

# **SAHARAN AND SONGHAY FORM A BRANCH OF NILO-SAHARAN**

**DRAFT ONLY**

**NOT TO BE QUOTED WITHOUT PERMISSION**

Roger Blench  
Kay Williamson Educational Foundation  
8, Guest Road  
Cambridge CB1 2AL  
United Kingdom  
Voice/Ans 0044-(0)1223-560687  
Mobile worldwide (00-44)-(0)7967-696804  
E-mail [rogerblench@yahoo.co.uk](mailto:rogerblench@yahoo.co.uk)  
<http://www.rogerblench.info/RBOP.htm>

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## 1. Introduction: a Songhay-Saharan alignment?

The Nilo-Saharan language phylum remains one of the most controversial global linguistics, with outsiders expressing doubt as to its reality (e.g. Dixon 1997; Campbell & Poser 2008). Despite this, most of those in field generally accept its reality since it was first proposed by Greenberg (1963). However, all would agree that it is very lexically and morphologically diverse, making problematic the establishment of cognates according to the standard procedures of historical linguistics. Greenberg proposed no internal structure apart from the now-discredited ‘Chari-Nile’ and the two classificatory overviews, Bender (1997) and Ehret (2001) come to extremely different conclusions on this issue.

It has often been observed informally that the Songhay languages and Saharan share a number of lexical items that are either exclusive to the group or only found outside in scattered attestations. Nonetheless, none of the published classifications put them together as a branch of Nilo-Saharan. In Bender (1997) they are both ‘Satellite’ branches, parallel but not related. Ehret (2001) places Songhay as co-ordinate with Maban in his West Sahelian group. In the confused account by Nicolai (1984) he appears to consider the cognates with West Saharan (i.e. Kanuri and Teda-Daza) constitute evidence for a genetic relationship, although he later appears to reverse his stance on this issue. Some Nilo-Saharan scholars have proposed to exclude Songhay altogether, although on what grounds is unclear (e.g. Dimmendaal 2011). Songhay has historically been surrounded by languages of a quite different affiliation, and yet it has retained key Nilo-Saharan lexemes, such as the first person singular pronoun, ‘water’, ‘blood’ and other basic items. It is hard to know what explanation other than genetic affiliation can account for this. This paper will propose that Songhay and Saharan form a branch of Nilo-Saharan, albeit one that is not tightly aligned, mainly due to extensive borrowing and restructuring in Songhay and thus loss of potential cognate items.

It has been suggested that the lexical similarities are simply due to borrowing. The two families are not in geographical contact today, nor have they been neighbours at any period of history known to us. However, an important early medieval trade route linked Egypt to Gao via the historically Teda-speaking oasis of Kufra. At least one early Arabic loan into Songhay is suggestive of diffusion along this route: *aluula* “noon prayer” (cp. Siwi *luli*, Awjila *alūli*, ultimately < Arabic *al-‘ūlā* “the first” rarely attested in this sense elsewhere.) Saharan words could potentially have reached Songhay, and vice versa, along this route. A later possibility is also available: some of the common lexical items are shared with Hausa, and could have been borrowed via Hausa or directly from Hausa. Kossmann (2005), in a wide-ranging study of Berber-Hausa loanwords, also notes the presence of certain items in Songhay and to a lesser extent, Kanuri. The origin and direction of borrowing of some of these words remains uncertain; some of them, such as ‘silver’, ‘sword’, ‘spoon’, clearly belong to a later period than the material discussed in this paper. In any case, many of the lexical similarities observed appear too basic to be accounted for by either scenario; the borrowing of such basic vocabulary in such quantities would require more intensive contact than either scenario predicts.

The paper begins with broad overviews of Songhay and Saharan, in order to set the scene. The core of the paper are the tables of lexical similarity, in §4. Songhay is apparently lacking in some key features of other Nilo-Saharan branches, including an ATR vowel harmony system, a tripartite number system for nouns and ‘moveable k-’. The discussion considers if there is any evidence for their loss, as this hypothesis would require. The final section considers the choices between possible explanations. The next step would be to consider morphological and grammatical similarities in more detail.

## 2. Songhay

The Songhay languages are spoken along the Niger between Timbuktu and Gao, stretching into the Sahara of Niger and South and East into Benin Republic and Nigeria (Map 1). Songhay speakers are also known from Sudan, remnants of the pilgrimage to Mecca (Abu Manga 1995). An isolated population of unknown origin, the Belbalis of Tabelbala (speaking Kwarandzyey [Korandje]) live in a small community on the Moroccan-Algerian borderland (Souag 2010). Songhay is often treated in earlier literature as if it was a single language, but it is now recognised to be a cluster. The first study of the varieties of Songhay and its internal relationships is Nicolai (1981). This was a valuable beginning, but unfortunately this author has followed up with a series of increasingly ill-founded claims which have had the effect of blurring the

situation rather than adding clarity. His claim that Songhay is a Berber creole (Nicolai 1990) has been repeated in a number of publications without gaining any adherents. More recently, Nicolai (2003) is a voluminous tome promising an in-depth account of these processes, only to further confuse the issue. Fortunately, much new good quality data has become available on Songhay lects (e.g. Heath 1998a,b, 1999) and it is now possible to provide a brief account of the evolution of the language.

**Map 1. The Songhay languages**



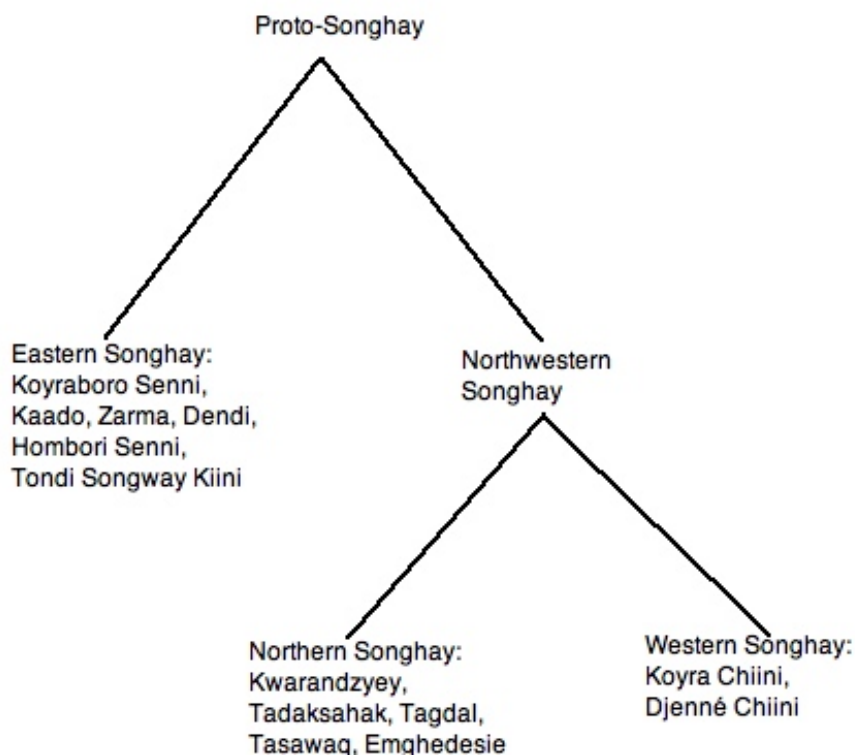
Songhay is undoubtedly Nilo-Saharan, as it shares a significant number of basic lexemes with very remote geographical languages which are neither Afroasiatic nor Niger-Congo in origin. All Songhay lects are very close, suggesting it split up in the recent past, perhaps as little as 2000 years ago. One reason for thinking this is that both agriculture and urbanism can clearly be reconstructed for proto-Songhay and agriculture in this region is not very ancient (Blench, Souag & Macdonald in progress). This is not enough to account for the distance from other Nilo-Saharan branches and suggests that either pre-proto-Songhay was spoken in an isolated community with little differentiation or that its relatives were subsequently assimilated by other languages. Songhay appears to have come under strong Mande lexical and grammatical influence (perhaps specifically from an ancestor of Soninke) at an early stage in its evolution (Creissels 1981; Nicolai 1984). At the same time proto-Songhay was diverging, it also came under Berber influence, to judge by a small number of Berber borrowings in early or proto-Songhay (Souag 2010).

Songhay is traditionally divided into two primary subgroups, Northern and Southern; a revised classification is proposed by Souag (fc). According to this classification, the first discernible split within the family was between Eastern Songhay, probably spoken around Gao, and Northwestern Songhay, somewhere north of it; it was followed by a more prominent split between Western and Northern Songhay. Eastern Songhay is close to being a dialect continuum, although a handful of extra-riverine varieties at Hombori and Kikara in

Mali and Djougou and Kandi in Benin show more prominent divergences. Western Songhay, spoken around Timbuktu and at Djenné, remained in fairly close contact with Eastern, a situation intensified not just by the ease of riverine trade but also by the conquest of Timbuktu by the Songhay Empire. As a result, words attested only in Eastern and Western Songhay can be securely reconstructed only for proto-Eastern. Northern Songhay's split with the rest has been far more complete, thanks to its speakers' dispersal in oases and desert areas dominated by speakers of Berber and Arabic. Its migration as far as Tabelbala, a thousand kilometres north of the rest of the family, has not yet been fully explained, but appears to be linked to the trans-Saharan trade – Tabelbala was a key stop on a trade route linking Morocco and the Sahel, as were Agades and Teguida on the older route linking Egypt and the Sahel. Two varieties (Tadaksahak and Tagdal) are spoken by nomadic groups; since agricultural vocabulary is reconstructible for proto-Northern Songhay, these are likely to result from a later change of lifestyle or language shift.

Figure 1 shows the internal structure of the Songhay languages using this new model.

**Figure 1. Internal structure of Songhay**



Source: Souag (fc)

As far as can be determined, Songhay is no more a ‘mixed’ or ‘multi-genetic’ language than, say English is mixed with French or modern urban German with English. It is a language which has come under the influence of neighbouring languages, at different times and places. The elements of borrowing can be established and approximately dated. To establish the core affiliation of Songhay, the borrowings in the lexicon must be excluded and equally important, a historical morphology must be discerned. Very often, as will be seen, Songhay seems to preserve the primary syllable of a Nilo-Saharan root and replace the C<sub>2</sub> with an affix of its own.

### 3. Saharan

The Saharan languages consist of a group of four languages, Kanuri-Kanembu, Teda-Daza, Beria (=Zaghawa) and Sagato (=Berti), which appears to be extinct (Petráček 1987). All of these are spoken in the region between Lake Chad and the Sudanese border, with former outliers in some desert oases in the Sahara (Fuchs 1967). Kanuri must have been something of a lingua franca in the desert, since Rohlfs (1984) noted that in the 1860s it was the common language in the Fezzan. Barth (1854) first noted the connection between

Kanuri and Teda and shortly after Nachtigal (1980) added Beria. Saharan is first outlined as a group by Lukas (1951-2) and integrated into Nilo-Saharan by Greenberg (1963).

The Kanuri cluster consists of Kanuri and Kanembu, the latter being the language of the Kingdom of Kanem, whose existence is recorded in medieval sources (ref). Kanuri is spoken in NE Nigeria and is a mixture of the language of the Borno kingdom, based originally in Kukawa and the speech of highly mobile pastoral tribes such as the Koyam, Sugurti and Kuburi. In the late 17<sup>th</sup> century, the Turkish physician, Evliya Çelebi ( اوليا چلبى ), (1611 – 1682), collected information about Kanem, the arrival of the yearly slave caravans and the languages spoken by some of those who arrived in Cairo (Çelebi 1995 ff.). Çelebi records two languages, Bornavi and Maiburni, both essentially Kanuri, and Habraszewski (1967) summarises all the information that can be gathered from his account. Lange (1972) summarises this and a number of other early materials, amongst which the most notable is an anonymous list, apparently recorded in Tripoli of ‘Barnaouny’. This includes interesting words such as *ghourasa* ‘bread’ which has disappeared from current Kanuri, although is not an error as a related form is still known in Teda. More extended materials on Kanuri otherwise begin in the nineteenth century with the studies of Kanuri grammar and oral literature in Koelle (1854a). The first twentieth century scholarly record of Kanuri was Lukas (1937) although he was preceded by the interesting short study of Noel (1923) based on the Kanuri of Bilma oasis. In the 1970s, a new burst of work on Kanuri began, with the grammars of Hutchison (1981) and Cyffer (1998), the dictionaries (Cyffer & Hutchison 1990; Cyffer 1994). The status of Kanembu *vis à vis* Kanuri remains debated, as a full dialect survey and comparison of these speech forms remains to be undertaken (though see Bulakarima 1997). An important source for its history is the “Classical Kanembu” Quranic manuscripts and oral commentaries currently being investigated by Dmitry Bondarev [cite]; these preserve proto-Saharan grammatical forms lost in modern varieties, as well as showing more conservative consonantism. The first modern scholarly record of Kanembu is Lukas (1953) although the notes by Jourdan (1935) remain useful. Jouannet (1977, 1982) is the first author to report ATR vowels in Kanembu, but otherwise new work on this language is scarce<sup>1</sup>.

Languages such as Manga, officially recognized in Niger Republic, are of interest to Kanuri scholars, because they retain in full syllables elided in Yerwa Kanuri. Map 2 shows the languages of the Kanuri cluster as listed in the Ethnologue. How accurate this is remains to be seen.

**Map 2. Languages of the Kanuri cluster**



The Teda-Daza or Tubu inhabit the Tibesti mountains of Northern Chad and adjacent regions of Niger. Teda and Daza are two closely related languages. There is every reason to consider these are long-term residents of the region and it is often supposed that these were the Ethiopian Troglodytes referred to by Herodotus (Book XX) ‘who speak a language different from all other peoples, which resembles the cry of the bat’ and were chased by Garamantian slavers in four-horse chariots. Of the latter there is independent confirmation from rock-paintings (Lhote 1985). Yves Gauthier's work on monument types indicates that the Tibesti

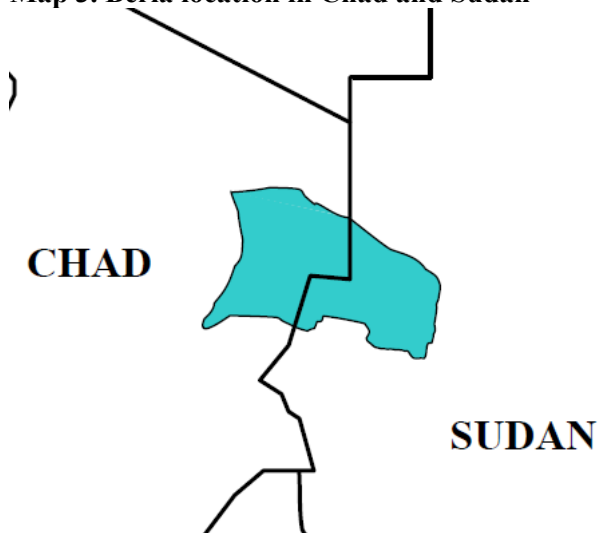
<sup>1</sup> I am indebted to Doris Lohr for up-to-date information about Kanembu.

already formed a cultural area, quite distinct from the neighbouring (probably early Berber) one stretching from the Tassili to Mauritania, by 2000 BC [cite]. In linguistic terms, the first record of Teda appears to be in Nachtigal (1890), who recorded a significant amount of lexical data. The French ethnographers Charles LeCoeur (1950) and LeCoeur & LeCoeur (1956) created a grammar and ethnographic dictionary of Teda. Although these are rich in descriptive material on Teda life, the lack of tones and a failure to record the ATR vowels, makes this material to be used only with care. Lukas (1953) is the first extended study of 'Tubu', i.e. Teda. More recently a dictionary of Daza has been published in Niamey (Haggar & Walters 2005) which is valuable in marking ATR vowels, but which does not mark tone. Many of the lexemes are at variance with those recorded by LeCoeur which presumably indicates significant variability within the language.

References to the Beria (=Zaghawa) have a very long pedigree. The Arab geographer al-Ya'qubi (De Goeje 1892), in a description written around 890, spoke of them as the 'Zaghawa who live in a place called Kanem'. The first modern account of the Beria is in MacMichael (1912a, b) written from the Sudan side of the border, while Chalmel (1931) provides the first extended account from the Chad side. Since then the anthropologists Joseph and Marie-Jose Tubiana have actively documented Beria culture (e.g. Tubiana 1964, 1985 & Tubiana & Tubiana 1995). The first extended study of the language remains unpublished (Fadoul 1984) but Jakobi & Crass (2004) have published a grammar which includes a glossary. Alio (1986) is a study of Bideyat, which is one of the subgroups of the Beria. An anonymous lexicon has been published locally in Chad (anon. 2003) which is inaccurately transcribed but which gives more lexicon than other sources. Khidir (1999, 2001) has published specialised lexica on plants and animals. In the 1950s, Adam Tajir, a Sudanese Zaghawa schoolteacher, created an orthography based on the clan brands used for camels, *Beria Giray Erfe* ('Zaghawa Writing Marks'). He copied the inventory of the Arabic script, so the system was not ideal for Zaghawa. Nonetheless it has been developed as a digital font and used in at least some publications.

Map 3 shows the approximate locations of the main Beria communities, but the disruptions following the civil war in Darfur has had a major effect on the Beria and many have fled to refugee camps within Chad, so this map is no longer very accurate.

**Map 3. Beria location in Chad and Sudan**



Source: Anonby & Johnson (2001)

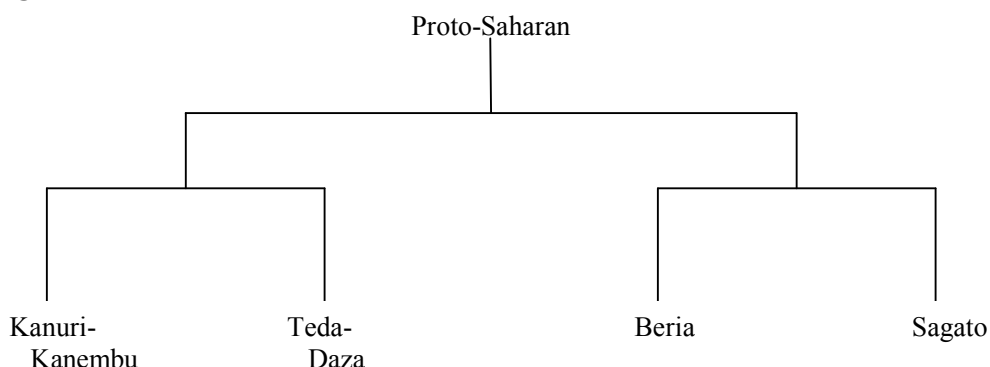
The fourth member of Saharan is Sagato or Berti, which is now extinct. It was spoken in Western Sudan among the Berti people, who still exist as an ethnic group, but who have now all switched to Arabic. All that we know of Sagato comes from the work of Karel Petraček (1965, 1966, 1987) who both collected some data from rememberers but also synthesised previous material. Nonetheless, the material remains weak on phonology and morphology.

The membership of Saharan within Nilo-Saharan has not been seriously questioned since Greenberg (1963) although the relationships with Afroasiatic have excited some comment. As Cyffer (1996, 2007) observes,



despite considerable lexical diversity, all the extant languages have a very similar verbal system. Saharan languages subgroup as shown in Figure 2;

Figure 2. The internal structure of Saharan



There is no true reconstruction of Saharan as yet, although proposals for parts of the system appear in Cyffer (1981a,b, 1998b, 2000). Petráček (1985, 1988) has reviewed Saharan with a sceptical perspective on its membership of Nilo-Saharan. The most comprehensive review is Chonai (1988) which is a comparative overview with some suggestions as to reconstruction, in particular of the consonant system. It does not really discuss the issue of vowels (much less ATR vowels) or tone, but represents a valuable compilation of data.

#### 4. Tables of lexical similarities

##### 4.1 Nouns

##### 4.1.1 Body part, fluids

1	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Teda	kobe	main	Le50
	Songhay	West	Timbuktu	kopši	hoof	He
	Songhay	East	Gao	kowši, kobši	hoof	He
	Songhay		Zarma	kòbsi	<i>pied d'animal</i>	BW94

**Commentary:** Doubtful semantics. There is a pan-Songhay \*kambe “hand” which might be a comparison, but this could also be the counterpart of a widespread Nilo-Saharan root #kara.

##### Refs:

2	Family	Subgroup	Language	Attestation	Gloss	Source
	Saharan	East	Sagato	gá	chest	Pe87
	Saharan	East	Beria	gââ	<i>poitrine</i>	JC04
	Saharan	West	Daza	kɔ̀nʃi	<i>poitrine</i>	HW05
	Saharan	West	Kanuri	ngánji	chest	Cy94
	Songhay	South	Zarma	gáni	<i>pis, mamelle</i>	BW94
	Songhay	South	Zarma	gàndè	<i>poitrine</i>	BW94

**Commentary:** Possibly compare Maba *àngûn* ‘breast’. The correspondence of Kanuri ng- to Eastern Saharan g- is regular, as seen for “year”; as with “year”, the Eastern forms appear to have lost a syllable.

Either of the two Songhay forms could potentially be related; *gàndè* is better in terms of semantics, *gàni* is a better phonetic match.

Refs: Gr. 135; N. 34;

3	Family	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Kanuri	zúngu	sweat	Cy94
	Saharan		Kanembu	ǰúnku	пот	Ch260
	Songhay	West	???	sungey, sunḡoy	sweat (v/n), perspire	He
	Songhay	East	*proto-East	súnḡáy	sweat	
	Songhay	East	Gao	sungey	sweat (v/n), perspire	He
	Songhay	East	Hombori	súnḡéy (v.) súnḡ-ó (n.)	sweat	He
	Songhay	East	Zarma	súnḡáy	<i>transpirer, suer</i>	BW94
	Songhay	East	Kaado	súnḡéy	<i>suer, sueur</i>	DC
	Songhay	East	Niger Dendi	súnḡái	<i>(il a) sué</i>	Tersis
	Songhay	East	Djougou	súnḡéy	sweat	He
	Songhay	East	Kandi	súnḡé	sweat	He

**Commentary:** Unambiguously reconstructible for Eastern Songhay, and probably for proto-Songhay. The Kanuri/Kanembu form, however, is isolated within Saharan.

Refs: Gr. 145; B. 168; N. 41; C. 260

4	Family	#kare Group	rib, side Language	Attestation	Gloss	Source
	Koman		T'wampa	gwár	side, ribs	
	Bertha			gario		
	ES		Nuer	guar	ribs	
	CS		Mangbetu	kwelia		
	CS		Bagirmi	gal		
	CS		Keliko	gara		
	Saharan	East	Beria	hòrḡ	<i>côte</i>	JC04
	Saharan	West	Kanuri	káwu	area above small of back	Cy94
	Saharan	West	Kanembu	kolo		
	Songhay	West	Timbuktu	cerow	side of body, flank; ribs, rib cage	He
	Songhay	East	* Proto-East	*kéráw	<i>flank</i>	
	Songhay	East	Gao	cerow	side (of sth), flank	He
	Songhay	East	Kaado	cérów	<i>côté, flanc</i>	D-C
	Songhay	East	Niger Dendi	cáráo	<i>côté</i>	Tersis
	Songhay	North	Tadaksahak	kérè		?
	Songhay	South	Hombori	céráá	<i>flanc du corps</i>	He
	Songhay	South	Zarma	cáráw	<i>côté du corps, flanc</i>	BW94

**Commentary:** Well-attested in “southern” Songhay. Proto-Songhay had no palatal stops; c and j appear in inherited vocabulary only as allophones of k, g before front vowels.

Refs: Gr. 125, 145;

5	#kul-	buttocks, anus			
Family	Subgroup	Language	Attestation	Gloss	Source
Koman			kul(ma)		
Kunama		Kunama	kura	anus	
Kuliak		Ik	komos	buttocks	He99
ES		Temein	kukurukit		RCS
Saharan	West	Kanuri	kùlí	anus	Cy94
Saharan	West	Teda	kuli	<i>hanche</i>	Le50
Songhay	West	Timbuktu	kore	rear, butt end	He
Songhay	East	Kikara	kòròwàngá	rectum	He
Songhay	East	Gao	kore; kora	rear; <i>derrière</i>	He; Pr56
Songhay	West	Humburi Senni	ʔáŋkóráá	<i>hanche</i>	He
Songhay	West	Gao	nkoro	<i>fesses</i>	Pr

**Commentary:** Potential comparisons can also be found in Niger-Congo, e.g. Mende *ngótó* ‘buttocks’. Unlikely to be a French loan. Relatively limited Songhay attestations probably due to taboo, but reconstructible certainly for Eastern Songhay and probably for proto-Songhay. Heath relates it to the more widespread Songhay verb *\*kòkòrù* ‘be last’.

**Refs:** G. 133,134; N. 23;

6	hump				
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	zúzù	hump, hunch (person)	Cy94
Saharan	West	Kanuri	zúgùre	hump of camel	Lu37
Songhay	West	Zarma	zùnkú	<i>bosse</i>	BW94
Songhay	West	Gao			Pr

**Commentary:**

**Refs:** N. 42;

7	wing				
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	féfètò	wing	Cy94
Saharan	West	Kanembu			
Songhay	West	Timbuktu	fata	armpit, wing	He
Songhay	East	*Proto-East	*fátá	armpit, wing	
Songhay	East	Gao	fata	armpit, wing	He
Songhay	East	Zarma	fátá	<i>aile</i>	BW94
Songhay	East	Kaado	fátá	<i>aile, aisselle</i>	
Songhay	East	Niger Dendi	fátá	<i>aile, bras</i>	Tersis
Songhay	East	Djougou	fátá	wing, armpit	He
Songhay	East	Kandi	fátá	wing, armpit	He

**Commentary:** Securely reconstructible for Eastern Songhay, likely proto-Songhay. All Northern Songhay varieties use Berber loans for ‘wing’. The superficially similar Teda-Daza forms for ‘wing’ = ‘shoulder’ (Teda *āfəri* etc. - Ch254) also look like loans from Berber *afri*.

**Refs:** Gr. 147; N. 21;

## 4.1.2 Persons

8	#	man, male				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan	East	Sagato	baru	man		
Saharan	East	Beria	bòrǒ	<i>homme, mari</i>	JC04	
Songhay		* Proto-	*bòro	person		
Songhay	North	Kwarandzyey	ba	person, friend	So	
Songhay	North	Tadaksahak	borá		He	
Songhay	North	Tasawaq	bàró		Ko	
Songhay	West	Timbuktu	boro	person, native	He	
Songhay	East	Kikara	bòrò			
Songhay	East	Gao	boro	person, native African	He	
Songhay	East	Zarma	bòró	<i>personne</i>	BW94	
Songhay	East	Kaado	bòrò	<i>personne</i>	D-C	
Songhay	East	Niger Dendi	bòró		Tersis	
Songhay	East	Djougou	bòró	person	Zi94	
Songhay	East	Kandi	bòró	person	He	

**Commentary:** Securely reconstructible for proto-Songhay, with the non-gender-specific meaning “person” (although the tone of the final syllable is uncertain.)

**Ref:** Gr. 135, 143; B. 80; N. 11

9		madman				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Teda	ouli	<i>fou</i>	Le50	
Songhay	North	Kwarandzyey	həllu	carefree; hubristic	So	
Songhay	East	Humburi Senni	hóló	be crazy	He	

**Commentary:** Securely reconstructible for proto-Songhay.

**Refs:** N. 19;

10		friend, lover				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	kèrá-wómà	lover	Cy94	
Songhay		Humburi Senni	kérê	friend	He	

**Commentary:**

**Refs:** N. 23;

11		rule, ruler				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	mâi	chief, leader, king	Cy94	
Saharan	West	Daza	mɔgɔr	<i>maitre, propriétaire</i>	HW05	
Songhay		Zarma	mày	<i>être maitre de, régner sur</i>	BW94	
<b>Songhay</b>						

**Commentary:**

**Refs:** N. 22;

12		rule, ruler				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	kaká	grandparent	Cy94	
Saharan	West	Daza	kaga	grand-mère	HW05	
Songhay		Zarma	kàayi	grands-parents	BW94	
<b>Songhay</b>		<b>Humburi Senni</b>	<b>kààgè</b>	grandparent	<b>He</b>	

**Commentary:** Securely reconstructible at least for proto-Eastern Songhay, but too common in Africa and worldwide to be considered an index of genetic affiliation.

**Refs:** N. 23;

#### 4.1.3 Animals and plants

13		antelope				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan		Kanuri	ngórí	gazelle	Cy94	
Saharan		Daza	girafí	gazelle	HW05	
Songhay	North	Kwarandzyey			So	
Songhay	South	Zarma	džééri	<i>biche, gazelle, antilope</i>	BW94	

**Commentary:**

**Refs:** N. 33;

14		hyena				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan	East	Beria	ɔgɔrɔm	hyena	DF	
Saharan		Teda	zogor, zeger	hyène	Le50	
Songhay	North	Kwarandzyey	zɔnyu	jackal	So	
<b>Songhay</b>	<b>East</b>	<b>Humburi</b>	<b>zòŋò</b>	<b>Canis adustus</b>	<b>He</b>	
Songhay	East	Zarma	zòŋó	<i>chacal</i>	BW94	

**Commentary:** Nicolai (1984: 41) seems to be actively misleading on the semantics. The Beria citation is a good example of ‘moveable’ k- within Saharan. Securely reconstructible for proto-Songhay.

**Refs:** N 41;

15	Family	Subgroup	Language	Attestation	Gloss	Source
			frog			
	Koman		Anej	gɔ	frog	Be83
	Gumuz		Yaso	eeguda	frog	Ah04
	ES		Nara	gòò	frog	Ha00
	ES	Surmic	Kwegu	k'òndzu	frog	Yi01
	ES	Ama	Ama	gwɔ	frog	Be00
	ES	Tama	Ibiri	girg-it	frog	Ed91b
	Fur		Fur	gɔrɔŋ	frog	?
	CS		Birri	rɔngɔ	frog	Sa50
	Saharan	East	Beria	g'órgá	<i>grenouille</i>	JC04
	Saharan	East	Sagato	kaka	frog	Pe87
	Saharan	West	Kanuri	kókó	frog	Cy94
	Saharan	West	Daza	koko	<i>crapaud</i>	HW05
	Songhay	North	Tadaksahak	agúru	frog	He
	Songhay	South	Hombori	ʔàŋkòòr-ò	frog	He

**Commentary:** May contain an ideophonic element. Forms such as Temein *kwúðó?* are very similar to Hausa *kwaado*. Fur and Birri appear to be in a metathetic relationship. To judge by the Songhay, the *g-r* order is primary and Birri is thus the inverted form. [Like I said, the Tadaksahak form is a Berber loan, and the comparison is worthless for establishing affiliation anyway because – as you've said – it's found worldwide.]

**Ref:** N. 23;

16	Family	Subgroup	Language	Attestation	Gloss	Source
			crocodile			
	ES	Ama	Afitti	arəm	crocodile	Be00
	ES	Nubian	?	elim		
	CS		SBB	*màrà		Bo00
	Saharan	West	Kanuri	káram	crocodile	Cy94
	Saharan	West	Teda	káram	Krokodil	Ch.278
	Songhay	West	Timbuktu	kaarey	small crocodile sp.	He
	Songhay	East	Gao	kaarey	crocodile; small crocodile sp.	He
	Songhay	South	Zarma	kàarày	crocodile	BW94

**Commentary:** SBB seems to be a metathesised form of *(k)áram*, once the initial *k-* is lost. Ch.278 compares Chadic *\*kad-[ami]* 'crocodile' (St. 64.) The Teda form is probably a Kanuri loan, as an alternative word *ádi* for "crocodile" is also attested (Ch.278.) There are no Eastern Saharan or Northern Songhay attestations, in both cases probably for lack of local crocodiles.

**Ref:**

17		bird			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	tàrfō	<i>oiseau</i>	JC04
Saharan	East	Bideyat	terbo	<i>oiseau</i>	Ch.276
Saharan	West	Daza	ɔfɔri	<i>oiseau</i>	HW05
Songhay		* Proto-	* kídòw	bird	
Songhay	North	Kwarandzyey	tsiruw	bird	So
Songhay	North	Tadaksahak	cídaw	<i>oiseau</i>	He
Songhay	South	Hombori	cír-ò	bird	He
Songhay	East	Kikara	kírò	bird	He
Songhay	East	Kaado	círôw	bird	D-C
Songhay	East	Niger Dendi	círò	bird	He, Tersis
Songhay	East	Djougou	círò	bird	He, Zi
Songhay	East	Kandi	círò	bird	He

**Commentary:** The Saharan forms seem to derive from something like #-aburi, prefixed by t- in Eastern and k- in Western; to relate the Songhay forms to the Saharan ones, one would have to posit a history involving at least two metatheses and lenition of the labial.

**Refs:** B. ; N. 24;

18		fly mosquito			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Daza	tɛgi	<i>moustique</i>	HW05
Saharan	West	Teda	ndegi	<i>moustique</i>	Le50
Songhay		*Proto-	*(n)děŋ	scorpion, mosquito	
Songhay	North	Emghedesie	daí	scorpion	Ba
Songhay	West	Timbuktu	dontor, ndontor	scorpion	He
Songhay	East	KS	nden;	mosquito;	He
			(n)donton	scorpion	
Songhay	East	Kikara	děŋ	scorpion; mosquito	He
Songhay	East	Hombori	?àndèng-ò	scorpion	He
Songhay	East	Zarma	dǎŋ	scorpion	

**Commentary:** The gap between the two Songhay senses is bridged by the Kikara case. Many animal names in Songhay, as in Mande, take a prefix *n-* (Hombori ?àñ-), whose presence is variable; the Songhay root is therefore to be reconstructed as \*(n)děŋ with an optional prefix. The presence of the nasal in Teda might be morphological evidence for a link with Saharan. The Emghedesie form is probably cognate (Barth's transcriptions are somewhat imperfect), in which case this root is proto-Songhay; other Northern Songhay languages use loans. The Timbuktu and Gao forms for "scorpion" might be derived from a compound starting with the same root. The Timbuktu form for "mosquito" is *tarasu/(n)terasu*. Within Saharan this form is attested only in Teda-Daza (Ch.281.)

**Refs:** B. 16x; N. 39;

19	mason wasp (generic)				
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Teda	bimbini	<i>guêpe maçonne</i>	Le50
Saharan	West	Daza	ɛbibr	<i>guêpe</i>	HW05
Songhay	West	Timbuktu	bimbim	<i>guêpe</i>	H-D
Songhay	East	*Proto-East	bímbín(i)		
Songhay	East	Gao	bimbin	paper wasp	He
Songhay	South	Hombori	bímbínò	<i>guêpe maçonne</i>	He
Songhay	South	Zarma	bímbíní	<i>guêpe maçonne</i>	BW94

**Commentary:** Perhaps multiply borrowed via Hausa? An onomatopoeic element is likely, but given the variety of onomatopoeia possible for “buzzing”, the similarity cannot be explained by onomatopoeia alone.

**Refs:** B. 80; N. 14;

20	spider				
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Teda	totou	spider	Le50
Saharan	West	Kanuri	tautáu	spider	Cy94
Songhay	South	Zarma	dàdààrà	<i>araignée</i>	BW94

**Commentary:**

**Refs:** N. 36;

21	bark (tree)				
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	kàskâfî	bark; scale	Cy94
Saharan	West	Teda	kuší	kopa	Ch.242
Songhay	South	Gao	kokoši	scale (of fish)	CHECK
Songhay		Djougou	kó:sú	strip bark from	He
Songhay		Kandi	kó:sú	strip bark from	He

**Commentary:** Semitic comparisons come to mind, but appear unlikely, since no appropriate Arabic source exists. Within Songhay this is not widely attested.

**Refs:** Greenberg

22	melon				
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	gunogunó	white melon	Cy94
Saharan	West				Ch.242
Songhay	South	?	gónéy	melon sp.	CHECK
Songhay					He
Songhay					He

**Commentary:** Also Hausa *guna*. As this applies partly to wild melons of the Sahelian zone, it may well be pre-agricultural.

**Refs:** N. 35;



		baobab <sup>2</sup>			
Family	Subgroup	Language	Attestation	Source	
ES	Nilotic	Nuer	kusha	Andrews (1953)	
Saharan	West	Kanuri	kúwà	Cy94	
Songhay	West	Timbuktu	koo	He	
Songhay	East	Gao	koo	He	
Songhay	East	Kaado	kò pl. kòà	DC78	
Songhay	East	Dendi	kòò	Bu85	

**Commentary:** The Nilotic form may not be connected.

**Refs:** Gr. 135; B.

#### 4.1.4 Natural world

		moon				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	kám̀bàl	moon	Cy94	
Saharan	West	Kanembu	k̀̀ndà́s	<i>lune</i>		
Songhay	South	Zarma	hàndú	<i>lune</i>	BW94	

**Commentary:** The Kanembu form has lost a velar (Classical *k̀̀ntagə*) [cite, check], making the similarity less striking.

**Ref:** W. 276; M. 428a; Gr:85; P. 41; N. 17

		plain				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Teda	forao	<i>plaine</i>	Le50	
Songhay		Timbuktu	foru	<i>plaine</i>	??	
Songhay						

**Commentary:**

**Refs:** N. 20;

		place				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	nà	place, position	Cy94	
Songhay		Zarma	ně	<i>ici, voici</i>	BW94	
Songhay						

**Commentary:**

<sup>2</sup> *Adansonia digitata*

Refs: N. 44;

27		ashes			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	sòbū	<i>cendres</i>	JC04
Saharan	West	Kanuri	bú; búgu	ashes	Cy94; Ch.233
Songhay		* Proto-	bó:sú		
Songhay	North	Tadaksahak	boofí	ashes	He
Songhay	North	Kwarandzye	ɓazu	ashes	So
		y			
Songhay	North	Tasawaq	ɓóóšó	ashes	Ko
Songhay	West	Timbuktu	boosi	ashes	He
Songhay	East	Kikara	bó:sú	ashes	He
Songhay	East	Gao	boosu	ashes	He
Songhay	East	Hombori	bó:s-ó	ashes	He
Songhay	East	Zarma	bóósú	<i>cendres</i>	BW94
Songhay	East	Niger Dendi	bóósú	<i>cendres</i>	Tersis
Songhay	East	Djougou	bó:só	ashes	He
Songhay	East	Kandi	bó:sú	ashes	He

**Commentary:** Unless compare Ik *bú* ‘dust’. Securely reconstructible for proto-Songhay; trivial correspondences (including tone) except for the final vowel. (The medial correspondence of *\*s* to Kwarandzyey *z* needs further work, but is not isolated.) The sporadic instances where it has become *-o* are doubly motivated – by the first vowel, and by the Eastern Songhay definite article suffix *-o*. The form with final *-i* is limited to NW Songhay, whereas the form with *-u* is attested in every branch; therefore *-u* is the most probable reconstruction, with *-i* regarded as sporadic dissimilation. The comparison with Beria is perfect, assuming metathesis, but Kanuri does not support the *s*.

Refs: B. 158;

28		mountain, hill			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Teda	ontu	<i>colline</i>	Le50
Saharan	West	Teda	tu	<i>pierre</i>	Le50
<b>Songhay</b>		<b>* Proto-</b>	<b>tóndi</b>	<b>stone, mountain</b>	
Songhay	North	Tadaksahak	tóndi	mountain, stone	Ch
Songhay	North	Kwarandzyey	tsəndzu	stone	LS
Songhay	North	Tasawaq	tánzi	<i>pierre</i>	Ko
Songhay	West	Timbuktu	tondi	rock, stone; stony ridge, cliff	He
Songhay	East	Kikara	tóndi	stone; rock, stone cliff, mountain	He
<b>Songhay</b>	East	<b>Gao</b>	<b>tondi</b>	<b>rock, stone, stony ridge, cliff</b>	<b>He</b>
Songhay	South	Hombori	tónd-ó	stone, stone hill, mountain	He
Songhay	South	Zarma	tóndi	<i>pierre, rocher</i>	BW94
Songhay	South	Kaado	tóndi	<i>pierre, caillou, montagne</i>	D&C
Songhay	South	Niger Dendi	tóndi	<i>pierre</i>	Tersis
Songhay	South	Djougou	tónní (tónní)	<i>pierre; roc, roche, rocher</i>	Zi94 (He)
Songhay	South	Kandi	tónni	stone	He

**Commentary:** Securely reconstructible for proto-Songhay; only the Kwarandzyey final vowel and the (uncertain) tones in Djougou are irregular. (The *a* in Tasawaq reflects a regular lowering of mid vowels in closed syllables, and *-nd-* > *-nn-* is regular in Djougou and Kandi.) Only the meaning “stone” is universal within Songhay, but the polysemy “(stone) mountain” is found in all branches. More Saharan attestations would be desirable. Also in Niger-Congo and in Hausa *tudu*. Teda *ontu* is treated as metathesis of proto-Songhay *\*tondi*.

**Refs:** B. ;

#### 4.1.5 Artefacts

29		hut			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Sagato	bé	house	Pe87
Saharan		Bideyat	bè	<i>case</i>	Ch.288
Saharan		Beria	be	дом	Ch.288
Saharan		Teda	bō	<i>Haus</i>	Ch.288
Saharan		Daza	boŋo	<i>maison avec toit en paille</i>	HW05
Saharan		Kanuri	pā, pātō	<i>Gehöft</i>	Ch.288
Songhay	West	Timbuktu	bugu	thatch hut	He
Songhay	East	<b>* Proto-East</b>	<b>*bùgù</b>	thatch hut	
Songhay	South	Hombori	bùg-ò	thatch hut	He
Songhay	South	Gao	bugu	hut; <i>case en paille</i>	He; Pr56
Songhay	South	Dendi	bùgù	<i>cabane, hutte, chambre</i>	Zi94
Songhay	South	Zarma	bómbù	<i>case au toit de paille</i>	BW94
Songhay	South	Kaado	bómbi	<i>case (moitié paille, moitié banco)</i>	D-C

**Commentary:** Discussed in Kossmann (2005b: 135). The Songhay form *\*bùgù* is clearly connected to Mande (Vydrine ined. claims *\*bùgù* is proto-Mande), but the direction of borrowing is arguable. Zarma and Kaado share a form *bómbù/î*, isolated within Songhay but possibly deriving from some compound of this term. Hausa *bukkàa* has been borrowed into Zarma as *búkkà*, and into Tuareg as *əbuk*, suggesting an originally consonant-final variant. The correspondence Kanuri *f* (*p*) = other Saharan *b* is regular; Ch.217

collects a number of examples including this one. The Saharan form appears less straightforwardly connected to Songhay than the Hausa and Mande examples.

Refs: B. 16x;

30		toilet				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	sálgá		toilet	Cy94
Songhay	East	Zarma	sálángá			BW94

Commentary: Suspiciously similar and perhaps a parallel borrowing?

Refs: N. 41;

31		basket				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Teda	ʃelli		panier	Le50
Saharan	East	Berti	eri		basket	Ch.287
Saharan	West	Kanuri	cáli	donkey panniers of open rope	network	Ch.287
Songhay	West	Timbuktu	killá		corbeille	H-D (not in He)
Songhay	East	Zarma	cillá		corbeille, panier	BW94
Songhay	East	Kaado	cilá		corbeille, panier	DC
Songhay	East	Niger Dendi	cillá	panier (feuilles de palme)		Tersis
Songhay	East	Djougou	tyíilá		panier, corbeille	Zi94

Commentary: Also in Hausa (*killā* “the basket called *lefè*” - Bargery.) While these forms bring to mind Maghrebi Arabic *salla* < Classical *sall-at-* “basket sp.”, there is no obvious reason why Arabic *s* should be reflected in either family as *c*, let alone *k*. The Berti form corresponds to the other Saharan ones if this is moveable *k*-. Semantically this would be an interesting candidate for a trade route related loan.

Refs: B. ;

32		needle				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Teda	asono, aseno	<i>poinçon</i>	Le50	
Songhay	East	Zarma	sáná	<i>aiguille</i>	BW94	

Commentary:

Refs: N. 39;

## 4.1.6 Abstracts

33		thirsty			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Teda	gwi, gwe	<i>soif</i>	Le50
Saharan		Daza	go	<i>soif</i>	HW05
Saharan		Kanembu	ngúdu	thirst	Ch.282
Saharan		Zaghawa	urrga	thirst	Ch.282
Songhay	East	*Proto-East	*gèw	thirst	
Songhay	East	Gao	jow	thirst	He
Songhay	East	Kikara	gêw (v.) gèw (n.)	thirst	He
Songhay	East	Hombori	jèw, jòw	thirst	He
Songhay	East	Zarma	ɖàw	<i>avoir soif</i>	BW94
Songhay	East	Kaado	jèw	<i>avoir soif</i>	D&C
Songhay	East	Niger Dendi	jàò	<i>soif</i>	Tersis
Songhay	East	Djougou	zèw	thirst	He
Songhay	East	Kandi	jò:	thirst	He

**Commentary:** Greenberg (1963: 146) cites a single language Kresh *goggayo* as evidence for a wider Nilo-Saharan root. This is regarded here as a lookalike. Family-internally reconstructible for Eastern Songhay only; Northwestern Songhay instead uses a Berber loan \*faad(u). The Djougou reflex with *z* is irregular.

**Refs:** Gr. 146;

34		year			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Zaghawa	gé	rainy season	Ch.228
Saharan	East	Bideyat	gè	<i>année; pluie</i>	Ch.228
Saharan	East	Berti	gi	rainy season	Ch.228
Saharan	West	Kanembu	ngélí	год	Ch.228
Saharan	West	Kanuri	ngélí	year	Cy94
Saharan	West	Teda	jele	<i>année</i>	Le50
Saharan	West	Daza	ɲele	<i>année</i>	Le50
Songhay		*Proto-S	*gí:ri	year	
Songhay	North	Kwarandzyey	giri	year	So
Songhay	North	Tagdal	zi:'ri	an, année	R&C
Songhay	North	Tasawaq	gí:ri	an, âge	Ko
Songhay	West	Timbuktu	jiiri	year	He
Songhay	East	Kikara	gí:ri	year	He
Songhay	East	Gao	jiiri	year	He
Songhay	East	Hombori	jír-ó	year	He
Songhay	East	Zarma	jí:ri	<i>année</i>	BW94
Songhay	East	Niger Dendi	jí:ri	<i>année</i>	Tersis
Songhay	East	Djougou	jí:ri	<i>année</i>	He
Songhay	East	Kandi	gí:ri	<i>année</i>	He

**Commentary:** Greenberg (1963: 147) also cites Koman Madin *kwoli* as part of this etymon but this is so remote and isolated and is here treated as a chance resemblance. This word is securely reconstructible for proto-Songhay, but the short vowel in Hombori and Kikara is irregular. Within Saharan, possible Eastern

cognates mean “rain” or “rainy season”. The correspondence of Kanuri *ng-* to Zaghawa/Berti *g* is regular, and may be reconstructed as \**ng* (Ch203).

Refs: Gr. 147;

35		last year			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Manga Kanuri	méndé	last year	Jarrett
Songhay		* Proto-	*mán(n)à	year	
Songhay	North	Kwarandzyey	mə̀nna	last year	So
Songhay	West	Timbuktu	manna	last year	He
Songhay	East	Kikara	mánà	year	He
Songhay	East	Gao	manna	last year	He
Songhay	East	Hombori	mánnà	last year	He
Songhay	East	Zarma	mánnàŋ	<i>année passée</i>	BW94
Songhay	East	Niger Dendi	mánàn	<i>année passée</i>	Tersis
Songhay	East	Djougou	mánàm	last year	He
Songhay	East	Kandi	màrà̀m	last year	He

**Commentary:** The sporadic final nasal in the Songhay forms is probably secondary, arising due to nasalisation of the vowel under the influence of the preceding nasal. While the Songhay form is not segmentable, the Kanuri form show partial similarity to other potentially related forms within the language: cp. Manga *mìnnà* “next year”, *méndé* “before, formerly”.

Refs:

36		yesterday			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	bíská	yesterday	Cy94
Songhay		* Proto-Songhay	*bĩ:	yesterday	LS
Songhay	North	Kwarandzyey	binuw	yesterday	So
Songhay	North	Tadaksahak	bí	yesterday	He
Songhay	North		bí	yesterday	Ko
Songhay	West	Timbuktu	bii	yesterday	He
Songhay	East	Kikara	bĩ:	yesterday	He
Songhay	East	Gao	bii	yesterday	He
Songhay	East	Hombori	bĩ:	yesterday	He
Songhay	East	Zarma	bĩ	<i>hier</i>	BW94
Songhay	East	Kaado	bĩ	<i>hier</i>	DC
Songhay	East	Niger Dendi	bĩ	<i>hier</i>	Te
Songhay	East	Djougou	bĩ:	yesterday	He
Songhay	East	Kandi	bĩ:	yesterday	He

**Commentary:**

Refs:

37		obligation			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	dólè	obligation	Cy94
Songhay					
<b>Songhay</b>	<b>East</b>	<b>Gao</b>	<b>dóólè</b>	<b>obligation</b>	<b>He</b>
Songhay	East	Zarma			BW94

**Commentary:**

Refs: N. 36

38		pride			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri			Cy94
Songhay		Teda	oro	<i>orgueil</i>	Le50
<b>Songhay</b>	<b>East</b>	<b>Gao</b>			<b>He</b>
Songhay	East	Zarma			BW94
			orofu	<i>orgueilleux</i>	

**Commentary: Cannot confirm N. citation**

Refs: N. 48

**4.2 Pronouns**

39		#ai		I, me	
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	áī	<i>je, moi</i>	JC04
Songhay	South	Hombori	ây, ey		He
Songhay	South	Zarma	áy	<i>je, moi</i>	BW94

**Commentary:** Widely attested throughout Nilo-Saharan, so only Saharan-Songhay cognates are given here. Such forms are never found in neighbouring Niger-Congo and Afroasiatic languages, so this is one of the best Nilo-Saharan isoglosses.

**Ref:**

40		you sg., thou			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	ñi	you	Cy94
Songhay	South	Zarma	ní	<i>tu, toi</i>	BW94

**Commentary:****Ref:**

## 4.3 Verbs

		be somewhere			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	go	<i>is</i>	CHECK
Songhay					
<b>Songhay</b>	<b>East</b>	<b>Gao</b>			<b>He</b>
Songhay	East	Zarma	gõ	<i>etre [localisation]</i>	BW94

**Commentary:**

Refs: N. 34

		#la[R]i		buy, sell	
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	lâdè-kin	sell	Cy94
Songhay	East	Zarma	dây	<i>acheter</i>	BW94
Songhay	North	Tadaksahak	dáy	buy	He
Songhay	South	Kaado	dèi	buy	DC

**Commentary:** ‘buy’ and ‘sell’ are often the same word in languages of Sub-Saharan Africa, but it is possible that they were distinct in Songhay-Saharan.

Refs: N. 44

		#la[R]i		buy, sell	
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	nà	<i>acheter, vendre</i>	JC04
Songhay	East	Zarma	néerà	<i>vendre</i>	BW94

**Commentary:** See previous entry.

Refs: N. 44

		walk, go			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	der-gì	part, to leave s.o. somewhere	DF
Saharan	West	Daza	dero, tero	<i>aller</i>	Le50
Saharan		Kanembu	lèdá	???	CHECK
<b>Songhay</b>	<b>East</b>	<b>Gao</b>			
Songhay	East	Zarma	dirà	<i>marcher</i>	BW94

**Commentary:**

Refs: N. 37



		finish, complete			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Beria	tók-nì	finish	JC04
Saharan		Teda	tomonar	<i>terminer</i>	Le50
Songhay	East	Zarma	tímmè	<i>être complet, avoir le compte</i>	BW94

**Commentary:** The Songhay form is a probable Arabic loan (*tamm-* pf., *-timm-* impf. “finish, complete”).

**Refs:** N. 35

		put, place			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Beria	tén	<i>placer</i>	JC04
Saharan		Teda	duner, donar	<i>mettre, placer</i>	Le50
Songhay	East	Gao			He
Songhay	East	Zarma	dàŋ	<i>mettre</i>	BW94

**Commentary:**

**Refs:** N. 39

		pound			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Beria	sòŋì	<i>piler</i>	JC04
Saharan		Daza	tor	<i>piler</i>	Le50
Songhay	East	Gao			He
Songhay	East	Zarma	dúru	<i>piler</i>	BW94

**Commentary:** Songhay is from \*dud, making this less compelling; similar forms are also found in Mande.

**Refs:** N. 37

		stay quiet			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Beria			JC04
Saharan		Daza	dɨŋer	<i>se taire</i>	Le50
Songhay	East	Gao			He
Songhay	East	Zarma	dángáy	<i>se taire</i>	BW94

**Commentary:**

**Refs:** N. 37

49		send			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Teda	nudar	<i>envoyer</i>	Le50
Saharan		Daza	tɔnɔ-ri	<i>envoyer</i>	HW05
Saharan		Kanuri	nót-əkin	send, commission	
Songhay	East	Zarma	dǒntòn	<i>envoyer</i>	BW94

**Commentary:** The Songhay forms are treated as metathesis of West Saharan, although Daza appears to have a directly cognate form.

**Refs:** N. 38

50		pour, flow			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Daza	lolodi	<i>verser</i>	HW05
Songhay					
<b>Songhay</b>	<b>East</b>	<b>Gao</b>	<b>loti</b>	<b>drop</b>	<b>He</b>
Songhay	East	Zarma	lótí	<i>couler</i>	BW94

**Commentary:** Limited to Eastern Songhay within Songhay [check Emghedesie].

**Refs:** B. 16x;

51		blow on			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Teda	funar	<i>je gonfle</i>	Le50
Songhay		Timbuktu	fùnsú	<i>souffler sur q.c.</i>	BK94
<b>Songhay</b>					

**Commentary:**

**Refs:** N. 20;

52		to farm			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Daza	béré	<i>labour</i>	HW05
Saharan		Kanuri	báre	farming, hoeing	Cy94
<b>Songhay</b>	<b>East</b>	<b>Gao</b>	<b>beerí</b>	<b>work in rice field (slashing away weeds); labor in fields</b>	<b>He</b>
Songhay	<b>East</b>	Zarma	béerí	<i>piocher</i>	BW94

**Commentary:** Bender includes this in a much larger semantic set which is elsewhere ‘make, do create’. There is no evidence for such a semantic conjunction and this is better treated as evidence for the Songhay-Saharan subgroup. Limited within Songhay to Eastern Songhay. Similar forms with *f* rather than *b* are more widespread, found in Mande, Gur, and Western as well as Eastern Songhay.

**Ref:** B. 77; N. 13;

53	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Kanuri	kas-	pull	Cy94
	Saharan		Daza	kassi	<i>tirer</i>	HW05
	<b>Songhay</b>	<b>East</b>	<b>Gao</b>	kukusu, kurnu, kursu	<b>drag on ground</b>	<b>He</b>
	Songhay		Zarma	kùrsú	<i>tirer en trainant</i>	BW94
	Songhay		Hombori	kùgùsù	pull, drag	He

**Commentary:** Apparently limited to Eastern Songhay.

**Refs:** B. 169;

54	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Kanuri	kólí-ngin	fold (paper)	Cy94
	Saharan		Daza	kòrɪdɪ	<i>entourer, cercler</i>	HW05
	Songhay		Zarma	kólí	<i>croiser, replier, enlacer</i>	BW94

**Commentary:**

**Refs:** N. 22;

55	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Kanuri	círìn	cry (v.i.)	Cy94
	Saharan		Daza	còrrò	<i>cri</i>	HW05
	Songhay		Zarma	cílílí	<i>acclamer</i>	BW94

**Commentary:** The Songhay form's best-attested meaning is “ululate”.

**Refs:** N. 25;

56	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Kanuri	kəm-	shut	Cy94
	<b>Songhay</b>		<b>Timbuktu</b>	<b>gum</b>	<b>cover, put lid or roof on; roof; turn over; pile up</b>	<b>He</b>
	<b>Songhay</b>		<b>Gao</b>	<b>gum</b>	<b>cover, enclose; invert, flip over, turn around; attack, raid</b>	<b>He</b>
	Songhay		Zarma	gûm	<i>renverser, retourner</i>	BW94

**Commentary:**

**Refs:** B. 169;

57		ask			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Teda	henar	<i>demandeur</i>	Le50
Songhay		* Proto-	*há~	ask	
Songhay	North	Kwarandzyey	ha	ask	So
Songhay	West	Timbuktu	hãã	ask	He
Songhay	East	Kikara	há:~	ask	He
Songhay	East	Gao	hãã	ask	He
Songhay	East	Zarma	hã	<i>interroger</i>	BW94
Songhay	East	Kaado	há~		D&C

**Commentary:** This can be reconstructed reliably for proto-Songhay. The match is semantically and phonetically almost perfect, but is also rather short.

**Refs:** Gr. 134;

58		hate			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	wán-		hate
Songhay		Timbuktu	wan̄gu		war, combat; refuse
Songhay		Gao	wan̄gu	war; war party; be a true warrior	He
Songhay		Gao	winj̄i, won̄ji, wan̄ji		refuse
Songhay		Gao	won̄ga		decline (sth)

**Commentary:** “War” and “decline, refuse” reflect two distinct Proto-Songhay stems, but an earlier relationship between them is not impossible.

**Refs:** B. 16x;

59		stay, live			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		NOT CONFIRMED	hai	?	
Songhay		Timbuktu	key	stop; stand	He
Songhay		Gao	key	stop; stand	
Songhay		Zarma	kây	<i>être debout</i>	BW94

**Commentary:** [hai “live” could be an Arabic loan]

**Refs:** B. 16x;

60		bring			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	kór	<i>amener, apporter</i>	JC04
Saharan	West	Daza	kuruu	<i>emmener</i>	HW05
Saharan	West	Kanuri	kúdə-	bring	Cy94
Songhay		* Proto-	*kàte	bring	
Songhay	North	Kwarandzyey	-tsi	(ventive)	So
Songhay	North	Tadaksahak	-kat	(ventive)	CHECK
Songhay	North	Tasawaq	-kàt, -kàté	(ventive)	Ko
Songhay	West	Timbuktu	kate;	bring;	He
			-kate	(ventive)	
Songhay	East	Gao	kata, kate;	bring;	He
			-kate	(ventive)	
Songhay	East	Hombori	kàtè	bring	He
Songhay	East	Zarma	kàté	<i>apporter</i>	BW94
Songhay	East	Kaado	kàté	<i>apporter</i>	D&C

**Commentary:** The full verb “bring” seems to be the source for the ventive suffix found mainly in Northwestern Songhay, which therefore allows us to reconstruct *kàte* “bring” for proto-Songhay (with uncertain tone on the second syllable.)

**Refs:** Gr. 135;

61		sing, song			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Daza	doon	<i>chanson</i>	HW05
Songhay		Timbuktu	doon	sing; song	He
Songhay		Gao	don	sing	He
Songhay		Gao	dooni	song	He
Songhay		Zarma	dòònù	<i>chanter</i>	BW94

**Commentary:**

**Refs:** Gr. 145; N. 38;

62		taste			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	tăm	<i>gout</i>	JC04
Saharan	West	Kanuri	tambo	taste	Cy94
Saharan	West	Daza	tam-mi	<i>gouter</i>	HW05
Songhay		Kwarandzyey	ṭəb (ṭəb-)	taste	So
Songhay		Zarma	tâbâ	<i>gouter</i>	BW94
Songhay		Gao	taba	<i>gouter</i>	Pr56

**Commentary:** Greenberg (1963: 146) cites a single language Dinka *thyep* as evidence for a wider Nilo-Saharan root. This is regarded here as a lookalike. Kossmann (2005b: 129) discusses this root as there are cognates in Hausa (*tambè*) and Berber (Tuareg *témbé*). The Tuareg forms appear to be related to a Berber root \**āmdəy* ‘to taste’. Given the embedding of this word in Saharan, borrowings from Berber seem highly unlikely. It is therefore suggested that Songhay and Saharan are cognate as part of a genetic connection and that both Hausa and Tuareg are borrowings from these languages. [no, Tuareg would have to be a coincidence, because \**āmdəy* is indeed proto-Berber, and the change *mḍ* > *mb* is regular and limited to Tuareg.]

**Refs:** Gr. 146; N. 36;

63		vomit				
Family	Subgroup	Language	Attestation		Gloss	Source
Saharan		Teda	yarake		<i>vomir</i>	Le50
Songhay		Timbuktu	yeer		<i>vomit</i>	He
Songhay		Gao	yeeri	vomit; nausea; bring back		He
Songhay		Zarma	yééri		<i>vomir</i>	BW94

**Commentary:** Greenberg (1963: 146) cites a single language Kresh *yedde* as evidence for a wider Nilo-Saharan root. This is regarded here as a lookalike.

**Refs:** Gr. 146; N. 45;

64		open				
Family	Subgroup	Language	Attestation		Gloss	Source
Saharan		Kanuri		fə́ém-	open	Cy94
Saharan		Daza		fir-tí	<i>enlever</i>	HW05
Songhay		Kwarandzyey	fya (fyar- with 3sg/pl pronoun)		open, untie	So
Songhay		Zarma		fééri	<i>détacher, dénouer</i>	BW94

**Commentary:** Reconstructible for proto-Songhay.

**Ref:** Gr. 143; N. 20;

65		sick				
Group	Subgroup	Language	Attestation	Gloss		Source
Saharan			wərkiti			
Songha		Daza	wojǐ	<i>malade</i>		HW05
y		NOT	wirci			
y		CONFIRMED				

Commentary: [very nice]

**Refs:** B. ;

66		descend, dive				
Group	Subgroup	Language	Attestation	Gloss		Source
Saharan		Kanuri	zəm-	descend		Cy94
Songhay		Kwarandzyey	zəmbu	descend		So
Songhay		Zarma	zùmbú	<i>descendre de</i>		BW94

**Commentary:** Reconstructible for proto-Songhay.

**Refs:** B. 161; N. 41;

67		split, tear			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	fál-ngin	break open	Cy94
Songhay		Teda	fardar, farci	<i>déchirer</i>	Le50
Songhay		Zarma	fára	<i>fendre</i>	BW94

**Commentary:**

**Refs:** B. 161; N. 20;

68		cheat, trick			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	zàmbá	cheat, trick	Cy94
Songhay		Teda			Le50
Songhay		Zarma	zàmbá	<i>tromper, trahir, tricher</i>	BW94

**Commentary:** This looks like it might be a loanword, but source? The forms are too close

**Refs:** N. 42;

69		steal			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanembu	jáyá	steal	???
Saharan		Teda			Le50
Songhay		Kwarandzyey	zəy (zay-)	steal	So
Songhay		Zarma	zày	<i>voler</i>	BW94

**Commentary:** I can't find Nicolai's Kanembu form in any source. Reconstructible for proto-Songhay.

**Refs:** N. 42;

70		say			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanembu			???
Songhay		Teda	nar	<i>dire</i>	Le50
Songhay		Zarma	nê	<i>dire</i>	BW94

**Commentary:** N gives Kanembu nari 'conte, recit' I can't find this

**Refs:** N. 44;

71		run, go out			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Beria	sór-	<i>sortir</i>	JC04
Songhay	West	Kanuri	sulúyin	go out	Cy94
Songhay		Zarma	zùrú	<i>courir</i>	BW94
Songhay		Tadaksahak	zùrú	<i>courir</i>	He

**Commentary:** [semantics?]

**Refs:** B. 161;

72		stab split			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	zán-	stab	Cy94
Songhay		Zarma	zánjí	<i>ébrécher</i> [chip, nick object]	BW94

**Commentary:**

**Refs:** B. 162;

#### 4.4 Adjectives, prepositions etc.

73		dry			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Sagato	kios, kuyás	dry	Pe87
Saharan		Beria	kooa	dry	Mc12
Songhay	South	Zarma	kóógú	<i>être sec</i>	BW94
Songhay	South	Gao	kogu	<i>sécher</i>	Pr56

**Commentary:** [also similar forms in Mande]

**Refs:** Gr. 137;

74		strong			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Teda	girbi	<i>fort</i>	Le50
Songhay		Kwarandzyey	gəb, attr. gab-uw	tough, difficult	So
Songhay	South	Zarma	gáábù	<i>être fort</i>	BW94
Songhay	South	Gao			Pr56

**Commentary:** Reconstructible for proto-Songhay.

**Refs:** N. 34;



		[be] heavy			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan		Beria	tèi	<i>lourd</i>	JC04
Saharan		Kanuri	tegi	?	CHECK
Saharan		Teda	tikedee	<i>lourd</i>	Le50
Songhay		Kwarandzy	tsən (attr. tsənn-uw)	heavy	So
Songhay	South	Zarma	tîn	<i>être lourd</i>	BW94
Songhay	South	Gao			Pr56

**Commentary:** Reconstructible for proto-Songhay,

**Refs:** N. 34;

		weak			
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	lågə	weak	Cy94
Saharan		Daza	lagu	<i>lâche</i>	HW05
Songhay		Hombori	lågàré; lågàr-ànt-ò	do poorly; (ptcpl) in poor shape	He
Songhay		Zarma	lákaw	<i>être flétri, ramolli</i>	BW94

**Commentary:** The two Songhay forms here are not directly connected to one another, and neither of them has a wide distribution (absent even from Timbuktu and Gao, let alone Northern.) However, sound-meaning correspondences are good.

**Refs:** B. ;

		be bitter			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	kúttu	bitter	Cy94
Songhay	North	Kwarandzyey	həɾɾuw	bitter	So
Songhay	South	Hombori	hóttó	bitter	He
Songhay	South	Dendi	hòrtú	<i>amer</i>	Zi

**Commentary:** Reconstructible for proto-Songhay, although there are some irregularities in reflexes of the medial cluster.

**Refs:** Gr. 135; B. 169;

		small			
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	gana-njîn	become small	Cy94
Saharan	West	Teda	kinni	<i>petit, peu</i>	Le50
Songhay	South	Zarma	káyná	<i>être petit</i>	BW94
Songhay	South	Gao			Pr56

**Commentary:** Reconstructible for proto-Songhay.

**Refs:** N. 23;

79		old				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	dîn	old, used	Cy94	
Songhay	North	Kwarandzyey	zən, attr. zin-uw	old	So	
Songhay	South	Zarma	zéénú	<i>être vieux, usé</i>	BW94	
Songhay	South	Gao			Pr56	

**Commentary:** Reconstructible for proto-Songhay.

**Refs:** N. 42;

80		under				
Family	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	cídíyà	under	Cy94	
Saharan	West	Teda	cire	<i>derrière</i>	Le50	
Songhay	North	Kwarandzyey	tsiri	under	So	
Songhay	South	Zarma	ciré	<i>dessous</i>	BW94	
Songhay	South	Gao			Pr56	

**Commentary:** The Proto-Songhay form starts with a *k*-.

**Refs:** N. 24;

#### 4.5 Numerals

81		one				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan	West	Kanuri	fál	one	Cy94	
Songhay	North	Kwarandzyey	-fu	one	So	
Songhay		Zarma	fò	un	BW94	
Songhay		Zarma	fóllónj	<i>un seul</i>	BW94	

**Commentary:** Unambiguously reconstructible for Proto-Songhay, but very limited distribution not just in Saharan but even language-internally within Kanuri; on the face of it this looks like a loan from Songhay into Kanuri, although it's difficult to imagine a numeral like “one” being borrowed without other numeral borrowings.

**Refs:** N. 21;

82		five				
Group	Subgroup	Language	Attestation	Gloss	Source	
Saharan		Beria	hóī	five	JC04	
Saharan	West	Kanuri	úwu	five	Cy94	
<b>Saharan</b>	<b>West</b>	<b>Kanuri</b>	<b>úgù</b>	<b>five</b>	<b>Lu37</b>	
Saharan	West	Daza	fówɔ	five	HW05	
Songhay	South	Hombori	gú	five	He	
Songhay		Zarma	gú	five	BW94	

**Commentary:** Securely reconstructible for Eastern Songhay, and probably Songhay; found in Western, replaced in Northern by loans from Arabic and Berber. With the possible exception of Kanuri, the Saharan

forms appear to reflect an initial bilabial; only Kanuri supports a medial -g-. The shortness of this word makes comparison difficult. The older Kanuri in Lukas (1937) still recorded medial -g- but modern Yerwa Kanuri has weakened this to -w-.

**Refs:** B. 16x; N. 47;

In addition there are shared items which are more widely attested in Nilo-Saharan. These include;

83	#kaN-	thorn			
Family	Subgroup	Language	Attestation	Gloss	Source
Shabo		Shabo	kuku	thorn	Jo07
Koman		Anej	aak		
Koman		Twampa	káakà	sharp	
ES		Nara	keer	thorn	Ab99
ES		*PN	*ku-kua		
CS		Asua	kòki	<i>épinés</i>	De
CS		Na	kōnō	<i>épine</i>	Bo00
Saharan	West	Teda	alé, ele	<i>Dorn</i>	Ch.241
Saharan	West	Kanuri	kalgî	thorn	Cy94
Songhay		* Proto-	* kárgí	thorn	
Songhay	North	Kwarandzyey	kərgi	thorn	So
Songhay	North	Tadaksahak	karjí	thorn	He
Songhay	North	Tasawaq	kárgì		Ko
Songhay	West	Timbuktu	karji		He
Songhay	East	Kikara	kárgí		He
Songhay	East	Gao	karji		He
Songhay	East	Zarma	kárjí	<i>épine</i>	WK
Songhay	East	Kaado	kérjí		D-C
Songhay	East	Niger Dendi	kárjí		Tersis
Songhay	East	Djougou	kárjí	thorn	He
Songhay	East	Kandi	kárjí	thorn	He

**Commentary:** Also in Niger-Congo. This root was recognised by Greenberg as diagnostic for the Sudanic languages but not as widespread in Nilo-Saharan. There are scattered attestations of a nasal consonant in C<sub>2</sub> position in Nilo-Saharan as well as in Central Sudanic. The Saharan-Songhay forms are far more similar to one another than to any of the other forms above; the Teda form suggests that the *k* may be a prefix, further reducing its similarity to the other forms. Undoubtedly reconstructible for proto-Songhay (only the final low tone in Tasawaq is irregular.) Within Saharan it appears to be restricted to the Western branch.

**Refs:** Gr.:126, 146, 159; D.:60, M. 171; G. 1997+2021+2044;

84	#kulu	skin, hide			
Family	Subgroup	Language	Attestation	Gloss	Source
Kunama		Kunama	agala		RCS
Kuliak		So	kut	hide of large animal	HC
ES	Nilotic	Nuer	kul	skin	RCS
ES	Surmic	Murle	kween	skin	RCS
ES	Ama	Afitti	álkò	skin	Be00
Furan		Amdang K	kuu	<i>peau</i>	Wo10
CS		Yulu	káyè	<i>peau</i>	Bo00
Saharan	East	Beria	kídí	<i>peau</i>	JC04
Saharan	West	Teda	koro-ta	<i>peau</i>	Le50
Saharan	West	Manga	kàráwì	skin	Jarrett (n.d.)
Songhay		* Proto-	* kú.rú	skin	
Songhay	North	Kwarandzyey	kuru	skin	So
Songhay	North	Tadaksahak	kuurú	skin	He
Songhay	South	Zarma	kúurú	<i>peau</i>	DC78

**Commentary:** A preliminary version of this dataset appears in Blench (1997). Greenberg (1963:21) initially identified this root for Nilo-Saharan. He later (p. 157) quotes Krongo, but his form does not correspond to that in Reh (1985) which is not evidently cognate. Creissels (1981:316) points out the Songhay cognate and adds further citations for Nilo-Saharan. Bender (1997:129) gives further examples for Nilo-Saharan, although he includes ‘basket’ in his semantic set. Other commentators include ‘bark’, for example Uduk (Eastern Sudanic) *khur* ‘bark’. Greenberg (1963:134) also has a set for ‘bark’ which includes forms with *s~z* in *C*<sub>2</sub> position, but I doubt this is a distinct etymon. As noted in Blench (np), roots like “#kulu 'skin, hide', #kulu 'knee', #kuru 'tortoise, turtle'... do not constitute evidence for the existence of a macrophylum and should only be used in lexical reconstruction in tightly controlled circumstances”, because of their wide attestation across multiple families. In this case the Saharan and Songhay forms are conspicuously more similar to one another than to many of the other Nilo-Saharan forms, supporting the proposed subgrouping. However, Mande also offers a possibly relevant comparison, confusing matters.

**Refs:** W. 220 + 237; M. 302; G. 392; G.:21, Gr. 84, 134; B:129, E:491

85	#(k)andi	hand, arm I			
Family	Subgroup	Language	Attestation	Gloss	Source
Koman		Komo	kolò	hand	Be83
Kuliak		Ik	kwet	hand	He99
ES	Nilotic	Toposa	akan		
ES	Temein	Temein	nánák <i>pl.</i> kén	hand	RCS
Furan		Amdang	naŋ <i>pl.</i> kaŋiŋ	<i>bras, main</i>	Wo10
Kunama		Ilit	kona	hand	RCS
Maban	Runga	Aiki	kàrá	<i>main</i>	No89
CS		Morokodo	kala	hand	?
Saharan	West	Kanuri	karádi	palm of hand	Cy94
Saharan	West	Daza	kei	<i>main</i>	Le50
Songhay	North	Kwarandzyey	kəmbi	hand	So10
Songhay	South	Hombori	kàmbè	hand	He

**Commentary:** [Unconvincing. The Songhay forms match Teda “hand” above better, while the Daza form, if not a reduction of the Teda one, is phonetically more comparable to Songhay “foot”. The various NS coronal-second forms probably have nothing to do with either Teda-Daza or Songhay.]

**Refs:** Gr. 117; B. 79

86		dung			
Family	Subgroup	Language	Attestation	Gloss	Source
ES	Nilotic	Nuer	mun	dirt	
CS	MM	Moru	mur	dirt	
Saharan	West	Kanuri	máli	horse dung	Cy94
Songhay	South	Gao	yo morgey	<i>crottin</i>	Pr56
Songhay	South	Zarma	mórgò	<i>crotte</i>	BW94

**Commentary:**

References: Gr. 138;

87		#-(k)ari blood I			
Family	Subgroup	Language	Attestation	Gloss	Source
Bertha		Mayu	oora	to bleed	B-G07
Koman		Buldiit	kelli	red	
ES	Ama	Afitti	gilà	red	Be00
ES	Ama	Afitti	ólè	blood	Be00
ES	Nubian	Meidob	keele	red	Ed91b
ES	Nubian	Dilling	ogor	blood	
ES	Taman	Tama	ái	blood	Ed91b
Kadu		Keiga	ariḍu	blood	Sch94
Maba		Maba	àrí	blood	Ed91a
CS		MMH	àrí	blood	B&W96
CS	Moru	Logo	kàrí	<i>sang</i>	De
Saharan	East	Beria	agu	blood	RCS
Saharan	West	Daza	gire	<i>sang</i>	HW05
<b>Songhay</b>		<b>* Proto-</b>	<b>*kúdí</b>	<b>blood</b>	
Songhay	North	Kwarandzeye	kudzi	blood	So10
		y			
Songhay	South	Gao	kúrí	<i>sang</i>	Pr56
<b>Songhay</b>	<b>South</b>	<b>Hombori</b>	<b>kúr-ó</b>	<b>blood</b>	<b>He</b>
Songhay	South	Zarma	kúrí	<i>sang</i>	BW94

**Commentary:** The \*d in proto-Songhay makes this comparison less impressive than it would otherwise appear.

References: Gr. 135; Bender (1992)

88	#-(k)olo(d)-	egg I			
Family	Subgroup	Language	Attestation	Gloss	Source
Bertha		Undu	húlú	egg	
ES	E Jebel	Gaam	kələd	egg	
Furan		Amdang	kərda	<i>oeuf</i>	Wo10
Maban		Aiki	kèdé	hen	Noxx
Maban		Maba	kede-mi	egg	Ed91
Saharan	East	Sagato	akora	egg	Pe87
Saharan	East	Beria	gónó gulu	<i>oeuf</i>	JC04 Ch.278
Saharan	East	Kanuri	ngóvól	egg	Ch.278
Saharan	East	Teda	ngúbelo	<i>Ei</i>	Ch.278
Songhay	South	Hombori	gùngùrì	egg	He
Songhay	South	Zarma	gùngùrí	<i>oeuf</i>	Bw94

**Commentary:** The Songhay and Beria examples seem much better comparisons to one another than the rest, but the other Saharan forms point to a medial \*b, which suggests they simply not be cognate. The Maba form looks like a compound with “hen” (perhaps “hen-child” or “hen-seed”, like some Maghrebi Arabic dialects), which would force it out of this set.

**References:** Gr. 138;

89		lightning			
Family	Subgroup	Language	Attestation	Gloss	Source
Gumuz			muddema	lightning	
Kuliak		Ik	iméd-ón	lightning	He99
ES		Nuer	mar	to thunder	
ES	Ama	Ama	mòmogá	lightning	Be00
Fur		Fur	ulmella	lightning	
Maban			muoldak	lightning	
Saharan	West	Daza	mulmulti	<i>faire des éclairs</i>	HW05
Songhay	West	Timbuktu	malakou, meli	<i>éclair</i>	H-D
Songhay	East	Kikara	mélém	(eg lightning) flash (v.)	He
Songhay	East	Hombori	méli; mél-ó	flash, blink (v.); lightning	He
Songhay	East	Zarma	máli	<i>faire des éclairs</i>	BW94
Songhay	East	Gao	meeli	<i>faire des éclairs</i>	Pr56

**Commentary:** cf. Also Hausa *marimari*, so perhaps an old Sahelian root. Securely reconstructible for Eastern Songhay, despite minor irregularities.

**Ref:** Gr. 141; B. 82; N. 22;

90	#wori	river, water			
Family	Subgroup	Language	Attestation	Gloss	Source
Shabo		Shabo	wɔɔ	water	Schn
Koman		Uduk	wɔrr	river	
Kunama		Kunama	ɲoora	water	
Kunama		Ilit	oora	rain	RCS
Bertha		Mayu	rô	rain	B-G07
Kuliak		So	war	to rain	HC
ES	E Jebel	Molo	aaro	rain	Be97
ES		Nara	erente	rain	?
ES	Surmic	Majang	mawu	water	Schn
ES	Nilotic	Nandi	rɔɔp	rain	?
ES	Ama	Afitti	íro	lake, pool	Be00
ES	Daju	Nyala	kore	rain	Th81
ES	Nubian	Meidob	áárí	rain	?
ES	Meroitic	Meroitic	atu	<i>eau</i>	Ri09
ES	Taman	Tama	àɟ	rain	Ed91b
ES	Taman	Tama	àríɲ	lake, pool	Ed91b
Kadu		Kurondi	-ore	rain	RCS
Furan		Fur	ròò	river, well	Wa10
Maban	Runga	Aiki	àrè	<i>mare</i>	No89
CS		Kulfa	àri	<i>pleuvoir</i>	Bo00
CS		Jur Modo	tɔrɔ	rain	PP
Saharan	East	Beria	ɔrɔi	river	JC04
Saharan	East	Sagato	arrta	sky, above	Pe87
Songhay	North	Tadaksahak	ári	water	He
Songhay	South	Zarma	hári	<i>eau</i>	BW94

**Commentary:** One of the best Nilo-Saharan isoglosses, occurring in every putative branch except Gumuz. In the Tama group and apparently beyond, ‘rain’ and ‘sky’ are polysemous. Greenberg (1963: 143) observes that in Nilotic and related languages, ‘rain’ and ‘God’ can be polysemous. “Southern” Songhay has \*hári, while Northern consistently reflects \*á(:)ri. If Nilo-Saharan –k reflects Songhay h- this may be a remnant of ‘moveable k-’ which is otherwise not present in Songhay.

**Refs:** Gr. 143; B. 77

91	#-(b)uru(t)-	cloud			
Group	Subgroup	Language	Attestation	Gloss	Source
ES	Nilotic	Shilluk	polo	cloud	RCS
Maban		Masalit	à-bíri	cloud	Ed91
CS		Lugbara	‘bu	cloud	
Saharan	East	Beria	búrdū	<i>nuage</i>	JC04
Saharan	West	Kanuri	bursá	облако, туча	Ch.234
Songhay	West	Timbuktu	bourey	<i>nuage</i>	H-D
Songhay	South	Hombori	búr-ó	cloud	He
Songhay	South	Zarma	búru	<i>nuage</i>	BW94

**Commentary:** Reconstructible certainly for Eastern Songhay, and probably for proto-Songhay; Northern Songhay consistently uses Berber loans for ‘cloud’.

**Refs:**

## 5. Phonology

### 5.1 A k/h correspondence?

Regular sound correspondences between even more mainstream branches of Nilo-Saharan are difficult to establish, in part because of the complex morphophonology. However, there is one possible example of such a correspondence between Songhay and the remainder, k→h. The following cases suggest this;

rain, water

Family	Subgroup	Language	Attestation	Gloss	Source
ES	Daju	Nyala	kore	rain	Th81
Songhay	South	Zarma	hári	<i>eau</i>	BW94

be bitter

Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	kúttu	bitter	Cy94
Songhay	South	Hombori	hóttó	bitter	He
Songhay	South	Dendi	hòrtú	<i>amer</i>	Zi

moon

Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanembu	kòndáó	<i>lune</i>	
Songhay	South	Zarma	hàndú	<i>lune</i>	BW94

### 5.2 Saharan initial \*ŋg = Songhay \*g

This is supported by “year”, “thirst”, “chest”, and perhaps “egg” and “gazelle/giraffe”.

### 5.3 Vowel harmony

Kanembu, Beria and Daza all have ATR vowel harmony like much of the rest of Nilo-Saharan. Only Kanuri has lost harmony within Saharan, presumably due to a general vowel reduction. Therefore proto-Songhay must once have had such a system if it is a relative of Saharan.

## 6. Morphology

### 6.1 Moveable k-

One of the most distinctive morphological features of Nilo-Saharan is ‘moveable k-’ an affixing feature first identified by Bryan (1959), expanded in Bryan (1966) and Greenberg (1973). Storch (2005:46) also takes up the issue of N/K and T/K alternations in relation to Nilotic noun morphology. The k- is an affix which occurs both as prefix and suffix and sometimes both, for example in the Temein languages (Blench in press). The meaning which can be assigned to the k- is problematic and Greenberg called it a ‘Stage III article’. Whatever the case, it is a persistent feature of Nilo-Saharan and can be identified in almost all subgroups except Gumuz and Shabo. It is somewhat attenuated in Saharan, but examples can still be found.

It is not usually attributed to Songhay, but If Nilo-Saharan k- can reflect Songhay h- this may be a remnant of ‘moveable k-’. Some evidence for this may be in words like ‘water’ where “Southern” Songhay has \*hári, while Northern consistently reflects \*á(:)ri.

Hombori: h:22, Ø:2, k:24, č:11 / 222.

Zarma: h:9, Ø:9, k:21, c:8 / 167.

Mandinka: h:4, Ø:3+, k:19, c:2 / 111.



## 6.2 N- prefixes

Another feature of Nilo-Saharan that has been described by Bryan (1966) are the *n*- affixes, found widely in several Nilo-Saharan branches. Eastern and Western Songhay likewise shows a lexicalised *n*- prefix (Humburi *an-*, Dendi *han-*; not found in Northern), which has more often been compared to Mande. This prefix usually shows up on words referring to animals or body parts, and hence has a possible Songhay-internal etymology from *\*ham(u)* “meat”, as suggested by Bender [cite]. In some cases, it shows up on words with Saharan comparanda; for example:

buttocks, anus					
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	kùlí	anus	Cy94
Saharan	West	Teda	kuli	<i>hanche</i>	Le50
Songhay	West	Humburi Senni	ʔaŋkóraá	<i>hanche</i>	He
Songhay	West	Gao	nkoro	<i>fesses</i>	Pr

frog					
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	East	Sagato	kaka	frog	Pe87
Saharan	West	Kanuri	kókó	frog	Cy94
Saharan	West	Daza	koko	<i>crapaud</i>	HW05
Songhay	North	Tadaksahak	agúru	frog	He
Songhay	South	Hombori	ʔaŋkòòr-ò	frog	He

mosquito					
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Daza	təɣɪ	<i>moustique</i>	HW05
Saharan	West	Teda	ndegi	<i>moustique</i>	Le50
<b>Songhay</b>		<b>*Proto-</b>	<b>*(n)děŋ</b>	<b>scorpion, mosquito</b>	
Songhay	East	KS	ndeŋ	mosquito	He
<b>Songhay</b>	East	<b>Kikara</b>	<b>děŋ</b>	<b>scorpion, mosquito</b>	<b>He</b>
Songhay	East	Hombori	ʔanděng-ò	scorpion	He

Or lose it [probably not relevant – as noted above, Sah \*ng = Sg \*g seems to be regular.]:

year					
Family	Subgroup	Language	Attestation	Gloss	Source
Saharan	West	Kanuri	ngáí	year	Cy94
Saharan	West	Daza	ŋele	<i>année</i>	Le50
<b>Songhay</b>		<b>*Proto-S</b>	<b>*gí:rí</b>	<b>year</b>	

## 6.2 Metathesis

One of the most characteristic morphological processes in Nilo-Saharan is metathesis, the swapping round of theme consonants. This is attested between and within languages. One of the most striking examples is the Fur language, which;

Between Saharan and Songhay there are some examples of this type of metathesis;

Saharan	Teda	ontu	<i>colline</i>
<b>Songhay</b>	<b>* Proto-</b>	<b>tóndi</b>	<b>stone, mountain</b>

Saharan	Daza	tɔnɔ-rɪ	<i>envoyer</i>
Saharan	Teda	nudar	<i>envoyer</i>
Saharan	Kanuri	nót-əkin	send, commission
Songhay	Zarma	dǒntòn	<i>envoyer</i>

### 7. Genetic connection or evidence of contact?

The evidence given in §4. suggests that there are significant *a priori* similarities between Saharan and Songhay. There are several possible hypotheses to account for this. They are;

- a) Chance
- b) Contact in prehistory
- c) Transmission of loanwords via Hausa and/or Tuareg
- d) Genetic affiliation

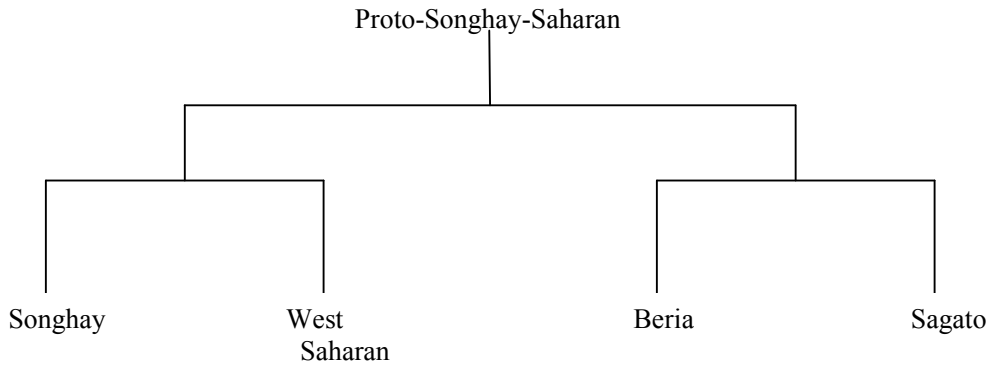
Needless to say, a hypothesis of genetic affiliation does not exclude additional borrowing and shared lexicon with Hausa. Nonetheless, the volume of similarities suggests that an explanation of chance can be excluded. Given that Songhay and Saharan are currently a considerable distance from one another and the westward expansion of Kanuri and the eastward expansion of the Zarma are both quite recent, they would have been still further apart in the past. So it is incumbent upon the advocates of contact to say when and how this would have occurred. Most, but not all, of the similarities are attested with both North and South Songhay, so the argument would have to be that contact took place with proto-Songhay. In the case of Saharan, although the apparently cognate forms are found all across Saharan, they predominate in Kanuri-Teda. This is stretching the historical web to breaking point, given that the internal similarity of Songhay suggests that its expansion is relatively recent.

It is certainly the case that particular words in Songhay and Saharan are also found in Hausa, such as ‘mason wasp’, ‘hill’, ‘lightning’, ‘crocodile’. We would need to be surer of the historical phonology of the relevant languages to assess the direction of borrowing; parallel borrowing into Songhay and Saharan is possible for some words. However, the spread of Hausa is relatively late, as it only began to expand ca. 1000 AD, and these similarities appear to be embedded. So borrowing into Hausa is a more likely explanation.

Most probable is that Songhay and Saharan are indeed a subgroup of Nilo-Saharan. From the larger tables of cognacy it is hard to see why Songhay would not be classified as Nilo-Saharan. Given that, its nearest relative appears to be Saharan. This relationship has been partly obscured by the major changes Songhay has undergone due to contact first (?) with Mande, Dogon and then with Berber. Songhay also has numerous unproductive affixes which obscure the root. This makes finding a set of regular sound correspondences very problematic. But then proto-Saharan has not been reconstructed either, due to the difficulties of analysing its morphological history and the erosion of phonology in Berber.

It is not necessarily the case that Songhay is related to proto-Saharan. Lexical cognacy within Saharan is extremely low (under 30% according to Cyffer (1996). From the tables it seems that Songhay has many more cognates with West Saharan. This could be a consequence of higher levels of lexical erosion in Beria; but on the whole there seems to be no bias between East and West Saharan in terms of relations to Nilo-Saharan overall. A possible relationship is shown in Figure 3;

**Figure 3. Hypothetical internal structure of Songhay-Saharan**



More likely, the West Saharan bias reflects early medieval and classical contact on the Egypt-Niger trade route.

**8. Conclusion**

This paper concludes there is a strong a priori claim for Saharan and Songhay forming a distinctive subgroup of Nilo-Saharan, either at the level of proto-Saharan, or with Songhay as a co-ordinate branch of West Saharan. However, the authors would be the first to observe that much more work is required on this topic. Without a reconstruction of proto-Saharan, it is difficult to evaluate similarities. Worse, neither Teda-Daza nor Beria has an extensive dictionary, nor do these languages have the type of analysed historical morphology that can reliably distinguish affixes and incorporated lexicon and which makes effective comparison possible. Songhay can now be said to be fairly well-documented, but again historical morphology remains weak. This paper suggests that some characteristic Nilo-Saharan morphology can be recognised within Songhay, but many more examples need to be tabulated to strengthen the case.

**Appendix: Rejected comparisons**

A number of comparisons are found in the literature which look superficially attractive but which must be rejected because they are parallel borrowings or otherwise not evidence for a genetic connection.

92	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan	West	Teda	forefore	<i>chauve-souris, hirondelle</i>	Le50
	Songhay	West	Timbuktu	atafilfil, atafirfir	bat	He
	Songhay	East	Gao	tafirfir	bat	He

**Commentary:** Very restricted distribution within Songhay; both form and distribution suggest a Berber source, probably a syllable reversal of Tamasheq *a-fārtāṭṭa* (He), with cognates throughout Berber, reflected more directly in Tasawaq *fārtāṭṭà* (Ko.) Cp. also the globally widespread ~FR “fly”.

Refs: B. ;

93	Group	Subgroup	Language	Attestation	Gloss	Source
	Saharan		Teda	sörö	<i>soigner</i>	Le50
	Songha		Zarma	sáfār	<i>soigner</i>	BW94
	y					

**Commentary:** ?Arabic borrowings [The Songhay form is a fairly clearcut Berber loan, so this comparison should be rejected.]

**Refs:** B. 16x;

94	spoon				
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	cókkòl	metal spoon	Cy94
Songhay		Humburi	sógólò	spoon	He

**Commentary:** In Hausa as *cokaali* ‘spoon’ and almost certainly is a parallel borrowing. The similar Zenaga form is Berber-internally analysable as an instrument noun from *\*ugəl* “hang”, like the common dialectal Arabic *miḥlaq-ah*, and offers a possible source for this widespread word.

**Refs:** N. 41;

95	converse, narrate				
Group	Subgroup	Language	Attestation	Gloss	Source
Saharan		Kanuri	zàndé-ngin	chat, converse, talk	Cy94
Songhay		Humburi	zèntèrì	narrate, tell story	He

**Commentary:** ? Parallel borrowings from Arabic [from what Arabic word?]

**Refs:** N. 41;

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