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## **9.9 Kordofanian**

*Nicolas Quint*

### **9.9.1 Introduction<sup>1</sup>**

Until the secession of South Sudan in 2011, Kordofan was the most central state of the Sudan. This vast area located in the very middle of the Sahelian belt has given its name to a peculiar language group, Kordofanian, whose members are all endogenous to Kordofan, more specifically to South Kordofan, a rocky area also called Nuba Mountains. The Nubas are the indigenous inhabitants of South Kordofan: they belong to many cultural groups and speech communities and their languages fit into two unrelated language families (Quint 2006a), namely Nilo-Saharan and Kordofanian, itself a branch of Niger-Congo. Basically, Nilo-Saharan languages occupy the Western Nuba Mountains (or Jebels) while Kordofanian languages are mainly spread across the Eastern Jebels.

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In this chapter, I shall endeavor to introduce the reader to the Kordofanian languages. First, I will give a brief overview of those tongues. Second, I will deal with Kordofanian studies, insisting in particular on the difficulties of the fieldwork and the successive stages of the development of research in that area. Thirdly, I will present some salient features of Kordofanian languages and discuss the available hypotheses about the phylogenetic relationships between the different Kordofanian sub-branches and between Kordofanian and other Niger-Congo languages. Finally, I will conclude about the challenges that expect the scholarly community regarding Kordofanian languages.

### **9.9.2 Kordofanian languages: a brief overview**

There are roughly two dozen Kordofanian languages, split into five main families (see map 9.9-x):

(a) Heibanian (ten languages): Heiban, Ko, Koalib, Laro, Lukha (= Logol), Moro, Otoro, Shwai (= Shirumba), Tira and Werni (= Warnang). Those languages are spoken in the northern and central parts of the Eastern Jebels and get their name from the city of Heiban, which is situated among these Jebels. The area occupied by Heibanian languages is mostly continuous<sup>2</sup> and, on the field, the linguistic boundaries between the main recognized linguistic communities are far from being precise. For instance, at the limit between Koalib and Heiban speech areas, some villages have a mixed population and the local varieties of each Koalib and Heiban display more features in common with

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<sup>2</sup> With the exception of the easternmost members of the family, namely Ko and Werni, which are clearly outliers.

the neighboring language.<sup>3</sup> Heibanian languages have many more speakers than any other Kordofanian family: at least two Heibanian languages (Koalib and Moro) have more than 100,000 speakers while two others (Otoro and Tira) have more than 50,000.

(b) Talodian (**nine** languages): Acheron, Dagik (Masakin, Dengebu), Lumun, Nding (Eliri), Ngile (Daloka), Tasomi (Jomang, Talodi), Tocho, Tolona and Tuwal (Norton and Kuku Alaki 2015). All Talodian languages are spoken in the vicinity of the city of Talodi (hence their name), in the southern and southeastern parts of the Nuba Mountains. Their total number of speakers amounts to approximately 100,000.

(c) Lafofa (three languages or variants): El-Amira, Lafofa, Tegem. The speech communities (numbering between 5,000 and 10,000 speakers) which make up this small group live close to Talodian-speaking communities, with which they seem to share some linguistic features.

(d) Rashadian (two dialect clusters): Tagoi and Tegali, which are spoken in two mountainous ranges located in the northeastern parts of the Nuba Mountains. Tegali used to be the dominant language of the kingdom of Tegali (Ewald 1990) until the times of the Mahdiya,<sup>4</sup> when the kingdom was devastated by the Mahdists and most of its

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<sup>3</sup> As a matter of fact, in the present state of knowledge about Kordofanian languages, their exact number cannot be stated. In large linguistic areas (like Koalib or Moro) with dialectal continuums, it is not always evident to decide on linguistic grounds only whether we are faced with closely related languages or varieties of one and the same language.

<sup>4</sup> The Mahdiya (1881-1898) was a crucial period in the recent history of Sudan. After several decades of Turkish-Egyptian rule of Sudanese territory, the Sudanese rose against their foreign occupants under the leadership of Muhammad Ahmad, a

population taken away to the Nile Valley in slavery (Elles 1935; Ewald 1990). At the end of the Mahdiya, when the Tegalians came back to their mountains, many of them had switched to Arabic as their vernacular. Be that as it may, there are still native speakers of Tegali and Tagoi, although they probably represent only a minority of today's local population. Note that Tagoi varieties have a noun class system while closely related Tegali varieties lack this system altogether.

(e) Katla-Tima or Katloid (two languages): these two communities (Katla and Tima) live traditionally in the northwestern part of the Nuba Mountains. They are surrounded by Nilo-Saharan speaking people and geographically separated from the remaining Kordofanian languages.

[Map 9.9-x]

Internally, each of these families shows a high degree of similarity which can be compared to the relationships existing between the members of the Romance family or between those of the Germanic family. However, the exact nature of the relationship between these families is a much more controversial issue, always actively discussed by the few specialists of Kordofanian (Blench 2013, forthcoming a and b; Dimmendaal 2014, 2015; Hammarström 2013; Schadeberg 1989).

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Dongolawi from northern Sudan, who proclaimed himself the Mahdi, i.e. the ultimate Prophet of Islam. The upheaval gained momentum and soon the Mahdist rebels were able to overcome important Egyptian troops until they finally took over Khartoum in January 1885. Afterwards, a Mahdist state was established, which would wage almost permanent warfare against foreign powers and local disobedient communities (such as Tegalians and many other Nuba tribes). The Mahdist state was finally destroyed by a British expedition in 1898.

### **9.9.3 Kordofanian studies**

#### **9.9.3.1 The challenge of studying Kordofanian languages**

Kordofanian languages remain poorly known and described mainly because of the difficulty in accessing the field. As a matter of fact, since the 19<sup>th</sup> century (i.e. the beginning of Kordofanian studies, see below), the Nuba Mountains have been facing various periods of war and civil unrest (Turkish-Sudanese wars, Mahdiya, several local uprisings against British rule, 2<sup>nd</sup> Sudanese civil war, on-going conflict between the government and the SPLM-N (**Sudan People's Liberation Movement-North**) since 2011) which have considerably hindered scholarly research on the languages spoken there (including Kordofanian languages).

#### **9.9.3.2 The main types of approaches**

##### **9.9.3.2.1 First testimonies: before World War I**

There are no data available for Kordofanian languages before the 19<sup>th</sup> century, when some travellers (e.g. Ruppell 1829) began to compile wordlists of the various languages spoken by the people they came across during their journeys. Following these first testimonies come the works of various scholars (e.g. Tutshek 1848, 1850; Meinhof 1910/11 & 1915-19; Seligmann 1910/11), who endeavored to understand the structure of several languages spoken in the Nuba Mountains. Meinhof (1943/44) himself laid the stress on the study of a Kordofanian language, Heiban (Heibanian family).

##### **9.9.3.2.2 The missionaries' linguistic work**

At the beginning of the 20<sup>th</sup> century, after the Mahdiya, some English-speaking

Christian missionaries settled in several localities of the Nuba Mountains and began to produce religious material in the vernacular languages in order to propagate their faith. This resulted in the publication of some portions of the Bible (generally the New Testament) in several Kordofanian languages, namely Koalib, Otoro, Heiban and Moro. In several cases, those missionaries also produced some teaching material, including textbooks (e.g. Anonymous-1 and -2 for Koalib) and grammars (Black and Black 1971 on Moro). Among those missionaries, Stevenson occupies a special place: he devoted a considerable amount of time to the scientific study of the Nuba languages, wrote grammars of at least two Kordofanian languages (Otoro (1943) and Tira (1942), both re-edited by Schadeberg in 2009) and produced and published a monumental PhD thesis about the Nuba Mountain languages (1956/57) in which almost all of these languages are mentioned and partially documented (through wordlists and paradigms). Until today, the missionaries' works and publications constitute indeed the main available source for many a language spoken in South Kordofan, including various Kordofanian tongues. However, the missionaries' approach of Nuba languages suffered from a solid bias: in general this approach was quite logically guided by religious considerations, which led the missionaries to study in priority the languages of those people who had been less touched by the spread of Islam and who were liable to be more easily converted to Christianity. This is why several Heibanian languages were studied and written down by the missionaries, as most Heibanian-speaking people at that time were mainly animists and as the relatively large number of speakers of several communities (see section 9.9.2 above) justified the effort to translate the Bible in their languages. Smaller communities (such as the Talodian people) or Muslim groups (such as the Rashadians), whose conversion to Christianity was probably deemed harder to achieve,

were therefore generally neglected, and their languages left undocumented by the missionaries.

### **9.9.3.2.3 The surveys**

Some scholars endeavored to classify the several tens of tongues spoken in the Nuba Mountains, including the Kordofanian groupings. Several surveys were launched in order to check exactly (or approximately) how many languages were spoken in the region and how many groups they could fit in. In 1930/31, the MacDiarmids (a couple of missionaries) conducted such a survey (published in 1931) and, collecting the translation of the same wordlist in diverse local languages, were able to identify several language families, including the main families of Kordofanian (“Kawalib”, i.e. Heibanian; “Katla”; “Lafofa”; “Talodi-Masakin”, i.e. Talodian; and “Tegali”, i.e. Rashadian): basically, the genetic groupings proposed by the MacDiarmids still remain valid today. The second significant survey was carried out by Schadeberg, a trained linguist, in the 1970s. Schadeberg had his informants translating Swadesh’s 100-word list plus the numbers from 1 to 10 and he focussed on Kordofanian and Kadu<sup>5</sup> languages. Schadeberg’s lists and analyses have been published for Heibanian (1981a), and Talodian (1981b) and they remain to date the most authoritative comparative work

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<sup>5</sup> The Kadu (or Kaduglian) languages seem to belong to the Nilo-Saharan phylum.

However, they have a noun class system, which might have been borrowed through contact from the neighboring Kordofanian communities (see below and also Quint 2009:7f., 2006b:10; Schadeberg 1981c, 1994).



on those languages.<sup>6</sup> Schadeberg published at a later date (2013) his Rashadian raw lexical data together with some short grammatical observations. In an unpublished work (ca. 1980), he had also elaborated some reconstructed forms and sounds for Proto-Rashadian: these reconstructions are mentioned in the present chapter.

#### **9.9.3.2.4 The study of individual languages**

More recently, some trained linguists have undertaken the description of several individual languages belonging to the Kordofanian grouping. This scholarly enterprise has begun in 2000 and is now fully developing due to two different trends:

- (i) the growing interest of the scientific community and the civil society in documenting and describing understudied languages (in order to preserve linguistic diversity), which helps researchers to be funded for such studies;
- (ii) a growing commitment of Sudanese scholars and speakers of Kordofanian languages to the study of those languages.

This new dynamics has notably resulted in

- (i) the recent publication of a sizeable number of volumes and papers dedicated to several Kordofanian languages, from diverse families: (a) Heibanian: Heiban (Schadeberg and Kossmann 2010), Koalib (e.g. Quint 2006b, 2009, 2010a, 2010b, 2013, forthcoming a), Moro (e.g. Jenks and Rose 2011; Rose *et al.* 2014); (b) Katloid: Katla (e.g. Hellwig 2013) and Tima (e.g. Alamin 2012a, 2012b; Bashir 2015; Dimmendaal 2014; Schneider-Blum 2013); (c) Talodian: Dagik (e.g. Vanderelst 2016), Lumun (e.g. Smits 2013); (d) Rashadian: Tagoi (e.g. Bashir forthcoming);

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<sup>6</sup> Regarding Talodian, mention should also be made of the Norton and Kuku Alaki's recent study (2015).

(ii) the organization of a Nuba Mountain Languages Conference organised every three years since 2011 to which several tens of scholars (among whom many specialists of Kordofanian languages) participate on a regular basis.

Thus Kordofanian studies, after two decades of near interruption (between Schadeberg’s comparative publications in the early 1980s and the beginning of the 21<sup>st</sup> century), are now developing at an ever accelerating pace, and it is probable that the coming years will see many more publications devoted to Kordofanian languages than has been hitherto published.

## 9.9.4 Some salient features of Kordofanian languages

### 9.9.4.1 Phonology

Three features at least deserve are worth mentioning about Kordofanian languages:

(i) probably all Kordofanian languages are tone languages (with generally two tone levels, high (H) and low (L)). In general, tone seems to have a higher functional load in morphology (1) than in contrasting lexical pairs (2).

#### (1) Morphological tone contrasts

Koalib *kwìcì* LL vs. *kwíci* HL

human.being:S

human.being:O

Koalib *kwèny-èécé.* LLH vs. *kwény-èécé.* HLH

‘I will see him/her.’

‘We will see him/her.’

vs. *kwény-éécé* HHH

‘S/he will see me.’

#### (2) Lexical tone contrasts

Tima *kùdá* LH vs. *kùdà* LL vs. *kúdà* HL  
 ‘tree sp.’ ‘shoe’ ‘python’

(Schneider-Blum 2013:2)

Koalib *ɣwɔ́ny* H vs. *ɣwɔ̀ny* L  
 ‘saliva’ ‘eggs’

(ii) most (if not all) Kordofanian languages also display phenomena of vowel harmony, i.e., the vowels are distributed into two sets and all the vowels of a given word may belong to only one of these sets. The parameter commanding the sets is typically [ $\pm$ ATR] (e.g. Dagik, see Vanderelst 2016:12ff.), while in some cases, it seems to be height (e.g. Koalib opposes a high set /i, ɛ, u/ to a low set /e, ɛ, a, ɔ, o/ (see Quint 2009:33-40, 2006b:34-42);<sup>7</sup>

(iii) a majority of Kordofanian languages have five places of articulation for their consonants, i.e. basically: (A1) labial, (A2) dental/interdental, (A3) alveolar/retroflex, (A4) palatal and (A5) velar. The contrast dental vs. alveolar (already mentioned by Williamson and Blench (2000:37) as a Kordofanian trait) is quite widespread among Kordofanian languages and it has a high functional load:

(3) Koalib (Heibanian) *òtté* [òtté] vs. *òtté* [òtté]  
 ‘make rough (a grindstone)’ ‘gather (sorghum)’

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<sup>7</sup> Dimmendaal (2015:35) proposes that [ $\pm$ ATR] and non-[ $\pm$ ATR] systems occupy different geographical zones in the Nuba Mountains, but the delimitations of such zones are at least partially based on Stevenson’s material (1956/57), which is not fully reliable as regards vowel harmony in Kordofanian languages.



NC<sub>kw</sub>-man    NC<sub>kw</sub>-POSS:1SG    NC<sub>kw</sub>-be.big:PFV

‘My husband is big.’

(*kw*- agreement of the possessive and verbal prefixes with the noun *kwór*.)

b. *l-əpántì*    *l-ínyí*    *l-òppá.*

NC<sub>1</sub>-teacher    NC<sub>1</sub>-POSS:1SG    NC<sub>1</sub>-be.big:PFV

‘My teacher is big.’

(*l*- agreement of the possessive and verbal prefixes with the noun *ləpántì*.)

Dagik (Talodi; Vanderelst 2016:59)

(7)    *p-aʔi*    *i-b-ige*    *b-asɔ.*

NC<sub>p</sub>-man    ATTR-NC<sub>p</sub>-sick    NC<sub>p</sub>-come:PFV

‘The sick man came.’

Tagoi (Rashadian; Stevenson 1956/57[41]:51)

(8) a. *f-aran*    *f-irmo*

NC<sub>f</sub>-cow    NC<sub>f</sub>-black

‘black cow’

b. *y-erɲan*    *y-irmo*

NC<sub>y</sub>-stone    NC<sub>y</sub>-black

‘black stone’

In addition to the presence of noun classes in many Kordofanian languages, several of these noun classes are quite similar across families (see table 9.9-x1):

[Table 9.9-x1]

Illustration of table 9.9-x1

- (9) a. (a<sub>H</sub>) Koalib *kwór* ‘man’, (a<sub>L</sub>) *bidegém* ‘Tegem [=Lafofa] person’ (TSd<sup>8</sup>:15),  
*bəlibwere* ‘blacksmith’ (TSd:167), *p-uma b-owi* ‘woman’ (SV[41]:121), (a<sub>R</sub>)  
*wàróràk* ‘thief’ (MS:20), Orig *wóoríg* ‘person from J[ebel] Turjuk’ (MS:20),  
(a<sub>T</sub>) Dagik *p-urá* ‘thief’ (VE:43)

Phonetically, the correspondence between the four families seems quite plausible: (i) conservation of Proto-Kordofanian \*/kw/ in Heibanian; (ii) passage /kw/ > /p/ in Talodian, an evolution path widely attested in other languages such as Indo-European, e.g. Latin (Italic) *quinque* /kwinkwe/ ‘five’ vs. Breton (Celtic) *pemp* or Latin *quis* /kwis/ ‘who.M.SG:NOM’ vs. Oscan (Italic) *pis*; (iii) loss of the plosive element /k/ of Proto-Kordofanian in Rashadian; (iv) Lafofa /b~p/ variation is finally in line with Talodian /p/, as there is fluctuation within Talodian itself as to the voiced/unvoiced realization of Proto-Talodian /p/ (see results of Schadeberg’s survey (1981b) for the words ‘husband’ (p. 31), ‘man’ (p. 33) and ‘person’ (p. 35)).

- (9) b. (b<sub>H</sub>) Koalib *ŋáo* ‘water’, *ŋèèlà* ‘oil, fat’, (b<sub>L</sub>) Lafofa *ŋ-éi* ‘urine’ (TSd:170), *ŋo* ‘milk’ (TSd:169), *ŋie~ŋee* ‘blood’ (TSd:167), *ŋ-íí* ‘water’ (TSd:42), (b<sub>R</sub>) Orig *ŋàì* ‘water’ (MS:94), *ŋoc* ‘urine’ (MS:93), (b<sub>T</sub>) Dagik *ŋa* ‘oil’ (VE:51), *ŋeru* ‘blood’ (VE:51), Lumun *ŋaák* ‘fat’ (n.) (HS), *ŋuccuk* ‘blood’ (HS)

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<sup>8</sup> For abbreviated references, see key preceding the “References” section in 5.2.

Unreferenced data were collected by myself.

Here the correspondence between the four families is nearly perfect. Regarding Lafofa, we can note that all known items having both an initial /ɲ/ and a |LIQUID| meaning have a palatal vowel as the first element of their root (*ɲiɛ~ɲeɛ, ɲ-íí*). This palatal vowel could account for the shift to /ɲ/ (palatal nasal) of an original class marker \*/ɲ/.

- (9) c. (c<sub>H</sub>) Koalib *tée* [tée] ‘arm, upper limb’, *tél* [tél] ‘horn’, *téràny* [téràɲ] ‘boundary’, (c<sub>L</sub>) *ɲ-ɔwáa-áy* ‘arm’, *ɲ-ú-í* ‘horn’, (c<sub>R</sub>) Tagoi *ɲ-əwan* ‘rope’ (ST 1957[H3]:133), *túúr(iɲ)* ‘horn’ (TS:5), *téɲlák* ‘tongue’ (TS:28), (c<sub>T</sub>) Dengebu *ɲ-úluɲé* ‘tongue’ (TSd:41), Tocho *ɲ-úúβε* ‘horn’ (TSd:30)
- d. (d<sub>H</sub>) Koalib *ɲémà* ‘strength’, *ɲèpèetàɲ* ‘whiteness’ (< *pèeté* ‘be white’), *ɲètèny* ‘fear’, *táakà* [táagà] ‘marriage’ (< *àaké* ‘marry’), Tira *ɲádòð* ‘work’, *ðbrá* ‘strength’, (d<sub>R</sub>) Orig *ɲírís* ‘fear’ (MS:34), *ɲúmán* ‘shame’ (MS:34), (d<sub>T</sub>) Dagik *ɲəɾɛ* ‘work’ (VE:51), *ɲəma* ‘strength’ (VE:51)
- e. (e<sub>H</sub>) Koalib *ɲètkù* ‘Arabic’, Werni *ɲèrðà* ‘Arabic’, Tira *ðiccùl* ‘Arabic’, (e<sub>R</sub>) Orig *ɲóóríg* ‘Turjuk [= Orig] language’ (MS:34), *ɲégdíráá* ‘Arabic’ (MS:34), (e<sub>T</sub>) Dagik *ð-ə:ame* ‘Arabic’ (VE:58)

Here what is striking is the general hesitation in the three Kordofanian groups for which this semantic class is documented between /ɲ/ and /t/ markers, which are also used to mark abstract nouns. The reason for the parallelism between |ABSTRACTS| and |LANGUAGE NAMES| is probably the fact that a |LANGUAGE NAME| can be conceived of as

the abstraction *par excellence* of a given cultural community (e.g. “Arabic” is the emblematic |ABSTRACT| associated with Arab people, etc.).

- (9) f (f<sub>H</sub>) Koalib *nyór* [nór] ‘children’, *nyàkró* [nàgró] ‘chicks’ (< *yàkró* ‘hen’),  
 Werni *jàkóró* ‘chicks’ (< *kákóró* ‘hen’), Tira *ɲìmná* ‘kids’, (f<sub>R</sub>) Orig *ɲímnàn*  
 ‘kids’ (MS:39), *ɲìrɲán* ‘small stones’ (< *yìrɲán* ‘stone’, MS:40), Tagoi *ɲíɲ*  
 ‘children’ (TSb:334), (f<sub>T</sub>) Joomang *ɲáanúɲ* ‘children’ (TSd:22), Lumun *ɲokol*  
 ‘children’ (Smits 2016)

However, despite their widespread use in Kordofanian and the striking similarities they display through different families of this grouping, noun classes are not a consensual criterion to justify that Kordofanian regroups languages belonging to the same phylogenetic stock and therefore makes up a particular branch of Niger-Congo.

(i) Some Kordofanian languages have no noun-classes. This figure-case is represented by Tegali (Eastern Rashadian) languages<sup>9</sup> as opposed to Tagoi (Western

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<sup>9</sup> In fact, Schadeberg (ca. 1980:37) signals the existence in Tegali of at least two productive prefixes *ɲV-* and *t-*, used to derive language- and place-names respectively, and Tucker and Bryan (1966:292) also mention (*apud* Stevenson but without the exact reference) the use of *ɲV-* to derive abstract nouns. Although these prefixes do not command class agreement on nominal dependents, one cannot but notice their evident formal proximity to noun class markers attested in other Kordofanian languages: (a) *ɲ-* is widely used with nouns belonging to the |ABSTRACT| and |LANGUAGE-NAME| semantic classes in many (see table 9.9-x1) and (b) a *t(V)-/ð(V)-* marker used to produce locative



Rashadian) languages which have noun classes. Regarding Rashadian, the core of the debate is to choose between two hypotheses: (1) either all Rashadian languages used to have noun classes and these were lost at a given period by Tegali languages only whereas Tagoi languages kept them to this day (see Schadeberg 1989, ca. 1980), or (2) all Rashadian languages used to have non-noun classes and Tagoi languages acquired those classes due to the influence of the neighboring Kordofanian noun class languages, in particular Heibanian (see Blench 2013:575f.; Stevenson 1956/57[40]:102). Although I personally support (1) (due to the many resemblances shared by Rashadian and other Kordofanian languages), I think that no decisive evidence has been adduced in favor of any of these hypotheses.

(ii) Other Kordofanian languages only have a reduced system thereof. This figure-case corresponds to Katloid languages which have very few distinct noun classes; e.g. in Tima (Alamin 2012b:23-38), there are two morphologically marked general singular noun classes (characterized by prefixes /kV/- and /t/- respectively), two locative classes plus an abstract noun class (prefix /dV/-), the latter being used in particular to derive language names (see table 9.9-x2). However, reduced as it may be, some features of Tima class morphology are clearly reminiscent of typical Kordofanian class languages:

[Table 9.9-x2]

As shown in table 9.9-x2, the class derivation |PEOPLE| > |LANGUAGE NAME| is realized both in Tima and Koalib through prefixal alternation.

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nouns exists both in Tagoi (e.g. *toorig* ‘the village of Jebel Turjuk’ (where Orig is spoken, MS:29) and at least in some Talodian varieties (e.g. Dagik *t̪-s̪* ‘Lumun/Tocho/Asheron area’, VE:58).

(iii) Some non-Kordofanian languages spoken in the Nuba Mountains also have noun classes. This is in particular the case of Kadu languages, traditionally included in Nilo-Saharan (Schadeberg 1981c, 1994) and spoken in the southwestern part of the Nuba Mountains, in the vicinity of Talodian and Heibanian languages. The existence of noun classes in Kadu is unquestionable:

- (10) a. *miḍe*    *y-adagbo*    *y-ɔ*  
           man      NC<sub>M</sub>-big      NC<sub>M</sub>-DEM  
           ‘this big man’
- b. *ka*        *m-adagbo*    *m-ɔ*  
           woman NC<sub>F</sub>-big      NC<sub>F</sub>-DEM  
           ‘this big woman’

However, the central semantic distinction in the Kadu class system is between MALE/MASCULINE and FEMALE/FEMININE (see (10a) and (10b), taken from Stevenson 1956/57[41]:55f.) whereas in most Kordofanian (and more generally Niger-Congo) languages, the basic contrast is usually between HUMAN and NON-HUMAN (Creissels 2000:243, 1991:91f.). This strongly suggests that Kadu languages might have borrowed (or copied) the morphological structure (prefixal concord markers) of Kordofanian noun classes while maintaining the essentials of their own semantic organization, which is clearly at variance with Kordofanian as a whole.

#### 9.9.4.2.2 Verb extensions

All Kordofanian families have numerous verbal extensions and suffixes conveying various meanings, such as those exemplified by Koalib (Quint 2010a).

[Table 9.9-x3]

Similar verb extensions are found in all other Kordofanian languages for which sufficient data are available:

– In Tima (Katloid), we find (Alamin 2012b: 103-18; Alamin *et al.* 2012) an antipassive, two applicatives (benefactive/recipient and instrumental), a causative, a middle voice (with both reflexive and reciprocal values), a separative (“movement out of some original position”, see Alamin 2012b:114), a reversive and a ventive.

– In Dagik (Talodian), we find two applicatives (benefactive and locative), a causative, an associative, an inchoative-stative, a middle voice, and an iterative (Vanderelst 2016:89-105).

– In Tumale (Rashadian), we find at least a benefactive and possibly a transitive (Stevenson 1956/57[41]:49).

Note that, except for the Rashadian transitive, all these Kordofanian extensions behave according to the same morphologic pattern as they are produced through suffixes which attach to the verb root.

In spite of the fact that semantically related verbal extensions are found in many African languages (Hyman, forthcoming), for a linguist who has worked in-depth on a Kordofanian language (i.e. Koalib for the author of these lines), it is obvious that:

(i) the verb extensions described by other linguists for other Kordofanian languages do share many common points between themselves.

(ii) these same verb extensions also present striking similarities with other Niger-Congo languages, such as those belonging to the Atlantic stock (as I have been able to discover myself while working on a member of this grouping, namely the Nyun variety of the village of Djifanghor, Senegal, see Quint forthcoming b) or the Bantu family (e.g. the surprising resemblance of some specific uses of applicative derivations in both Zulu

(Bantu) and Koalib (Kordofanian) described in Quint 2010a:310ff.).

### **9.9.4.3 Lexicon**

Kordofanian languages also present similarities regarding lexicon. However, systematic lexical comparisons remain difficult as, for a majority of Kordofanian languages, we still only have at our disposal meager word-lists (generally adapted from Swadesh) comprising at best 100 or 200 items, and this scanty material does not allow much more than impressionistic judgments and intuitions.

At least two important lexical collections are now available: a Tima dictionary (Schneider-Blum 2013, ca. 5,000 entries) and a Koalib dictionary (Ali Karmal Kokko and Quint, forthcoming, ca. 6,000 entries). One can also mention the nearly 1,000 entries of the lexicon recently produced by Vanderelst (2016:247-57) for Dagik and several other recent publications (e.g. Alamin 2012b; Bashir 2010, 2015) which mention many lexical items in their analyses. I will show how the existence of these new resources allows us to find many more cognates than had been noticed until now between the various Kordofanian families.

#### **9.9.4.3.1 Heibanian and Katloid**

A rapid examination of the available documentation about Tima yields ca. twenty plausible cognates with Proto-Heibanian (as reconstructed by Schadeberg 1981a) or Koalib (see appendix 1).

#### **9.9.4.3.2 Heibanian and Rashadian**

Here too, the available material allows to recognize several tens of convincing cognates. Actually the number of specific lexical coincidences with Koalib (see appendix 2) is striking (e.g. ‘lower leg’ or six’). One may attribute some of these lexical similarities to the fact that the Koalib linguistic area is in direct contact with the Rashadian (Tagoi) languages. Note, however, that (i) the Koalib data presented here come from Rere (Quint 2009), which is spoken in the very centre of the Koalib country (and therefore not in direct contact with Rashadian), and (ii) the lexical resources available for Rashadian languages are quite limited, which renders all the more significant this relatively high number of lexical similarities that I have been able to identify between the two families.

#### **9.9.4.3.3 Heibanian and Talodian**

Some clear cognates can be identified (see appendix 3). Note that, despite the comparative work produced by both Schadeberg (1981a) and Norton and Kuku Alaki (2015), it is harder to find cognates between Heibanian and Talodian than between Heibanian and Rashadian. This result is contrary to several recent publications such as Blench (2013)<sup>10</sup> and Dimmendaal (2015:26) which tend to advocate the existence of a stronger link between Heibanian and Talodian in contrast to the remaining Kordofanian families.

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<sup>10</sup> However, in a more recent paper (Blench, forthcoming a), the same author also questions the existence of a specific Heibanian–Talodi grouping, in view of the relative paucity of cognates and other similar characteristics between the two families.

#### **9.9.4.3.4 Heibanian and Lafofa**

There are indeed some convincing cognates between those two families (see appendix 4). However, their number is quite limited (less than twenty for the moment). Two remarks are in order about this scarcity of cognates: (i) the result of these comparisons illustrates once more (Hammarström 2013; Norton and Kuku Alaki 2015; Schadeberg 1981b) the specific status of Lafofa inside Kordofanian. Indeed, it seems more reasonable to consider Lafofa as an independent Kordofanian family and not as a branch of Talodian; (ii) be that as it may, the relatively reduced number of cognates available for Lafofa is also due to the lack of available data for this Kordofanian family, which is probably now the least studied of the whole Kordofanian branch.

#### **9.9.4.3.5 Other comparisons between Kordofanian families: Katloid–Rashadian and Talodian**

Many more pairs (or triplets ...) of the five Kordofanian families could be compared in the same way that I have done above for Heibanian and each of the other four Kordofanian families. A comparison involving Katloid, Rashadian and Talodian has in particular been undertaken, suggested or discussed by several scholars. Stevenson (1956/57[41]:51) already noticed some lexical similarities primarily between Katloid and Rashadian languages and secondarily between these and Talodian. These shared items (which do not seem to be chance correspondences) are one of the main arguments used by some contemporary scholars to postulate a common origin for Katloid and Rashadian (Blench 2013:581; Dimmendaal 2015:26) which would make up together one of the primary sub-branches of Kordofanian. In appendix 5, I present a list of these

potential cognates (excluding cases for which a plausible cognate can also be found in Heibanian). Note that (i) although these items clearly belong to the core lexicon of the languages at stake and display striking semantic and segmental similarities, their actual number is quite low; (ii) Stevenson based his comparative list (which represents the majority of known potential cognates) on individual languages and not reconstructed forms of proto-families (which remain to be proposed for Katloid). However, in most cases, the now available reconstructed forms do not seem to invalid Stevenson's observations.

Within the perspective advocated in this chapter (namely that the five Kordofanian families probably are genetically related), I will consider that, when both Katloid, Rashadian and Talodian forms display a cognate unattested in Heibanian or Lafofa, this cognate can plausibly be traced back to Proto-Kordofanian. Indeed, as Heibanian is geographically situated *between* Talodian, Rashadian and Katloid, it is more likely to suppose that items shared by the three later families represent retentions from a common ancestor.<sup>11</sup>

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<sup>11</sup> The other possibility would be that Katloid, Rashadian and Talodian speakers came in contact with each other during their migration to the Nuba Mountains or at a time when the speakers of the Proto-Kordofanian families (i.e. Proto-Heibanian, Proto-Talodian, etc.) occupied locations different from the ones they occupy now in the Nuba Mountains. As there is no reliable source documenting the linguistic geography of the region before the 19<sup>th</sup> century, a lot of different scenarios can theoretically be envisaged. However, (i) the important linguistic differentiation observed between the various languages of each Kordofanian family and (ii) the dialect continuums observed in several places (for example between Koalib and Heiban, see also note 4) seem to

#### 9.9.4.3.6 Proto-Kordofanian roots

The comparisons produced in this chapter allow one to propose Proto-Kordofanian roots for items which are attested in similar forms in at least three of the five Kordofanian families (see table 9.9-x4).

[Table 9.9-x4]

Some of the above items, relating in particular to body parts (e.g. ‘belly’, ‘ear’, ‘foot/leg’, ‘tongue’), qualifiers (e.g. ‘dry’, ‘green/wet’, ‘red’), common verbs (e.g. ‘beat/hit’, ‘vomit’) or other basic notions (e.g. ‘left’, ‘rain’) are clearly part of the core vocabulary of any language and the attested similarities between the different Kordofanian families may plausibly be linked with a common origin (i.e. a Proto-Kordofanian stage).

For some other items, more caution is in order. This is the case of words such as (i) ‘clothes’: until the 20<sup>th</sup> century, a significant proportion of Kordofanian-speaking communities did not wear any cloth and therefore the notion of clothing was probably not as lexically central as body parts or the ‘rain’; (ii) ‘sheep’: although sheep-breeding seems to have been practiced for several millennia in East Africa (Blench and MacDonald 2000), the degree of similarity between Koalib (Heibanian) and Tima (Katloid) forms is too high not to be suspicious, if one thinks that these groupings, admitting that they both derive from one and the same “Ur-Kordofanian” ancestor, must have been separated for at least 2,000 to 3,000 thousand years, judging from the many

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support the fact that the various Kordofanian communities have been residing in their present-day areas (or in nearby places) for a considerable period of time (Quint 2009:8f., 2006b:11f.).



divergences they display. The similarity between Katla and Koalib might as well be due to borrowing (a) either at a time when Proto-Katloid and Proto-Heibanian speakers lived side by side or (b), if we take into account the fact that all Kordofanian branches exhibit convincing cognates for ‘sheep’, at a relatively recent time, when a specific variety of sheep expanded through the Nuba Mountains and the name of this new variety accompanied this expansion. Scenario (b) is supported by the fact that other widespread lexical roots in the Nuba Mountains, i.e. /mVrtV/ ‘horse’ or /ʃVrtV/ ‘iron’, have convincingly been shown to be the result of lexical diffusion through borrowing, the ultimate source of these wandering words being generally the Nile Valley (see Quint 2013:121ff. and references therein).

As summary as it may be, the results of the small lexical comparison undertaken in this paper clearly show that all Kordofanian branches do share some common lexical roots in their core vocabulary. This result strengthens the hypothesis of the existence of a Proto-Kordofanian stage from which Heibanian, Katloid, Lafofa, Talodian and Rashadian would all be derived.

### **9.9.5 Conclusion and prospects**

Much more research should be done and much more data should be gathered in order to develop sound comparisons between the different branches of Kordofanian and between Kordofanian and the other families which make up the Niger-Congo (or Niger-Kordofanian) phylum. At any rate, the grammatical and lexical commonalities shared by many Kordofanian languages seem to support the hypothesis of a common origin for these languages. It is to be hoped that the increasing knowledge assembled by the new generations working in this field will enable us to solve one of the most interesting

puzzles of Niger-Congo linguists by providing more detailed answers to the three following questions: (i) What really are the precise linguistic characteristics of Kordofanian languages? (ii) What is the exact relationship between Kordofanian languages and how can we account for the divergences observed in the attested varieties? (iii) How does Kordofanian fit into Niger-Congo and which historical processes can be convoked to explain the existence of this isolated pocket separated (both by a large distance and different communities) from the rest of its Niger-Congo sister-languages?

#### **List of specific abbreviations**

A = central vowel; ATTR = attributive marker; C<sub>DP</sub> = dental or palatal consonant; C<sub>LVB</sub> = liquid or vibrant consonant belonging to the set /l, r, ʎ/; C<sub>N</sub> = nasal consonant; C<sub>P</sub> = palatal consonant; C<sub>V</sub> = velar consonant; E = front vowel; O = back vowel; Q = reconstructed form proposed by Quint; <sub>(RN)</sub> = suggested by Russell Norton; T = dental/interdental or alveolar obstruent

#### **Abbreviated references**

AL = Alamin (2012b); BSa = Bashir (2010); BSb = Bashir (2015); HS = Smits (2016); MS = Schadeberg and Elias (1979); NK = Norton and Kuku Alaki (2015); SC = Schneider-Blum (2013); SV = Stevenson (1956/57); TSa = Schadeberg (1981a); TSb = Schadeberg (2013); TSc = Schadeberg (ca. 1980); TSd = Schadeberg (1981b); VE = Vanderelst (2016)

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**Map 9.9-x** Geographical distribution of Kordofanian languages

**Table 9.9-x1** Some similarities between noun class markers of various semantic classes across Kordofanian families

Semantic core of the class	Noun class marker <sup>12</sup>				
	Heibanian	Lafofa	Rashadian	Talodian	Proto-form
(a)  HUMAN.BEING:SG	(a <sub>H</sub> ) /kw/	(a <sub>L</sub> ) /b~p/	(a <sub>R</sub> ) /w/	(a <sub>T</sub> ) /p/	*/kw/
(b)  LIQUID	(b <sub>H</sub> ) /ŋ/	(b <sub>L</sub> ) /ŋ~ɲ/	(b <sub>R</sub> ) /ŋ/	(b <sub>T</sub> ) /ŋ/	*/ŋ/

<sup>12</sup> References – Heibanian: Schadeberg (1981a); Lafofa: Schadeberg (1981b); Rashadian: Schadeberg (2013, ca. 1980); Talodian: Norton (2015:108); Vanderelst (2016:51); Schadeberg (1981b); proto-forms: Schadeberg (1989). Some proto-forms in table 9.9-x1 differ slightly from the ones proposed by Schadeberg; I am responsible for these differences.

(c)  LONG.OBJECT:SG	(c <sub>H</sub> ) /t̥/	(c <sub>L</sub> ) /t̥/ ?	(c <sub>R</sub> ) /t̥~t̥/ ?	(c <sub>T</sub> ) /t̥/	*/t̥/
(d)  ABSTRACTS	(d <sub>H</sub> ) /ŋ~t̥/	(d <sub>L</sub> ) ?	(d <sub>R</sub> ) /ŋ/	(d <sub>T</sub> ) /t̥~ŋ/	*/ŋ~t̥/
(e)  LANGUAGE NAMES	(e <sub>H</sub> ) /ŋ~t̥/	(e <sub>L</sub> ) ?	(e <sub>R</sub> ) /ŋ/	(e <sub>T</sub> ) /k~t̥/ <sup>13</sup>	*/ŋ~t̥/
(f)  DIMINUTIVE:PL	(f <sub>H</sub> ) /ɲ/	(f <sub>L</sub> ) ?	(f <sub>R</sub> ) /ɲ/	(f <sub>H</sub> ) /ɲ~ɲ/ <sup>14</sup>	*/ɲ/

**Table 9.9-x2** Tima (Katloid) and Koalib (Heibanian, noun class language) language names nominal derivation

Language	Form	Meaning	Form	Meaning
Tima (Katloid)	<b>k̥m̥àádán̥</b>	‘Katla person’	<b>d̥m̥àádán̥</b>	‘Katla language’
Koalib (Heibanian)	<b>kw̥èj̥èŋk̥é</b>	‘Dinka person’	<b>ŋ̥èj̥èŋk̥é</b>	‘Dinka language’

<sup>13</sup> Norton and Kuku Alaki (2015 ) give only /k/ as a reconstructed form for |LANGUAGE NAME| noun class markers in Talodian. However, at least three Talodian languages exhibit |LANGUAGE NAMES| with a noun class marker akin to Proto-Talodian /t̥/: Dagik, Daloka and Tuwal, which makes quite reasonable to postulate the existence of a /t̥/ variant in Proto-Talodian, all the more so as /t̥/ is frequently used as an |ABSTRACT| noun class marker in Talodian and the categories of |LANGUAGE NAME| and |ABSTRACT| are semantically interrelated in many Kordofanian languages (see discussion in (10e)).

<sup>14</sup> At least two Talodian languages (Norton and Alaki 108), namely Dagik and Tuwal, have a noun class marker /ɲ/ for the |DIMINUTIVE:PLURAL|, e.g. Dagik *ɲura* ‘little/tiny calf’ (VE:56). However, within a comparative perspective, we have only retained the Talodian /ɲ/ marker, whose form obviously coincides with its homologues in Heibanian and Tegalian.

**Table 9.9-x3** Some verb extensions attested in Koalib (Heibanian)

Verb extension	Form of the extension		Example
	Segmental	Tonal <sup>15</sup>	

<sup>15</sup> H = high tone; L = low tone; n = number of syllables with  $n \geq 1$ .

Applicative 1 (benefactive)	<i>-ccE</i> <sup>16</sup>	H(L) <sub>n</sub> H	<i>àé</i> ‘die’ > <i>éiccí</i> ‘die for s.o.’
Applicative 2 (malefactive)	<i>-(a)tA</i>	H(L) <sub>n</sub>	<i>nyíimí</i> ‘steal sth.’ > <i>nyíimètè</i> ‘steal sth. from s.o.’
Associative	<i>-VtE</i>	(L) <sub>n</sub> H	<i>àppé</i> ‘carry’ > <i>àppàté</i> ‘carry together’
Causative	<i>-i + HVHS</i> <sup>17</sup>		<i>ájìè</i> ‘be weak’ > <i>èjílí</i> ‘weaken’
Excessive	<i>-AttE</i>		<i>óblè</i> ‘be short’ > <i>òblàtté</i> ‘be too short’
Immediate	<i>-(tA)nnE</i>		<i>ìidí</i> ‘fall’ > <i>ìidènní</i> ‘fall suddenly’, <i>ḡúú</i> ‘go out’ > <i>ḡutènní</i> ‘go out at once’
Locative/transitive	<i>-AcE</i>		<i>ḡùníní</i> ‘bring s.o. up’ > <i>ḡùnècíf</i> ‘bring s.o. up somewhere’
Passive	<i>-(t)VnnE</i>		<i>ìppí</i> ‘beat’ > <i>ìppìnní</i> ‘be beaten’, <i>yèé</i> ‘eat (tr)’ > <i>yèètènné</i> ‘be eaten’
Reciprocal	<i>-AtEcE</i>		<i>èḡnyé</i> ‘kill’ > <i>èḡnyàtècé</i> ‘kill each other’
Reflexive/middle	<i>-VnnE/ -VtnE</i>		<i>ìppí</i> ‘beat’ > <i>ìppènní</i> ‘beat oneself’, <i>yèé</i> ‘eat (tr)’ > <i>ètne</i> ‘eat (intr = for oneself)’

**Table 9.9-x4** Some plausible Proto-Kordofanian roots

<sup>16</sup> Except for causative (see next footnote), the vowels of the verb extensions are indicated in uppercase as their actual realization depends on the Vowel Harmonic Set of the lexical root they attach to: /i, ɛ, u/ belong to the high set, and /e, ε, a, ɔ, o/ belong to the low set. A Koalib phonological word can only contain vowels belonging to one and the same set (i.e., both sets cannot co-occur in a given Koalib lexical item). For more details about vowel harmony rules in Koalib, see Quint (2009:33-40, 2006b:34-42).

<sup>17</sup> HVHS = High Vowel Harmony Set. The causative extension generally triggers the use of vowels belonging to the high set in the lexical root itself.

Meaning	Family					Proto-Kordofanian
	Heibanian	Katloid (Tima)	Lafofa	Rashadian	Talodian	
bark 1 (n.)	Koalib <i>kìmùukùl</i> [kìmùugùl]	UN	UN	Orig <i>kimbàkól</i>	*t-ə-mək	*-mVk-
bark 2 (n.) <sup>18</sup>	UN	<i>kúúr</i>	<i>c-íri</i>	*g-ware	UN	*k(V)Vr E~*c(V) VrE
beat/hit	*-bid-	UN	... <i>biŋ</i>	Orig <i>bí(r)/pù(ró)</i>	*-gob-/ *kə-bə	*-bV-
belly	*g-+-aare	<i>kúúún</i>	<i>t-úur-i</i>	UN	*j-+- arag / *ca-rək	*-VrVk~ *-VtVk
bite/eat	*-iy-	UN	... <i>jiε</i>	*yək	*-gVjog/ *kə-ʝə	*-CVk
blood	UN	Katla <i>ija~iya</i>	UN	Rashad <i>wiya</i>	*ŋ-+ -ittsug / *ŋ-iccuk	*(C)iC <sub>p</sub> V
breast	UN	Tima <i>kímíndì</i>	UN	*d-mij	*j-+ -intsig / *c-ə- mmik	*CVmiC

<sup>18</sup> For the existence of two proto-Kordofanian roots for ‘bark’, see Appendix 5 and the footnote referring devoted to this item therein.

clothes	*g- + -ereḑ	UN	UN	Tagoi <i>ker(é)w</i>	*k-ereḑ	*kErEC
dry	*-unDo	UN	UN	*-uddi	*-an ḑo	*-OndV
ear	*g-/n- + -aani	<i>kó.nò</i>	UN	Tagoi <i>finin</i> , Tegali <i>(a)nuu(n)</i>	*g- + -eenu / *k-enu	*kVnV
elephant	*d- + -oṅor	UN	<i>yu.ṅi</i>	*(fV)ṅVn	NA	*-VṅV(C)
eye	UN	Katla <i>gigöṭ</i>	UN	*y-ngid	j- + -igg / *c-it	*?+ -git
foot/leg	Koalib <i>káakà</i> [káagà]	UN	<i>l-ia-ga</i>	*d-egen	*ts- + -agag	*-AkA(C)
goat	UN	Tima <i>címið</i>	<i>emi</i>	*mbit	*w- + -emig / *u-mit	*Em(b)iT
green/wet	*-iigla	UN	<i>b-úṅji- lli</i>	Tagoi <i>-ijilú</i> , Tegali <i>-rígél</i>	UN	*-iklV~ ijlV
hair	UN	Tima <i>káàm</i>	UN	*g-aam	*d- + -ugaṅ / *NC-ṅṅ	*kaam~ *gaam
head	UN	Katla <i>gas</i>	UN	*g-aj	*j- + -ats, *c-ac	*gaC <sub>DP</sub> ~ C <sub>pa</sub> C <sub>DP</sub>
left (side)	*-awur	UN	<i>kúlí</i>	*-awwir	*-gule / *gule	*-C <sub>v</sub> ul~ *-C <sub>v</sub> ur-

mud	Koalib <i>kèlòo</i>	Tima <i>k-</i> <i>λλlu</i>	UN	Orig <i>ηfló</i>	UN	*-EIO
near	Koalib <i>kétòk</i> [kétòk]	Tima <i>mètén</i>	UN	Tagoi <i>gattòη / tògot</i>	*-iddu / *-ttò-t	*-EttOC
one	*-aDDe	Tima <i>àtín</i>	UN	Orig <i>wàttá</i>	UN	*attV ~ *addV
rain	*g- + -aw	UN	<i>k-álló-y</i>	*(y)au	*k-abik	*kaw ~ *kal
red	*-UURE	Tima <i>-rdí</i> (SB:260)	UN	*-araw	*-oode (TSd) / *-dε (NK:147)	*-OrDE
sheep	Koalib <i>káaηàl</i>	<i>(k)áaηàl</i>	<i>βα:ηi</i>	Orig <i>kàgóy</i>	*tu-ηgat	*kAC <sub>v</sub> AC
smoke (n.)	*g- + -ulu	<i>kòòrún</i>	<i>c-oor-í</i>	Tagoi <i>k(ə)rək,</i> Tegali <i>tulé</i>	UN	*-u <sub>C<sub>LVB</sub></sub> V
sun	∅- + -*aηin	<i>kínèè</i>	UN	*-aane	*j-+-iηgi, *c-ə-ηgi	*-VC <sub>N</sub> V
tongue	ɖ- + *ηela	<i>kilíηi</i>	<i>l-íáη-i</i>	*d-aηil(-ag)	*ɖ- + -(V)IVηe / *tu-ləηe	*-ɖVηl(V) ~ - ɖVIVη(V)
vomit	*-wey-	<i>-húwà</i>	<i>lwâ-</i>	*VdVk	-VddV /	*-UdA ~



			<i>ḍaŋ,</i> <i>...lwa</i>		<b>*uk-dɛ</b>	<b>*-UwA</b>
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**Appendices** Wordlists of cognates between various Kordofanian families

**Appendix 1** Plausible lexical cognates between Heibanian and Katloid

	Katloid <sup>19</sup>	Heibanian	
Meaning	Tima	Proto-Heibanian	Koalib
belly	<i>kúríúún</i> (SB:258)	*g--aare	<i>káaré</i>
buy	<i>əəl-/éèl</i> (AL:68, BSb:34)	NA	<i>èelá</i>
cough (n.)	<i>kwààr.lól</i> (BSa:79)	NA	<i>kwàrlé</i>
ear	<i>kó.nə</i> (AL:29, BSa:94, SB:235)	*g-/n-+-aani	<i>kéeni</i>
fish	<i>(ku)-mòh</i> (SB:192)	*gu--Um	<i>kwôm</i>
food	<i>tòrì</i> (SB:288)	NA	<i>tùl</i> [tùl] (O: <i>tùli</i> ) 'sorghum porridge'
hammer	<i>ḡər</i> (BSa:30f.)	NA	<i>tər</i> [tər]
lungs	<i>pàtpàt</i> (BSb:38)	NA	<i>kèpótḡt</i> [kèvóḡpòt]
male	<i>ø-kóhkor</i> (BSa:258, SB:235)	*-oḡor	<i>kwóoḡòr</i>
mud	<i>k-áálu</i> (AL:37)	NA	<i>kèlòo</i> 'salty mud'
navel	<i>kì-lálu</i> (AL:27)	NA	<i>kwúllè</i>
near	<i>mèḡén</i> (SB:187)	NA	<i>kéttòk</i> [kéttòk]
one <sub>(RN)</sub>	<i>àtín</i> (SB:269)	*-aDDe	<i>kwétté</i>
red	<i>-rdí</i> (SB:260)	*-UÜre	<i>óorè</i>
scar	<i>yuula</i> (SB:323)	NA	<i>lóolè</i> 'scarification'
sew	<i>kúríúú<sup>1</sup></i> (BSa:238)	<b>kVḡ-/kVr-</b> (majority of Heibanian)	<i>òkwḡé</i>
sheep	<i>(k)áḡàl</i> (SB:37)	NA	<i>káḡàl</i>

*kwétté*

<sup>19</sup> After each Tima item, I give the initials of the authors consulted (see “Abbreviated references” above) followed by the page number where the item has been found. For Proto-Heibanian, all data come from Schadeberg (1981a). For Koalib, the data are mine. The segments in bold letters are the ones that present most similarities between Katloid and Heibanian items. Whenever an English meaning is followed by <sub>(RN)</sub>, it means that Russel Norton suggested me the comparison for the item at stake.

smoke (n.)	<i>kòòrón</i> (BSa:69)	*g-+- <b>ulu</b>	<i>kwùulú</i>
snake	<i>kì-mínà</i> (BSa:162)	UN	<i>kímèu</i>
sun	<i>kínèè</i> (BSa:86)	*ø-+- <b>aḡin</b>	<i>àaḡwòn</i>
thirst	<i>yeedi</i> (SB:323)	NA	<i>éetè</i>
tongue	<i>kìlḡiḡi</i> (AL:26, BSa:112)	*ḡ-/d-+- <b>ḡela</b>	<i>téḡlà</i>
uncle	<i>mámúḡ</i> (BSb:41)	NA	<i>mém</i> ‘mother’s brother’
vomit	<i>-húwà</i> (SB:136)	*- <b>wey-</b>	<i>ùé</i>
waterbag	<i>tùlkù</i> (SB: 281)	NA	<i>kwùlkùḡ</i> [kwùlgùḡ] ‘goatskin’
white(ness)	<i>bìlák</i> (BSa:86)	*- <b>biḡo</b>	<i>pèeté</i> [f/vèèðé]

## Appendix 2 Plausible lexical cognates between Rashadian and Heibanian

	Rashadian <sup>20</sup>			Heibanian	
Meaning	Orig/Tagoi (Tagoi)	Gom (Tegali)	Proto- Rashadian	Proto- Heibanian	Koalib (Heibanian)
Achilles’ tendon	<i>kiriç</i> (MS:95)	NA	NA	NA	<i>kiriḡ</i> ‘tendon’
back of head	<i>yindóḡ</i> (MS:31)	NA	NA	NA	<i>lèdḡḡ</i>
baobab	<i>wər</i> (MS:92)	NA	NA	NA	<i>kwòkwòr</i>
bark	<i>kimbàkól</i> (MS:36)	UN	UN	UN	<i>kimùukùl</i>
beard	<i>kábú</i> (MS:35)	NA	NA	NA	<i>kéebú</i>
beat/hit	<i>bí(r)pù(ró)</i> (MS:50)	NA	UN	*- <b>biḡ-</b>	<i>ippi</i>
brain	<i>yàràḡ</i> (MS:31)	NA	NA	NA	<i>ḡàrény</i>

<sup>20</sup> See preceding footnote (Appendix 1) for the reference system and for Proto-Heibanian and Koalib data. In some cases, when all Rashadian forms present a high degree of similarity, I proposed myself a Proto-Rashadian form (indicated by Q). The remaining Proto-Rashadian forms all come from Schadeberg (ca. 1980).

canine tooth	<i>tèrèm</i> (MS:16, 28)	NA	NA	NA	<i>téerám</i>
cave	<i>kùbàŋ</i> (MS:37)	NA	NA	NA	<i>kèbàŋ</i>
cheek	<i>yìnèènè</i> (MS:31)	NA	NA	NA	<i>lènèenè</i>
cloth, dress	<i>kóbàŋ</i> (MS:37)	UN	NA	NA	<i>kwópàn</i> [kwóvàn]
clothing	<i>keré(ε)w</i> (TSb:334)	UN	NA	*g-+-ereɔ	<i>kèrét</i>
doum (tree)	<i>wàndók</i> , fruit: <i>yàmdók</i> (MS:92)	NA	NA	NA	<i>àmtó</i>
dry	<i>-uttá/-ottó</i> (TSb:334)	<i>-údí</i> (TSb:334)	*-uddi (TSc:42)	*-unDo	<i>ònté</i> [òndé] (PFV: <i>òntò</i> )
dust	<i>túláŋ</i> (MS:30), <i>kólólóŋ</i> (TSb:334)	<i>tólóŋ</i> (TSb:334)	NA	NA	<i>kúulé</i> (O: <i>kùuléŋí</i> )
ear	<i>finin</i> (MS:12)	<i>nu/nũũ/</i> <i>núun/anuun</i> (TSb:334)	NA	*g- + -aani	<i>kéeni</i>
eat	<i>yek</i> (TSb:334)	<i>yek</i> (TSb:334)	*yek (Q)	*-iy-	<i>yèé</i>
eight	<i>tùppá</i> (MS:42)	<i>tuppá</i> (TSb:338)	*tuppá (TSc:42)	*-uuba(ŋ)	<i>dòpòkkwóppà</i> [dòvòkkwóppà]
elbow	<i>tulu</i> (MS:9, 27)	NA	NA	NA	<i>tóolóŋ</i>
elephant	<i>fàŋán</i> (MS:72), <i>fu-ŋin/fə-ŋin</i> (SV-41:46)	<i>ŋin(ε)/ŋeni</i> (SV-41:46)	*(fV)ŋVn (Q)	*d-+-oŋor	<i>tóŋwór</i> [tòŋwór]
fat	<i>ŋaarəf</i> (TSb:334)	<i>iri</i> ‘oil’ (TSb:334)	*-aarif (TSc:45)	*ŋ-+-eeLa	<i>ŋèelà</i>
flower	<i>kàbláŋ</i> (MS:36), <i>kabalín</i> (TSb:334)	<i>oofəŋjelak</i> (TSb:334)	NA	*-birəŋ?	<i>òprény</i> [òvrén]
foot/leg	<i>tègàn</i> (MS:28),	<i>egén</i>	*d-egen	UN	<i>káakà</i> [káagà]

	<i>tégen</i> (TSb:335)	(TSb:335)	(TSc:48)		
go	<i>ndé</i> (MS:50), <i>éé-dé/é-ndé</i> (TSb:335)	<i>ε-ndεk</i> (TSb:335)	* <i>ε-ndε</i> (k) (Q)	*-nD-	<i>èélé</i> (IMP: <i>ntu~nti</i> [ndu~ndi])
green	<i>-ijilú</i> (TSb:335)	<i>-rígêl</i> (TSb:335)	NA	*-iigla	<i>-íklì</i> [íglì]
guest	<i>w-erin</i> (SV-41:121)	NA	NA	NA	<i>kwìirìn</i>
hare	<i>cín</i> (MS:39)	NA	NA	NA	<i>ηìini</i>
kid	<i>címnàη</i> (MS:39)	NA	NA	NA	<i>témná</i> [témná] ‘young goat’
left (side)	<i>ηáwwúr</i> (TSb:335)	<i>áwár</i> (TSb:335)	*-awwir (TSc:47)	*-awur	<i>ηèekùr</i> [ηèegùr]
lower leg	<i>téndèny</i> (MS:16, 28)	NA	NA	NA	<i>ténťény</i> [téndéj] ‘front of the lower leg’
many	<i>-átta</i> (TSb:336)	UN	NA	*-uDDun	<i>-éťťàcér</i>
milk	<i>ηjñ</i> (MS:81), <i>ηan</i> (SV-41:146)	NA	NA	NA	<i>ηán</i>
mud	<i>ηjls</i> (MS:82)				<i>kèlòo</i> ‘salty mud’
near	<i>gattñ</i> (TSb:336), <i>togot</i> (TSb:336)	UN?	NA	UN	<i>kéttòk</i>
night	<i>kìrìm</i> (MS:15, 37), <i>kàràm</i> (TSb:336)	<i>úgri</i> (TSb:336)	NA	UN	<i>kìrìm</i> ‘darkness’
old (≠ new)	<i>-nrów/</i> (TSb:336)	<i>aró</i> (TSb:336)	*-VrV (Q)	*-ooran	<i>-óorón</i>
one	<i>wàttá</i> (MS:10, 42), <i>-endá</i> (TSb:338)	<i>w-uttá</i> (TSb:338)	NA	*-aDDe	<i>kwéťťé</i>
porcupine	<i>wor</i> (MS:84)	NA	NA	NA	<i>kwôn</i>
python?	<i>wàm</i> (MS:88)	NA	NA	NA	<i>kwâm</i>

rain	<i>yàð</i> (MS:33), <i>yau/yaaw</i> (TSb:336)	<i>áú</i> (TSb:336)	* <b>(y)au</b> (Q)	* <b>g--aw</b>	<i>káo</i> ‘rain’, <i>yáo</i> ‘much water’
red	<i>-àráó</i> (MS:41), <i>-aaráw</i> (TSb:336)	<i>-aryáu</i> (TSb:336)	* <b>-araw</b> (TSc:45)	* <b>-Uure</b>	<i>-óorè</i>
salt	<i>módo/mánda</i> (TSb:336)	<i>mude</i> (TSb:336)	* <b>mVdV</b> (Q)	* <b>ø--muda</b>	<i>kwúmtè</i> [kwúmðè]
scorpion	<i>w-udeny</i> (SV-41:121)	NA	NA	NA	<i>lèbdèny</i>
sheep	<i>kàgóy</i> (MS:87)	NA	NA	NA	<i>káaṅàl</i>
shoulder	<i>killi</i> (MS:8, 35)	NA	NA	NA	<i>kèllè</i>
six	<i>jéérér</i> (MS:42), <i>jééréy/jéereɣ</i> (TSb:338)	<i>jéérér</i> (TSb:338)	* <b>ɲεεɛC</b> (Q)	* <b>ɲ-d-ɛɣil</b>	<i>nyérlél</i>
smoke (n.)	<i>kírèk</i> (MS:88), <i>k(ə)rək</i> (TSb:337)	<i>tulé</i> (TSb:337)	NA	* <b>g--ulu</b>	<i>kwùulú</i>
soul, shade	<i>tàglám</i> (MS:27)	NA	NA	NA	<i>tíkɣim</i> [tígɣim]
sun	<i>yàn</i> (MS:90), <i>yáán</i> (TSb:337)	<i>ááné</i> (TSb:337)	* <b>-aane</b> (TSc:49)	* <b>ø--aɲin</b>	<i>àaṅwòn</i>
tail	<i>teyək/tiik</i> (TSb:337)	<i>(e)yək</i> (TSb:337)	NA	* <b>ɖ--ia</b>	<i>tèa</i>
taste (v.)	<i>-daṅal</i> (MS:90)	NA	NA	NA	<i>nyèṅlé</i>
tongue	<i>téṅlāk</i> (MS:27, 28), <i>táṅlāk/taṅlāk</i> (TSb:337)	<i>aṅa</i> (TSb:337)	* <b>d-aɲil(-ag)</b> (TSc:45)	* <b>ɖ- + -ṅela</b>	<i>téṅlà</i>
vomit	<i>(w)odək</i> (TSb:338)	<i>udak</i> (TSb:338)	* <b>VdVk</b> (Q)	* <b>-wey-</b>	<i>ùé</i> (PFV: <i>uetu</i> [ùeðù])
water	<i>ṅa(a)y</i> (TSb:338)	UN	NA	* <b>ṅ--aw</b>	<i>ṅâo</i>
yam	<i>kírár</i> (MS:36)	NA	NA	NA	<i>kíṅèr</i> ‘edible tuber sp.’

**Appendix 3** Plausible lexical cognates between Talodian and Heibanian

Meaning	Talodian <sup>21</sup>		Heibanian	
	Languages	Proto-Talodian	Proto-Heibanian	Koalib or other
bad	Jomang <i>-ókki</i> (TSd:19), Tocho <i>pɔ-gi-dak</i> (NK:148)	*-V <b>ggi</b> (TSd), *- <b>gi</b> (NK:148)	*- <b>gge</b>	- <i>kêe</i> (PFV: - <i>kèe</i> )
bark (n.)	Lumun <i>təmmâk</i> (HS), Tuwal <i>x-əmək</i> (NK:130)	*t-ə- <b>mək</b> (NK:130)	UN	<i>kìmmùukùl</i> [kìmmùugùl]
beat/hit	- <i>ppi/kɔbɔ</i> (TSd:30), Tocho <i>ppɔ</i> (NK:144)	*-gob- (TSd), *kə- <b>bɔ</b> (NK:143)	*- <b>biɖ-</b>	- <i>ippi</i>
belly	<i>carək</i> (HS), Tasomi <i>j-áárək</i> (TSd:20)	*j-+- <b>arag</b> (TSd), * <b>ca-rək</b> (NK:130)	*g-+- <b>aare</b>	<i>káaré</i>
bite/eat	Tasomi <i>dá-gíjɔk</i> (TSd:20)	*-gV <b>jog</b> (TSd), *kə- <b>ɟɔ</b> (NK:142)	*- <b>iy-</b>	<i>yèé</i>
black	- <i>oŋi</i> VE:142), - <i>ɟɪ</i> (HS)	*- <b>uɲi</b> (TSd)	*- <b>uɲuna</b>	- <i>úɲni</i>

<sup>21</sup> See preceding footnotes (appendix 1) for the reference system and for Proto-Heibanian and Koalib data. When a Heibanian language other than Koalib is mentioned, its name is explicitly mentioned and the data are mine. For Proto-Talodian, data come from Schadeberg (1981b) and Norton and Kuku Alaki (2015).

butter	<i>pəði</i> (VE:50)	NA	NA	<i>púutì</i> [fúuði]
claw/nail	Tasomi <i>g-áárǰli</i> (TSd:22)	* <b>g--aareli</b> (TSd), * <b>k-adəli</b> (NK:131)	UN	<i>kèrèllè</i>
cloth(es)	Lumun <i>k-eret</i> (NK:131), <i>k-ərét</i> (HS)	* <b>k-eret</b> (NK:131)	* <b>g--ered</b>	<i>kèrét</i> [kèréɛ]
cold	<i>-iṭ:i</i> (VE:141, 142)	* <b>iḍḍiṅ</b> (TSd), * <b>-iṭṭiṅ</b> (NK:151)	UN	<i>-têe</i> [têe] (PFV: <i>-tèe</i> )
drum	Dagik <i>p-amba</i> (NK:132), Acheron <i>b-ambaṅ</i> (NK: 132)	* <b>p-ambaṅ</b> (NK:132)	NA	<i>ámpà</i> [ámà]
dry	<i>-aṅḍəma</i> (VE:143), <i>-əṅṭəmat</i> (HS)	* <b>-ando</b> (TSd)	* <b>-unDo</b>	<i>-ònté</i> [òṅḍé] (PFV: <i>-òntò</i> )
dust	Torona <i>k-ɔɽ- baṅ</i> (NK: 132), Tocho <i>t- uru-bâṅ</i>	* <b>t-ə-ɖo(-baṅ)</b> (NK:132)	NA	<i>kèprá</i> [kèvrá] (O: <i>kèpráṅé</i> )
ear	<i>kenu</i> (VE:250)	* <b>g--eenu</b> (TSd), * <b>k-enu</b> (NK:132)	* <b>g--aani</b>	<i>kéeni</i>
fire	Lumun <i>ṭ-ík</i> (NK:133), Acheron <i>ḡ-ik</i> (NK:133)	* <b>ḡ--ig</b> (TSd), <i>ṭ-ik</i> (NK:133)	* <b>ø--iiga</b>	<i>ìiké</i> [iigé]
food	Lumun <i>ṭ-òrít</i> (NK:133)	* <b>ṭo-ṭi</b> (NK:133)	NA	<i>tùl</i> [tùl] (O: <i>tùli</i> ) 'sorghum porridge'



foot/leg	<i>səgək</i> (VE:254), Tasodi <i>s-ágâk</i> (TSd:28)	*ts-+-agag	UN	<i>káakà</i> [káagà] ‘foot’
forehead	<i>suðu</i> (VE:29), Torona <i>k-úðu-t/n-uðu-l</i> (NK:134)	<i>c-ə-ɖuC</i> (NK:134)	NA	<i>kìtùl</i> [kìðùl]
fowl	<i>ðak:əv</i> (VE:247)	NA	NA	<i>kàkró</i> [kàgró] ‘hen’
hard	<i>-ə̀ṅḍə</i> (VE:142), <i>-ə̀ṅḍəmat</i> (HS)	NA	NA	<i>-ònté</i> [òṅḍé] (PFV: <i>-òntò</i> )
hole	<i>ðu</i> (VE:41), <i>c-ibó</i> (NK:135)	*ɖ-?+-ubu (TSd), *NC-bu (NK:135)	*li-+-bugul	<i>tíu</i> [tíu] ‘hole’, <i>libùḡ</i> ‘hole (dug into ground)’
human/person	<i>pər</i> (VE:253)	*b-+-ur (TSd), *p-ɔ̀ɔ (NK:138)	*gu-+-ur ‘man’	<i>kwór</i> ‘man’
left (side)	Tuwal <i>ɲə-kore</i> (NK:147), To- rona <i>ɬə-yore</i> (NK:147)	*-gule (TSd), *gule (NK:147)	*-awur	<i>ɲèkùr</i> ‘left side’ ( <i>téekùr</i> [tèegùr] ‘left-handed person’)
lyre	Tuwal <i>p-erε- mb-erε</i> (NK:137)	*p-erεn-p- erεn (NK:137)	NA	<i>kwúmpèrè</i> [kwúmbèrè]
narrow	<i>-óm̩mo</i> (TSd: 34), Torona <i>pəmməḡ</i> (NK:150)	*-om̩m̩ə (NK:150)	*-muma?	<i>ùmmèttí</i>
near	<i>gəttí/ə̀nə̀gətuk</i> (TSd:34), <i>kə-</i>	*-iddu (TSd), *-tt̩v-t̩	NA	<i>kéttək</i> [kéttək]

	<b>ttu</b> (NK:150)	(NK:150)		
pig	Nding <i>t-úduru</i> (NK:138), Lumun <i>t-úttúk</i> (NK:138)	* <b>t-ə-ttəruk</b> (RN:138)	NA	Ko <i>kùtɔ̀</i> , Tira <i>úuttúr</i> , Werni ( <i>ù</i> ) <i>utúr</i>
porcupine	<i>amumu</i> (VE:34)	NA	NA	<i>lùmù</i> ‘hedgehog’
rain	Torona <i>kaβík</i> (NK:138), Acheron <i>gabík</i> (NK:138)	* <b>k-abík</b> (NK:138)	* <b>g--aw</b>	<i>kâo</i>
red	- <i>ɔɽɛ</i> (VE:143, 151)	*- <b>oode</b> (TSd), *- <b>ɖɛ</b> (NK:147)	*- <b>UUre</b>	- <i>óorè</i>
rope	<i>ðər</i> (VE:248)	* <b>ɖ--oorag</b> (TSd), * <b>t-ɔlək</b> (RN:139)	* <b>ɖ--ar</b>	<i>lár</i>
sheep	<i>ðungá</i> (VE:31), Tocho <i>tɔ-ɨgak</i> (NK:139)	* <b>tɔ-ɨgatɔ</b> (NK:139)	NA	<i>káaɨàl</i>
strength	<i>ɨama</i> (VE:147)	NA	NA	<i>ɨémà</i>
sun	<i>j-ɨɨgi/c-ɨɨgi</i> (TSd:40)	* <b>j--ɨɨgi</b> (TSd), * <b>c-ə-ɨɨgi</b> (NK:140)	* <b>ø--aɨin</b>	<i>àaɨwòn</i>
thief	<i>poɽa</i> (VE:43, 253)	NA	NA	<i>kwòoɽàm</i>
thorn	<i>túgi</i> (Ngile, TSd:151)	* <b>ɖ--a(g)i</b>	* <b>d--ugi</b>	<i>túukí</i> [ <b>túugi</b> ]
throat	<i>ðəguru</i> (VE:15, 248)	NA	NA	<i>tókwɽò</i> [ <b>tógwɽò</b> ]

tongue	<i>ðuləŋe</i> (VE:248)	* <b>ḡ</b> --(V)IVŋe (TSd), * <b>ḡo-</b> <b>ləŋe</b> (NK:140)	* <b>ḡ</b> --ŋela	<i>téŋlā</i>
tree	<i>b-ííŋâ/p-ííŋâ</i> (TSd:42)	* <b>b-/g</b> --nda (TSd), * <b>p-ida</b> (NK:140)	* <b>gu</b> --aare	<i>kwáare</i>
two	Dengebu <i>-éerá</i> , Torona <i>m-erā</i> (NK:151)	*- <b>eedag</b> (TSd), *C- <b>edac</b> (NK:150)	NA	<i>-iren</i>
vomit	<i>utte</i> (HS)	*- <b>VddV</b> (TSd), * <b>uk-dε</b> (NK:146)	*- <b>wey-</b> (TSa)	<i>ùé</i> (PFV: <i>uetu</i> [ùeðù])

#### Appendix 4 Plausible lexical cognates between Lafofa and Heibanian

Meaning	Lafofa <sup>22</sup>	Heibanian	
		Proto-Heibanian	Koalib
belly	<i>ḡ-úur-i</i> (TSd:20)	* <b>g</b> --aare	<i>káare</i>
bite	... <i>jiε</i> (TSd:20)	*- <b>iy-</b>	<i>yèé</i>
bone	t- <i>óám-i</i> (TSd:21)	* <b>li</b> --uaya	<i>lèá</i>
elephant	<i>yu:ŋi</i> (TSd:168)	* <b>d</b> --oŋor	<i>tóoŋwór</i> [túoŋwór]
fly	<i>βai</i> [β~b] (TSd:168)	NA	<i>kwáeó</i> [kwáajó]
foot	<i>l-ia-ga</i> (TSd:32)	UN	<i>káakà</i> [káagà] ‘foot’
hit	... <i>biŋ</i> (TSd:37)	*- <b>biḡ-</b>	<i>ippi</i>
left (side)	<i>kúlɪ</i> (TSd:31)	*- <b>awur</b>	<i>ŋèekúr</i> ‘left side’ ( <i>téekúr</i> [tégúr] ‘left- handed person’)
rain	<i>k-álló-y</i> (TSd:35)	* <b>g</b> --aw	<i>kâo</i>

<sup>22</sup> See preceding footnotes (appendix 1) for the reference system and for Proto-Heibanian and Koalib data.

seed	<i>t-óol-í</i> (TSd:37)	*li-+-U <sup>U</sup> la	<i>lòolà</i>
sheep	<i>βa:ηi</i> (TSd:168)	NA	<i>káaηàl</i> (Koalib)
sky	<i>l-óor-í</i> (TSd:38)	NA	<i>lééré</i>
smoke (n.)	<i>c-oor-í</i> (TSd:27)	*g-+-ulu	<i>kwùulú</i>
star	<i>t-ṛṛṛ</i> (TSd:39)	*li-+-UDam	<i>ṛṛoròm</i>
tongue	<i>l-íáη-i</i> (TSd:41)	*ḍ-+-ηela	<i>ṛṛéηlà</i>
tooth	<i>ṛ-éεη-í</i> (TSd:41)	*li-+-ηaḍ	<i>lèηàṛ</i>
vomit	<i>lwâ-ḍaη, ...lwa</i> (TSd:42)	*-wey-	<i>ùé</i>
wet	<i>b-ónji-lli</i> (TSd:42)	*-iigla	<i>iklì</i> [igli]
woods	<i>t-ṛṛṛ</i> (TSd:44)	NA	<i>lúurí</i> (DIM: <i>ṛúurí</i> ) 'piece of wood'
worm	<i>ko-don-í</i> (TSd:44)	*gu-+-onḍo	<i>kwòṛṛṛ</i> [kwòṛṛṛ] (O: <i>kwòṛṛṛṛé</i> )

#### Appendix 5 Plausible lexical cognates between Katloid, Rashadian and Talodian

Meaning	Katloid <sup>23</sup>	Rashadian		Talodian	
		Languages	Proto-Rashadian	Languages	Proto-Talodian
bark <sup>24</sup> <sub>(RN)</sub>	Katla <i>kúúr</i>	Tagoi <i>kówár</i> , Tagom <i>ware</i> (TSb:333)	*g-ware (TSc:46)	UN	UN
blood	Katla <i>ija~iya</i> (SV-41:51)	Rashad <i>wiya</i> (SV-41:51), <i>oyá</i>	*η-oya (TSc:46)	Tocho <i>η-iccək</i>	*η-+-ittsug (TSd:132),

<sup>23</sup> See preceding footnotes (appendix 1) for the reference system and for the sources of the data (including proto-languages).

<sup>24</sup> This root for 'bark' may well be shared with Lafofa *c-íuri* (TSd:19). However, it is distinct from another root attested in Heibanian, Talodian and also Orig, a Rashadian language (see Table 9.9-x4). The existence of two roots for 'bark' might be the reflexion of a lexical doublet already present in proto-Kordofanian. It could also be the case that these two roots refer to two different kinds of 'bark' which we are not able to distinguish, due to the lack of fine-grained lexicographic studies devoted to Kordofanian languages.

		(TSb:333)		(TSd:21)	*ŋ-iccok (NK:130)
bone	Tima <i>kuh</i> (SV-41:191)	Tagoi <i>kuh</i> (TSb:333)	*g-usru (TSc:45)	UN	UN
breast	Katla <i>munji</i> (SV-41:51), Tima <i>kìmindî</i> (SB:190)	Orig <i>támij</i> (TSb:333), Rashad <i>min</i> (SV-41:51)	*d-mij (TSc:45)	Talodi <i>j- injik</i> (SV- 41:51)	*j--intsig (TSd:133) <sup>25</sup> , *c-ə-mmik (NK:130)
eye	Katla <i>gigöt</i> (SV-41:51)	Tagoi <i>yígät</i> (TSb:334), Rashad ( <i>ŋ</i> ) <i>gät</i> (SV-41:51)	*y-ngid (TSc:43)	Lumun <i>cýt</i> (HS), Ngile <i>s-ígi</i> (TSd:25)	*j--iig (TSd:136), *c-it (NK:132)
four <sub>(RN)</sub>	Tima <i>iháləm</i> (SB:137)	Tagoi <i>-arəm</i> , Tagom <i>áarám</i> (TSb:338), Tegali <i>harom</i> (TSc:22)	*(h)aram (Q)	UN	UN
goat <sup>26</sup>	Tima <i>címìð</i> (SB:190)	Orig <i>m̀bát</i> , Tagoi/Rashad <i>mbit</i> (SV- 41:147)	*mbit (Q)	Lumun <i>imit</i> (SV-41:147)	*w--emig (TSd:138), *u-mit (NK:134)
good <sub>(RN)</sub>	Tima <i>-àmməl</i> , - <i>màl</i> (SB:34, 183)	Tagoi <i>-dómbór</i> , Turjok <i>-ambaló</i> , Tagom <i>kamər</i>	*-am(b)ər (Q)	UN	UN
hair	Katla <i>gagam</i> (PL: <i>agam</i> ) (SV-41:51),	Tagoi/Orig <i>ka(a)m</i> (TSb:334),	*g-aam (TSc:45)	Tocho <i>k-úúgaŋ</i>	*d--ugaŋ (TSd:140), *NC-ŋəŋ

<sup>25</sup> TSd (133) has *j--instig* but, according to the collected forms for ‘breast’ (TSd:21) and the comment to the form (“NG: mm < \*nts ?”, p. 133), *instig* is most probably a typo for *j--intsig*.

<sup>26</sup> Note that for this item, Lafofa also displays a related form, *εmi* ‘goat’ (TSd:139).

	Tima <i>káàm</i> (SB:25)	Rashad <i>am</i> (SV- 41:51)		(TSd:28)	(NK:135)
head	Katla <i>gas</i> (SV- 41:51)	Tagoi/Orig <i>káy</i> , Rashad <i>as</i> (SV- 41:51)	* <b>g-aj</b> (TSc:44)	Talodi <i>j-as</i> (SV-41:51)	* <b>j+-ats</b> (TSd:140), * <b>c-ac</b> (NK:135)
tortoise	Tima <i>k-àròl</i> (AL:24)	NA	NA	Dagik <i>káṛó</i> (VE:47)	NA