Ne07	
Bantu		CB	-bàdí, -bídí, -bídi		G	
		CB	-pácà	twin	G	
32.	#-taN-	bow				
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWS	-tà-	<i>schießen, Geschoß, Bogen</i>	W	
		PWN	-tá-	bow; shoot with bow	M	
		Bangi Me	ta	shoot	RMB	
Dogonic		Təɾə	tó		C-G68	
		Donno Sò	tò		Ke93	
Ijoid	Izò	Kolokuma	tēi	to shoot	KW	
Kordofanian	Talodi	Tegem	tʰaci	bow	Sch81b)	
Mande		Boko	sa		Pr53	
		Mana	sā'		Pr53	
Unclassified		Pre	ta		Cr(ms)	
Atlantic		Bassari	a-tũmb		Fe9	
	South	Gola	ta	shoot with bow		
Kru		Seme	tã			
Gur		Dagare	tam-o	<i>arc</i>	Ma75	
		Moore	ta-ba	<i>arc</i>	Ma75	
		Mampruli	toro	<i>arc</i>	Ma75	
		Buli	təmɔ	<i>arc</i>	Ma75	
Adamawa	Mumuye	Mumuye	ta	shoot	Sh83	
	Vere-Duru	Momi	taa-u			
Ubangian		Gbaya	kusaa ⁺		BN82	
Kwa		Akposo	kutá			

32.	#-taN-	bow				
Family	Subgroup	Language	Attestation	Gloss	Source	
Kwa		Twi	òtá			
		Gonja	kà-tá	bow	Sn89	
		Ga	cé, cwà	shoot	Kr99	
VN		Emai	sa	to shoot	SE07	
		Igboid	Igbo	ótá		
		Nupoid	Nupe	tanci	bow	Ba14
		Idoma	òta		Ar64	
EBC		Kainji	Piti	o-ta		
		Jukunoid	Kuteb	kù-tá /à-		Ar64
Bantoid	Tivoid	Tiv	ta			
Bantu		*PB	*bo-ta			

33.	#-gbo-	baboon			
Family	Subgroup	Language	Attestation	Source	
Mande			*PSWM	*ñ-gbɔŋ	VV
			Bambara	ngɔ̃n	Ba2000
Kordofanian	Tegem	Tegem		bɔli	Sch81b
		Senufoïd	Supyire	bɔŋo	Carlson
Gur		Dɔgɔsɛ	gbègè-wè /-mè		
Adamawa	Mumuye	Zhing	gbāgbàli		Sh83
Gbaya		Bodoe	gbàdàwà		Ro08
VN	Nupoid	Nupe	gbògì		Ba14
EBC		W. Kainji	Lopa	gbədəgi	
		Platoid	Izere	àgbóòm	RMB
		Aten		bagu	RMB
		Berom		bōgòm	RMB
		Fyem		gwòm	RMB
		Bantoid	Dakoid	Dɔ̃	gbɔŋ
Bantoid	Grassfields	Limbum	mbù	RMB	

34.	elephant				
Family	Subgroup	Language	Attestation	Source	
		PWS	-ni-	W	
		PWN	-ní-, -niang-	M	
Dogon		Mombo	nige	Ho04	
		Kordofanian	Tegem	yu:ŋi	RCS
Atlantic		Pulaar	nyiiwa (ba)	Sg	
		Serer	ɲig	Sg	
		Ubangian	Mba	ŋiá	Mo95
Ubangian		Ngbaka	yà	Mo95	
Kwa		Avatime	ó-nyi /bé-	Heine (1968)	
Kwa		Ewe	àtíglínyì	R	
VN		Èdo	èní	Ag86	
VN		Igbo	enyi	KW72	
EBC	Plateau	Mada	ɲi	RMB	
EBC	Cross River	Anaang	é-nì:n	Co91	
EBC	Cross River	Tɛɛ	nĩ	NB94	
Bantoid	Momo	Ngie	anyifom	SIL	
Bantu		CB	-niangá	G	
Bantu		PB	yògù	BLR3 K M N P S	

35.	#tatu	three				
Ph	Family	Subgroup	Language	Attestation	Source	
NC			PWN	-tháthu	M	
NC	Dogon		Yanda	taandu	RMB	
NC	Ijoid		Ijɔ	taarɔ	KW	
NC	Ijoid		Defaka	táátó	Je83	
NC	Katla-Tima		Kaalak	atat	RCS	
NC	Rashad	Tegali	Rashad	ndəʔá	RCS	
NC	Rashad	Tagoi	Orig	witta	SE	
NC	Mande		Soso	sàxán	VV	
NC	Kordofanian	Lafofa	Amira	tare	RCS	
NC	Atlantic	North	Fulfulde	tati	No89	
NC	Atlantic	North	Cassanga	-taar	Wi07	
NC	Atlantic	South	Gola	táal	We21	
NC	Kru		Wobe	tāā	ALKrCI	
NC	Gur		Oti-Volta	*ta	Ma75	
NC	Adamawa		Dii	tāānó	Bo89	
NC	Adamawa		Mumuye	tat	Sh83	
NC	Ubangian		'Bodoe	tààr	Ro08	
NC	Gbaya		Logba	ita		
NC	Kwa	Guang	Gonja	àsá	Sn89	
NC	Kwa		Twi	èsá		
NC	Kwa		Ewe	etõ		
NC	Kwa		Ga	é'té	Kr99	
NC	Kwa		Ega	ità	ALKCI	
NC	VN	Yoruboid	Yoruba	èta		
NC	VN	Edoid	Epie	ìsáa	E83	
NC	VN	Igboïd	Igbo	àtó		
NC	VN	Nupoid	Nupe	gútá	Ba14	
NC	VN	Idomoid	Idoma	ètá	Ar64	
NC	Ukaan		PU	tás	Abd	
NC	Ayere		Ahan	ítá	FI	
NC	EBC	Kainji	Lopa	taara	RMB	
NC	EBC	Plateau	Fyem	táát	RMB	
NC	EBC	Lower Cross	Anang	ità	Co91	
NC	Bantoid	Mambiloid	Somyev	taar	Co	
NC	Bantu		PB	tátò	BLR3 2811	

36.	new					
Family	Subgroup	Language	Attestation	Gloss	Source	
		PWN	-phua-, -phwai-	new	M	
Kordofanian	Lafofa	Tegem	bɛ(lili)	new	Sch81b	
Kordofanian	Lafofa	Tegem	péélinj	new	RCS	
Atlantic	South	Sherbro	sana	new	Wi07	
Gur		Dɔgɔsɛ	fɛn-	new	Win07	
Adamawa		Mumuye	polo	new	Sh83	
Ubangian		Kpatiri	fànà	<i>neuf, nouveau</i>	Mo95	
		Ama-lo	fõ	<i>neuf, nouveau</i>	Mo95	
Kwa		Gonja	pópôr?	new	Sn89	
		Ga	hèè	new	Kr99	
Bantoid	Grassfields	Limbum	fi [M]	new	SIL	
Bantoid	Grassfields	Ndemli	féfé	new	Ng99	

3. Animal names in Kordofanian

baboon

	sg.	pl.	Gloss
Heiban			
Koalib	kw-eɽuwel	l-	
Heiban	kw-uruwel	l-	
Shwai	iraɽar		
Laro	th-iruel		
Otoro	gw-uruwel	l-iɽuel	
Tira	tamburu		
Moro	oɽobel	ndəbel	
Kau	karawar		
Talodi			
Masakin Tuwal	d-aləŋŋa	m-	monkey
Asheron	ŋ-ɽrak	ɲ-	monkey
Lafofa			
Lafofa	bəli		
Rashad			
Orig	ʃ-ɪndó	ɲ-	
K-T			
Domurik	th-íɲkɪl	iɽ-íɲkɪl	

buffalo

Heiban			
Koalib	kwu-aŋ	l-	
Heiban	kwaraiɲ		
Shwai	-		
Laro	th-araiɲ		
Otoro	kwaiɲ	li-	
Tira	-		
Moro	də-wad	ye-	
Kau	-		
Talodi			
Asheron	w-iɽɽəŋ	n-	
Lafofa			
Lafofa	bee		

dog

Heiban

Koalib	t-ijen	ɲ-
Heiban	ŋ-in	ɲ-
Shwai	ŋ-in	
Laro	k-ijen	y-
Otoro	ŋ-in	ɲ-
Tira	ŋ-en	ɲ-
Moro	ŋ-ina	ɲ-
Kau	t-in	ɲ-

Talodi

Masakin Tuwal	ŋ-akkerru	r-
Jomang	ɗ-ɔk	r-
Nding	pɔak	aabɔk
Dengebu	ŋ-ááŋ	ɲ-
Ngile	ɗ-ékeelú	l-
Tocco	ɗ-á(w)uk	l-

Lafofa

Tegem	béepú	éerú
Lafofa	bɛ-bu(i)	erui

Rashad

Orig	wòsò	yúsúwèn
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elephant

Heiban

Koalib	ɗ-ɔŋɔr	ɗ-
Heiban	dh-uŋu	ɗf-
Shwai	dh-ɔŋɔr	
Laro	dh-uŋur	
Otoro	dh-uŋɔr	ɗ-
Tira	dh-ɔŋɔr	
Moro	dh-uŋɔr	
Kau	dh-ɔŋɔr	

Talodi

Masakin Tuwal	ɗ-ado	m-
Asheron	w-omaɗɔŋ	n-

Lafofa

Lafofa	yuuŋi	
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K-T

Domurik	kì-mómîn	ì-
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Rashad

Orig	fàŋán	fàŋàná
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Comment: The Heiban root is almost certainly borrowed from Nilo-Saharan.

giraffe

Heiban

Koalib	th-ul	y-
Heiban	dh-ul	ʃ-
Shwai	-	
Laro	-	
Otoro	th-ul	ʃ-
Tira	-	
Moro	ɖ-ul	y-
Kau	-	

Talodi

Masakin Tuwal	k-ye	w-
Asheron	w-ɪgɛ	g-

Lafofa

Lafofa	luwərɔɔi	
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K-T

Domurik	kù-hu	ì-
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Rashad

Orig	wəlèʃ	yildʒon
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guinea-fowl

Heiban

Koalib	kwu-ɕia	li-
Heiban	kwu-ria	lu-
Shwai	giɕia	
Laro	dhira	
Otoro	gwu-ɕia	li-
Tira	-	
Moro	-	
Kau	-	

Talodi

Asheron	w-ɪk	g-
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Lafofa

Lafofa	gəɖj-ai	
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K-T

Domurik	k-ítèè	y-
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Rashad

Orig	wit	yìdin
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hare

Heiban

Koalib	t-ini	ɲ-
Heiban	ɲ-ini	ɲ-
Shwai	ɲ-ini	
Laro	g-ini	
Otoro	-	
Tira	-	
Moro	ɲ-əɖəni	ɲ-
Kau	-	

Talodi

Asheron	ɲ-ʊɖɔrbe	ɲ-
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K-T

Domurik	krèé	i-rèè
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Rashad

Orig	ʃɪn	ɲinét
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Comment: There are two species of hare in this region, the Cape hare and the scrub hare, (*Lepus capensis* and *L. saxatilis*). However, it is not likely that they are distinguished even in the vernacular.

hyena

	sg.	pl.	Gloss
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Heiban

Koalib	kw-ira	l-	
Heiban	k-amaraiɲ	ɖʒ-	
Shwai	nduli		
Laro	dh-amaraiɲ		
Otoro	th-ole	ɖ-ole	
Tira	-		
Moro	ɲ-wèlia	ɲ-	
Kau	-		

Lafofa

Lafofa	bəlɔai		
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K-T

Domurik	kì-ɲàwu	ì-	striped hyena
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Rashad

Orig	kòmbàlónɲ	sùmbùlónó	striped hyena
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Comment: There are two species of hyena, the striped and spotted, in the region and they are likely to have distinct vernacular names, so this may explain the presence of two distinct roots in Heiban. Compare also Tibetan *dhole* ‘wild dog’.

jackal, fox

	sg.	pl.	Gloss
Heiban			
Koalib	kw-odhulum	l-	
Heiban	ŋ-artumi	ɲ-	
Shwai	-		
Laro	-		
Otoro	-		
Tira	-		
Moro	o-ɖəloŋ	n-	fox
Kau	-		
Talodi			
Masakin Tuwal	d-ua	r-	
Asheron	z-ʒloŋ	m-	fox
Lafofa			
Lafofa	ooga, dæœ		
K-T			
Domurik	bábákùùŋ	i-	sand fox

Comment: The jackal seems to be locally known as the ‘fox’, although there is also a true fox in the region, the sand-fox, *Vulpes pallida*.

leopard

Heiban			
Koalib	kwu-ɽiar	li-	
Heiban	kw-ira	l-	
Shwai	ira		
Laro	kwira		
Otoro	g-amaraiɲ	ɖʒ-	
Tira	omon		
Moro	oman	nəmwan	
Kau	kagir ke kelej		
Talodi			
Masakin Tuwal	bede	e-	
also	ɽ-aribo	n-	
Lafofa			
Lafofa	ɽer		
Rashad			
Orig	kè-rómbét	sɛ-	

Comment: Either Otoro has undergone a semantic switch with ‘hyena’ or there is a confusion in elicitation

lion

Heiban

Koalib	ʃundaŋa	lidʒundaŋa
Heiban	l-ima	ŋw-ima
Shwai	lima	
Laro	gima	
Otoro	l-ima	ŋw-ima
Tira	dhāvā	
Moro	ɖ-ëbia	y-
Kau	kagir	

Talodi

Masakin Tuwal	d-irräko	r-
Asheron	ɖʒ-zru	n-

Lafofa

Lafofa	pəŋɔr	
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K-T

Domurik	k-ámpèŋ	y-
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Rashad

Orig	wùrìmán	yìrìmánìt
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Comment: The inconsistency of these roots suggests that ‘lion’ may be subject to lexical replacement, perhaps for taboo reasons, which is also the case in West Africa. For Kau see ‘leopard’.

ostrich

Heiban

Koalib	k-ödhömbo	ʃ-
Heiban	g-udhibo	ɖʒ-
Shwai	gwudhumbo	
Laro	gwudimbo	
Otoro	gwu-thibɔ	li-
Tira	-	
Moro	o-ʈəmbo	n-
Kau	-	

Talodi

Masakin Tuwal	b-urru	k-
Asheron	b-uruk	w-

Lafofa

Lafofa	wil, win	
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rat

Heiban

Koalib kw-uri 1-

Heiban gw-uri 1-

Shwai gwuri

Laro dhuri

Otoro gw-uri 1-

Tira uri

Moro uri

Kau gwuri

Talodi

Masakin Tuwal bau aku-

Asheron b-awɔŋ w-

K-T

Domurik kɔ-hɔn ɪ-

Rashad

Orig kə̀m̀dí sə̀m̀dí