

Central Chadic Reconstructions

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Foreword

This document is a presentation of a reconstruction of the Proto-Central Chadic lexicon, along with full supporting data. These reconstructions are presented in conjunction with my PhD dissertation on the reconstruction of the phonology of Proto-Central Chadic (University of Leiden).

You can view the data at <http://centralchadic.webonary.org>, and also view a summary dictionary of Proto-Central Chadic at <http://protocentralchadic.webonary.org>.

The Central Chadic languages are spoken in north-east Nigeria, northern Cameroon, and western Chad. The Ethnologue lists 79 Central Chadic languages. Data comes from 59 of these languages, along with a number of dialects.

Classification

The classification used here results from the identification of regular changes in the consonantal phonemes amongst groups of Central Chadic languages. Full evidence is given in the dissertation. The summary classification is as follows (dialects are in parentheses; languages not cited in the data are in italics):

Bata group: Bachama, Bata, *Fali*, Gude, *Gudu*, *Holma*, Jimi, *Ngwaba*, *Nzanyi*, Sharwa, Tsuvan, *Zizilivakan*

Daba group: Buwal, Daba, Gavar, Mazagway, Mbudum, *Mina*

Mafa group: Cuvok, Mafa, Mefe

Tera group: *Boga*, Ga'anda, Hwana, *Jara*, Tera (Nyimatli)

Sukur group: Sukur

Hurza group: Mbuko, Vame

Margi group: Bura, *Cibak*, Kilba, *Kofa*, Margi, Margi South, *Nggwahyi*, *Putai*

Mandara group: *Cineni*, Dghwede, Glavda, *Guduf*, *Gvoko*, Mandara (Malgwa), Matal, Podoko

Mofu group: Dugwor, Mada, Merey, Mofu-gudur, Mofu North, Moloko, Muyang, Ouldeme, Zulgo (Gemzek)

Maroua group: Giziga Marva, Giziga Moutourwa, Mbazla

Lamang group: Hdi, Lamang, *Mabas*

Higi group: Bana, *Hya*, Kamwe (Futu, Nkafa), Kirya, Psikye

Kotoko Island group: Buduma

Kotoko North group: Afade, Malgbe, Maltan, Mpade

Kotoko Centre group: Lagwan, Mser

Kotoko South group: Mazera, Zina

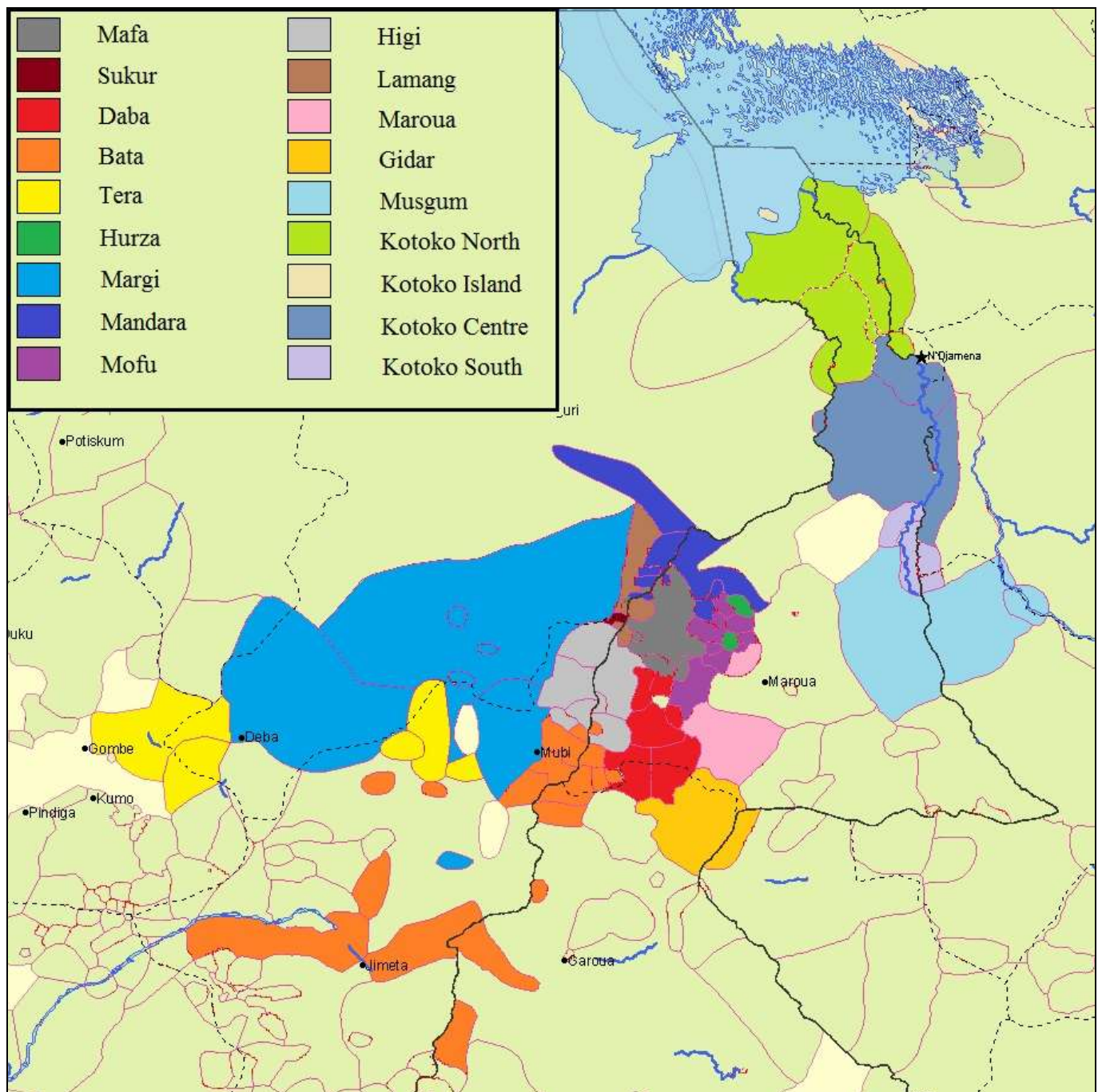
Musgum group: Mbara, Musgum (Mulwi, Munjuk, Vulum), Muskum

Gidar group: Gidar

In some cases, comparative data is given from languages of wider communication, such as Adamawa Fulfulde, Kanuri and Hausa.

Map

The following map shows the locations of the languages of each of the eighteen groups within Central Chadic.



Reconstructions

Not all of the reconstructions given can be attributed to Proto-Central Chadic. The data includes several alternate isoglosses for common roots, and also several widespread loan words that entered into Central Chadic at an early stage in its history. The commentary on each entry will indicate how the reconstruction should be treated if it is not attributable to Proto-Central Chadic.

For some nouns, the gender is included. Gender is a feature in a minority of Central Chadic languages, but when the gender of a noun is consistent across these languages, that gender is given as the gender of the reconstructed form. These attributions cannot be treated as reliable.

Dictionary Entries explained

The first part of the entry gives the headword in bold, the part of speech, and the gloss in English and French (in *italic*). Following this, figures are given in parentheses for the number of present-day languages where reflexes of the reconstructed form have been attested, and the number of groups within Central Chadic represented by these languages. There are eighteen groups in total.

After the language statistics, there is an indication of the reliability of the reconstruction. This takes the form of a letter from A to E, with A being the most reliable. The level is determined according to the consistency of the data, the difficulty of the reconstruction, and the quantity of data available.

There then follows a commentary on the reconstruction, indicating where sound changes have taken place, how the reconstruction has been determined, and whether the word has come from Proto-Central Chadic, a later neologism, or is borrowed. Sound changes are categorised as ‘regular’ if they follow an established rule, ‘irregular’ if they go against an established rule, ‘sporadic’ if the change is common but not predictable (e.g. loss of *h), and ‘unestablished’ if the change has not been researched and it is not yet known if it is regular or not.

Beneath the header part of the entry there is a numbered paragraph for each group within Central Chadic where reflexes of the reconstructed form are attested. The proto-language for the group is given in bold, followed by the reconstructed form and its gloss in English and French.

The proto-form is followed by the data from each individual language, numbered 1.1, 1.2 etc. The language name is given in bold, followed by the author of the data source. Then the word form is given, along with the definition in English, French or both. This part of the data is as presented by the original author, except that the word forms have been normalised into IPA, and there has been some editing of the definitions. In some cases there is more than one reflex in a particular language, or there is more than one source, or more than one sense for the word. These additional forms are given as third level entries, e.g. 1.1.1 etc.

The Proto-Central Chadic Alphabet

All the reconstructed data is given in IPA. There are the following 35 phonemes:

a b b̄ d dz d̄ f g g^w ɣ ɣ^w h h^w i ɨ j k k^w † ʟ m ^mb n ⁿd ⁿdz ŋg ŋg^w p r s t ts v w z

The reconstructions are arranged alphabetically according to the above order.

A raised ^y after the word indicates that the word carries the palatalization prosody.

Abbreviations

adj. – adjective

cf. – compare

n. – noun

nf. – feminine noun

nm. – masculine noun

num. – numeral

rel. to – related to

syn. – synonym

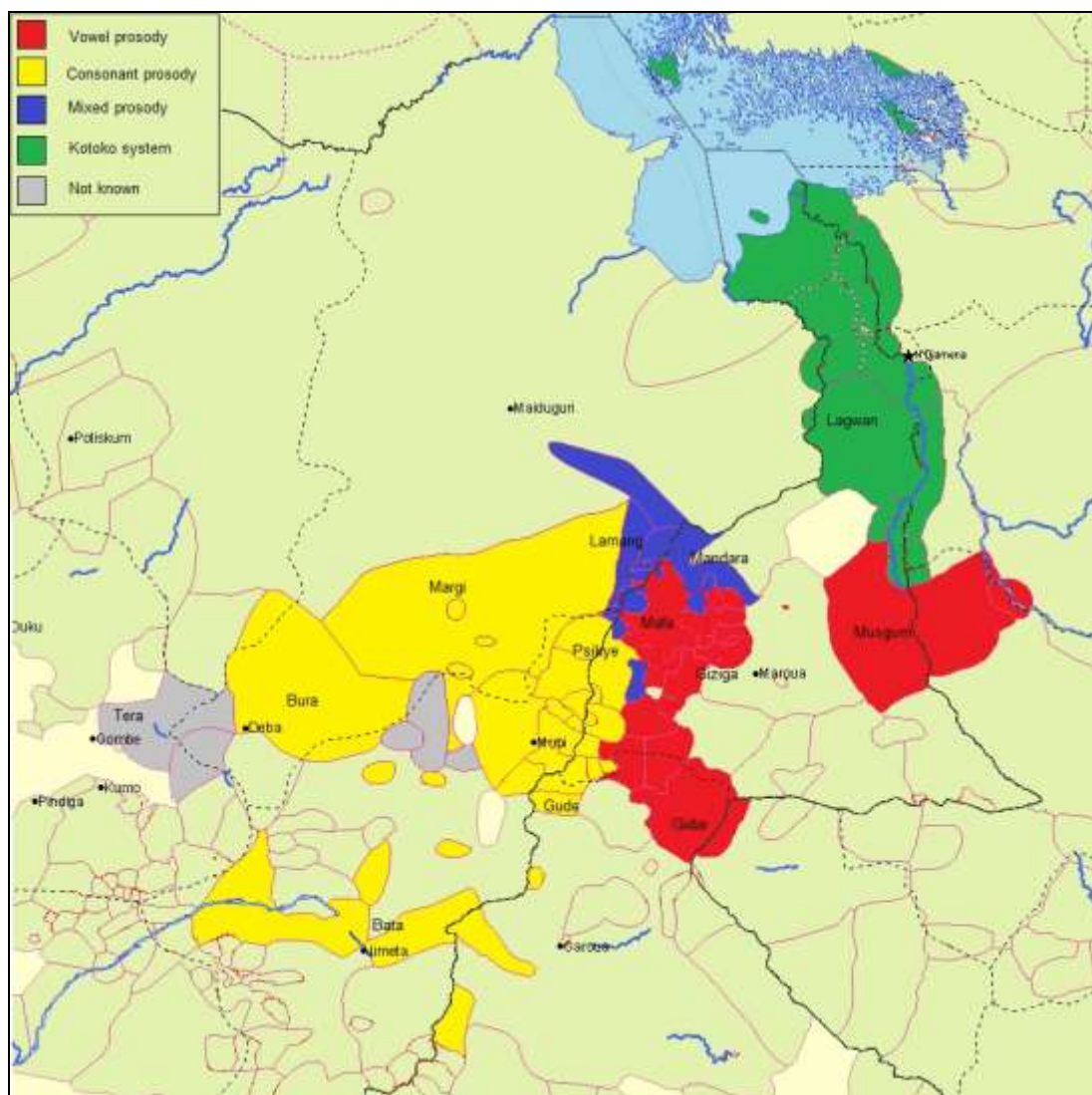
v. – verb

Phonology

The phonology of Proto-Central Chadic consists of 31 consonants, three vowels and a morpheme-level palatalization prosody.

The three vowel phonemes are /a/, /i/ and /i/.

In present day Central Chadic languages, the palatalization prosody has two basic types. The first is the vowel palatalization prosody, which fronts the vowels in the morpheme. The second is the consonant palatalization prosody, which palatalizes one or more consonants in the morpheme, primarily the laminal consonants. There is considerable variation in how the palatalization prosody is realised between different languages. In many cases there are elements of both the vowel prosody and consonant prosody types. In Proto-Central Chadic, the palatalization prosody was probably of mixed type. The following map shows the distribution of the different phonological types:



The consonant phonemes include a set of labialized velar consonants. In many of the present day languages which have the consonant palatalization prosody, the labialization component has transferred from a velar to a labial consonant in several words, leading to the creation of a set of labialized labial consonants. Likewise, in present day languages which have the vowel palatalization prosody, the labialization component has been reanalysed as a vowel labialization prosody, causing the back-rounding of the vowels in the morpheme.

The consonantal system of Proto-Central Chadic is as follows:

| | Labial | Alveolar | Laminal | Velar | Labialized Velar |
|----------------------|----------------|----------------|-----------------|-------------------|---------------------------------|
| Plosive | p | t | ts | k | k ^w |
| | (b) | d | dz | g | g ^w |
| Implosive | ɓ | ɗ | | | |
| Fricative | | ʈ | s | x | x ^w |
| | v | ʂ | z | ɣ | ɣ ^w |
| Nasal | m | n | | | |
| Pre-nasalized | ^m b | ⁿ d | ⁿ dz | (^ŋ g) | (^ŋ g ^w) |
| Liquid | | r | | | |
| Approximant | | | j | | w |

Data Sources

The data sources cited are as follows:

| Language [code] | Group | Source | Type |
|---------------------------|---------------|---|--------------------------|
| Afade [aal] | Kotoko North | (Allison n.d.) | Word list (unpublished) |
| Bachama [bcy] | Bata | (Seibert n.d.) | Word list (unpublished) |
| Bana [bcw] | Higi | (Lienhard and Giger 1989) | Lexicon (unpublished) |
| Bata [bta] | Bata | (Boyd 2005) | Lexicon (unpublished) |
| | | (Pweddson and Skinner 2001) | Dictionary |
| Boga [bvww] | Tera | none | |
| Buduma [bdm] | Kotoko Island | (McKone 2009) | Lexicon (unpublished) |
| Bura [bwr] | Margi | (Blench 2009a) | Dictionary (unpublished) |
| | | (Schuh n.d.) | Word list (unpublished) |
| Buwal [bhs] | Daba | (Viljoen and Viljoen in progress) | Lexicon (unpublished) |
| Cibak [ckl] | Margi | (Hoffmann 1955) | Linguistic article |
| Cineni [cie] | Mandara | none | |
| Cuvok [cuv] | Mafa | (Ndokobai in progress) | Lexicon (unpublished) |
| Daba [dbq] | Daba | (Lienhard and Giger 1982) | Dictionary |
| Dghwede [dgh] | Mandara | (Frick 1977) | Linguistic article |
| Dugwor [dme] | Mofu | (Gravina and Jubumna 2004) | Word list (unpublished) |
| Fali [fli] | Bata | none | |
| Ga'anda [gqa] | Tera | (Newman 1978) | Word list (unpublished) |
| Gavar [gou] | Daba | (Viljoen and Viljoen in progress) | Word list (unpublished) |
| Gemzek [gnd] | Mofu | (Gravina, Sabathai, and Gwala-Madang n.d.) | Word list (unpublished) |
| Gidar [gid] | Gidar | (Schuh 1982) | Word list |
| | | (Hungerford n.d.) | Word list (unpublished) |
| | | (Noukeu 2002) | Linguistic article |
| Giziga North [gis] | Maroua | (Gravina 2004) | Word list (unpublished) |
| Giziga South [giz] | Maroua | (Michielan and Jaouen in progress) | Dictionary (unpublished) |
| Glavda [glw] | Mandara | (Rapp and Benzing 1968; Rapp and Muehle 1969) | Dictionary |
| | | (Owens n.d.) | Word list (unpublished) |
| | | (Nghagyiva n.d.) | Database |
| Gude [gde] | Bata | (Hoskison 1983) | PhD Thesis |
| | | (Schuh n.d.) | Word list (unpublished) |
| Gudu [gdu] | Bata | none | |
| Guduf-Gava [gdf] | Mandara | none | |
| Gvoko [ngs] | Mandara | none | |
| Hdi [xed] | Lamang | (Bramlett 1996) | Lexicon |

| Language [code] | Group | Source | Type |
|-------------------|---------------|--|--------------------------------|
| | | (Eguchi 1971) | Lexicon |
| Higi [hig] | Higi | (Mohrlang 1972) | Phonology |
| Holma [hod] | Bata | none | |
| Hwana [hwo] | Tera | (Harley n.d.) | Word list (unpublished) |
| Hya [hya] | Higi | none | |
| Jara [jaf] | Tera | none | |
| Jilbe [jie] | Kotoko | none | |
| Jimi [jim] | Bata | (Djibi n.d.) | Dictionary (locally published) |
| Kamwe Futu [hig] | Higi | (Harley 2009a) | Word list (unpublished) |
| Kamwe Nkafa [hig] | Higi | (Harley 2009b) | Word list (unpublished) |
| Kilba [hbb] | Margi | (Schuh n.d.) | Word list (unpublished) |
| Kirya [hig] | Higi | (Blench and Ndamsai 2009a) | Dictionary (unpublished) |
| Kofa [kso] | Margi | none | |
| Lagwan [kot] | Kotoko Centre | (Shryock n.d.) | Database |
| Lamang [hia] | Lamang | (Wolff n.d.) | Word list (unpublished) |
| Mabas [vem] | Lamang | none | |
| Mada [mxu] | Mofu | (Barreteau and Brunet 2000) | Dictionary |
| | | (Nkoumou and Telemnke 2003) | Dictionary |
| Mafa [maf] | Mafa | (Barreteau and le Bléis 1990) | Dictionary |
| Malgbe [mxf] | Kotoko North | (Allison n.d.) | Word list (unpublished) |
| Malgwa [mfi] | Mandara | (Löhr 2005) | Lexicon (unpublished) |
| Maltam [msv] | Kotoko North | (Allison n.d.) | Word list (unpublished) |
| Mandara [mfi] | Mandara | (Fluckiger and Whaley n.d.) | Lexicon (unpublished) |
| Margi [mrt] | Margi | (Hoffmann 1963) | Grammar |
| Margi South [mfm] | Margi | (Harley n.d.) | Word list (unpublished) |
| Matal [mfh] | Mandara | (Branger in progress) | Word list (unpublished) |
| Mazagway [dkx] | Daba | (Noussi n.d.) | Word list (unpublished) |
| Mazera [xmj] | Kotoko South | (Allison n.d.) | Word list (unpublished) |
| Mbara [mpk] | Musgum | (Tourneux, Seignobos, and Lafarge 1986) | Word list |
| Mbazla [bdn] | Maroua | (Seignobos and Tourneux 1984; Tourneux 1987) | Word list |
| Mbudum [xmd] | Daba | (Ndokobai in progress) | Lexicon (unpublished) |
| Mbuko [mqb] | Hurza | (Gravina in progress) | Dictionary (unpublished) |
| Mefele [mfj] | Mafa | none | |
| Merey [meq] | Mofu | (Gravina and Doumok in progress) | Lexicon (unpublished) |
| Mina [hna] | Daba | (Frajzyngier, Johnston, and Edwards 2005) | Grammar |
| Mofu North [mfk] | Mofu | (Barreteau and Hollingsworth 1990) | Lexicon (unpublished) |
| Mofu-Gudur [mif] | Mofu | (Barreteau 1988) | Dictionary |
| | | (Hollingsworth and Hollingsworth 2009) | Dictionary |
| Moloko [mlw] | Mofu | (Friesen and Starr n.d.) | Lexicon (unpublished) |
| Mpade [mpi] | Kotoko North | (Allison n.d.) | Lexicon (unpublished) |
| Mser [kqx] | Kotoko North | (Allison n.d.) | Word list (unpublished) |
| Mulwi [mug] | Musgum | (Tourneux 1978a) | Linguistic article |
| Munjuk [mug] | Musgum | (Tourneux 1991) | Dictionary |
| Muskum [mje] | Musgum | (Tourneux 1977) | Linguistic article |
| Muyang [muy] | Mofu | (Smith forthcoming) | Dictionary |
| Nggwahyi [ngx] | Margi | none | |
| Ngwaba [ngw] | Bata | none | |
| Nzanyi [nja] | Bata | none | |
| Ouldeme [udl] | Mofu | (Kinnaird in progress) | Lexicon (unpublished) |
| Podoko [pbi] | Mandara | (Zagba, Jarvis, and Siddi 1986) | Lexicon |
| Psikye [kvj] | Higi | (Mazzucci 2006) | Locally published description |
| Putai [mfl] | Margi | none | |
| Sharwa [swq] | Bata | (Gravina n.d.) | Lexicon (unpublished) |
| Sukur [syk] | Sukur | (David 1996) | Word lists |
| | | (Thomas in progress) | Lexicon (unpublished) |
| Tera [ttr] | Tera | (Newman 1964) | Word list |

| Language [code] | Group | Source | Type |
|--------------------------|--------------|-------------------------------------|-------------------------|
| Tsuvan [tsh] | Bata | (Johnston n.d.) | Word list (unpublished) |
| Vame [mlr] | Hurza | (Kinnaird in progress) | Lexicon (unpublished) |
| Zina [jia] | Kotoko South | (Schmidt, Odden, and Holmberg 2002) | Word list |
| Zizilivakan [ziz] | Bata | none | |
| Zulgo [gnd] | Mofu | (Haller 1986) | Lexicon |

b

bana v. to wash *laver* (13 groups, 34 languages) A

This root is unusual in that it contains *b. There was a general change from Proto-Chadic *b to *v in Proto-Central Chadic, but this root appears as an exception to this change. The change of the medial *n to /r/ in the Mandara and Mofu groups is a regular change in the Mandara group, but in the Mofu group the data from other roots is less consistent and the change is unestablished.

- 1) **Proto-Bata** *bini wash *laver* 1.1) **Jimi** (Djibi) binən *Se laver* ;
- 2) **Proto-Daba** *ban wash *laver* 2.1) **Buwal** (Viljoen) ban bathe, wash oneself *se laver*, *laver* 2.1.1) **Buwal** (Viljoen) ban wash utensils *laver la vaisselle* 2.2) **Gavar** (Viljoen) ban bathe, wash oneself *se laver* 2.3) **Mbudum** (Ndokobai) baŋ wash (tr) *laver* 2.3.1) **Mbudum** (Ndokobai) baŋ bathe (intr) *se laver* 2.4) **Daba** (Lienhard) pān *se laver* ; *soulever*
- 3) **Proto-Mafa** *pana wash *laver* 3.1) **Mafa** (Barreteau) pán *se laver* 3.2) **Cuvok** (Gravina) pana wash clothes *laver (habits)* 3.2.1) **Cuvok** (Gravina) pana bathe (intr) *se laver* 3.2.2) **Cuvok** (Gravina) pana wash (tr) *laver*
- 4) **Proto-Sukur** *banvi wash *laver* 4.1) **Sukur** (Thomas) banvə bathe:- to wash a body with water.
- 5) **Proto-Hurza** *bana wash *laver* 5.1) **Mbuko** (Gravina) banaj wash *laver* 5.1.1) **Mbuko** (Gravina) banaj wash clothes *faire le linge* 5.1.2) **Mbuko** (Gravina) banaj wash oneself *se laver* 5.2) **Vame** (Kinnaird) b̀̀nìj̀̀à 1 wash *laver_(se)* 5.2.1) **Vame** (Kinnaird) b̀̀nìj̀̀à 2 wash *laver* 5.2.2) **Vame** (Kinnaird) b̀̀nìj̀̀à 3 bathe *baigner*
- 6) **Proto-Mandara** *bara wash *laver* 6.1) **Matal** (Branger) màp̀̀al̀̀aj wash *laver* 6.2) **Podoko** (Swackhammer) pará 1 *laver* 6.3) **Glavda** (Nghagyiva) bárga bathe, wash oneself 6.3.1) **Glavda** (Nghagyiva) bárga wash (clothes, utensils)

- 7) **Proto-Mofu** *bara wash *laver* 7.1) **Ouldeme** (Kinnaird) beren *laver qqch* 7.1.1) **Ouldeme** (Kinnaird) bēréj wash sthg *laver* 7.1.2) **Ouldeme** (Kinnaird) beren anan *laver qqch* 7.1.3) **Ouldeme** (Kinnaird) baraká *laver; laver la saleté de...* 7.1.4) **Ouldeme** (Kinnaird) bāraká *laver de; laver la saleté de...* 7.1.5) **Ouldeme** (Kinnaird) bārījà wash(os) *se laver* 7.1.6) **Ouldeme** (Kinnaird) bērijà *se laver* 7.1.7) **Ouldeme** (Kinnaird) baraha *laver; laver (vaisselle, habit)* 7.1.8) **Ouldeme** (Kinnaird) bāráhá *laver ; s'éclairer* 7.2) **Muyang** (Smith) baraba wash_out *laver quelque chose à l'intérieur* 7.2.1) **Muyang** (Smith) barafəŋ wash out a recipient *laver les saletés d'un récipient* 7.2.2) **Muyang** (Smith) baraj wash ; baptise *laver; se laver; baptiser* 7.3) **Mada** (Nkoumou) mabalafaŋa *laver (habits, vaisselle)* 7.3.1) **Mada** (Nkoumou) mábàlá *se laver (baptiser)* 7.4) **Moloko** (Friesen) balaj wash in general *mot général pour laver* 7.5) **Zulgo** (Haller) bara bara bo *laver, nettoyer avec un liquide* 7.5.1) **Zulgo** (Haller) bara *laver, nettoyer avec un liquide* 7.6) **Gemzek** (Sabatai) mebere *laver* 7.6.1) **Gemzek** (Sabatai) mebere ba bathe (intr) *se laver* 7.6.2) **Gemzek** (Sabatai) mebere peteke wash clothes *laver (habits)* 7.6.3) **Gemzek** (Sabatai) bara bara bo wash (tr) *laver* 7.6.4) **Gemzek** (Sabatai) bara wash (tr) *laver* 7.7) **Merey** (Gravina) bara bo bathe (intr) *se laver* 7.7.1) **Merey** (Gravina) bara wash clothes *laver (habits)* 7.8) **Dugwor** (Jubumna) məberej ba bathe (intr) *se laver* 7.8.1) **Dugwor** (Jubumna) məberej (zana) wash clothes *laver (habits)* 7.8.2) **Dugwor** (Jubumna) məberej (tasahaj) wash utensils *laver (vaisselle, ustensiles)* 7.8.3) **Dugwor** (Jubumna) məberej wash (tr) *laver* 7.9) **Mofu North** (Barreteau) mēpáréj *laver* 7.10) **Mofu-Gudur** (Hollingsworth) pər (*se*) *laver, (se) baigner,*
- 8) **Proto-Maroua** *buna wash *laver* 8.1) **Giziga Moutourwa** (Michielan) bun *laver, se laver, se baigner; laver le vêtement (bruit de lavage); laver* 8.1.1) **Giziga Moutourwa** (Michielan) bun *se purifier - grâce au rite de purification la femme a fait des rites pour avoir des enfants* 8.2) **Giziga Marva** (Hamidou) bun wash (tr) *laver* 8.2.1) **Giziga Marva** (Hamidou) bun bathe (intr) *se laver* 8.2.2) **Giziga Marva** (Hamidou) buna wash clothes *laver (habits)* 8.3) **Mbazla** (Tourneux) ban *laver*
- 9) **Proto-Higi** *pi wash *laver* 9.1) **Psikye** (Angelo) pe wash 9.2) **Bana** (Lienhard) pí *se laver, se baigner*
- 10) **Proto-Kotoko Island** *benu wash *laver* 10.1) **Buduma** (McKone) benuə; bəan bathe (intr) *se laver* 10.2) **Buduma** (McKone) benu *laver.* 10.3) **Buduma** (McKone) benuə wash (tr) *laver*
- 11) **Proto-Kotoko North** *^mban wash *laver* 11.1) **Mpade** (Allison) ^mban bathe (intr) *se laver* 11.2) **Malgbe** (Allison) ^mbari bathe (intr) *se laver*
- 12) **Proto-Kotoko Centre** *ban wash *laver* 12.1) **Lagwan** (Allison) bìnì bathe (intr) *se laver* 12.2) **Mser** (Allison) ban bathe (intr) *se laver*
- 13) **Proto-Kotoko South** *bana wash *laver* 13.1) **Zina** (Odden) bənà bathe (intr) *se laver*

beli nm. razor *rasoir* (6 groups, 12 languages) Loan **cf:** **pidak**^w ^y.

This root is borrowed from Kanuri, in some cases via Fulfulde, and is found in languages covering a wide spread of the north and east of the Central Chadic area. The *l is not a native Central Chadic phoneme. It was introduced in the North sub-branch of Central Chadic by a general change from *r to *l. All the languages using this root are from this sub-branch, so no adaptation of the *l was necessary. The vowel *e is also absent from Proto-Central Chadic and many of the languages cited. In the case of Mbara, this has been re-analysed as the palatalisation prosody.

- 1) **Proto-Margi** *bel razor *rasoir* 1.1) **Bura** (Blench) bel Razor
- 2) **Proto-Mandara** *bila razor *rasoir* 2.1) **Mandara** (Fluckiger) bilà *tondeuse à cheveux (f), le rasoir (m)*
- 3) **Proto-Mofu** *bila razor *rasoir* 3.1) **Ouldeme** (Kinnaird) bilá *canif ; rasoir ; couteau* 3.2) **Zulgo** (Haller) bijilá *rasoir (m.) à grande lame* 3.3) **Mofu North** (Barreteau) bila *rasoir?* 3.4) **Mofu-Gudur** (Hollingsworth) bílá (*empr. ful.*) *rasoir, couteau très tranchant*
- 4) **Proto-Kotoko North** *bila razor *rasoir* 4.1) **Afade** (Allison) bil razor *rasoir* 4.2) **Mpade** (Allison) bil razor *rasoir* 4.3) **Malgbe** (Allison) bila razor *rasoir*
- 5) **Proto-Kotoko Centre** *bel razor *rasoir* 5.1) **Lagwan** (Allison) bel razor *rasoir* 5.2) **Mser** (Allison) bel razor *rasoir*
- 6) **Proto-Musgum** *bala ^y razor *rasoir* 6.1) **Mbara** (Tourneux) bele razor *couteau à raser*
- 7) **Kanuri** béli /// béli razor *rasoir*
- 8) **Fulfulde** (Noye) beliihi razor *rasoir*

ɓay^w v. to hide *acher* (5 groups, 11 languages) B

Although this root is only attested in 11 languages, these are from a wide area and diverse groups, and so this root is likely to have come from Proto-Central Chadic. In Proto-Daba there is an unestablished change $*\gamma^w \rightarrow h^w$. The labialization component was lost in all languages, except for Daba where it was reanalysed as the labialization prosody. The same unestablished change took place in Podoko in the Mandara group. In the Mofu group there was a regular change $*\gamma^w \rightarrow h^w$ in the Tokombere subgroup, and in Muyang the $*h$ was lost in a sporadic change, leaving behind the labialization component. In the Mofu subgroup there was a regular change $*\gamma^w \rightarrow w$. In Mofu-Gudur the $*w$ was lost as a sporadic change. In Bata the labialisation has transferred to the $*\mathfrak{b}$. In Bana there has been metathesis of the two consonants.

- 1) **Proto-Bata** $*\mathfrak{b}^w\text{ay}$ hide *acher* 1.1) **Bata** (Boyd) $\mathfrak{b}\delta\delta$ he hid his money; I hid from him; hide me, hide you; hide food from me, from you 1.2) **Jimi** (Djibi) $\mathfrak{b}^w\text{ay}\text{ən}$ *Se acher* ; 1.3) **Sharwa** (Gravina) $\mathfrak{b}^w\text{ah}$ (*se*) *acher*
- 2) **Proto-Daba** $*\mathfrak{b}ah^w$ hide *acher* 2.1) **Buwal** (Viljoen) $\mathfrak{b}ah$ hide (tr) *acher* 2.1.1) **Buwal** (Viljoen) $\mathfrak{b}ah$ store *garder* 2.1.2) **Buwal** (Viljoen) $\mathfrak{b}ah$ shelter *abriter* 2.2) **Gavar** (Viljoen) $\mathfrak{b}ah$ store (up) *garder*, *emmagasiner* 2.2.1) **Gavar** (Viljoen) $\mathfrak{b}ah$ hide *acher* 2.3) **Mbudum** (Ndokobaï) $k\text{ə}\mathfrak{b}ah$ hide (tr) *acher* 2.4) **Daba** (Lienhard) $\mathfrak{b}\delta h$ *acher*, *se acher*
- 3) **Proto-Mandara** $*\mathfrak{b}ih^w\text{a}$ hide *acher* 3.1) **Podoko** (Swackhammer) $\mathfrak{b}\text{ə}h^w\text{á}$ *acher*
- 4) **Proto-Mofu** $*\mathfrak{b}a^w$ hide *acher* 4.1) **Muyang** (Smith) $\mathfrak{b}u$ hide ; avoid *se acher* 4.2) **Mofu-Gudur** (Hollingsworth) \mathfrak{b} (*se*) *acher*
- 5) **Proto-Higi** $*\gamma^w\text{i}\mathfrak{b}i$ hide *acher* 5.1) **Bana** (Lienhard) $\gamma\text{ù}\mathfrak{b}\acute{\text{a}}$ *se acher* (*pour attrapper qqch.k*)

ɓiwak num. two *deux* (5 groups, 14 languages) C *syn:* **tsijiw**, **siwra**₁, **kasi**.

This is one of a number of roots for 'two' found in Central Chadic. The range of languages where this root is attested implies a reasonable age, but it is more likely that $*siwra$ was the Proto-Central Chadic root. The $*\mathfrak{b}$ has become /b/ in several languages, and a labial-velar double plosive in a few others. These changes are unestablished. The double plosive may be due to the $*w$ merging with $*\mathfrak{b}$, which is a known sporadic process. In many cases the $*w$ has been lost sporadically, but in Kamwe-Nkafa it has merged with the $*\mathfrak{b}$ resulting in / \mathfrak{b}^w /.

- 1) **Proto-Bata** $*\mathfrak{b}ijak$ two *deux* 1.1) **Bata** (Boyd) $k\text{p}\mathfrak{j}\acute{\text{a}}q$ two 1.2) **Jimi** (Djibi) $biik$ *Chiffre deux*
- 2) **Proto-Daba** $*\mathfrak{b}ik$ two *deux* 2.1) **Buwal** (Viljoen) $gbak$ two (2) *deux* (2) 2.2) **Gavar** (Viljoen) $gbak$ two (2) *deux* (2) 2.3) **Mbudum** (Ndokobaï) $b\acute{\text{a}}k$ two (2) *deux* (2)
- 3) **Proto-Sukur** $*bak$ two *deux* 3.1) **Sukur** (David) bak two

- 4) **Proto-Mandara** *biwa two *deux* 4.1) **Mandara** (Fluckiger) bua two *deux* 4.2) **Malgwa** (Löhr) buwa two 4.3) **Glavda** (Nghagyiva) bù:wa two (2)
- 5) **Proto-Higi** *biwak two *deux* 5.1) **Kamwe-Nkafa** (Harley) ð^wàgá Two 5.2) **Kamwe-Futu** (Harley) ðakəo two 5.3) **Kirya** (Blench) ðàkè two 5.4) **Psikye** (Angelo) bák two 5.5) **Bana** (Lienhard) bák(ə) *deux*

d

d v. to cook *préparer* (13 groups, 37 languages) A **cf:** **tisaw**, **siwra**₂.

This is the generic root for 'to cook'. The devoicing of *d to *t in the Margi and Higi groups is a regular change. The Malgwa root /g^ja/ is due to a regular general process where palatalised alveolar consonants become palatalised velar consonants.

- 1) **Proto-Daba** *da cook *préparer* 1.1) **Buwal** (Viljoen) da prepare (food to cook) *préparer (la nourriture)* 1.1.1) **Buwal** (Viljoen) da cook (*faire*) *cuire, cuisiner* 1.1.2) **Buwal** (Viljoen) dā wéⁿdžèk bake (in ashes) *cuire (dans les cendres)* 1.2) **Gavar** (Viljoen) da prepare (food to cook) *préparer (la nourriture)* 1.3) **Mbudum** (Ndokobai) kəduda prepare (food to cook) *préparer (la nourriture)* 1.3.1) **Mbudum** (Ndokobai) kəda bake (in ashes) *cuire (dans les cendres)* 1.4) **Daba** (Lienhard) tà *préparer la nourriture ; éclater* 1.4.1) **Daba** (Lienhard) tà *s'emploie, si on répète les paroles d'un autre, à la fin de la citation*
- 2) **Proto-Sukur** *di cook *préparer* 2.1) **Sukur** (David) də cook, to 2.2) **Sukur** (Thomas) də cooking; is the general term for cooking.
- 3) **Proto-Hurza** *da cook *préparer* 3.1) **Mbuko** (Gravina) da cook *préparer*
- 4) **Proto-Margi** *ta cook *préparer* 4.1) **Bura** (Blench) ta To cook (certain foods for first time) 4.1.1) **Bura** (Blench) ti To cook 4.2) **Margi** (Hoffman) ta to cook 4.3) **Kilba** (Schuh) ta/a cook (tuwo, miya etc.) 4.3.1) **Kilba** (Schuh) ta/a get done (food)
- 5) **Proto-Mandara** *da cook *préparer* 5.1) **Matal** (Branger) mataj cook *préparer* 5.2) **Podoko** (Swackhammer) tá *cuire* 5.3) **Malgwa** (Löhr) gja cook 5.4) **Glavda** (Nghagyiva) tá káfa prepare (food to cook)
- 6) **Proto-Mofu** *da cook *préparer* 6.1) **Ouldeme** (Kinnaird) di prepare food *préparer le manger* 6.2) **Muyang** (Smith) di make, do, cook in a pot; sing *préparer; chanter* 6.3) **Mada** (Nkoumou) médè *cuire (faire-, préparer de la nourriture), coucher (se-pour le soleil)* 6.4) **Moloko** (Friesen) de cook *préparer la nourriture* 6.5) **Zulgo** (Haller) da *cuire* 6.5.1) **Zulgo** (Haller) de *cuire* 6.6) **Gemzek** (Sabatai) mede cook (v); prepare (food to cook) (*faire*) *cuire, cuisiner; préparer (la nourriture)* 6.7) **Merey** (Gravina) da prepare (food to cook); cook (v) *préparer; préparer (la nourriture); (faire) cuire, cuisiner* 6.8) **Dugwor** (Jubumna) madaj cook (v); prepare (food to cook) (*faire*) *cuire, cuisiner; préparer (la nourriture)* 6.9) **Proto-Mofu Subgroup** *t cook *préparer* 6.10) **Mofu North** (Barreteau) mètèj (*faire*) *cuire, préparer* 6.11) **Mofu-Gudur** (Hollingsworth) t´ (*faire*) *cuire, préparer (un repas, un sacrifice) ; chauffer*
- 7) **Proto-Maroua** *di cook *préparer* 7.1) **Giziga Moutourwa** (Michielan) di *préparer, cuire, cuisiner* 7.2) **Giziga Marva** (Hamidou) di daf prepare (food to cook) *préparer (la nourriture)* 7.3) **Mbazla** (Tourneux) di *préparer (nourriture)*
- 8) **Proto-Lamang** *da cook *préparer* 8.1) **Lamang** (Wolff) da cook

- 9) **Proto-Higi** *ta cook *préparer* 9.1) **Kamwe-Nkafa** (Harley) ta cook 9.2) **Kamwe-Futu** (Harley) ta cook 9.3) **Kirya** (Blench) tà cook 9.4) **Psikye** (Angelo) také cook 9.5) **Bana** (Lienhard) tà *cuire, préparer dans l'eau ou dans beaucoup d'huile*
- 10) **Proto-Kotoko North** *da cook *préparer* 10.1) **Mpade** (Allison) dá (li) básù roast *rôtir*
- 11) **Proto-Kotoko South** *udo cook *préparer* 11.1) **Mazera** (Allison) udo cook (v) (*faire*) *cuire, cuisiner*
- 12) **Proto-Musgum** *di cook *préparer* 12.1) **Mulwi** (Tourneux) di *cuire (une sauce)* 12.2) **Mbara** (Tourneux) tii cook *cuire*
- 13) **Proto-Gidar** *ida cook *préparer* 13.1) **Gidar** (Hungerford) ida, əda *préparer, cuisiner, (faire) cuire*

dayilij nf. young woman *jeune fille* (9 groups, 21 languages) B cf: **dim** ^y.

This word denotes a girl or young woman who is old enough to marry but is not yet married. The presence of *l in this root indicates that it may have originated within the North sub-branch of Central Chadic. Proto-Central Chadic had no *l, but this phoneme was introduced into the North sub-branch by a regular change *r to l. However, the Daba, Mafa, Sukur and Hurza groups do not belong to the North sub-branch. It is possible that the root has been borrowed into these languages, since the languages where the root is present are those with strong contact with languages of the North sub-branch. The *y has become /g/ in some languages in the Higi and Sukur groups, an unestablished change. It has become /h/ in many groups. In Proto-Mandara this is a regular change, but in the Mofu group the change is irregular. Elsewhere the change is unestablished. In some cases this /h/ has been deleted. The final *j has been reanalysed as the palatalisation prosody in the Mandara and Maroua groups, as consonant palatalisation in the Higi group, and as a vowel in the Sukur, Higi and Lamang groups. These are all common sporadic changes.

- 1) **Proto-Daba** *dahalaj girl *filie* 1.1) **Gavar** (Viljoen) dahalaj young woman *jeune fille* 1.2) **Mbudum** (Ndokobai) dalaj young woman *jeune fille*
- 2) **Proto-Mafa** *dahla girl *filie* 2.1) **Cuvok** (Gravina) dahla young woman *jeune fille*
- 3) **Proto-Sukur** *digili young woman *jeune fille* 3.1) **Sukur** (David) dəgəli girl, unmarried 3.2) **Sukur** (Thomas) dəgəli unmarried mature girl; is the general term for unmarried mature girl.
- 4) **Proto-Hurza** *dalaj girl *filie* 4.1) **Mbuko** dalaj girl *filie* 4.2) **Vame** (Kinnaird) dilè daughter *filie*
- 5) **Proto-Mandara** *dahili ^y girl *filie* 5.1) **Podoko** (Swackhammer) dəhəla,-ə *jeune fille* 5.2) **Mandara** (Fluckiger) gjaále *jeune fille (f)* 5.3) **Malgwa** (Löhr) gjaale girl, daughter 5.3.1) **Malgwa** (Löhr) gjala girls
- 6) **Proto-Mofu** *dahilaj girl *filie* 6.1) **Ouldeme** (Kinnaird) dāng^wəlāj girl *filie* 6.2) **Muyang** (Smith) dahalaj a marriageable girl *filie à l'âge de se marier* 6.3) **Moloko** (Friesen) dalaj girl *filie* 6.4) **Merey** (Gravina) dahəlaɣ young woman *jeune fille, épouse* 6.5) **Gemzek** (Sabatai) dahəlaɣ bride *mariée* 6.5.1) **Gemzek** (Sabatai) dahəlaɣ *jeune fille* 6.5.2) **Gemzek** (Sabatai) dahəla *jeune fille* 6.6) **Dugwor** (Jubumna) dahəlaɣ bride *mariée*
- 7) **Proto-Maroua** *dili ^y girl *filie* 7.1) **Giziga Moutourwa** (Michielan) dijli *jeune fille* 7.2) **Giziga Marva** (Hamidou) dili daughter *filie*

- 8) **Proto-Higi** *diyili girl *fille* 8.1) **Kamwe-Nkafa** (Harley) digəlji unmarriedgirl 8.1.1) **Kamwe-Nkafa** (Harley) digilji young-girl 8.2) **Bana** (Lienhard) dàyàlà *jeune fille*
- 9) **Proto-Lamang** *dayali girl *fille* 9.1) **Lamang** (Wolff) dayele girl, young woman 9.2) **Hdi** (Bramlett) dayali young woman *la jeune fille*

daŋ nm. drum *tambour* (6 groups, 10 languages) (Technological Spread) **cf: ga^ŋga**.

This word probably denotes an hour-glass shaped drum held under the armpit. It is most probably a root that has spread across languages with the introduction of this type of drum, with the source being somewhere in Nigeria.

- 1) **Proto-Bata** *daŋi drum *tambour* 1.1) **Gude** (Hoskinson) dàŋá -ə small hourglass shaped drum, H. Kalangu. 1.2) **Jimi** (Djibi) daŋən *Petit tambour qui a la forme de X qui sert d'accompagnement pour les autres grands tambours.*
- 2) **Proto-Tera** *da^ŋg drum *tambour* 2.1) **Nyimatli** (Harley) da^ŋg talking drum
- 3) **Proto-Sukur** *daŋ drum *tambour* 3.1) **Sukur** (David) daŋ drum 3.2) **Sukur** (Thomas) daŋ drum; a musical instrument made of a hollow round frame plastic or wood and skin stretched across one or both end. You play it by hitting it with sticks or with your hands.
- 4) **Proto-Margi** *daŋ drum *tambour* 4.1) **Bura** (Blench) da^ŋg drum with two heads 4.2) **Kilba** (Schuh) daŋ drum (generic)
- 5) **Proto-Mandara** *deŋ^{wi} drum *tambour* 5.1) **Podoko** (Swackhammer) deŋú deŋ^{wé}, -u *tam-tam à l'aisselle*
- 6) **Proto-Higi** *daŋi^y drum *tambour* 6.1) **Kamwe-Nkafa** (Harley) dà^ŋgí Kind of drum. 6.2) **Kamwe-Futu** (Harley) dja^ŋga talking drum 6.3) **Bana** (Lienhard) dáŋ *tamtam sous le bras, peau de varan, esp. de petit*

daw n. millet *mil* (4 groups, 7 languages) A **syn: hiji, vijaw**.

The presence of a number of different roots for this most basic of subsistence crops indicates that the Central Chadic peoples were not originally subsistence farmers. The prenasalisation of *d in Mbuko is a common but sporadic process. The root may have originated in Mafa and spread to neighbouring languages. However, the root is also found in Mbazla, which is currently not in contact with the other languages represented, and the path of contact with this language needs to be established.

- 1) **Proto-Mafa** *daw millet *mil* 1.1) **Mafa** (Barreteau) daw *mil (nom gén.)* 1.2) **Cuvok** (Gravina) daw millet (rainy season) *mil (saison de pluies)*
- 2) **Proto-Hurza** *ⁿdaw millet *mil* 2.1) **Mbuko** (Gravina) ⁿdaw millet *mil*
- 3) **Proto-Mofu** *daw millet *mil* 3.1) **Zulgo** (Haller) daw *mil m.* 3.2) **Gemzek** (Sabatai) daw millet *mil* 3.3) **Merey** (Gravina) daw millet (rainy season) *mil (saison de pluies)*
- 4) **Proto-Maroua** *daw millet *mil* 4.1) **Mbazla** (Tourneux) daw *mil*

digizam deaf *sourd* (5 groups, 13 languages) B

The presence of the alternate root *maⁿdik in several languages in the Mofu group may indicate that this root is a compound of a verb *ⁿdik and *ɟam 'ear' (from *ɟimid^y, but with *ɟ from the South sub-branch). The prefix *ma- is a nominaliser that was productive in earlier stages of the history of Central Chadic languages, but is no longer productive in most languages.

- 1) **Proto-Mafa** *dagaɟam deaf *sourd* 1.1) **Mafa** (Barreteau) ɲⁿdakaɟam *sourd-muet* 1.1.1) **Mafa** (Ndokobai) ⁿdakaɟam, ⁿdaɟam *sourd* 1.2) **Cuvok** (Gravina) madagaɟam deaf person (*un*) *sourd*
- 2) **Proto-Hurza** diⁿgiɟ deaf *sourd* 2.1) **Mbuko** (Gravina) diⁿgiɟ be deaf *être sourd* 2.1.1) **Mbuko** (Gravina) mədəⁿgaɟak deaf *sourd*
- 3) **Proto-Mandara** *dagaɟam deaf *sourd* 3.1) **Matal** (Branger) madagaɟam deaf *sourd*
- 4) **Proto-Mofu** *ma-ⁿdik ɟam deaf *sourd* 4.1) **Mada** (Nkoumou) madagaɟam *sourd-muet* 4.2) **Moloko** (Friesen) mədəⁿgəɟa deafness *surdité* 4.3) **Gemzek** (Sabatai) maⁿdakaɟam deaf mute *sourd-muet* 4.3.1) **Gemzek** (Sabatai) maⁿdak deaf person (*un*) *sourd* 4.4) **Merey** (Gravina) mədəⁿgəɟak *sourd-muet* 4.4.1) **Merey** (Gravina) maⁿdək deaf person (*un*) *sourd*, *sourd-muet* 4.5) **Dugwor** (Jubumna) mədəⁿgəɟa deaf person (*un*) *sourd* 4.5.1) **Dugwor** (Jubumna) maⁿdak deaf mute *sourd-muet* 4.6) **Mofu North** (Barreteau) máⁿdāk *sourd-muet* 4.7) **Mofu-Gudur** (Hollingsworth) madakaɟam *sourd-muet* 4.7.1) **Mofu-Gudur** (Hollingsworth) dəgəɟam dəgəɟam *sourd*
- 5) **Proto-Maroua** *digiɟa deaf *sourd* 5.1) **Giziga Moutourwa** (Michielan) digiɟ *rendre sourd* 5.1.1) **Giziga Moutourwa** (Michielan) midigiɟa *sourd*, *muet* 5.1.2) **Giziga Moutourwa** (Michielan) midigiɟa *ignorant* 5.2) **Giziga Marva** (Hamidou) mədigɟa deaf person; deaf mute (*un*) *sourd*; *sourd-muet*

diy^wivan nm. leopard *panthère* (5 groups, 13 languages) D

The general sense of the root is 'leopard', though in Dugwor, Mbazla and possibly Merey the root is part of a compound, implying that it may have a different or more generic meaning. The root itself is difficult to reconstruct. The *n to r change in the Mofu group is regular. The loss of *ɣ^w is normal, though often the labialisation component remains in some form. In the Bata group the labialisation has transferred to *v.

- 1) **Proto-Bata** *digiv^wa leopard *léopard* 1.1) **Jimi** (Djibi) dəgəv^wan *La panthère* 1.2) **Sharwa** (Gravina) digv^wa *panthère*, *léopard* 1.3) **Tsuvan** (Johnston) dəgəva *la panthère*
- 2) **Proto-Sukur** *dig^wavak leopard *léopard* 2.1) **Sukur** (David) dəg^wavak leopard *léopard* 2.2) **Sukur** (David) duguvu hyena *hyène* 2.3) **Sukur** (Thomas) dəg^wavak leopard
- 3) **Proto-Mofu** *divar leopard *léopard* 3.1) **Zulgo** (Haller) dəvar *panthère f.*, *léopard m.* 3.2) **Gemzek** (Sabatai) dəvar *panthère* 3.3) **Merey** (Gravina) dəvar *panthère* 3.3.1) **Merey** (Gravina) dəvar dzidzege leopard *léopard* 3.4) **Dugwor** (Jubumna) dəvar j peɬ leopard *léopard* 3.5) **Mofu-Gudur** (Hollingsworth) dəvā *Léopard ("panthère")*
- 4) **Proto-Maroua** *divaŋ leopard *léopard* 4.1) **Mbazla** (Tourneux) dəvaŋ garak *léopard* 4.1.1) **Mbazla** (Tourneux) dəvaŋ *lion*

5) **Proto-Higi** *diɣ^wava leopard *léopard* 5.1) **Kamwe-Futu** (Harley) dəɣ^wava leopard 5.2) **Psikye** (Angelo) dəɣ^wava hyena *hyène* 5.2.1) **Psikye** (Angelo) dəɣ^wava hyena *hyène* 5.3) **Bana** (Lienhard) d(ə)ɣ^wàvə *panthère*

dim ^y nf. girl *fille* (4 groups, 10 languages) A **cf:** **dayilij**.

This word denotes a female child. The root is very stable, though the palatalisation prosody has been lost in the Sukur group. The vowel /a/ in Proto-Mafa is a regular change.

- 1) **Proto-Daba** *dimi ^y girl *fille* 1.1) **Daba** (Lienhard) mèdimí *la jeune fille, pas mariée*
- 2) **Proto-Mafa** *dam ^y girl *fille* 2.1) **Mafa** (Barreteau) dām *fille* 2.2) **Cuvok** (Gravina) dem girl, daughter (*petite*) *fille, fillette*
- 3) **Proto-Mofu** *dim ^y girl *fille* 3.1) **Zulgo** (Haller) dèm *fille f.* 3.1.1) **Zulgo** (Haller) dèm *enfant (m.) du sexe féminin* 3.2) **Gemzek** (Sabatai) dəm *girl fille* 3.2.1) **Gemzek** (Sabatai) dəm ɲa *daughter fille* 3.3) **Merey** (Gravina) dem *fille* 3.4) **Dugwor** (Jubumna) dem girl (*petite*) *fille, fillette* 3.5) **Mofu North** (Barreteau) dém *fille* 3.5.1) **Mofu North** (Barreteau) dämmè *eh! toi, fille!* 3.6) **Mofu-Gudur** (Hollingsworth) dam *daughter fille*
- 4) **Proto-Sukur** *dim girl *fille* 4.1) **Sukur** (David) dəm *daughter* 4.2) **Sukur** (Thomas) dəm *unmarried girl*; is the general term for unmarried girl.

dir v. to burn *bruler* (5 groups, 10 languages) A

This word denotes the complete burning of an object until it becomes ash. All of the groups represented except the Mafa group are from the North sub-branch, and we would expect to find *l rather than *r in these languages. However there are exceptions in the Mandara and Lamang groups, which may be due to a later unestablished change from *l to /r/. The change *r to l in Cuvok is a regular feature of the language, as is the change *l to r in Moloko.

- 1) **Proto-Mafa** *ⁿdar burn *bruler* 1.1) **Mafa** (Barreteau) ⁿdár- *brûler (faire du charbon de bois, cuire)* 1.2) **Cuvok** (Gravina) ⁿdala burn *brûler*
- 2) **Proto-Mandara** *diri burn *brûler* 2.1) **Mandara** (Fluckiger) déré *brûler (brûler complètement), carboniser*
- 3) **Proto-Mofu** *dil burn *bruler* 3.1) **Ouldeme** (Kinnaird) dālāj burn *brûler plusieurs fois* 3.1.1) **Ouldeme** (Kinnaird) dāl burn *brûler* 3.1.2) **Ouldeme** (Kinnaird) dāl *cuire la poterie* 3.2) **Moloko** (Friesen) dar burn, grill *until it becomes ash for making potash and pottery; jusqu'à ce que ça deveiens du cendre pour faire la potasse (wuhle) et la poterie.* 3.2.1) **Moloko** (Friesen) dar to get on someone's nerves *énervé quelqu'un* 3.3) **Zulgo** (Haller) dúl *brûler, être consommé, prendre feu* 3.4) **Mofu-Gudur** (Hollingsworth) ⁿdəl *brûler sur le feu, consumer entièrement jusqu'à réduire en cendre (sur le feu) ; cuire les poteries*
- 4) **Proto-Maroua** *dili ^y burn *bruler* 4.1) **Mbazla** (Tourneux) ⁿdili *bruler* 4.1.1) **Mbazla** (SILSurvey) dílí burn (transitive) *brûler (transitif)*

5) **Proto-Lamang** *dira burn *bruler* 5.1) **Lamang** (Wolff) dra burn 5.2) **Hdi** (Bramlett) dərāj to burn *brûler*

dirim nf. animal horn *corne d'un animal* (8 groups, 26 languages) C **syn:** lagan, ^mbik^wim, mah^wa.

This root poses some interesting problems in reconstruction. The change *d to t in the Margi and Higi groups is regular. We also expect to find *r becoming *l in all groups except for Mafa and Sukur. However there are exceptions in the Mandara, Mofu and Maroua groups. The Mafa and Mofu data indicate that there are two cognate roots interfering, with *dirim being the horn of an animal, and *tilim being an animal horn used as a musical instrument. Another difficulty is the presence of labialisation in many of the groups. The change *m to /w/ in the Mandara group is regular, and in the Lamang group is a common sporadic change. However we also have labialisation in the Mafa, Sukur, Maroua and Higi groups that has not come from *m. In the Maroua group this is a common sporadic change, but the present reconstruction does not account for the introduction of labialisation in the other groups.

- 1) **Proto-Mafa** *diram ^w horn *corne* 1.1) **Mafa** (Barreteau) tolom *corne (animal) utilisé pour faire la musique* 1.1.1) **Mafa** (Barreteau) dūróm *corne d'animal* 1.2) **Cuvok** (Gravina) dərəm horn *corne* 1.3) **Mefe** (Crawford) dərūm horn *corne*
- 2) **Proto-Sukur** *twam horn *corne* 2.1) **Sukur** (Thomas) twam horn; a hard pointed part that grow usually in pairs, on the heads of some animals, eg cow, sheep and goats.
- 3) **Proto-Margi** *tilim horn *corne* 3.1) **Bura** (Blench) ti^mbul Horn of an animal 3.2) **Kilba** (Schuh) tələm horn
- 4) **Proto-Mandara** *dirima horn *corne* 4.1) **Matal** (Branger) draw, dərāw horn *corne* 4.2) **Podoko** (Swackhammer) dərāwa,-ə 1 *corne* 4.3) **Mandara** (Fluckiger) dermá *corne (f)* 4.4) **Malgwa** (Löhr) dərme horn 4.5) **Glavda** (Owens) dərá horn 4.5.1) **Glavda** (Nghagyiva) dràwa horn 4.6) **Dghwede** (Frick) dərāwa horn
- 5) **Proto-Mofu** *diram horn *corne* 5.1) **Muyang** (Smith) edrem tusk ; horn *corne* 5.2) **Mada** (Nkoumou) dràm *corne d'animal* 5.3) **Merey** (Gravina) dərām *corne* 5.4) **Dugwor** (Jubumna) dərōm horn *corne* 5.5) **Mofu North** (Barreteau) təlām *corne (de buffle ou en bois)* 5.5.1) **Mofu North** (Barreteau) tālām *corne (de buffle ou en bois)* 5.6) **Mofu-Gudur** (Hollingsworth) təlām *corne à souffler (de buffle ou en bois)*
- 6) **Proto-Maroua** *dirim ^w horn *corne* 6.1) **Giziga Moutourwa** (Michielan) durum *corne, = marta: corne tabatière (tapa ngi zi'ĩñ)* 6.1.1) **Giziga Moutourwa** (Michielan) drum *corne* 6.2) **Giziga Marva** (Hamidou) durom horn *corne* 6.3) **Mbazla** (Tourneux) durum *corne* 6.3.1) **Mbazla** (SILSurvey) dūrūm horn *corne*
- 7) **Proto-Lamang** *duli horn *corne* 7.1) **Lamang** (Wolff) duli horn 7.2) **Hdi** (Bramlett) duli horn *la corne*
- 8) **Proto-Higi** *tilim^wi horn *corne* 8.1) **Kamwe-Nkafa** (Harley) tər^wi horn 8.2) **Kamwe-Futu** (Harley) tərīmo horn (of animal); ivory 8.3) **Bana** (Lienhard) təlīmè *corne*

dz

dzag^wa nf. hat *chapeau* (10 groups, 21 languages) A

This root is found in almost all groups of the North sub-branch of Central Chadic, but in none of the groups of the South sub-branch. This is not known to be a borrowed root, and so may be a Central Chadic root, originating in Proto-Central Chadic North. The original type of hat could have been straw, cloth or leather. There is some variation between /g^w/ and /k^w/, and in the vocalisation patterns, and these changes are unestablished.

- 1) **Proto-Hurza** *dzig^wa hat *chapeau* 1.1) **Mbuko** (Gravina) dzugo hat *chapeau* 1.2) **Vame** (Kinnaird) dzúgē helmet *bonnet*
- 2) **Proto-Margi** *dzak^wa hat *chapeau* 2.1) **Bura** (Blench) dzak^wa Hat; cap or soft hat
- 3) **Proto-Mandara** *dzak^wi hat *chapeau* 3.1) **Matal** (Branger) dzak^wa hat *chapeau* 3.2) **Podoko** (Swackhammer) dzak^wa,-u *chapeau* 3.3) **Mandara** (Fluckiger) dzak^wé *bonnet (m)* 3.4) **Glavda** (Nghagyiva) dzák^wa hat
- 4) **Proto-Mofu** *dzag^wi hat *chapeau* 4.1) **Ouldeme** (Kinnaird) dzàgù hat *chapeau* 4.2) **Muyang** (Smith) dzaku hat made of cloth *chapeau* 4.3) **Moloko** (Friesen) dzogo hat *chapeau; bonnet* 4.4) **Merey** (Gravina) dzag^wa *chapeau* 4.4.1) **Merey** (Gravina) dzak^wa *bonnet ou chapeau* 4.5) **Dugwor** (Jubumna) dziggo hat *chapeau* 4.6) **Mofu-Gudur** (Hollingsworth) dzik^wew *bonnet*
- 5) **Proto-Maroua** *dzak^wi hat *chapeau* 5.1) **Giziga Moutourwa** (Michielan) dzijku *chapeau* 5.2) **Giziga Marva** (Hamidou) dzoko hat *chapeau*
- 6) **Proto-Lamang** *dzig^wa hat *chapeau* 6.1) **Lamang** (Wolff) dzoŋo hat 6.2) **Hdi** (Bramlett) dzug^wa leather hat *le chapeau de cuir*
- 7) **Proto-Kotoko Island** *ⁿdzak^wa hat *chapeau* 7.1) **Buduma** (McKone) ⁿdzok^wa hat *chapeau* 7.2) **Buduma** (McKone) ⁿdzok^wa *bonnet (n : [njakwa])*.
- 8) **Proto-Kotoko North** *sag^wa hat *chapeau* 8.1) **Mpade** (Allison) ság^wá hat *chapeau*
- 9) **Proto-Kotoko South** *dzak^wi hat *chapeau* 9.1) **Zina** (Odden) dzàkú hat *chapeau*
- 10) **Proto-Musgum** *zagaw hat *chapeau* 10.1) **Vulum** (Tourneux) zagaw *bonnet*

dzaj v. to bite *mordre* (5 groups, 14 languages) **syn: h^wipid**.

This root is largely stable, with the only change being the unestablished change *dz to /ts/ in the Daba and Maroua groups. The final *j is realised as the palatalisation prosody in the Mafa, Mandara and Maroua groups, which is a common sporadic process. The Proto-Daba root is prenasalised, which is also a common sporadic process.

- 1) **Proto-Daba** *ntsa bite *mordre* 1.1) **Buwal** (Viljoen) ntʃa bite (v) *mordre* 1.1.1) **Buwal** (Viljoen) ntʃa gnaw *ronger* 1.1.2) **Buwal** (Viljoen) ntʃa sting *piquer* 1.2) **Gavar** (Viljoen) ntʃa bite (v) *mordre* 1.2.1) **Gavar** (Viljoen) ntʃa sting *piquer* 1.3) **Daba** (Lienhard) ^ŋgàtʃ *mordre, tourmenter, aboyer*

- 2) **Proto-Mafa** *dza^y bite *mordre* 2.1) **Mafa** (Ndokobai) n dze *mordre* 2.1.1) **Mafa** (Barreteau) dz-
mordre
- 3) **Proto-Mandara** *dza^y bite *mordre* 3.1) **Matal** (Branger) matsaj bite *mordre* 3.2) **Podoko**
(Swackhammer) ⁿdzewé 1 *mordre* 3.3) **Malgwa** (Löhr) dza bite, beat (with stick) 3.4) **Dghwede**
(Frick) ⁿdzaxa bite
- 4) **Proto-Mofu** *dzaj bite *mordre* 4.1) **Ouldeme** (Kinnaird) mäsāj *mordre, piquer plusieurs fois* 4.2)
Zulgo (Haller) dze(-r) *mordre* 4.3) **Gemzek** (Sabatai) dzaj bite (v) *mordre* 4.3.1) **Gemzek** (Sabatai) a
dzaj *mordre* 4.3.2) **Gemzek** (Sabatai) medze strike (snake) *mordre, piquer (serpent)* 4.4) **Mofu North**
(Barreteau) mézèj *mordre* 4.4.1) **Mofu North** (Barreteau) mézèj *piquer (serpent)* 4.5) **Mofu-Gudur**
(Hollingsworth) ^z *mordre, piquer (serpent)*
- 5) **Proto-Maroua** *tsi^y bite *mordre* 5.1) **Mbazla** (Tourneux) tji *mordre*

dzaraj nm. locust *criquet migrateur* (9 groups, 22 languages) A cf: **hadik^w**.

This word denotes the locust, known well in the region for appearing periodically in huge swarms and devastating crops. The change *dz to /z/ in Gidar is regular, as is the change *r to *l in the groups of the North sub-branch, though the Mofu, Maroua and Gidar groups do not show this change. The final *j has been reanalysed as the palatalisation prosody in the Daba group, and possibly in the Tera group, which is a common sporadic process.

- 1) **Proto-Daba** *dzara^y locust *locuste* 1.1) **Buwal** (Viljoen) dzere locust *locuste, criquet* 1.2) **Gavar**
(Viljoen) dzere locust *locuste, criquet* 1.3) **Mbudum** (Ndokobai) dzere locust *locuste, criquet*
- 2) **Proto-Mafa** *dzaraj locust *locuste* 2.1) **Mafa** (Ndokobai) dzaraj *criquet* 2.2) **Cuvok** (Gravina) dzaraj
locust *locuste, criquet*
- 3) **Proto-Tera** ⁿdzere locust *locuste* 3.1) **Nyimatli** (Harley) zoola locust *criquet* 3.1.1) **Nyimatli**
(Harley) ⁿdzere cricket
- 4) **Proto-Sukur** *dzalaj locust *criquet migrateur* 4.1) **Sukur** (Thomas) dzalai locust; an insect that lives
in hot countries and flies in large groups, destroying the plants and crops of an area.
- 5) **Proto-Hurza** *dzaraj locust *locuste* 5.1) **Mbuko** (Gravina) dzaraj locust *criquet migrateur* 5.2) **Vame**
(Kinnaird) dzàràj cricket *criquets qui se déplacent en grands nombres qui dévastent la récolte.*
- 6) **Proto-Mofu** *dzaraj locust *locuste* 6.1) **Ouldeme** (Kinnaird) dzàràj locust, grasshopper *sauterelle,*
locuste, criquet migrateur 6.2) **Muyang** (Smith) dzaraj Plague Locust *locuste migratoire, criquet* 6.3)
Mada (Nkoumou) dzara *criquet migrateur (criquet pèlerin)* 6.4) **Moloko** (Friesen) dzaraj locust *criquet;*
sauterelle 6.5) **Zulgo** (Haller) dzará *sauterelle f. sp.* 6.6) **Gemzek** (Sabatai) dzara *sauterelle* 6.7) **Merey**
(Gravina) dzaraj locust *locuste, criquet migrateur* 6.8) **Mofu North** (Barreteau) dzàràj *criquet migrateur*
6.9) **Mofu-Gudur** (Hollingsworth) dzàràj *criquet migrateur (dévastateur des plantes)*
- 7) **Proto-Maroua** *dzaraj locust *locuste* 7.1) **Giziga Moutourwa** (Michielan) dzaraj *criquets pèlerins*
dévastateurs
- 8) **Proto-Higi** *dzalaj locust *locuste* 8.1) **Kamwe-Futu** (Harley) dzala locust *criquet* 8.2) **Bana**
(Lienhard) dzìr *criquet migrateur*

9) **Proto-Gidar** *zaraj locust *criquet migrateur* 9.1) **Gidar** (Hungerford) zaraj *criquet, sauterelle*

dzavɪn nf. guinea fowl *pintade* (17 groups, 49 languages) B

Although this is one of the most widely attested roots in Central Chadic, the reconstruction presents some difficulties. The initial *dz is only retained in two groups. It is realised as *ts in five groups and as *z in ten groups. Only in the Gidar and Kotoko Centre groups is this change regular. *dz is preferred for the reconstruction as being the most likely to produce the other two realisations. The *v is realised as *f in Kotoko North (a regular change), as *b in the Sukur and Mandara groups (an unestablished change), and as *p in the Mafa group (also an unestablished change). The *n is realised as *r in the Margi, Mandara and Mofu groups, which is a regular change. The labialisation in the Bata and Maroua groups is a sporadic innovation, as is the palatalisation in the Tera, Mandara and Musgum groups.

- 1) **Proto-Bata** *zav^wɪn guineafowl *pintade* 1.1) **Gude** (Hoskinson) zòovèná guinea fowl 1.2) **Jimi** (Djibi) zav^wənən *Pintade* 1.3) **Sharwa** (Gravina) zavunə *pintade* 1.4) **Tsuvan** (Johnston) zavənkən *la pintade*
- 2) **Proto-Daba** *zavɪn guineafowl *pintade* 2.1) **Buwal** (Viljoen) zavan guinea fowl *pintade* 2.2) **Gavar** (Viljoen) zavən guinea fowl *pintade* 2.3) **Mbudum** (Ndokobäi) zavaŋ guinea fowl *pintade* 2.4) **Daba** (Lienhard) zàvən *la pintade*
- 3) **Proto-Mafa** *zapan guineafowl *pintade* 3.1) **Mafa** (Barreteau) zápán *pintade* 3.2) **Cuvok** (Gravina) zapaŋ guinea fowl *pintade*
- 4) **Proto-Tera** *tsivan guineafowl *pintade* 4.1) **Tera** (Newman) tʃivan guinea-fowl *pintade* 4.2) **Nyimatli** (Harley) ʃivan guinea fowl *pintade*
- 5) **Proto-Sukur** *zabɪn guinea fowl *pintade* 5.1) **Sukur** (David) zabən guineafowl *pintade* 5.2) **Sukur** (Thomas) zabən guineafowl; is the general term for guinea fowl; it has dark grey feathers with white spots. There are two types of guineafowls: domestic and bush guineafowls.
- 6) **Proto-Hurza** *zavɪn guineafowl *pintade* 6.1) **Mbukò** (Gravina) nzavan guinea fowl *pintade* 6.2) **Vame** (Kinnaird) sàvnàk partridge *pintade*
- 7) **Proto-Margi** *tsivɪr guineafowl *pintade* 7.1) **Margi** (Hoffman) tsəvər guinea-fowl *pintade* 7.2) **Kilba** (Schuh) tsəvər guinea fowl *pintade* 7.3) **Bura** (Blench) tsəvəra Guinea fowl
- 8) **Proto-Mandara** *zabɪra^y guineafowl *pintade* 8.1) **Matal** (Branger) zavər guineafowl *pintade* 8.2) **Podoko** (Swackhammer) za^mbəra,-a *pintade* 8.3) **Mandara** (Fluckiger) zábèrá *pintade* (f) 8.4) **Malgwa** (Löhr) zəbre guinea fowl *pintade* 8.5) **Glavda** (Nghagyiva) zàbra guinea fowl *pintade* 8.5.1) **Glavda** (Owens) žeeb guinea fowl *pintade* 8.5.2) **Glavda** (Owens) zabə guinea fowl *pintade*

- 9) **Proto-Mofu** *dzavir guineafowl *pintade* 9.1) **Ouldeme** (Kinnaird) zàvâr guinea fowl *pintade* 9.2) **Muyang** (Smith) dzavar guinea fowl *pintade* 9.3) **Mada** (Nkoumou) zàvâr *pintade* 9.4) **Moloko** (Friesen) dzavar guinea fowl *pintade* 9.5) **Zulgo** (Haller) ⁿdzávér *pintade f.* 9.6) **Gemzek** (Sabatai) ⁿdzavar guinea fowl *pintade* 9.7) **Merey** (Gravina) ⁿdzavar guinea fowl *pintade* 9.8) **Dugwor** (Jubumna) ⁿdzavar guinea fowl *pintade* 9.9) **Mofu North** (Barreteau) ⁿdzàvâr *pintade* 9.9.1) **Mofu North** (Barreteau) ⁿdzávâr *pintade* 9.10) **Mofu-Gudur** (Hollingsworth) tsavár *pintade (Mokong)* 9.10.1) **Mofu-Gudur** (Hollingsworth) tsavár *pintade (Mokong)* 9.10.2) **Mofu-Gudur** (Hollingsworth) ⁿdzavár *pintade commune (Gudur)*
- 10) **Proto-Maroua** *tsivin ^w guineafowl *pintade* 10.1) **Giziga Moutourwa** (Michielan) tʃuvuŋ *pintade* 10.2) **Giziga Marva** (Hamidou) tʃuvon guinea fowl *pintade* 10.3) **Mbazla** (Tourneux) tʃufuŋ *pintade*
- 11) **Proto-Lamang** *zivin guineafowl *pintade* 11.1) **Hdi** (Bramlett) zəvnək guinea hen *la pintade*
- 12) **Proto-Higi** *zivin guineafowl *pintade* 12.1) **Kamwe-Nkafa** (Harley) zəvənə guinea fowl *pintade* 12.2) **Kamwe-Futu** (Harley) zivəno guinea fowl *pintade* 12.3) **Bana** (Lienhard) zəvəni *pintade*
- 13) **Proto-Kotoko North** *tsafan guineafowl *pintade* 13.1) **Afade** (Allison) tsifan; gidigo guinea fowl *pintade* 13.2) **Mpade** (Allison) safan guinea fowl *pintade* 13.3) **Malgbe** (Allison) safan guinea fowl *pintade* 13.4) **Maltam** (Allison) safan guinea fowl *pintade*
- 14) **Proto-Kotoko Centre** *zavan guineafowl *pintade* 14.1) **Lagwan** (Allison) zavan guinea fowl *pintade* 14.2) **Mser** (Allison) savan guinea fowl *pintade*
- 15) **Proto-Kotoko South** *dzavaŋ guineafowl *pintade* 15.1) **Mazera** (Allison) dzavaŋ guinea fowl *pintade*
- 16) **Proto-Musgum** *tsaavan ^y guineafowl *pintade* 16.1) **Mbara** (Tourneux) tʃeeveŋ helmet guinea-fowl *pintade*
- 17) **Proto-Gidar** *zamvina guinea fowl *pintade* 17.1) **Gidar** (Hungerford) zamvəna *pintade* 17.2) **Gidar** (Schuh) samvəna/a *pintade* 17.3) **Gidar** (Hungerford) zafna *pintade*

dzidzi ^y nm. grandfather *grand-père* (8 groups, 17 languages) A

The initial *dz has the reflex *ts in Proto-Hurza and Proto-Margi, which is an unestablished change in both cases. In Proto-Mandara both *dz have become *d, also an unestablished change. The palatalisation prosody is supported by the data from all the groups. In the Mandara group, the palatalisation prosody has effected the *d. This was followed by a regular change where palatalised alveolars become palatalised velars, resulting in *d^j→g^j. In Mbuko and Sukur, the reflex of the root is not reduplicated, but other material has been added.

- 1) **Proto-Bata** *dzidzi ^y grandfather *gradn-père* 1.1) **Gude** (Hoskinson) dzədzə 1.1.1) **Gude** (Hoskinson) dzədzə grandfather, grandfather's male sibling or cousin. 1.2) **Jimi** (Djibi) dzədzən *Grand-père ; les enfants appellent leur grand-père "dzedza" comme lui aussi les appelle de la même façon.* 1.3) **Sharwa** (Gravina) dzidzə *grandpère* 1.4) **Tsuvan** (Johnston) dzədze *grand-père*
- 2) **Proto-Daba** *dzadzi ^y grandfather *grand-père* 2.1) **Buwal** (Viljoen) dzədze grandparent *grand-parent* 2.2) **Gavar** (Viljoen) dzədzi grandparent *grand-parent*

- 3) **Proto-Sukur** *dzik^{wi} y grandfather *grand-père* 3.1) **Sukur** (Thomas) dziku grand father:- father to your father or to your mother.
- 4) **Proto-Hurza** *tsidza y grandfather *grand-père* 4.1) **Mbuko** (Gravina) bidze grandfather *grand-père* 4.2) **Vame** (Kinnaird) tʃèdʒé grandfather ; grandad *grand-parents*
- 5) **Proto-Margi** *tsidzi y grandfather *grand-père* 5.1) **Margi** (Hoffman) tʃidzi grandparent 5.2) **Margi South** (Harley) tʃidzi grandparent 5.3) **Kilba** (Schuh) adzi grandchild, grandparent
- 6) **Proto-Mandara** *didi y grandfather *grand-père* 6.1) **Mandara** (Fluckiger) éggje *grand-père, grand-mère, petit(s) fils/fille* 6.1.1) **Mandara** (Fluckiger) eggjááje *grand-parent (m)(fam.)* 6.2) **Malgwa** (Löhr) əggje grandparents
- 7) **Proto-Lamang** *dzidzi grandfather *grand-père* 7.1) **Lamang** (Wolff) dzidzi grandfather 7.2) **Hdi** (Bramlett) dzidzi grandfather *le grand-père*
- 8) **Proto-Higi** *dzi^{idzi} grandfather *grand-père* 8.1) **Bana** (Lienhard) dzìdzì *grand-père*

dzig^{wir} n. hump *bosse* (10 groups, 18 languages) C

This root denotes the hump on a zebu cow, and is used by extension for a human hunchback. It is found almost exclusively in the languages of the North sub-branch. It may have come into Central Chadic from an old form of the Kanuri *zugure*, or the transmission may have been in the opposite direction. If the root did come from Kanuri, the back vowels were reanalysed as labialisation of the /g/. Given the widespread distribution of the root, and evidence that the early Central Chadic peoples were cattle-herders, it seems more probable that the root spread from Central Chadic to Kanuri, though the forms in Musgum and some of the Kotoko groups may be due to borrowing the more recent form of the Kanuri word. Two groups have *d as the initial consonant, possibly reflecting the arrival of the same root but from a different source.

- 1) **Proto-Daba** dɪg^{wir} y hump *bosse* 1.1) **Mbudum** (Ndokobai) dɪ^ɔgir hump (of cow) *bosse (de vache)* 1.2) **Gavar** (Viljoen) dɛ^ɔgur hump *bosse* 1.3) **Buwal** (Viljoen) dɛg^war hump *bosse*
- 2) **Proto-Tera** dɪg^{wil} hump *bosse* 2.1) **Nyimatli** (Harley) dɪgul hump *bosse*
- 3) **Proto-Sukur** *dzig^{wid} y hump *bosse* 3.1) **Sukur** (David) dzigud hump, of cow 3.2) **Sukur** (Thomas) dzigud hump, a large lump at the back of animals, specially camel, cow
- 4) **Proto-Hurza** *dzig^war hump *bosse* 4.1) **Mbuko** (Gravina) mɛdzɛgar cow hump *bosse (f) d'un boeuf* 4.2) **Vame** (Kinnaird) h^wádèg^wàr hump of a cow *bosse de boeuf*
- 5) **Proto-Margi** *dzik^{wir} y, madagara hump *bosse* 5.1) **Bura** (Blench) madagara Stooped, hump-backed 5.1.1) **Bura** (Blench) madakara Stooped, hump-backed. See madagara 5.1.2) **Bura** (Blench) dzukur Bump or hump of a cow 5.1.3) **Bura** (Blench) dzikur Hump on cattle
- 6) **Proto-Mofu** *madzigir, mitak^war hump *bosse* 6.1) **Moloko** (Friesen) mətokor hump on an animal or person *bosse d'un animal ou d'une personne* 6.2) **Zulgo** (Haller) mádzəgər *bosse (f.) d'un animal* 6.3) **Gemzek** (Sabatai) madzəgar hump (of hunchback) *bosse* 6.3.1) **Gemzek** (Sabatai) madzəgar bump (n) *bosse* 6.3.2) **Gemzek** (Sabatai) madzəgar hump (of cow) *bosse (de vache)* 6.4) **Merey** (Gravina) madzəgar hump (of hunchback) *bosse* 6.5) **Mofu North** (Barreteau) mádzəgər *bosse (de zébu)*

- 7) **Proto-Kotoko North** *sig^wire hump *bosse* 7.1) **Mpade** (Allison) súgùré hump (of cow) *bosse (de vache)* 7.2) **Malgbe** (Allison) sigbire hump (of cow) *bosse (de vache)* 7.2.1) **Malgbe** (Allison) sigbire hump (of hunchback) *bosse*
- 8) **Proto-Kotoko Centre** *zirk^wa hump *bosse* 8.1) **Lagwan** (Allison) zurk^wa hump (of cow) *bosse (de vache)*
- 9) **Proto-Kotoko South** *dzaŋk^wara hump *bosse* 9.1) **Mazera** (Allison) dzaŋk^wara hump (of cow) *bosse (de vache)*
- 10) **Proto-Musgum** *zig^wirij hump *bosse* 10.1) **Mulwi** (Tourneux) zugurii *bosse de la vache*
- 11) **Kanuri** zúgùrè // // // tsúgùrē hump (of cow) *bosse (de vache)*

dzimik^w y nm. porcupine *porc-épic* (8 groups, 15 languages) B **cf: tsih^wid^y**.

This is the most widely-attested root for 'porcupine'. It may be an innovation in Proto-Central Chadic South, since it is found in at least four of the five groups within the South sub-branch of Central Chadic, and in few other languages. The final consonant is *n in the Daba group, and a glottal stop in the Bata group. The final consonant may be an historic noun suffix which is no longer productive. The *m is sporadically realised as /^mb/ in the Mafa, Mofu and Lamang groups. There is support for the palatalisation prosody from all groups except the isolated instances in Podoko and Mofu-Gudur. In Hdi it is frozen into the vowel system, and in the Higi group it is realised as a palatalised laminal consonant. The *dz has reflexes /d/, /z/ and /ts/. There is not enough data to identify these as regular changes in any of these groups, though Proto-Bata and Proto-Lamang have the related change *ts→t, and Proto-Higi has the analogous devoicing of *d to t.

- 1) **Proto-Bata** *dimaʔa^y porcupine *porc-épic* 1.1) **Gude** (Hoskinson) dəməjá porcupine 1.2) **Sharwa** (Gravina) dimaʔa *porc-épic* 1.3) **Tsuvan** (Johnston) dimaʔa *le porc-épic*
- 2) **Proto-Daba** *zimín^y porcupine *porc-épic* 2.1) **Buwal** (Viljoen) zəməŋ porcupine *porc-épic* 2.2) **Gavar** (Viljoen) zimam porcupine *porc-épic* 2.3) **Mbudum** (Ndokobai) ze^mbəŋ porcupine *porc-épic* 2.4) **Daba** (Lienhard) zà^mbán *le porc-épic*
- 3) **Proto-Mafa** *di^mbak^w y porcupine *porc-épic* 3.1) **Mafa** (Barreteau) di^mbek *porc-épic* 3.2) **Cuvok** (Gravina) də^mbek^w porcupine *porc-épic* 3.2.1) **Cuvok** (Gravina) də^mbək^w *por-épick*
- 4) **Proto-Sukur** *dzimik^y porcupine *porc-épic* 4.1) **Sukur** (David) dзимək porcupine *porc-épic* 4.2) **Sukur** (Thomas) dзимək porcupine; an animals covered with long stiff parts like needles which it can raise to protect itself when it is attacked. it usually live in a rocks.
- 5) **Proto-Mandara** *di^mbiki porcupine *porc-épic* 5.1) **Podoko** (Swackhammer) dí^mbike,-ə *porc-épic*
- 6) **Proto-Mofu** *damdzak^w porcupine *porc-épic* 6.1) **Mofu-Gudur** (Hollingsworth) dám-jak^w *porc-épic* sp.
- 7) **Proto-Lamang** *di^mbik^w porcupine *porc-épic* 7.1) **Hdi** (Bramlett) di^mbik^w porcupine *le porc-épic*
- 8) **Proto-Higi** *tsimik^w porcupine *porc-épic* 8.1) **Kirya** (Blench) tšimá hú porcupine *porc-épic* 8.2) **Bana** (Lienhard) tšimáké *porc-épic*

dzivaj n. tomb *tombeau* (6 groups, 13 languages) A

The word denotes the hole in which a body is buried, which may be a vertical hole leading to a small chamber and covered with a rock. The *dz has undergone the unestablished change to /ts/ in Daba and some Mofu group languages, and to /z/ in the Maroua group. The *j has been reanalysed as the palatalisation prosody in the Daba and Maroua groups, which is a common sporadic change. The range of use of the root implies an origin in the Mandara Mountains, and may reflect an ancient Daba-Mafa practice.

- 1) **Proto-Daba** *tsivi? ^y grave *tombeau* 1.1) **Daba** (Lienhard) tʃivĩ *la tombe*
- 2) **Proto-Mafa** *dzivaj grave *tombeau* 2.1) **Mafa** (Ndokobai) dzavaj *tombeau* 2.2) **Cuvok** (Gravina) dzəvaj grave *tombe, tombeau*
- 3) **Proto-Hurza** *dzivaj grave *tombeau* 3.1) **Mbuko** (Gravina) dzəvaj tomb *tombeau*
- 4) **Proto-Mandara** *dzivaj tomb *tombeau* 4.1) **Matal** (Branger) zəvaj grave *tombe* 4.2) **Podoko** (Swackhammer) dzúve,-i *tombeau*
- 5) **Proto-Mofu** *dzivaj tomb *tombeau* 5.1) **Zulgo** (Haller) dīve *tombeau m.* 5.2) **Gemzek** (Sabatai) dzəva *la tombe* 5.3) **Merey** (Gravina) tsəvaj *tombe* 5.4) **Mofu North** (Barreteau) d[ɪ tsə̀və̀j *tombe (cou)* 5.5) **Mofu-Gudur** (Hollingsworth) tsəvaj *tombe*
- 6) **Proto-Maroua** *zivi ^y grave *tombeau* 6.1) **Giziga Moutourwa** (Michielan) zivi *tombe* 6.2) **Giziga Marva** (Hamidou) zive grave *tombe, tombeau*

dzivi ^y n. arm *bras* (4 groups, 14 languages) C **syn:** paʒa, hira.

This root is found in the south-west of the Central Chadic area. Evidence for the palatalisation prosody comes only from the Bata group. The *dz is realised as /ts/ or /t/ in the Bata group, and as /d/ or /r/ in the Mandara group. There is a regular change *d to /r/ within the Mandara group, but only in intervocalic position. The other changes are unestablished.

- 1) **Proto-Bata** *tsivi ^y arm *bras* 1.1) **Bata** (Boyd) tife hand 1.2) **Gude** (Hoskinson) tʃiine (inher. poss., body part) hand, arm. 1.3) **Jimi** (Djibi) tʃijən *Main ; c'est un mot qui sert aussi à montrer d'autres parties de la main* : 1.4) **Sharwa** (Gravina) tivi *bras, main* 1.5) **Tsuvan** (Johnston) tʃəve *la main, le bras*
- 2) **Proto-Mandara** *dīva arm *bras* 2.1) **Mandara** (Fluckiger) érva *bras (m), main (f)* 2.2) **Malgwa** (Löhr) ərva hand 2.3) **Glavda** (Owens) dǎ hand 2.3.1) **Glavda** (Nghagyiva) dīva arm 2.3.2) **Glavda** (Nghagyiva) dīva hand 2.4) **Dghwede** (Frick) dəva arm, hand
- 3) **Proto-Lamang** *dziviw arm *bras* 3.1) **Lamang** (Wolff) dzə̀vò hand 3.2) **Hdi** (Bramlett) dzəvu hand *la main*
- 4) **Proto-Higi** *dzivi arm *bras* 4.1) **Kamwe-Futu** (Harley) dzibə hand 4.2) **Psikye** (Angelo) dzəvə hand 4.3) **Bana** (Lienhard) də̀və̀ *main*

dziwid^y nf/m fly *mouche* (17 groups, 44 languages) A

This well-attested root is found in all groups except for the Tera group. There is support for the palatalisation prosody across the reconstructions of the forms of the group proto-languages. In many cases there is the common change *d to /j/ under palatalization. In Proto-Bata *d has been reduced to *ʔ, and in Proto-Kotoko North it has fused with *dz to form the ejective *ts'. Both of these are common sporadic changes. The *dz is variously realised as /d/, /z/, /ts/. The changes in Proto-Margi, Proto-Musgum and Proto-Kotoko Centre are regular, but the rest are unestablished. The *w has been lost in Proto-Bata, Proto-Margi and Proto-Gidar, which is a common sporadic change.

- 1) **Proto-Bata** *dziʔi^y fly *mouche* 1.1) **Bata** (Boyd) dzitto fly 1.2) **Gude** (Hoskinson) dʒi ' ílá cow fly.
1.3) **Jimi** (Djibi) dzi'in *Mouche* 1.4) **Sharwa** (Gravina) dzi'i *mouche*
- 2) **Proto-Daba** *dziwid^y fly *mouche* 2.1) **Buwal** (Viljoen) dʒedʒəwəd fly (n) *mouche* 2.2) **Gavar** (Viljoen) dziwid fly (n) *mouche* 2.3) **Mbudum** (Ndokobaï) dzidziwəd fly (n) *mouche* 2.4) **Daba** (Lienhard) tʃèdī *la mouche*
- 3) **Proto-Mafa** *dziwaj fly *mouche* 3.1) **Mafa** (Barreteau) dzúwáj *mouche*
- 4) **Proto-Sukur** *dziwid^y fly *mouche* 4.1) **Sukur** (David) dʒuwi fly *mouche* 4.2) **Sukur** (Thomas) dʒui fly;- general term for flies.
- 5) **Proto-Hurza** *dziwaj fly *mouche* 5.1) **Mbuko** (Gravina) dzuwaj fly *mouche* 5.2) **Vame** (Kinnaird) dzùwàj fly *mouche*
- 6) **Proto-Margi** tsidī^y fly *mouche* 6.1) **Margi** (Hoffman) tʃidī fly *mouche* 6.2) **Kilba** (Schuh) tʃədī fly (n) *mouche* 6.3) **Bura** (Blench) tʃiri General name for the fly and bee group of insects *mouche*
- 7) **Proto-Mandara** *ⁿdziwid^y fly *mouche* 7.1) **Matal** (Branger) zwaj, zəwaj, zuwaj fly *mouche* 7.2) **Podoko** (Swackhammer) ⁿdʒəwe,-ə *mouche* 7.3) **Mandara** (Fluckiger) ⁿdʒán^wá *mouche* (f), *espèce (sens figuré)* 7.4) **Malgwa** (Löhr) ⁿdʒəŋ^wa fly *mouche* 7.5) **Glavda** (Owens) ŋɔ fly *mouche* 7.5.1) **Glavda** (Nghagyiva) ndʒùja fly (n) *mouche*
- 8) **Proto-Mofu** *dziwaj fly *mouche* 8.1) **Ouldeme** (Kinnaird) zùwàj fly *mouche* 8.2) **Muyang** (Smith) ezəwi house fly; fly *mouche* 8.2.1) **Muyang** (Smith) ezəwi dummy opponent in a game *adversaire imaginaire dans un jeu de société* 8.3) **Moloko** (Friesen) dʒəwaj fly *mouche* 8.3.1) **Moloko** (Friesen) dʒəwaj 8.4) **Zulgo** (Haller) dzìwe *mouche f.* 8.5) **Gemzek** (Sabatai) dzuwe fly (n) *mouche* 8.6) **Merey** (Gravina) dzuwaj fly (n) *mouche* 8.7) **Dugwor** (Jubumna) dzuwaj fly (n) *mouche* 8.8) **Mofu North** (Barreteau) dzùwáj *mouche* 8.9) **Mofu-Gudur** (Hollingsworth) ^ʔdʒadzəwaj *mouche (nom gén.)*
- 9) **Proto-Maroua** *dzidziwid^y fly *mouche* 9.1) **Giziga Moutourwa** (Michielan) dzidziwid(i) *mouche* 9.1.1) **Giziga Moutourwa** (Michielan) dzidziwid(i) *abeille* 9.2) **Giziga Marva** (Hamidou) dzidziwed fly (n) *mouche*
- 10) **Proto-Lamang** *ziwdī fly *mouche* 10.1) **Lamang** (Wolff) zidī fly 10.2) **Hdi** (Bramlett) zidik^w fly *la mouche*
- 11) **Proto-Higi** *zīwid fly *mouche* 11.1) **Kamwe-Futu** (Harley) ziwi fly (insect); housefly *mouche* 11.2) **Kirya** (Blench) zéw housefly *mouche* 11.3) **Bana** (Lienhard) zíb(i) *mouche*
- 12) **Proto-Kotoko Island** *hadzu fly *mouche* 12.1) **Buduma** (McKone) hâdʒu *mouche*.

- 13) **Proto-Kotoko North** *ts'iwi fly *mouche* 13.1) **Afade** (Allison) tsiwi fly (n) *mouche* 13.2) **Maltam** (Allison) s'iwi fly (n) *mouche*
- 14) **Proto-Kotoko Centre** *ziwid fly *mouche* 14.1) **Lagwan** (Allison) zu fly (n) *mouche* 14.2) **Mser** (Allison) ms'iwi fly (n) *mouche*
- 15) **Proto-Kotoko South** *dzadzwi fly *mouche* 15.1) **Zina** (Odden) dzàdzwì fly (n) *mouche*
- 16) **Proto-Musgum** *diwaj fly *mouche* 16.1) **Vulum** (Tourneux) aduwaj *mouche* 16.2) **Mbara** (Tourneux) tuwaj fly (insect) *mouche*
- 17) **Proto-Gidar** *zikda^y fly *mouche* 17.1) **Gidar** (Hungerford) zikde *mouche* 17.2) **Gidar** (Schuh) zikde/e *mouche*

dziwin^y nf. elephant *éléphant* (5 groups, 13 languages) A **syn:** ^m**bilala**^y, **giwin**, **nivi**.

This root is one of several roots for elephant. It is possible cognate with *giwin, but the two roots would have developed along very different paths. The change *dz→ts in Proto-Margi and Proto-Higi is not known as a regular change, though Proto-Margi did have the change *z→s. There was a regular change *n→r in word-final position in the Margi-Mandara-Mofu major group. There is support for the palatalization prosody in all groups.

- 1) **Proto-Bata** *dziwini^y elephant *éléphant* 1.1) **Gude** (Hoskinson) tʃóonà -ə elephant 1.2) **Jimi** (Djibi) dzuunən *Eléphant*
- 2) **Proto-Tera** *dziwan^y elephant *éléphant* 2.1) **Tera** (Newman) dzuwan elephant 2.2) **Nyimatli** (Harley) zuwan elephant 2.3) **Ga'anda** (Gwaji) tʃhuwena elephant
- 3) **Proto-Sukur** *dziwan^y elephant *éléphant* 3.1) **Sukur** (David) dzuwan elephant 3.2) **Sukur** (Thomas) dziwan elephant; a large animal with thick grey skin, large ears, two curved teeth called tusk and long nose called trunk.
- 4) **Proto-Margi** *tswar^y elephant *éléphant* 4.1) **Bura** (Blench) tʃiwar The elephant 4.2) **Margi** (Hoffman) tʃuwar elephant 4.3) **Margi South** (Harley) tʃiwar elephant
- 5) **Proto-Higi** *ts'iwin elephant *éléphant* 5.1) **Kamwe-Nkafa** (Harley) tʃhiwə elephant 5.2) **Kamwe-Futu** (Harley) tʃhiwe elephant 5.3) **Kirya** (Blench) tʃùúnə elephant 5.4) **Bana** (Lienhard) tʃiwə *éléphant*

ɗak^wa ^y adj. white *blanc* (7 groups, 17 languages) B

This root has two primary reflexes, *ɗak^w and *k^wad. The first is found in the Mandara and Musgum groups, and the second in the groups around the Mandara Mountains. It is not possible to be certain which of these constituted the Proto-Central Chadic root, or if it took the form *k^wadak. Palatalization is attested in many of the groups.

- 1) **Proto-Daba** *k^wik^widak ^y white *blanc* 1.1) **Mbudum** (Ndokobaï) kjkjɗ:ek (be) white (*être*) *blanc*
- 2) **Proto-Mafa** *k^wad ^y white *blanc* 2.1) **Mafa** (Barreteau) k^wid-k^widde'e *blanc* 2.2) **Cuvok** (Gravina) k^wed k^wed *tout blanc*
- 3) **Proto-Hurza** *madak^wa ^y, k^wadak ^y white *blanc* 3.1) **Mbuko** (Gravina) k^wedek^wedek white *tout blanc* 3.1.1) **Mbuko** (Gravina) k^wek^wedek white *blanc* 3.2) **Vame** (Kinnaird) mēḏēk^wé white *blanc*
- 4) **Proto-Mandara** *madak^wi white *blanc* 4.1) **Matal** (Branger) mādɗik^wgā white *blanc* 4.2) **Podoko** (Swackhammer) medék^we,-u *blancheur* 4.2.1) **Podoko** (Swackhammer) medék^we *blanchir* 4.2.2) **Podoko** (Swackhammer) medékulá medek^we *le blanchir* 4.3) **Glavda** (Nghagyiva) mād^wk^wa (be) white 4.4) **Dghwede** (Frick) mat'ak^wa white
- 5) **Proto-Mofu** *k^wadak ^y white *blanc* 5.1) **Ouldeme** (Kinnaird) mēḏēk^wè white *blanc* 5.2) **Gemzek** (Sabatai) k^wedek k^wedek *blanc* 5.3) **Merey** (Gravina) kudēkudēk *blanc* 5.3.1) **Merey** (Gravina) mezebe k^wedek herre (be) white (*être*) *blanc* 5.4) **Mofu North** (Barreteau) k^wēḏék k^wēḏék *blanc* 5.5) **Mofu-Gudur** (Hollingsworth) k^wédék k^wédék *blanc (des cendres, de poussière, de froid)*
- 6) **Proto-Maroua** *k^wadak ^y white *blanc* 6.1) **Giziga Moutourwa** (Michielan) k^wedek *blanc*
- 7) **Proto-Musgum** *midik^wij white *blanc* 7.1) **Mulwi** (Tourneux) muḏuk^wii *blanc* 7.2) **Vulum** (Tourneux) muḏuk^wii *blanc*

ɗak^wir n. grey hair *cheveux gris* (7 groups, 17 languages) B

This root is possibly related to the root *ɗak^wa ^y 'white'. As expected, the *r has become *l in the groups of the North sub-branch, i.e. Mandara, Mofu and Maroua, and in Cuvok (Mafa group). The labialisation component of *k^w has been reanalysed as the labialisation prosody in Proto-Maroua and Proto-Daba, which is a common sporadic change. In these same languages, the resulting *k has become *h, an unestablished change. The initial *ɗ has been lost in many languages, which is a common sporadic change. This has resulted in compensatory reduplication in Daba, also a common sporadic change.

- 1) **Proto-Daba** *hihil ^w grey hair *cheveux gris* 1.1) **Daba** (Lienhard) hùhúl *les cheveux gris*
- 2) **Proto-Mafa** *k^waraj grey hair *cheveux gris* 2.1) **Cuvok** (Gravina) k^walaj white hair *cheveux blancs*
- 3) **Proto-Sukur** *k^wir grey hair *cheveux gris* 3.1) **Sukur** (Thomas) k^wir grey; having grey hair.

- 4) **Proto-Hurza** *ɗak^war grey hair *cheveux gris* 4.1) **Mbuko** (Gravina) ɗəɗuk^war grey hairs *cheveux gris*
 4.1.1) **Mbuko** (Gravina) ɗəɗuk^war *cheveux gris* 4.2) **Vame** (Kinnaird) āk^wár hair, white *se dit des cheveux blancs qui se trouvent sur la tête d'un vieux*.
- 5) **Proto-Mandara** *k^wili grey hair *cheveux gris* 5.1) **Podoko** (Swackhammer) kulala,-ə *cheveu blanc*
 5.2) **Mandara** (Fluckiger) kulije *cheveu blanc*
- 6) **Proto-Mofu** *ɗak^wil grey hair *cheveux gris* 6.1) **Muyang** (Smith) ak^wal white hair *cheveux blancs*
 6.2) **Mada** (Nkoumou) akk^wal *cheveux blancs* 6.3) **Moloko** (Friesen) ɗak^wəl white hair *cheveux blanc*
 6.4) **Zulgo** (Haller) akúl *cheveux (m.pl.) blancs* 6.5) **Gemzek** (Sabatai) ak^wal white hair *cheveux blancs*
 6.6) **Merey** (Gravina) maɗak^wal white hair *cheveux blancs* 6.7) **Dugwor** (Jubumna) maɗakol white hair *cheveux blancs* 6.8) **Mofu-Gudur** (Hollingsworth) eg^wel white hair *cheveux blancs*
- 7) **Proto-Maroua** *hal^w grey hair *cheveux gris* 7.1) **Giziga Moutourwa** (Michielan) hol *cheveux blancs*
 7.2) **Giziga Marva** (Hamidou) anhol white hair *cheveux blancs*

ɗap nf. millet ball *boule de mil* (10 groups, 26 languages) A

This root is the common word for the lump of cooked millet that forms the staple in the region. The root is extremely stable. It is found across the Northern Mandara Mountains and the Nigerian Plains. In Proto-Central Chadic, *p was realised as [f] word-finally, and this became phonemicized in the descendants of Proto-Central Chadic.

- 1) **Proto-Bata** *ɗafa food *boule* 1.1) **Jimi** (Djibi) ɗafan *Nourriture*
- 2) **Proto-Mafa** *ɗaf millet *boule* 2.1) **Mafa** (Ndokobai) ɗaf food *boule de mil, repas* 2.2) **Cuvok** (Gravina) ɗaf *boule*
- 3) **Proto-Sukur** *ɗaf millet lump *boule de mil* 3.1) **Sukur** (Thomas) ɗaf food: things that people or animals eats.
- 4) **Proto-Hurza** *ɗaf millet *boule* 4.1) **Mbuko** (Gravina) ɗaf millet ball, food *boule de mil, nourriture*
 4.2) **Vame** (Kinnaird) ɗəɗkā *boule de mil*
- 5) **Proto-Margi** *ɗifi millet *boule* 5.1) **Margi** (Hoffman) ɗəfə mush, *boule* 5.2) **Margi South** (Harley) ɗufau food 5.3) **Kilba** (Schuh) ɗəfa tuwo, millet *boule*
- 6) **Proto-Mandara** *ɗafi millet *boule* 6.1) **Podoko** (Swackhammer) ɗafá,-ə *boule, nourriture qui se mange avec la sauce* 6.2) **Mandara** (Fluckiger) ɗafá *couscous (m), nourriture (f)* 6.3) **Malgwa** (Löhr) ɗafa food gen.(cooked)
- 7) **Proto-Mofu** *ɗaf millet *boule* 7.1) **Ouldeme** (Kinnaird) ɗàf fufu *boule* 7.2) **Muyang** (Smith) ɗaf ball of millet couscous, staple food *boule de mil, nourriture de base* 7.3) **Moloko** (Friesen) ɗaf food; meal; *boule repas; boule* 7.4) **Zulgo** (Haller) ɗaf *boule (f.) de mil* 7.5) **Gemzek** (Sabatai) ɗaf food *nourriture* 7.6) **Merey** (Gravina) ɗaf *nourriture* 7.7) **Mofu-Gudur** (Hollingsworth) ɗaf sorghum ball "boule de mil" (*fr. d'Afrique*); *nourriture*
- 8) **Proto-Maroua** *ɗaf millet *boule* 8.1) **Giziga Moutourwa** (Michielan) ɗaf(Mj), ɗaf (Mt, Mv) *nourriture, repas, manger (boule de mil plus sauce)* 8.2) **Mbazla** (Tourneux) ɗaf *boule*

9) **Proto-Lamang** *ɗafa millet *boule* 9.1) **Lamang** (Wolff) dafa millet *boule* 9.2) **Hdi** (Bramlett) dafa sorghum mush, food *la boule*

10) **Proto-Higi** *ɗafa millet *boule* 10.1) **Kamwe-Futu** (Harley) dafa food 10.2) **Kirya** (Blench) ɗàfà food 10.3) **Bana** (Lienhard) ɗàfà *nourriture*

ɗawik n. goat *chèvre* (15 groups, 42 languages) C

This is a well-attested Proto-Central Chadic root. The evidence for the initial *ɗ is limited. It is only present in Mofu-Gudur and Cuvok. In Sukur and the Maroua group it has the reflex *ʔ, and in the Musgum group it has the reflex *j, both of which are unestablished changes. In Mafa it has fused with *w to become /b/, a common sporadic process. In Podoko, Mandara and Malgwa, the loss of *ɗ has been compensated for by the addition of a prefixed /n/, which is a common sporadic process in these languages. In many groups the *w has fused with the *k to create *k^w. The *k or the *k^w has also changed to *h^w in the Bata and Daba groups, *g^w in the Lamang group and *ɣ^w in the Kotoko Centre group. None of these changes are established as regular changes.

- 1) **Proto-Bata** *ih^{wi} goat *chèvre* 1.1) **Gude** (Hoskinson) èh^{wá} - ə goat 1.2) **Sharwa** (Gravina) h^{wə} *Chèvre* 1.2.1) **Sharwa** (Gravina) h^{wə} *chèvre* 1.3) **Tsuvan** (Johnston) ah^{wə} *le chèvre*
- 2) **Proto-Daba** *ɲh^{wa} goat *chèvre* 2.1) **Buwal** (Viljoen) ɲh^{wɑ} goat *chèvre* 2.2) **Gavar** (Viljoen) ɲh^{wɑ} goat *chèvre*
- 3) **Proto-Mafa** *ɗawik goat *chèvre* 3.1) **Mafa** (Ndokobai) ɓak^w, ɓak^{waj}, ɓak^{wij} haj *chevre* 3.1.1) **Mafa** (Barreteau) ɓók^w *chèvre* 3.2) **Cuvok** (Gravina) ɗak^w goat *chèvre*
- 4) **Proto-Sukur** *ʔijik^w goat *chèvre* 4.1) **Sukur** (Thomas) 'ijuk goat; an animals with horns and a coat of hairs, that lives as domestic. 4.2) **Sukur** (David) ijuk' goat
- 5) **Proto-Hurza** *awak goat *chèvre* 5.1) **Mbuko** (Gravina) awak goat *chèvre* 5.2) **Vame** (Kinnaird) āwāk goat *chèvre*
- 6) **Proto-Margi** *k^{wi} goat *chèvre* 6.1) **Bura** (Blench) k^{wi} Goat 6.2) **Margi** (Hoffman) ku goat 6.3) **Kilba** (Schuh) k^{wa}/ku goat
- 7) **Proto-Mandara** *ɗawak goat *chèvre* 7.1) **Matal** (Branger) awak goat *chèvre* 7.2) **Podoko** (Swackhammer) nawá,-ə *chèvre* 7.3) **Mandara** (Fluckiger) nāvime *chèvre* (f) 7.4) **Malgwa** (Löhr) nawe goat 7.5) **Glavda** (Owens) aag goat 7.5.1) **Glavda** (Nghagyiva) á:g^{wa} goat 7.5.2) **Glavda** (Owens) dwág goat
- 8) **Proto-Mofu** *ɗawak goat *chèvre* 8.1) **Ouldeme** (Kinnaird) āwāk goat *chèvre* 8.2) **Muyang** (Smith) awak goat *chèvre* 8.3) **Moloko** (Friesen) awak goat *chèvre* 8.4) **Zulgo** (Haller) awak *chèvre* f. 8.4.1) **Zulgo** (Haller) awák *chèvre* f. 8.5) **Gemzek** (Sabatai) awak goat *chèvre* 8.5.1) **Gemzek** (Sabatai) awak goat *chèvre* 8.6) **Merey** (Gravina) wak goat *chèvre* 8.7) **Dugwor** (Jubumna) awak goat *chèvre* 8.8) **Mofu-Gudur** (Hollingsworth) ɗak^w goat *chèvre* (*nom gén.*), *caprin*
- 9) **Proto-Maroua** *ʔawi goat *chèvre* 9.1) **Giziga Moutourwa** (Michielan) 'aw *chèvre* 9.1.1) **Giziga Moutourwa** (Michielan) aw *chèvre* 9.2) **Giziga Marva** (Hamidou) aw goat *chèvre* 9.3) **Mbazla** (Tourneux) 'awu *chèvre* 9.3.1) **Mbazla** (SILSurvey) áwū' goat *chèvre*

- 10) **Proto-Lamang** *ag^{wi} goat *chèvre* 10.1) **Lamang** (Wolff) ógò goat 10.2) **Hdi** (Bramlett) gu goat *la chèvre*
- 11) **Proto-Higi** *k^{wi} goat *chèvre* 11.1) **Kamwe-Nkafa** (Harley) k^{wə} 1.goat.2.hearsay. 11.2) **Kamwe-Futu** (Harley) k^{wə} goat 11.3) **Kirya** (Blench) kù goat 11.4) **Psikye** (Angelo) k^{wə} goat 11.5) **Bana** (Lienhard) k^{wə} *chèvre*
- 12) **Proto-Kotoko Centre** *ny^{wə} goat *chèvre* 12.1) **Mser** (Allison) nyə goat *chèvre*
- 13) **Proto-Kotoko South** *awa goat *chèvre* 13.1) **Zina** (Odden) àwà goat *chèvre*
- 14) **Proto-Musgum** *jawak goat *chèvre* 14.1) **Vulum** (Tourneux) jek *chèvre* 14.2) **Mbara** (Tourneux) we he-goat *bouc* 14.3) **Muskum** (Tourneux) jaw *chèvre*
- 15) **Proto-Gidar** *hawa goat *chèvre* 15.1) **Gidar** (Hungerford) hawa *chèvre* 15.2) **Gidar** (Schuh) hawa *chèvre*

dawim nf. bee, honey *abeille, miel* (14 groups, 36 languages) C

This root is used both for the bee and for honey in most of the languages presented. In the proto-language reconstructions, 'honey' is given as the gloss, but only as a label. The reconstruction of the root poses several challenges. In the Daba and Mafa groups, the *d and *w have fused, resulting in *ɓ in the Daba group and *mgb in the Mafa groups. In many groups, the *d or the *w has been lost. In many languages across almost all groups, this has triggered compensatory reduplication of the *m. In Mandara and Malgwa the loss has been compensated for by a prefixed /n/. In several languages the *w has been reanalysed as a vowel, or as the labialisation prosody. All of these are common sporadic processes.

- 1) **Proto-Daba** *dawam honey *miel* 1.1) **Buwal** (Viljoen) ɓamam bee *abeille* 1.2) **Gavar** (Viljoen) amam bee *abeille* 1.3) **Mbudum** (Ndokobai) ɓəɓam bee *abeille* 1.4) **Daba** (Lienhard) ɓòɓóm *le miel, l'abeille*
- 2) **Proto-Mafa** *mgbam honey *miel* 2.1) **Cuvok** (Gravina) mgbam bee *abeille* 2.1.1) **Cuvok** (Gravina) mgbam honey *miel*
- 3) **Proto-Sukur** *mam honey *miel* 3.1) **Sukur** (David) mam honey 3.2) **Sukur** (Thomas) mam honey; a sweet sticky yellow substance made by bees.
- 4) **Proto-Hurza** *wimam honey *miel* 4.1) **Mbuko** (Gravina) umam bee *abeille* 4.1.1) **Mbuko** (Gravina) umam honey *miel* 4.2) **Vame** (Kinnaird) amamāk 1 bee *abeille* 4.2.1) **Vame** (Kinnaird) amamāk 2 honey *miel*
- 5) **Proto-Margi** *wimi honey *miel* 5.1) **Bura** (Blench) muma Honey 5.2) **Margi** (Hoffman) məmə honey
- 6) **Proto-Mandara** *dama honey *miel* 6.1) **Podoko** (Swackhammer) mama,-ə 1 *abeille* 6.1.1) **Podoko** (Swackhammer) mama,-ə 2 *miel* 6.2) **Mandara** (Fluckiger) nama *miel (m), abeille (f)* 6.3) **Malgwa** (Löhr) nama bee, honey 6.4) **Glavda** (Nghagyiva) məm: bee

- 7) **Proto-Mofu** *awim honey *miel* 7.1) **Ouldeme** (Kinnaird) āmā bee *abeille* 7.1.1) **Ouldeme** (Kinnaird) āmā honey *miel* 7.2) **Muyang** (Smith) àmú honey, bee *miel*, *abeille* 7.3) **Mada** (Nkoumou) áma *abeille* 7.4) **Moloko** (Friesen) omom honey *miel* 7.5) **Zulgo** (Haller) amúm *abeille f.* 7.6) **Gemzek** (Sabatai) awom bee *abeille* 7.7) **Merey** (Gravina) wum bee *abeille* 7.7.1) **Merey** (Gravina) wum honey *miel* 7.8) **Dugwor** (Jubumna) amam honey *miel* 7.9) **Mofu-Gudur** (Hollingsworth) amam bee, honey *abeille* 7.9.1) **Mofu-Gudur** (Hollingsworth) amam *miel*
- 8) **Proto-Maroua** *amam honey *miel* 8.1) **Giziga Marva** (Hamidou) amam honey *miel* 8.1.1) **Giziga Marva** (Hamidou) amam bee *abeille* 8.2) **Mbazla** (Tourneux) 'amam *miel*
- 9) **Proto-Lamang** *omo honey *miel* 9.1) **Lamang** (Wolff) ómó honey
- 10) **Proto-Kotoko North** *mam honey *miel* 10.1) **Afade** (Allison) mam bee *abeille* 10.2) **Malgbe** (Allison) mam honey *miel* 10.2.1) **Malgbe** (Allison) mam bee *abeille* 10.3) **Mpade** (Allison) màm honey *miel* 10.3.1) **Mpade** (Allison) màm bee *abeille*
- 11) **Proto-Kotoko Centre** *imam honey *miel* 11.1) **Lagwan** (Allison) iman honey *miel* 11.1.1) **Lagwan** (Allison) iman bee *abeille* 11.2) **Mser** (Allison) mam honey *miel* 11.2.1) **Mser** (Allison) mam bee *abeille*
- 12) **Proto-Kotoko South** *amama honey *miel* 12.1) **Zina** (Odden) ámámá honey *miel*
- 13) **Proto-Musgum** *wamaj honey *miel* 13.1) **Vulum** (Tourneux) aamii *abeille* 13.2) **Mbara** (Tourneux) momoj bee *abeille* 13.2.1) **Mbara** (Tourneux) momoj honey *miel* 13.3) **Muskum** (Tourneux) amtu *abeille*
- 14) **Proto-Gidar** *amima honey *miel* 14.1) **Gidar** (Schuh) aməma/a *miel* 14.2) **Gidar** (Hungerford) amama *abeille*

ɖiɬ nm. bone os (14 groups, 43 languages) B **syn:** kirakaɬ ʷ.

This widely-attested root is close to the root *ɖiɬij 'egg', but the presence of *i in the root rather than a final *j makes a big difference to the reflexes in individual languages. The initial *ɖ is realised as *t in Proto-Mafa, Proto-Sukur, Proto-Mofu and Proto-Maroua, an unestablished change. It has been lost in many groups, triggering compensatory reduplication in the Mandara and Kotoko South groups, and in some Mofu group languages. It has fused with the *i in the Tera and Higi groups to create a palatalised glottal or a velar implosive. In the Kotoko North and South groups it has fused with the *ɬ to create an ejective. These fusion processes are common sporadic changes. The *ɬ is expected to have the reflex *ɬ̥ in the groups of the South sub-branch, but for this root it is only the case in the Bata group. Within the Bata group there is a subsequent change *ɬ̥ to *l. In the Margi group and in Mandara and Malgwa in the Mandara group, *ɬ̥ has become palatalised by processes originating with *i, and *ɬ̥j has then been velarised to /hʲ/ as part of a regular process. Regular processes give *ɬ̥ the reflexes *s in the Proto-Kotoko South and Mser, /ʃ/ in Mpade and /h/ in Buduma. In Mser the /ʃ/ is due to the effect of the front vowel on *s.

- 1) **Proto-Bata** *iɬ̥i bone os 1.1) **Bachama** (Skinner) uule bone 1.2) **Gude** (Hoskinson) ilá -ə bone. 1.3) **Jimi** (Djibi) ilən Os 1.4) **Sharwa** (Gravina) allə os 1.5) **Tsuvan** (Johnston) iɬe l'os

- 2) **Proto-Mafa** *taɫ, ɫaɫar bone os 2.1) **Mafa** (Barreteau) táɫ os 2.2) **Cuvok** (Gravina) ɫaɫar bone os
- 3) **Proto-Tera** *ɟíhi bone os 3.1) **Tera** (Newman) ɟəɫ bone 3.2) **Nyimatli** (Harley) quhi bone 3.3) **Ga'anda** (Gwaji) ela bone
- 4) **Proto-Sukur** *taɫ bone os 4.1) **Sukur** (David) taɫ bone 4.2) **Sukur** (Thomas) taɫ bone; any of the hard parts that form the skeleton of the body of a human and an animal.
- 5) **Proto-Margi** *ɖaɦi^y bone os 5.1) **Bura** (Blench) ɖjàhù Bone 5.2) **Kilba** (Schuh) diɦji bone
- 6) **Proto-Mandara** *ɫaɦi bone os 6.1) **Matal** (Branger) aɫaɫ bone os 6.2) **Podoko** (Swackhammer) ɫaɦa, ə os 6.3) **Mandara** (Fluckiger) hjáɦjé os (m) 6.4) **Malgwa** (Löhr) hjehje bone 6.5) **Glavda** (Owens) ɫa bone 6.5.1) **Glavda** (Nghagyiva) ɫaɦa bone 6.6) **Dghwede** (Frick) ɫaɦa bone
- 7) **Proto-Mofu** *itaɫ bone os 7.1) **Ouldeme** (Kinnaird) àɫaɫ bone os 7.2) **Muyang** (Smith) aɫat bone os 7.3) **Mada** (Nkoumou) aɫaɫ os 7.4) **Zulgo** (Haller) atáɫ os m. 7.5) **Gemzek** (Sabatai) ataɫ bone os 7.6) **Merey** (Gravina) mətaɫ bone os 7.7) **Dugwor** (Jubumna) mətaɫ bone os 7.8) **Mofu North** (Barreteau) ⁿdàɫ os
- 8) **Proto-Maroua** *ataɫ^y bone os 8.1) **Giziga Moutourwa** (Michielan) teɫ(e), ateɫ(Mv), eteɫ (j) os, *arrête* 8.2) **Giziga Marva** (Hamidou) ateɫ bone os 8.3) **Mbazla** (Tourneux) 'a'aɫ os
- 9) **Proto-Higi** *ʔíhi bone os 9.1) **Kamwe-Nkafa** (Harley) 'jithlə bone 9.2) **Kamwe-Futu** (Harley) iɦa bone 9.3) **Kirya** (Blench) íɦá bone 9.4) **Bana** (Lienhard) éɦêr os (pl.) 9.4.1) **Bana** (Lienhard) 'jíɦá os
- 10) **Proto-Kotoko Island** *ahaj bone os 10.1) **Buduma** (McKone) ahaj bone os
- 11) **Proto-Kotoko North** *ensl'i bone os 11.1) **Afade** (Allison) enɦ'i bone os 11.2) **Mpade** (Allison) ènɦí bone os 11.3) **Malgbe** (Allison) enɦi bone os
- 12) **Proto-Kotoko Centre** *eɦi bone os 12.1) **Lagwan** (Allison) aɦi bone os 12.2) **Mser** (Allison) enɦi bone os
- 13) **Proto-Kotoko South** *asis'i bone os 13.1) **Zina** (Odden) àsàsə bone os 13.2) **Mazera** (Allison) asis'e bone os
- 14) **Proto-Gidar** *ɫaŋɫaŋ^y bone os 14.1) **Gidar** (Hungerford) ɫeŋɫeŋ os 14.2) **Gidar** (Schuh) ɫe^ɖɫe^ɖg os

d̥j̥j̥ik^w n. bird *oiseau* (9 groups, 31 languages) A

This is the generic term for a small bird. The initial *d̥ is attested in most groups. In Sukur, Margi South, Kilba, Mandara, Margi and Bana the *d̥ and *j̥ have fused to create /ʔⁱ/, which is a common sporadic process. In the Tera group the *j̥ has probably been reanalysed as the palatalisation prosody, and in Bura and Dghwede it has been reanalysed as a vowel. The labialisation on the *k^w is reconstructed on the basis of its presence in the Margi group, with support from the Higi, Maroua and Mofu groups. The reason for the development of *ŋ^w in the Mofu group is unclear.

- 1) **Proto-Mafa** *d̥j̥jak bird *oiseau* 1.1) **Mafa** (Barreteau) d̥j̥jak *oiseau. nom gén. des petits oiseaux* 1.2) **Cuvok** (Gravina) d̥j̥jak bird *oiseau*
- 2) **Proto-Tera** *d̥iki bird *oiseau* 2.1) **Tera** (Newman) d̥iki bird 2.2) **Nyimatli** (Harley) dj̥ika bird
- 3) **Proto-Sukur** *ʔⁱak bird *oiseau* 3.1) **Sukur** (David) 'jak bird 3.2) **Sukur** (Thomas) 'jak bird;- is a general term for flying birds.

- 4) **Proto-Margi** *d̥jak^w bird *oiseau* 4.1) **Bura** (Blench) d̥ká Bird 4.2) **Margi** (Hoffman) 'ikji bird 4.3) **Margi South** (Hoffman) 'jagu bird 4.4) **Kilba** (Hoffman) 'jagu bird 4.4.1) **Kilba** (Schuh) 'jaku/ə bird
- 5) **Proto-Mandara** *d̥jak bird *oiseau* 5.1) **Matal** (Branger) d̥jaŋ, d̥jaŋ bird *oiseau* 5.2) **Podoko** (Swackhammer) d̥ja, -a *oiseau* 5.3) **Mandara** (Fluckiger) ȳie *oiseau* (m) 5.4) **Malgwa** (Löhr) g̥jije bird gen. 5.5) **Glavda** (Nghagyiva) d̥i:ka bird 5.5.1) **Glavda** (Owens) d̥íí bird 5.6) **Dghwede** (Frick) t̄iⁿge bird
- 6) **Proto-Mofu** *d̥jiŋ^w bird *oiseau* 6.1) **Ouldeme** (Kinnaird) ād̥ēŋ^w *oiseau* 6.2) **Muyang** (Smith) ed̥iŋ bird (general word) *oiseau* (*mot général*) 6.3) **Moloko** (Friesen) ed̥əŋ bird *oiseau* 6.4) **Zulgo** (Haller) d̥ijeŋ *oiseau* m. 6.5) **Gemzek** (Sabatai) d̥iŋ bird *oiseau* 6.5.1) **Gemzek** (Sabatai) d̥iŋ bird *oiseau* 6.6) **Merey** (Gravina) d̥ijeŋ bird *oiseau* 6.7) **Dugwor** (Jubumna) d̥ijeŋ bird *oiseau* 6.8) **Mofu-Gudur** (Hollingsworth) d̥jaŋ *oiseau* (*nom gén.*)
- 7) **Proto-Maroua** *d̥jiw bird *oiseau* 7.1) **Giziga Moutourwa** (Michielan) d̥ju(w) *oiseau* (*en général*) 7.2) **Giziga Marva** (Hamidou) d̥jew bird *oiseau* 7.3) **Mbazla** (Tourneux) d̥jaw *oiseau*
- 8) **Proto-Lamang** *d̥jak bird *oiseau* 8.1) **Lamang** (Wolff) d̥jáká bird 8.2) **Hdi** (Bramlett) d̥jak bird *oiseau*
- 9) **Proto-Higi** *d̥jik^wi bird *oiseau* 9.1) **Kamwe-Futu** (Harley) ijo bird 9.2) **Kirya** (Blench) íká bird 9.3) **Bana** (Lienhard) 'j̄g^wù *oiseau*

d̥jim nm. water *eau* (17 groups, 53 languages) A

The *d̥ is reconstructed on the evidence from the Bata, Tera, Hurza, Kotoko South and Musgum groups. In all of these groups there is evidence for a glottal element, in most cases [ʔ]. In the Tera group the *d̥ and *j have fused to form /d̥ʔ/.

- 1) **Proto-Bata** *maʔi water *eau* 1.1) **Gude** (Hoskinson) mà'ínə water 1.2) **Jimi** (Djibi) ma'i *Eau* 1.3) **Sharwa** (Gravina) ma'i *eau*
- 2) **Proto-Daba** *jim water *eau* 2.1) **Buwal** (Viljoen) jam water *eau* 2.1.1) **Buwal** (Viljoen) jam colour *couleur* 2.1.2) **Buwal** (Viljoen) jam juice *jus* 2.2) **Gavar** (Viljoen) jəm water *eau* 2.2.1) **Gavar** (Viljoen) jəm colour *couleur* 2.3) **Mbudum** (Ndokobai) jim water *eau* 2.4) **Daba** (Lienhard) jəm *l'eau*
- 3) **Proto-Mafa** *jam water *eau* 3.1) **Mafa** (Ndokobai) jam water *eau* 3.2) **Cuvok** (Gravina) jam water *eau*
- 4) **Proto-Tera** *d̥im water *eau* 4.1) **Tera** (Newman) ȳim water 4.2) **Nyimatli** (Harley) d̥jim water 4.3) **Hwana** (Harley) ā:má water
- 5) **Proto-Sukur** *jam water *eau* 5.1) **Sukur** (David) ijam water, rain 5.2) **Sukur** (Thomas) jam water
- 6) **Proto-Hurza** *aʔam water *eau* 6.1) **Mbuko** (Gravina) a'am water *eau* 6.2) **Vame** (Kinnaird) āh^wám water *eau*
- 7) **Proto-Margi** *jimi water *eau* 7.1) **Margi** (Hoffman) 'imi water 7.2) **Margi South** (Harley) imi water 7.3) **Bura** (Blench) jimi Water

- 8) **Proto-Mandara** *jiwi water *eau* 8.1) **Matal** (Branger) j:āw water *eau* 8.2) **Podoko** (Swackhammer) jəwá,-ə *eau, jus* 8.3) **Mandara** (Fluckiger) jawe *eau (f)* 8.4) **Malgwa** (Löhr) jawe water 8.5) **Glavda** (Nghagyiva) jùwa water 8.5.1) **Glavda** (Owens) ii water 8.5.2) **Glavda** (Owens) ju water, color 8.6) **Dghwede** (Frick) jiwe water
- 9) **Proto-Mofu** *jam water *eau* 9.1) **Ouldeme** (Kinnaird) jàm water *eau* 9.2) **Muyang** (Smith) jam water ; colour ; interest *l'eau; couleur; intérêt* 9.3) **Moloko** (Friesen) jam water *eau* 9.4) **Zulgo** (Haller) jam *eau f.* 9.5) **Gemzek** (Sabatai) jam *l' eau* 9.6) **Merey** (Gravina) jam water *eau* 9.7) **Dugwor** (Jubumna) jam water *eau* 9.7.1) **Dugwor** (Jubumna) jam juice *jus* 9.8) **Mofu North** (Barreteau) jàm *eau* 9.9) **Mofu-Gudur** (Hollingsworth) jam water *eau ; jus*
- 10) **Proto-Maroua** *jam water *eau* 10.1) **Giziga Marva** (Hamidou) jam water *eau* 10.2) **Mbazla** (Tourneux) jam *eau*
- 11) **Proto-Lamang** *imi water *eau* 11.1) **Lamang** (Wolff) ímí water 11.2) **Hdi** (Bramlett) imi water *l'eau*
- 12) **Proto-Higi** *jame water *eau* 12.1) **Kamwe-Nkafa** (Harley) jame water 12.2) **Kamwe-Futu** (Harley) jemji water 12.3) **Kirya** (Blench) jàmé water 12.4) **Psikye** (Angelo) jemú water 12.5) **Bana** (Lienhard) jàm *eau*
- 13) **Proto-Kotoko Island** *amaj water *eau* 13.1) **Buduma** (McKone) amaj water *eau*
- 14) **Proto-Kotoko North** *ame water *eau* 14.1) **Afade** (Allison) ame water *eau* 14.2) **Mpade** (Allison) àmé water *eau* 14.3) **Malgbe** (Allison) am water *eau*
- 15) **Proto-Kotoko Centre** *am water *eau* 15.1) **Lagwan** (Allison) am water *eau* 15.2) **Mser** (Allison) am water *eau*
- 16) **Proto-Kotoko South** *aʔim water *eau* 16.1) **Zina** (Odden) ámí water *eau* 16.2) **Mazera** (Allison) aʔim water *eau*
- 17) **Proto-Musgum** *ʔijam water *eau* 17.1) **Vulum** (Tourneux) jem *eau* 17.2) **Mbara** (Tourneux) 'am water 17.3) **Muskum** (Tourneux) jamu *eau*

dīkin ^y nm. claw, fingernail *griffe, ongle* (6 groups, 10 languages) A

The languages where this root is attested are relatively few, but spread over a wide area. This may indicate that the root did exist in Proto-Central Chadic. The initial *d is realised as /r/ in Cuvok, which is an unestablished change, and in the Kotoko North and Centre groups it has fused with the *k to create the velar ejective *k', which is a common sporadic process. There is no known process to account for the initial /h/ in Mazera. In Kotoko North and Centre, there is prenasalisation of the initial consonant, a common sporadic process. The *k has the reflex /h/ in Cuvok and Hdi, an unestablished process. The final *n has become /ŋ/ in Cuvok, Mbazla and Hdi, which is a regular change. The change *n to /r/ in Maltam and Mser is a common but non-systematic process. The reconstruction of the palatalisation prosody is supported by the presence of the prosody in Cuvok and Mbazla.

- 1) **Proto-Mafa** *rihaŋ ^y claw *griffe* 1.1) **Cuvok** (Gravina) rəheŋ fingernail *ongle* 1.1.1) **Cuvok** (Gravina) rəheŋ claw *griffe*

- 2) **Proto-Maroua** *dikiŋ^y claw *griffe* 2.1) **Mbazla** (Tourneux) dikiŋ *griffe, ongle* 2.1.1) **Mbazla** (SILSurvey) likiŋ claw *griffe*
- 3) **Proto-Lamang** *dahŋ claw *griffe* 3.1) **Hdi** (Bramlett) dahəŋ claw, fingernail *la griffe, l'ongle*
- 4) **Proto-Kotoko North** *nk'an claw *griffe* 4.1) **Afade** (Allison) nk'an fingernail *ongle* 4.2) **Mpade** (Allison) nk'an claw *griffe* 4.2.1) **Mpade** (Allison) nk'an fingernail *ongle* 4.3) **Malgbe** (Allison) nk'in claw *griffe* 4.3.1) **Malgbe** (Allison) nk'in fingernail *ongle* 4.4) **Maltam** (Allison) ^ɱgare claw *griffe*
- 5) **Proto-Kotoko Centre** *nk'in claw *griffe* 5.1) **Lagwan** (Allison) nk'ini claw *griffe* 5.2) **Mser** (Allison) nk'ir claw *griffe* 5.2.1) **Mser** (Allison) nk'ir fingernail *ongle*
- 6) **Proto-Kotoko South** *hikine claw *griffe* 6.1) **Mazera** (Allison) k^ware; hikine; hakane fingernail *ongle*

ɖiɖ^y v. hatch *éclore* (5 groups, 6 languages) A **cf:** **ɖiɖiɖ**; **cf:** **tsaɖ**^y.

This root is related to *ɖiɖiɖ 'egg'. In Buwal and Cuvok, the palatalisation prosody has caused *ɖ^l to become *j.

- 1) **Proto-Daba** *jaɖ hatch *éclore* 1.1) **Buwal** (Viljoen) jaɖ hatch *éclore* 1.1.1) **Buwal** (Viljoen) jaɖ produce *produire*
- 2) **Proto-Mafa** *jiɖa hatch *éclore* 2.1) **Cuvok** (Gravina) jiɖa hatch *éclore*
- 3) **Proto-Hurza** ɖiɖ^y hatch *éclore* 3.1) **Mbuko** (Gravina) dɔdɔɖ hatch *éclore* 3.2) **Vame** (Kinnaird) ɖūɖijā hatch *éclore*
- 4) **Proto-Mofu** ɖiɖ^y hatch *éclore* 4.1) **Muyang** (Smith) ɖiɖ hatch *éclore*
- 5) **Proto-Gidar** *wiɖaɖa^y hatch *éclore* 5.1) **Gidar** (Hungerford) wɔdɔɖe *éclore*

dihij nm. egg *œuf* (16 groups, 50 languages) A cf: **dih** ^y.

This is one of the most widely attested roots that have been reconstructed. There is significant variety in the realisations, where we can see evidence of most of the significant processes that have taken place in Central Chadic. In the Daba and Musgum groups there has been metathesis of the *d and the *ɗ, and in the Higi group there has been metathesis of the *ɗ and *j. Metathesis is common, but not predictable. In the Maroua and Musgum groups, the *d has become *t, though this change has not been established as a regular change. In many groups the *d has been lost, and this has triggered compensatory reduplication in the Mafa, Margi and Lamang groups, and compensatory prefixation in the Daba group. The final *j has been reanalysed as the palatalisation prosody in Proto-Daba, Proto-Margi and Proto-Maroua, and as a vowel in Proto-Bata, Proto-Kotoko South and Proto-Lamang. These processes are all common, but not predictable. The *ɗ has become *ɓ in the languages of the South sub-branch, i.e. Proto-Bata, Proto-Daba and Proto-Sukur, as part of a regular process, though not in the Mafa group. There is a subsequent regular change *ɓ to /l/ within the Bata group. In the Margi group and Glavda from the Mandara group, the *j or the palatalisation prosody has created *ɗʲ, which is then velarised as part of a regular sporadic process affecting palatalised alveolar consonants, resulting in /hʲ/. *ɗ is realised as /s/ in the Kotoko South group and Mser, and as /ʃ/ in Mpade, both of which are regular processes. The prenasalisation found in some of the Kotoko groups is a common sporadic process.

- 1) **Proto-Bata** *daɗi egg *œuf* 1.1) **Gude** (Hoskinson) àlínə egg. 1.2) **Jimi** (Djibi) alin *Oeuf* 1.3) **Sharwa** (Gravina) alli *œuf*, *œux* 1.4) **Bata** (Boyd) dūùle egg
- 2) **Proto-Daba** *naɗid ^y egg *œuf* 2.1) **Buwal** (Viljoen) neɓe egg *œuf* 2.2) **Gavar** (Viljoen) anɗi egg *œuf* 2.3) **Mbudum** (Ndokobai) miɗid egg *œuf* 2.4) **Daba** (Lienhard) nèɗi ' *l'œuf*
- 3) **Proto-Mafa** *ɗaɗaj egg *œuf* 3.1) **Mafa** (Ndokobai) ɗaɗaj *œuf* 3.2) **Cuvok** (Gravina) ɗeɗej egg *œuf*
- 4) **Proto-Sukur** *da^ɓgaɗaj egg *œuf* 4.1) **Sukur** (David) ^ɓdaɗaɗaj egg 4.2) **Sukur** (Thomas) da^ɓgaɗai egg
- 5) **Proto-Hurza** *ɗaj egg *œuf* 5.1) **Mbuko** (Gravina) ɗaj egg(s) *œuf*, *œux* 5.2) **Vame** (Kinnaird) ɗáj egg *œuf*
- 6) **Proto-Margi** *ɗihi ^y egg *œuf* 6.1) **Margi** (Hoffman) ihji egg 6.2) **Kilba** (Schuh) hjihji egg(s) 6.3) **Bura** (Blench) hihi Egg
- 7) **Proto-Mandara** *dihija egg *œuf* 7.1) **Matal** (Branger) ɗaɗaj egg *œuf* 7.2) **Podoko** (Swackhammer) ɗiɗe,-i *œuf* 7.3) **Mandara** (Fluckiger) ɗájá *œuf* (m) 7.4) **Malgwa** (Löhr) thlaja egg(s) 7.5) **Glavda** (Owens) ɗi egg, testes 7.5.1) **Glavda** (Nghagyiva) ɗi:ja egg 7.6) **Dghwede** (Frick) ɗeɗe egg
- 8) **Proto-Mofu** *dihij egg *œuf* 8.1) **Ouldeme** (Kinnaird) ɗàɗáj egg *œuf* 8.2) **Muyang** (Smith) ejɗi egg *œuf* 8.2.1) **Muyang** (Smith) ejɗi egg *œuf* 8.3) **Moloko** (Friesen) eɗeɗeɗ egg *œuf* 8.4) **Zulgo** (Haller) ɗeɗe *œuf* m. 8.5) **Gemzek** (Sabatai) dɗe egg *œuf* 8.6) **Merey** (Gravina) dɗe egg *œuf* 8.6.1) **Merey** (Gravina) dɗe egg *œuf* 8.7) **Dugwor** (Jubumna) aɗaj egg *œuf* 8.8) **Mofu North** (Barreteau) ɗeɗeɗ *œuf* 8.9) **Mofu-Gudur** (Hollingsworth) ɗeɗeɗ *œuf*
- 9) **Proto-Maroua** *ataɗ ^y egg *œuf* 9.1) **Giziga Moutourwa** (Michielan) teɗ(e), ateɗ(Mv), eteɗ (j) *œuf* 9.2) **Giziga Marva** (Hamidou) ateɗ egg *œuf* 9.3) **Mbazla** (Tourneux) aɗaj *œuf*

- 10) **Proto-Lamang** *ɬi egg *œuf* 10.1) **Lamang** (Wolff) ɬi egg 10.2) **Hdi** (Bramlett) ɬi egg *l'œuf*
- 11) **Proto-Higi** *ji egg *œuf* 11.1) **Kamwe-Nkafa** (Harley) ɬi egg 11.2) **Kamwe-Futu** (Harley) jə egg 11.3) **Kirya** (Blench) ɬi kòntáká egg 11.4) **Bana** (Lienhard) ɬi *œufs*
- 12) **Proto-Kotoko North** *enɬi egg *œuf* 12.1) **Afade** (Allison) enɬo egg *œuf* 12.2) **Mpade** (Allison) enɬó egg *œuf* 12.3) **Malgbe** (Allison) enɬi egg *œuf*
- 13) **Proto-Kotoko Centre** *enɬi egg *œuf* 13.1) **Lagwan** (Allison) nɬi egg *œuf* 13.2) **Mser** (Allison) enɬi egg *œuf*
- 14) **Proto-Kotoko South** *nsi egg *œuf* 14.1) **Zina** (Odden) nsí egg *œuf*
- 15) **Proto-Musgum** *ɬat^y egg *œuf* 15.1) **Vulum** (Tourneux) enɬe *œuf* 15.2) **Mbara** (Tourneux) ɬɬa egg 15.3) **Muskum** (Tourneux) ɬet *œuf*
- 16) **Proto-Gidar** *dã^gɬa^y egg *œuf* 16.1) **Gidar** (Schuh) dẽ^gɬe/e *œuf* 16.2) **Gidar** (Hungerford) dẽle, dẽlede *œuf, œufs*

ɖirinih^y n. tongue *langue* (4 groups, 18 languages) C **syn:** **yanad^y**, **naɬij**.

This root is difficult to establish. The initial *ɖ has support from some languages in the Mofu and Maroua groups, either as /ɖ/ or as /ʔ/. The medial *n is expected to have become *r in the Mandara group and parts of the Mofu group, whilst the *r should have become *l in all the groups that are represented except the Mafa group. It is possible that the resulting sequence was reduced from *lr to *r in the Mandara and Mofu groups, which would explain the surface forms that we find. The /l/ in Matal is a regular change from the resulting *r. The *ɖ and *h have both been lost in many languages, which is a common sporadic change. In Mandara and Malgwa, the loss of the *ɖ has triggered compensatory prefixation of /n/. The palatalisation prosody is present in three of the four groups.

- 1) **Proto-Mafa** *lanaɲ^y tongue *langue* 1.1) **Mafa** (Barreteau) léné *langue* 1.1.1) **Mafa** (Barreteau) lé'én *langue* 1.2) **Cuvok** (Gravina) neneɲ tongue *langue*
- 2) **Proto-Mandara** *irih tongue *langue* 2.1) **Matal** (Branger) ālàh tongue *langue* 2.2) **Mandara** (Fluckiger) nara *langue (f)* 2.3) **Malgwa** (Löhr) nare tongue 2.4) **Glavda** (Nghagyiva) ēɛɛxa tongue 2.5) **Dghwede** (Frick) rəxe tongue
- 3) **Proto-Mofu** *ɖirinah^y tongue *langue* 3.1) **Ouldeme** (Kinnaird) màró tongue *langue* 3.2) **Muyang** (Smith) arəd tongue ; bud *langue; bourgeon* 3.3) **Mada** (Nkoumou) árra *langue* 3.4) **Moloko** (Friesen) ʰhərnek tongue *langue* 3.5) **Zulgo** (Haller) àràh *langue f.* 3.6) **Gemzek** (Sabatai) arah tongue *langue* 3.7) **Merey** (Gravina) dərneh *langue* 3.8) **Mofu-Gudur** (Hollingsworth) neneh *langue (organe) (Gud.)* 3.8.1) **Mofu-Gudur** (Hollingsworth) dərne *langue (organe) (Mokong)*
- 4) **Proto-Maroua** *ɖirna^y tongue *langue* 4.1) **Giziga Moutourwa** (Michielan) 'irne, irne *langue* 4.2) **Giziga Marva** (Hamidou) irne tongue *langue* 4.2.1) **Giziga Marva** (Hamidou) irne *langue* 4.3) **Mbazla** (Tourneux) ne *langue* 4.3.1) **Mbazla** (SILSurvey) né' tongue *langue*

dīwah nf. breast *sein* (13 groups, 42 languages) A

The basic sense of the root is 'breast', but in many languages it is also covers the concept 'milk'. The history of the root is complicated due to the fact that all three of the consonants in the root are prone to reanalysis or loss. The initial *d is only retained in some languages of the Mofu and Maroua groups. In many cases it has fused with the *w to create either *ʔ^w or *ḍ, which is a common sporadic process. It has been lost in the Mafa and Kotoko Centre groups. The final *h has been lost in the majority of languages, but is retained in the Meri subgroup of the Mofu group. When the *w has not fused with *d, it is retained.

- 1) **Proto-Bata** *ʔ^wa breast *sein* 1.1) **Bata** (Boyd) wàto uncooked fresh milk, lait cru 1.2) **Gude** (Hoskinson) 'wánə (inher. poss., body part) breast, milk 1.3) **Jimi** (Djibi) wan *lait* 1.4) **Sharwa** (Gravina) 'wa *sein, lait* 1.5) **Tsuvan** (Johnston) 'wakən *le lait*
- 2) **Proto-Daba** *ʔ^wa breast *sein* 2.1) **Buwal** (Viljoen) wa breast; milk; udder *sein; lait; pis, mamelle* 2.2) **Gavar** (Viljoen) ŋ'wa udder; breast; milk *mamelle; sein (mamelle); lait* 2.3) **Mbudum** (Ndokobaï) wa udder; breast *pis, mamelle; sein (mamelle)*
- 3) **Proto-Mafa** *wa breast *sein* 3.1) **Mafa** (Barreteau) wa *sein* 3.2) **Cuvok** (Gravina) wa breast; udder *sein (mamelle); pis, mamelle*
- 4) **Proto-Tera** *ḍibi breast *sein* 4.1) **Tera** (Newman) bubu, ḍibi breast, fem. 4.2) **Nyimatli** (Harley) ḍibi breast
- 5) **Proto-Sukur** *ʔ^wa breast, milk *sein, lait* 5.1) **Sukur** (David) 'wa breast 5.2) **Sukur** (Thomas) 'wa breast; milk:- is a milk from the breast of either human female and animals.
- 6) **Proto-Margi** *ʔiwa breast *sein* 6.1) **Bura** (Blench) 'ùwà Woman's breast 6.2) **Margi** (Hoffman) u'wa breast, milk 6.3) **Margi South** (Harley) u'wa breast 6.4) **Kilba** (Schuh) 'wa breast; milk
- 7) **Proto-Mandara** *wiḥa breast *sein* 7.1) **Matal** (Branger) awa breast *sein* 7.2) **Podoko** (Swackhammer) uḥa, -a *sein; lait* 7.3) **Mandara** (Fluckiger) ube *mamelle (f), sein (m), tétine (f)* 7.4) **Malgwa** (Löhr) uuḥe breast, female 7.5) **Glavda** (Nghagyiva) ù:ḥa breast 7.6) **Dghwede** (Frick) wup'a breast, milk
- 8) **Proto-Mofu** *dīwah breast *sein* 8.1) **Ouldeme** (Kinnaird) āḍūwá breast; milk *sein; lait* 8.2) **Muyang** (Smith) ḍuwa breast ; milk *lait; mamelle; sein* 8.3) **Mada** (Nkoumou) ḍwa *lait; sein (mamelle)* 8.4) **Zulgo** (Haller) àwàh *lait m.; sein m.* 8.5) **Gemzek** (Sabatai) awah breast *sein (mamelle)* 8.6) **Merey** (Gravina) wah udder; breast *pis, mamelle; sein (mamelle)* 8.7) **Dugwor** (Jubumna) awah udder; breast *pis, mamelle; sein (mamelle)* 8.8) **Mofu-Gudur** (Hollingsworth) dḍwá *sein, mamelle, pis; lait*
- 9) **Proto-Maroua** *dīwa breast *sein* 9.1) **Giziga Moutourwa** (Michielan) ḍuwa *lait, sein, mamelle* 9.2) **Giziga Marva** (Hamidou) ḍuwa breast; udder *sein (mamelle); pis, mamelle* 9.3) **Mbazla** (Tourneux) 'wa *sein, lait* 9.3.1) **Mbazla** (SILSurvey) wā' breast *sein*
- 10) **Proto-Lamang** *dīwa breast *sein* 10.1) **Lamang** (Wolff) úbá breast, milk 10.2) **Hdi** (Bramlett) u'a breast *le sein*
- 11) **Proto-Higi** *ʔ^wa breast *sein* 11.1) **Kamwe-Futu** (Harley) uwo breast (women's) 11.2) **Kirya** (Blench) 'wá breast, milk 11.3) **Bana** (Lienhard) 'wá *lait, sein*

12) Proto-Kotoko North *eʔwi breast *sein* 12.1) **Afade** (Allison) eʔwi breast *sein* (*mamelle*) 12.2)

Maltam (Allison) e^mbi breast *sein* (*mamelle*)

13) Proto-Kotoko Centre *iwi breast *sein* 13.1) **Lagwan** (Allison) iwi breast; udder *sein* (*mamelle*); *pis*, *mamelle*

ga^ɔga n. small drum *petit tambour* (16 groups, 30 languages) A **cf:** **daŋ**.

This is a widespread shared root that does not go back to proto-Central Chadic. It spread with the introduction of the instrument in question.

- 1) **Proto-Bata** *ga^ɔga drum *tambour* 1.1) **Gude** (Hoskinson) gà^ɔgá drum 1.2) **Sharwa** (Gravina) ga^ɔga *tamtam, tambour*
- 2) **Proto-Daba** *ka^ɔgaŋ medium-sized drum *tambour moyen* 2.1) **Buwal** (Viljoen) ka^ɔgaŋ drum, medium sized *tambour moyen*
- 3) **Proto-Mafa** *ga^ɔga small two-skinned drum *petit tambour à deux peaux* 3.1) **Mafa** (Barreteau) ga^ɔga *tambour à deux peaux* 3.2) **Cuvok** (Gravina) ga^ɔgaŋ small drum *petit tambour*
- 4) **Proto-Tera** *g^wigaŋ big drum *grand tambour* 4.1) **Nyimatli** (Harley) guga^ɔg big(gest) drum
- 5) **Proto-Hurza** *ga^ɔga drum *tam-tam* 5.1) **Mbuko** (Gravina) ga^ɔgan drum *tam-tam* 5.2) **Vame** (Kinnaird) gàŋkà drum ; tom tom *tam-tam*
- 6) **Proto-Margi** *ga^ɔga drum *tambour* 6.1) **Bura** (Blench) ga^ɔga Drum Generic term for any drum Also applied specifically to the two-headed, barrel-shaped drum with snares beaten with a hooked stick and hand 6.2) **Margi** (Hoffman) ka^ɔga drum
- 7) **Proto-Mandara** *ga^ɔga drum *tambour* 7.1) **Podoko** (Swackhammer) gáŋəka *tam-tam* 7.2) **Mandara** (Fluckiger) ga^ɔga *tamtam (m)* 7.3) **Malgwa** (Löhr) ga^ɔga drum gen. 7.4) **Glavda** (Owens) gaŋ drum
- 8) **Proto-Mofu** *ga^ɔgaŋ drum *tambout* 8.1) **Muyang** (Smith) gaŋ-gaŋ *tambour, tam-tam (mot général)* 8.2) **Moloko** (Friesen) gə^ɔgan drum *tambour* 8.3) **Gemzek** (Sabatai) gaŋaŋ small drum *petit tambour* 8.3.1) **Gemzek** (Sabatai) gagaŋ *tamtam* 8.4) **Merrey** (Gravina) ga^ɔgaŋ small drum *petit tambour, tam-tam* 8.4.1) **Merrey** (Gravina) gaŋaŋ *tam-tam* 8.5) **Mofu North** (Barreteau) gə^ɔgàŋ *tambour* 8.6) **Mofu-Gudur** (Hollingsworth) ga^ɔgaŋ *tambour*
- 9) **Proto-Maroua** *ga^ɔgaŋ medium drum *tambour moyen* 9.1) **Giziga Marva** (Hamidou) ga^ɔgaŋ medium drum *tambour moyen*
- 10) **Proto-Lamang** *ga^ɔga drum *tambour* 10.1) **Lamang** (Wolff) ga^ɔga drum
- 11) **Proto-Higi** *ga^ɔga small drum *petit tambour* 11.1) **Kamwe-Nkafa** (Harley) ga^ɔga drum 11.2) **Kamwe-Futu** (Harley) ga^ɔga small(est) drum
- 12) **Proto-Kotoko Island** *ga^ɔga small drum *petit tambour* 12.1) **Buduma** (McKone) ga^ɔga *tamtam*.
- 13) **Proto-Kotoko North** *ga^ɔga drum *tambour* 13.1) **Afade** (Allison) ga^ɔgan drum (sp.) *tambour (sp.)* 13.2) **Mpade** (Allison) kà^ɔgá drum (sp.) *tambour (sp.)*
- 14) **Proto-Kotoko Centre** *ga^ɔga small drum *petit tambour* 14.1) **Lagwan** (Allison) ga^ɔga small drum *petit tambour*
- 15) **Proto-Musgum** *ga^ɔga drum *tambour* 15.1) **Mbara** (Tourneux) ga^ɔga drum (sp.) *tambour d'aisselle*

16) **Proto-Gidar** *ga^ɔga small drum *petit tambour* 16.1) **Gidar** (Hungerford) ga^ɔga *tam-tam, tamtam, tambour*

17) **Kanuri** ga^ɔgá small drum *petit tambour* 17.1) **Kanuri** ga^ɔgá drum (sp.) *tambour (sp.)*

18) **Hausa** gà^ɔgáa small drum *petit tambour* 18.1) **Hausa** gà^ɔgáa drum (sp.) *tambour (sp.)*

gir v. grow *grandir* (12 groups, 32 languages) A

The basic meaning is to grow with age, as a child does. It can also be used in many languages for rearing livestock. The *r has the reflex *l in the groups of the North sub-branch, and also Proto-Daba. The *g has the reflex *ɣ in Proto-Hurza, and *k in Proto-Margi and Proto-Higi. These are unestablished changes.

1) **Proto-Bata** *gir grow *grandir* 1.1) **Gude** (Hoskinson) gərə grow, mature, become tall. 1.2) **Jimi** (Djibi) gərən *Grandir* ; 1.3) **Tsuvan** (Johnston) a gəlkən *grandir*

2) **Proto-Daba** *gil grow *grandir* 2.1) **Buwal** (Viljoen) gal grow up *grandir* 2.1.1) **Buwal** (Viljoen) gal raise *élever* 2.1.2) **Buwal** (Viljoen) ^ɔgal grow old *devenir vieux* 2.1.3) **Buwal** (Viljoen) gəl ^mbò bring up (a child) *élever (un enfant)* 2.2) **Gavar** (Viljoen) gəl grow up *grandir* 2.2.1) **Gavar** (Viljoen) gəl enlargen *agrandir* 2.2.2) **Gavar** (Viljoen) gəl raise *élever* 2.2.3) **Gavar** (Viljoen) gəl domesticate, tame *domestiquer, apprivoiser* 2.3) **Mbudum** (Ndokobai) gəl grow up *grandir* 2.3.1) **Mbudum** (Ndokobai) kəgil bring up (a child) *élever (un enfant)* 2.4) **Daba** (Lienhard) gəl *grandir, croître* ; *élever* 2.4.1) **Daba** (Lienhard) gəlà *protèger* ; *élever*

3) **Proto-Mafa** *gira grow *grandir* 3.1) **Cuvok** (Gravina) gəla grow up *grandir* 3.1.1) **Cuvok** (Gravina) gal ⁿda bring up (a child) *élever (un enfant)*

4) **Proto-Tera** *gor grow *grandir* 4.1) **Nyimatli** (Harley) gori grow up 4.1.1) **Nyimatli** (Harley) gor grow (of plants)

5) **Proto-Sukur** *gir grow *grandir* 5.1) **Sukur** (Thomas) gər grow; to increase in size, to become bigger or taller and develop into an adult, to become longer by not cutting it.

6) **Proto-Hurza** *ɣira grow *grandir* 6.1) **Mbuko** (Gravina) har to grow bigger *grandir* 6.2) **Vame** (Kinnaird) ɣərə grow ; increase *grandir* ; *croître* 6.2.1) **Vame** (Kinnaird) gərə raise cattle ; rear cattle *élever le bétail* 6.2.2) **Vame** (Kinnaird) ɣàlà grow old ; age *vieillir*

7) **Proto-Margi** *kila grow *grandir* 7.1) **Bura** (Blench) kila To grow

8) **Proto-Mandara** *gila grow *grandir* 8.1) **Podoko** (Swackhammer) gála *grandir* 8.2) **Mandara** (Fluckiger) gélá *nourrir, élever*

- 9) **Proto-Mofu** *gɪl grow *grandir* 9.1) **Ouldeme** (Kinnaird) gālérɛ raise animals *élever le bétail ; nourrir* 9.2) **Muyang** (Smith) gal bring up ; feed *élever* 9.3) **Mada** (Nkoumou) magla *coaguler* 9.3.1) **Mada** (Nkoumou) magla *élever* 9.4) **Moloko** (Friesen) gar grow up *grandir; grossir* 9.5) **Zulgo** (Haller) gəl bá *devenir grand, grandir, grossir* 9.6) **Gemzek** (Sabatai) gəl grow up *grandir* 9.6.1) **Gemzek** (Sabatai) megəle *élever* 9.7) **Merey** (Gravina) gəl grow up *grandir* 9.8) **Dugwor** (Jubumna) mægəlej grow up *grandir* 9.8.1) **Dugwor** (Jubumna) mægəlej bring up (a child) *élever (un enfant)* 9.9) **Mofu North** (Barreteau) mégəlèj *grandir, pousser, élever* 9.10) **Mofu-Gudur** (Hollingsworth) gəl raise *grandir, pousser, élever (un enfant, un animal)* 9.10.1) **Mofu-Gudur** (Hollingsworth) gəl (*fig.*) *devenir grave, aggraver*
- 10) **Proto-Maroua** *gɪl grow *grandir* 10.1) **Giziga Moutourwa** (Michielan) gil *grandir, faire grandir, élever, engraisser* 10.2) **Giziga Marva** (Hamidou) gəl grow up *grandir* 10.2.1) **Giziga Marva** (Hamidou) gla god bring up (a child) *élever (un enfant)*
- 11) **Proto-Lamang** *gɪla grow *grandir* 11.1) **Lamang** (Wolff) gla grow 11.2) **Hdi** (Bramlett) galaj to raise *élever* 11.2.1) **Hdi** (Bramlett) gəlaj to grow *grandir* 11.2.2) **Hdi** (Bramlett) halaj to grow old *vieillir*
- 12) **Proto-Higi** *kɪl grow *grandir* 12.1) **Kamwe-Futu** (Harley) kəlo grow (of plants) 12.2) **Kirya** (Blench) kəl nurse, grow 12.3) **Bana** (Lienhard) k(ə)lì *grandir, croître, faire grandir, augmenter les paroles, élever les animaux*

giwɪn n. elephant *éléphant* (2 groups, 7 languages) D **syn:** ^mbilala ^y, **dziwɪn** ^y, **nivi**.

This root is only found in two groups, and it is not possible to be certain that the forms in the two groups are indeed cognate. The final *n in the Mandara group is surprising, as Proto-Central Chadic *n has the reflex *r in word-final position in this group.

- 1) **Proto-Mandara** *giwɪn elephant *éléphant* 1.1) **Matal** (Branger) gawan elephant *éléphant* 1.2) **Podoko** (Swackhammer) g^wɪhana, -ə *éléphant* 1.3) **Mandara** (Fluckiger) gúé *éléphant (m)* 1.4) **Malgwa** (Löhr) guwe elephant 1.5) **Glavda** (Nghagyiva) gùna elephant
- 2) **Proto-Kotoko South** *g^wag^we elephant *éléphant* 2.1) **Zina** (Odden) g^wàg^wi elephant *éléphant* 2.2) **Mazera** (Allison) g^wag^we elephant *éléphant*

giʔ^w n. hole *trou* (4 groups, 11 languages) C **syn:** **vigid** ^y.

This root is found in the Nigerian Plains area. It is reconstructed with *ʔ^w, though this phoneme is not reconstructed for Proto-Central Chadic. As such it represents a provisional reconstruction until more data is available. The *g has the reflex *k in Proto-Margi and Proto-Higi, both of which are unestablished changes.

- 1) **Proto-Bata** *giʔ^w hole *trou* 1.1) **Bata** (Boyd) g^we hole 1.2) **Jimi** (Djibi) gu'un *Le trou* 1.3) **Sharwa** (Gravina) g^wə'ə *trou*
- 2) **Proto-Tera** *g^wa hole *trou* 2.1) **Tera** (Newman) g^wa hole 2.1.1) **Tera** (Newman) g^wa obtain 2.2) **Nyimatli** (Harley) g^wa den, lair, hole 2.2.1) **Nyimatli** (Harley) ge hole

- 3) **Proto-Margi** *kaʔ^w hole *trou* 3.1) **Bura** (Blench) ku Hole in the ground 3.2) **Margi South** (Harley) kàu hole 3.3) **Kilba** (Schuh) ka'u hole
- 4) **Proto-Higi** *kiʔ^w hole *trou* 4.1) **Kamwe-Futu** (Harley) kə hole; nest 4.2) **Kirya** (Blench) yàw hole 4.3) **Bana** (Lienhard) kó'ú *trou san issue*

g^wavan nm. spitting cobra *cobra cracheur* (6 groups, 14 languages) A

This root is attested in the Mandara Mountains area. The labialisation of *g^w has been reanalysed as the labialisation prosody in Proto-Daba and Proto-Maroua. The final *n is [ŋ] in almost all languages, most of which have this change as a regular feature. However in the Mofu group languages, word-final *n should have the reflex *r. This implies that the root has been borrowed into the Mofu group.

- 1) **Proto-Daba** *gavan^w cobra *cobra* 1.1) **Mbudum** (Ndokobai) govonj spitting cobra *cobra* 1.2) **Daba** (Lienhard) gòvòm *naja (espèce de serpent noir qui jette la salive)*
- 2) **Proto-Mafa** *g^wivan cobra *cobra* 2.1) **Cuvok** (Gravina) guvanj spitting cobra *cobra*
- 3) **Proto-Hurza** *g^wavan cobra *cobra* 3.1) **Mbuko** (Gravina) gulguvon cobra *cobra crachant* 3.2) **Vame** (Kinnaird) gàvànj figè cobra *cobra*
- 4) **Proto-Mofu** *g^wavanj cobra *cobra* 4.1) **Ouldeme** (Kinnaird) gàvànj *serpent sp.; serpent gris foncé, long, vénimeux* 4.2) **Muyang** (Smith) gavanj Black-Necked Spitting Cobra, or any large snake *cobra (ou tout grand serpent)* 4.3) **Zulgo** (Haller) gàvànj *serpent m. sp.* 4.4) **Gemzek** (Sabatai) gavanj spitting cobra *cobra* 4.5) **Dugwor** (Jubumna) golvagan j fətaŋ spitting cobra *cobra* 4.6) **Mofu North** (Barreteau) g^wávànj *serpent (nom gén.)* 4.7) **Mofu-Gudur** (Hollingsworth) g^wávàn^w *naja (serpent)*
- 5) **Proto-Maroua** *gavan^w cobra *cobra* 5.1) **Giziga Marva** (Hamidou) govon spitting cobra *cobra*
- 6) **Proto-Higi** *g^wavanj cobra *cobra* 6.1) **Bana** (Lienhard) g^wávànj *esp de serpent, noir, habite près des marigots, agressif, mais sans vénin*

g^widifɪʒ nm. belch *éructer* (11 groups, 23 languages) C *rel. to: h^widifɪ* ^y.

This root is very difficult to reconstruct. The most secure part of the root is the *ɪʒ, which is present in all reflexes, though it is devoiced in Proto-Kotoko North. The voiced fricatives *z and *v are devoiced in Proto-North Kotoko-Musgum, so this may be part of a general devoicing of fricatives. In many languages there is a glottal element, and in many there is a voiced velar. In Mbudum and Giziga Moutourwa there is evidence for three consonants in the root. The initial consonant is reconstructed as *g^w. The labialisation is retained in Mafa, Bura and Margi, and is vocalised in Hdi. The *g is retained in Mbudum, Mafa, Matal, Glavda, Ouldeme and Mada. In Hdi it has become /ŋ/, and in Giziga Moutourwa it has become /ʔ/. These are unestablished changes. In the Margi group the *g^w and *d have merged, creating /ɓ^w/ and /ʔ^w/, which is a common sporadic process. The *d is retained in several languages, and in Mbudum, Gemzek, Meroy and Giziga Moutourwa it has the reflex /r/, which is an unestablished change. In Kotoko North it has fused with *ɬ to create the ejective *ɬ'. As one might expect, the root for 'belch' is the voiced equivalent of the root for 'cough'.

- 1) **Proto-Daba** *gidifɪʒ belch *éructer* 1.1) **Buwal** (Viljoen) daʒ belch *éructer, rôter* 1.2) **Mbudum** (Ndokobai) ŋgəɪʒ belch *éructer, rôter*

- 2) **Proto-Mafa** *g^widifɛa belch *éructer* 2.1) **Mafa** (Barreteau) guɛa *rôter* 2.2) **Cuvok** (Gravina) daɛa belch *éructer, rôter*
- 3) **Proto-Hurza** *difɛa belch *éructer* 3.1) **Mbuko** (Gravina) dɛɛe to belch *roter* 3.2) **Vame** (Kinnaird) ɛ̀ãããã belch *éructer*
- 4) **Proto-Margi** *ɛag^wi belch *éructer* 4.1) **Bura** (Blench) ɛãã^wi To belch 4.2) **Margi** (Hoffman) ɛã^wi to belch
- 5) **Proto-Mandara** *gifɛa belch *éructer* 5.1) **Matal** mãgɛáj belch *éructer* 5.2) **Malgwa** (Löhr) iidhla burp 5.3) **Glavda** (Nghagyiva) gifɛga belch
- 6) **Proto-Mofu** *gidifɛ belch *éructer* 6.1) **Ouldeme** (Kinnaird) gɛɛáj burp *éructer ; rôter* 6.2) **Mada** (Nkoumou) me^ɔgɛea *éructer, rôter* 6.3) **Zulgo** (Haller) ɛɛɛe *roter* 6.4) **Gemzek** (Sabatai) mereɛe belch *éructer, rôter* 6.5) **Merey** (Gravina) raɛ belch *éructer, rôter* 6.6) **Mofu-Gudur** (Hollingsworth) dɛɛ *éructer*
- 7) **Proto-Maroua** *ɛirɛi^y belch *éructer* 7.1) **Giziga Moutourwa** (Michielan) 'irɛi^y *roter*
- 8) **Proto-Lamang** *ɛifɛu belch *éructer* 8.1) **Hdi** (Bramlett) ɛɛɛu to belch, to burp *éructer, roter*
- 9) **Proto-Higi** *ɛi belch *éructer* 9.1) **Bana** (Lienhard) ɛi *éructer, rôter*
- 10) **Proto-Kotoko North** *ɛa belch *éructer* 10.1) **Afade** (Allison) ɛe; ɛaun belch *éructer, rôter* 10.2) **Mpade** (Allison) là ms'ò belch *éructer, rôter* 10.2.1) **Mpade** (Allison) ms'ò burp *rot*
- 11) **Proto-Kotoko Centre** *ifi belch *éructer* 11.1) **Lagwan** (Allison) gel ifi belch *éructer, rôter*

g^wila n. left *gauche* (8 groups, 17 languages) A **syn:** ɛããã.

This root is unusual in that it is reconstructed with *l, although this phoneme is not reconstructed for Proto-Central Chadic. There was a change *r to *l in the North sub-branch, which introduced the phoneme in those languages. However, here we have *l in the reconstructions for Proto-Daba, Proto-Mafa and Proto-Hurza, which are not in the North sub-branch. It is possible that this root spread from the North sub-branch to other languages. In Malgbe the labialisation has been lost from *g^w, and in Lagwan it has the reflex /ɣ/, which is an unestablished change.

- 1) **Proto-Daba** *g^wila left *gauche* 1.1) **Buwal** (Viljoen) ātā rā g^wùlà left (direction) () *gauche* 1.2) **Mbudum** (Ndokobaï) abɛgula left (direction) (à) *gauche*
- 2) **Proto-Mafa** *g^wila left *gauche* 2.1) **Mafa** (Barreteau) gúlá *gauche* 2.2) **Cuvok** (Gravina) ha ta gula left (direction) (à) *gauche*
- 3) **Proto-Hurza** *g^wila left *gauche* 3.1) **Mbuko** (Gravina) gula left *gauche* 3.1.1) **Mbuko** (Gravina) alaj gula *gauche*
- 4) **Proto-Mofu** *g^wila left *gauche* 4.1) **Moloko** (Friesen) gəlo left *gauche* 4.1.1) **Moloko** (Friesen) gəlo miserable *misérable* 4.2) **Zulgo** (Haller) ⁿdá ahər gùla à *gauche* 4.3) **Gemzek** (Sabatai) i ahər gula left (direction) (à) *gauche* 4.4) **Merey** (Gravina) gula *gauche* 4.5) **Dugwor** (Jubumna) gula left (direction) (à) *gauche* 4.6) **Mofu North** (Barreteau) hār gúlá *main gauche* 4.7) **Mofu-Gudur** (Hollingsworth) hār-gula (*main*) *gauche* 4.7.1) **Mofu-Gudur** (Hollingsworth) gùla *gauche*

- 5) **Proto-Maroua** *g^wila left *gauche* 5.1) **Giziga Moutourwa** (Michielan) gula *gauche* 5.2) **Giziga Marva** (Hamidou) haŋ gula left (direction) (à) *gauche*
- 6) **Proto-Higi** *g^wila left *gauche* 6.1) **Psikye** (Angelo) g^wələ́ left
- 7) **Proto-Kotoko North** *geli left *gauche* 7.1) **Malgbe** (Allison) a ɛ geli left (direction) (à) *gauche*
- 8) **Proto-Kotoko Centre** *ɣilan left *gauche* 8.1) **Lagwan** (Allison) ɣilan left (direction) (à) *gauche*

g^wivih nm. field *champ* (8 groups, 27 languages) A **syn:** **raj, sika, ɣ^wir.**

The basic meaning is the land where millet is cultivated. Apart from Gude, this root is not found in languages of the South sub-branch. The initial *g^w has reduced to *w in Proto-Lamang and Proto-Higi, an unestablished change. In Proto-Bata and Proto-Margi, the same process resulted in a detached labialisation component, which attached to the *v in Proto-Bata and the *h in Proto-Margi, resulting in *k^w. In Proto-Margi, *v has the regular reflex *f. The final *h has also been lost in several languages.

- 1) **Proto-Bata** *v^wi field *champ* 1.1) **Gude** (Hoskinson) ùuzànv^wá -ə communal farming
- 2) **Proto-Hurza** *g^wivih field *champ* 2.1) **Mbuko** (Gravina) guvo field *champ* 2.2) **Vame** (Kinnaid) kùvək field ; farm *champ* ; *ferme*
- 3) **Proto-Margi** *fak^w field *champ* 3.1) **Bura** (Blench) faku Farm; field; garden 3.2) **Margi** (Hoffman) fa farm 3.3) **Margi South** (Harley) fa farm 3.4) **Kilba** (Schuh) fa farm
- 4) **Proto-Mandara** *g^wivih field *champ* 4.1) **Matal** (Branger) g^wəf // guf field *champ* 4.2) **Podoko** (Swackhammer) vəh^wa,-u *champ* 4.3) **Mandara** (Fluckiger) fé *champ* (m) 4.4) **Malgwa** (Löhr) ukfe farm 4.4.1) **Malgwa** (Löhr) fe farm 4.5) **Glavda** (Owens) gif field, place on farm where grain gathered 4.5.1) **Glavda** (Owens) g^wu farm 4.5.2) **Glavda** (Owens) g^wu farm 4.5.3) **Glavda** (Owens) vaava field, place
- 5) **Proto-Mofu** *g^wivih field *champ* 5.1) **Ouldeme** (Kinnaid) āvùh^w field *champ* 5.2) **Mada** (Nkoumou) wvah *champs* 5.3) **Moloko** (Friesen) gəvah field *champ* 5.4) **Zulgo** (Haller) gùvəh *champ* (m.) *cultivé* 5.5) **Gemzek** (Sabatai) guvah fields *champs* 5.6) **Merey** (Gravina) guvah *champ* 5.6.1) **Merey** (Gravina) guvah *champ* 5.7) **Dugwor** (Jubumna) guva fields *champs*
- 6) **Proto-Maroua** *g^wiva field *champ* 6.1) **Giziga Moutourwa** (Michielan) guva *champ* 6.2) **Giziga Marva** (Hamidou) guva fields *champs*
- 7) **Proto-Lamang** *wivah field *champ* 7.1) **Lamang** (Wolff) úvəha field, farm 7.2) **Hdi** (Bramlett) vwah field *le champ*
- 8) **Proto-Higi** *wivih field *champ* 8.1) **Kamwe-Nkafa** (Harley) v^wə 1. farm. 2.friend. 8.2) **Kirya** (Blench) nv^wəkə́ farm 8.2.1) **Kirya** (Blench) nvəkə́ farm 8.3) **Psikye** (Angelo) wuvə farm, (field) 8.4) **Bana** (Lienhard) vəxə́ *champ*

yaj nm. compound *concession* (12 groups, 28 languages) A *rel. to: vin*^y.

The basic meaning of this root is the entire compound, whilst *vin^y denotes a single building. The initial *y also has the reflexes /g/ and /h/. The reflex /h/ is regular in Mandara, Malgwa, Muyang, Moloko and Proto-Kotoko North. The reflex /g/ is regular in the Meri sub-group of the Mofu group. In the Mofu subgroup the *y is regularly lost. The *j is reanalysed as the palatalisation prosody in Proto-Daba, and is vocalised in Sukur, which are common sporadic processes. It combines with *a in Proto-Kotoko South, which is an unestablished change.

- 1) **Proto-Bata** *haji hut case 1.1) **Sharwa** (Gravina) hajə *Maison*
- 2) **Proto-Daba** *ga^y hut case 2.1) **Buwal** (Viljoen) ge house *maison* 2.2) **Mbudum** (Ndokobai) ge house *maison*
- 3) **Proto-Mafa** *gaj hut case 3.1) **Mafa** (Barreteau) gáj *case, concession*
- 4) **Proto-Sukur** *yi hut case 4.1) **Sukur** (David) yí house 4.2) **Sukur** (Thomas) yəi home; the house that you live in, especially with your family.
- 5) **Proto-Hurza** *aga hut case 5.1) **Mbuko** (Gravina) àga at_house_of *chez*
- 6) **Proto-Mandara** *yaj hut case 6.1) **Matal** (Branger) gāj hut case 6.2) **Podoko** (Swackhammer) kaja,-ə 1 *concession, case, maison* 6.2.1) **Podoko** (Swackhammer) kaja,-ə 2 *conteneur* 6.3) **Mandara** (Fluckiger) há *concession (f), maison (f)* 6.4) **Glavda** (Nghagyiva) xà:wa entrance hut
- 7) **Proto-Mofu** *yaj hut case 7.1) **Ouldeme** (Kinnaird) yāj house *maison* 7.2) **Muyang** (Smith) ahaj *maison, concession ; toute construction* 7.2.1) **Muyang** (Smith) ahaj class *classe* 7.3) **Moloko** (Friesen) háj house, compound *maison; concession* 7.4) **Gemzek** (Sabatai) ga house *maison* 7.5) **Merey** (Gravina) gaj hut *case, maison* 7.5.1) **Merey** (Gravina) gə *maison* 7.6) **Dugwor** (Jubumna) gaj house *maison* 7.6.1) **Dugwor** (Jubumna) gaj hut *case* 7.7) **Mofu North** (Barreteau) ?āj *maison (ensemble de case)* 7.8) **Mofu-Gudur** (Hollingsworth) waj home *maison, concession*
- 8) **Proto-Maroua** *gaj hut case 8.1) **Mbazla** (SILSurvey) gái house *maison*
- 9) **Proto-Higi** *yaj hut case 9.1) **Kamwe-Futu** (Harley) y^wo house 9.2) **Kirya** (Blench) yāj house 9.3) **Psikye** (Angelo) ge house 9.4) **Bana** (Lienhard) yji *maison*
- 10) **Proto-Kotoko North** *ho hut case 10.1) **Afade** (Allison) ho house *maison* 10.2) **Mpade** (Allison) ho house *maison* 10.3) **Malgbe** (Allison) ha house *maison*
- 11) **Proto-Kotoko Centre** *yaa hut case 11.1) **Lagwan** (Allison) yaa house *maison*
- 12) **Proto-Kotoko South** *ye hut case 12.1) **Mazera** (Allison) ye hut case 12.1.1) **Mazera** (Allison) ye house *maison*

yanad^y nf. tongue *langue* (7 groups, 20 languages) **syn:** **ḏirinih**^y, **naḥij**.

This root is found mostly in the South sub-branch of Central Chadic, but is also found in the Lamang and Higi groups. The *y is realised as *g in Proto-Bata, Proto-Daba and Proto-Margi, which are unestablished changes. The *d is only retained in the Daba group. In the Sukur, Lamang and Higi groups it is affected by the palatalisation prosody and is realised as *j, which is a regular process. The palatalisation prosody itself is only retained in Proto-Bata. In Proto-Tera it is vocalised, which is an unestablished change.

- 1) **Proto-Bata** *gana^y tongue *langue* 1.1) **Jimi** (Djibi) gianan *La langue comme organe*. 1.2) **Sharwa** (Gravina) gana *langue* 1.3) **Tsuwan** (Johnston) agana *la langue*
- 2) **Proto-Daba** *ganad tongue *langue* 2.1) **Buwal** (Viljoen) ganana tongue *langue* 2.2) **Gavar** (Viljoen) gadadaŋ tongue *langue* 2.3) **Mbudum** (Ndokobai) ganad tongue *langue* 2.3.1) **Mbudum** (Ndokobai) ganad language *langue, langage* 2.4) **Daba** (Lienhard) gànà *la langue, le langage*
- 3) **Proto-Tera** *yina tongue *langue* 3.1) **Tera** (Newman) yena tongue 3.2) **Nyimatli** (Harley) yin tongue
- 4) **Proto-Sukur** *yanaj tongue *langue* 4.1) **Sukur** (David) yanaj tongue 4.2) **Sukur** (Thomas) yanai tongue:- is the part in the mouth that moves around the mouth when talking or eating.
- 5) **Proto-Margi** gar^y tongue *langue* 5.1) **Bura** (Blench) ke^gjar Tongue 5.2) **Margi** (Hoffman) kjar tongue 5.3) **Margi South** (Harley) kjar tongue 5.4) **Kilba** (Schuh) kjar tongue
- 6) **Proto-Lamang** *yanij tongue *langue* 6.1) **Lamang** (Wolff) yènè tongue 6.2) **Hdi** (Bramlett) yanik tongue *la langue*
- 7) **Proto-Higi** *yanij tongue *langue* 7.1) **Kamwe-Nkafa** (Harley) annjə tongue 7.1.1) **Kamwe-Nkafa** (Harley) ania tongue 7.2) **Kamwe-Futu** (Harley) yani tongue 7.3) **Kirya** (Blench) nyàné tongue 7.4) **Bana** (Lienhard) yàni *langue*

yin nm. head *tête* (8 groups, 31 languages) A **syn:** y^wi.

The final *n has undergone the regular change *n→r in the Margi-Mandara-Mofu major group. The Mafa /gəd/ has come from *gir, which implies that this reflex was borrowed from that major group. *y has the reflex /g/ in several languages, which is a regular change in Dghwede and the Meri subgroup of the Mofu group. It developed into *k in Proto-Margi, probably via *h, though this change is unestablished. It has the regular reflex /h/ in Muyang, and has been lost in several languages, including the two Mofu subgroup languages where this change is regular. There are also instances of the reflex /j/ in Jimi, Cuvok, Mandara, Malgwa and Mbazla, but this change is unestablished. The Moloko and Giziga forms may represent compounds including the reflex of the proto-form.

- 1) **Proto-Bata** *yini head *tête* 1.1) **Gude** (Hoskinson) ná -ə (inher. poss., body part) head, top 1.2) **Jimi** (Djibi) jinən *Tête* 1.3) **Sharwa** (Gravina) ^gginə *tête* 1.4) **Tsuwan** (Johnston) əne *la tête*
- 2) **Proto-Mafa** *jaŋ, gid head *tête* 2.1) **Mafa** (Ndokobai) gəd kəda *tête de chien* 2.2) **Cuvok** (Gravina) jaŋ head *tête*

- 3) **Proto-Margi** *kir head *tête* 3.1) **Bura** (Blench) kir Head; the top 3.2) **Margi** (Hoffman) kər head 3.3) **Margi South** (Hoffman) kər head 3.3.1) **Margi South** (Harley) kər head 3.4) **Kilba** (Hoffman) kər head 3.4.1) **Kilba** (Schuh) kər head
- 4) **Proto-Mandara** *ɣira head *tête* 4.1) **Matal** (Branger) gəl head *tête* 4.2) **Mandara** (Fluckiger) ira *tête* (f) 4.3) **Malgwa** (Löhr) iire head 4.4) **Glavda** (Nghagyiva) ɤra head 4.4.1) **Glavda** (Nghagyiva) ɤra head 4.4.2) **Glavda** (Owens) ɣr head, mind, intellect 4.5) **Dghwede** (Frick) gre head
- 5) **Proto-Mofu** *ɣir head *tête* 5.1) **Ouldeme** (Kinnaird) ɣàr head *tête* 5.2) **Muyang** (Smith) dhàr *tête*, *le dessus de quelque chose ; la personne même* 5.3) **Moloko** (Friesen) dərəj head *tête* 5.4) **Zulgo** (Haller) gər *tête* f. 5.5) **Gemzek** (Sabatai) gər head *tête* 5.5.1) **Gemzek** (Sabatai) gar *la tête* 5.6) **Merey** (Gravina) gər head *tête* 5.7) **Dugwor** (Jubumna) gar head *tête* 5.8) **Mofu North** (Barreteau) ʔár *tête* 5.8.1) **Mofu North** (Barreteau) 'ar *la tête* 5.9) **Mofu-Gudur** (Hollingsworth) raj head (of person, animal, etc.), the top part of something *tête* 5.9.1) **Mofu-Gudur** (Hollingsworth) raj *sommet, dessus, cime*
- 6) **Proto-Maroua** hirɨj, jɨj head *tête* 6.1) **Giziga Moutourwa** (Michielan) hir^ɔga(Mt) hir^ɔgaɨ(Mj) *tête* 6.2) **Giziga Marva** (Hamidou) huruɨj head *tête* 6.3) **Mbazla** (Tourneux) jɨj *tête*
- 7) **Proto-Lamang** *ɣiɨj head *tête* 7.1) **Lamang** (Wolff) ɣàɨj head 7.2) **Hdi** (Bramlett) ɣəɨj head *la tête*
- 8) **Proto-Higi** *ɣin head *tête* 8.1) **Kirya** (Blench) ɣən head 8.2) **Bana** (Lienhard) ɣən *tête, sommet, cime*

ɣiwaj nm. neck *cou* (5 groups, 8 languages) B **syn:** **wiraj**.

This root has few attestations, but they are from a diverse set of languages. The *ɣ has been lost in most languages, though this change is not regular. It has merged with the *w in Lagwan and Ouldeme to create a labialised consonant. The *j has merged with *a in Proto-Kotoko North, and is lost in Proto-Kotoko Centre. These are all common sporadic processes.

- 1) **Proto-Mafa** *iwaj neck *cou* 1.1) **Cuvok** (Gravina) uwaj neck *cou*
- 2) **Proto-Mofu** *h^waj neck *cou* 2.1) **Ouldeme** (Kinnaird) h^wàj neck *cou*
- 3) **Proto-Kotoko Island** *wij neck *cou* 3.1) **Buduma** (McKone) wuj *cou*.
- 4) **Proto-Kotoko North** *we neck *cou* 4.1) **Afade** (Allison) we neck *cou* 4.2) **Mpade** (Allison) wè neck *cou* 4.3) **Malgbe** (Allison) we neck *cou*
- 5) **Proto-Kotoko Centre** *ɣ^wa neck *cou* 5.1) **Lagwan** (Allison) ɣ^wae neck *cou* 5.2) **Mser** (Allison) wa neck *cou*

ɣ^wadzi nm. quiver *carquois* (5 groups, 11 languages) B

This root is found in languages around the Nigerian Plains area, and reflects a technological innovation rather than an ancient Proto-Central Chadic root. The sound changes indicate that the root was introduced during the time of the group proto-languages. The *ɣ^w has become *g^w in the Higi group, and has developed into *k^w in the Bata and Margi groups, all of which are unestablished changes. In Sukur the fricative component was lost, leaving /w/, also an unestablished change. The *dz has been devoiced to *ts in the Higi group, which is also an unestablished change. The final *i is reanalysed as the palatalisation prosody in the Margi group.

- 1) **Proto-Bata** *k^wadza quiver *carquois* 1.1) **Gude** (Hoskinson) k^wàdzá quiver 1.1.1) **Gude** (Hoskinson) k^wàdzá collective term for bow, arrows, and quiver 1.2) **Jimi** (Djibi) k^wadzan *Carquois* 1.3) **Sharwa** (Gravina) k^wadza *carquois*
- 2) **Proto-Sukur** *wadzi quiver *carquois* 2.1) **Sukur** (David) wadzi quiver 2.2) **Sukur** (Thomas) wadzəi quiver;- is a case for carrying arrows.
- 3) **Proto-Margi** *k^wadza ^y quiver *carquois* 3.1) **Bura** (Blench) k^wadza Quiver for carrying arrows 3.2) **Margi South** (Harley) k^wadza quiver 3.3) **Kilba** (Schuh) g^wadza quiver
- 4) **Proto-Lamang** *ɣ^wadzi quiver *carquois* 4.1) **Hdi** (Bramlett) ɣ^wadzi quiver *le carquois*
- 5) **Proto-Higi** *g^witsi quiver *carquois* 5.1) **Kamwe-Nkafa** (Harley) gùtʃó Quiver 5.2) **Kirya** (Blench) gùtʃil quiver. ordinary type used for hunting 5.3) **Bana** (Lienhard) gùtʃi *carquois*

ɣ^wi nf. head *tête* (8 groups, 14 languages) B **syn:** ɣin.

This root is found in a diverse set of languages, and may reflect a primary Proto-Central Chadic root. Cognates are found in other branches of Chadic. The labialisation component of *ɣ^w is retained as vocalisation in Psikye, Buduma, Mser and the languages of the Kotoko North group. The velar component has reflexes /h/, /k/, /g/ and /^ɲg/. The final vowel becomes *a as a regular feature in many groups.

- 1) **Proto-Daba** *ha head *tête* 1.1) **Buwal** (Viljoen) ha head *tête* 1.2) **Gavar** (Viljoen) ha head *tête*
- 2) **Proto-Sukur** *ki head *tête* 2.1) **Sukur** (David) kə head 2.2) **Sukur** (Thomas) kə head; the part of the body on top of the neck containing the eyes, nose, mouth and brain.
- 3) **Proto-Hurza** *^ɲga head *tête* 3.1) **Mbuko** (Gravina) ^ɲga head *tête* 3.2) **Vame** (Kinnaird) ɲa *tête* 3.2.1) **Vame** (Kinnaird) ^ɲgà head *tête*
- 4) **Proto-Higi** *ɣ^wi head *tête* 4.1) **Kamwe-Nkafa** (Harley) ɣə təmə ram head 4.2) **Kamwe-Futu** (Harley) ɣi head 4.3) **Psikye** (Angelo) gu head
- 5) **Proto-Kotoko Island** *k^wi head *tête* 5.1) **Buduma** (McKone) kuə head *tête* 5.2) **Buduma** (McKone) ku *tête*.

- 6) **Proto-Kotoko North** *g^wa head *tête* 6.1) **Afade** (Allison) go head *tête* 6.2) **Mpade** (Allison) gó head *tête* 6.2.1) **Mpade** (Allison) ko particle, head *particule, tête*
- 7) **Proto-Kotoko Centre** *k^wa head *tête* 7.1) **Lagwan** (Allison) kaa head *tête* 7.2) **Mser** (Allison) ko head *tête*
- 8) **Proto-Gidar** *kij head *tête* 8.1) **Gidar** (Hungerford) ki *tête* 8.2) **Gidar** (Schuh) kija/0 *tête*

ɣ^wiβis v. laugh *rire* (12 groups, 29 languages) C

This is a difficult root to reconstruct. The three consonants of the reconstructed form are found only in the Mandara and Lamang groups. In all other groups the *ɣ^w and *β have interacted or been lost. *ɣ^w has been lost in Proto-Daba and Proto-Sukur, which is an unestablished change. In Podoko the labialisation component was retained and vocalised, and in Proto-Higi the labialisation component transferred onto *β. Within the Higi group, *β^w→ʔ^w in several languages, which is an unestablished change. There has been an unestablished change *β→^mb, giving the forms in Mbuko, Moloko and Lamang. The sporadic change *^mb→m took place subsequently, giving the forms in Daba, Proto-Tera, Ouldeme, Vame and Gidar. The labialisation component of *ɣ^w combined with this in Proto-Bata, Vame and Proto-Margi. In another path, the *m combined with *ɣ^w to create *ŋg^w, giving the forms in Mafa, Merey and Dugwor. These examples of fusion are common sporadic processes. There is evidence for reconstructing *i from the Sukur, Margi and Higi groups.

- 1) **Proto-Bata** *m^wis laugh *rire* 1.1) **Gude** (Hoskinson) nwusə laugh, laugh at, mock 1.2) **Sharwa** (Gravina) uʃi am^wiskə *Amusant, ante* 1.3) **Tsuvan** (Johnston) a m^weskən *rire, sourire*
- 2) **Proto-Daba** *βas laugh *rire* 2.1) **Buwal** (Viljoen) βas laugh *rire* 2.2) **Gavar** (Viljoen) βas smile *sourire* 2.2.1) **Gavar** (Viljoen) βas laugh *rire* 2.3) **Mbudum** (Ndokobaï) βas laugh *rire* 2.4) **Daba** (Lienhard) mīs *rire ; se moquer de...*
- 3) **Proto-Mafa** *ŋg^was laugh *rire* 3.1) **Mafa** (Barreteau) ng^wás *rire*
- 4) **Proto-Tera** *mis laugh *rire* 4.1) **Tera** (Newman) tʃi məsi laugh (do laughter) 4.2) **Nyimatli** (Harley) mʊs laugh
- 5) **Proto-Sukur** *βis laugh *rire* 5.1) **Sukur** (David) βis laugh, to 5.2) **Sukur** (Thomas) βis laugh; to make sounds and movements of your face that show you are happy or think something is funny.
- 6) **Proto-Hurza** ^mβisij laugh *rire* 6.1) **Mbuko** (Gravina) ^mbasaj laugh *rire* 6.2) **Vame** (Kinnaird) mùʃ laugh *rire* 6.2.1) **Vame** (Kinnaird) mùʃijà laugh ; laugh at ; mock *moquer_(se)*
- 7) **Proto-Margi** *m^wisa laugh *rire* 7.1) **Bura** (Blench) kumʃi To smile, to laugh 7.1.1) **Bura** (Blench) muʃa, miʃa To smile; to begin to laugh
- 8) **Proto-Mandara** *ɣ^wiβasa laugh *rire* 8.1) **Podoko** (Swackhammer) uβasa *rire, sourire* 8.2) **Glavda** (Nghagyiva) vùβás^oga laugh 8.3) **Dghwede** (Frick) gəp'asa to laugh
- 9) **Proto-Mofu** *ɣ^wi^mβasa laugh *rire* 9.1) **Ouldeme** (Kinnaird) màsàj be contented ; laugh *être content ; rire* 9.2) **Moloko** (Friesen) ^mbas smile *sourire* 9.2.1) **Moloko** (Friesen) ^mbas laugh *rire* 9.3) **Merey** (Gravina) ŋg^wasa laugh *rire* 9.4) **Dugwor** (Jubumna) mæng^wesej laugh *rire*

- 10) **Proto-Lamang** *ɣ^wɪbas laugh *rire* 10.1) **Lamang** (Wolff) ɣə^mboso laugh 10.2) **Hdi** (Bramlett) ɣubasaj to laugh, to mock *rire, se moquer* 10.2.1) **Hdi** (Bramlett) ɣubasu laugh *le rire*
- 11) **Proto-Higi** *ɔ^wisi laugh *rire* 11.1) **Kamwe-Nkafa** (Harley) 'uʃi laugh 11.1.1) **Kamwe-Nkafa** (Harley) uʃi laugh 11.1.2) **Kamwe-Nkafa** (Harley) uʃi laugh 11.2) **Kamwe-Futu** (Harley) uʃi laugh 11.3) **Kirya** (Blench) ɔ^wɪʃi to laugh 11.4) **Psikye** (Angelo) 'wuʃi laugh 11.4.1) **Psikye** (Angelo) ŋ'wuʃi laugh 11.5) **Bana** (Lienhard) 'wəʃi *rire, sourire, vaincre*
- 12) **Proto-Gidar** *ɪmasa laugh *rire* 12.1) **Gidar** (Hungerford) əmasa *rire*

ɣ^wɪlim n. cheek *joue* (7 groups, 11 languages) D

The forms from four of the groups cited are clearly cognate, but the Mbara and Gidar words lack the reflex of *m which would normally be expected, and the Glavda form lacks *l, thus making their status as cognates doubtful. *ɣ^w has become *h^w in the Hurza and Mofu groups. In the Hurza group this is an unestablished change, but in these languages of the Mofu group, /g^w/ is expected. The labialisation has then been reanalysed as a prosody in Mbuko and Proto-Mofu, which is a common sporadic change. A similar process has taken place in Sukur and Kirya.

- 1) **Proto-Sukur** *ɣ^wɪlim cheek *joue* 1.1) **Sukur** (David) ɣulum cheek
- 2) **Proto-Hurza** *mih^wɪlam cheek *joue* 2.1) **Mbuko** (Gravina) məhulom cheek *joue* 2.2) **Vame** (Kinnaird) múlá cheek *joue*
- 3) **Proto-Mandara** *wim cheek *joue* 3.1) **Glavda** (Owens) úum cheek
- 4) **Proto-Mofu** *mahalim^w cheek *joue* 4.1) **Zulgo** (Haller) máhalúm *joue f.* 4.2) **Gemzek** (Sabatai) maholom cheek *joue* 4.3) **Merey** (Gravina) maholom *joue* 4.3.1) **Merey** (Gravina) mahololom cheek *joue*
- 5) **Proto-Higi** *ɣ^wɪlim cheek *joue* 5.1) **Kirya** (Blench) ɣulum cheek 5.2) **Bana** (Lienhard) ɣ^wəlmə *joue*
- 6) **Proto-Musgum** *galaj cheek *joue* 6.1) **Mbara** (Tourneux) galaj cheek
- 7) **Proto-Gidar** *galiin cheek *joue* 7.1) **Gidar** (Hungerford) galiin *joue*

ɣ^wɪlis ^y nf. kidney *rein* (10 groups, 18 languages) B

This root is widespread amongst the languages of the North sub-branch, but is only attested in Buwal, Gavar and Sukur of the South sub-branch. *l did not exist in Proto-Central Chadic, but was an innovation in the North sub-branch following *r→l. This indicates that this root originated in Proto-Central Chadic North. *ɣ^w has the expected wide range of reflexes, some regular and some irregular. The palatalisation prosody is well supported by the data. The presence of *ɗ in the Kotoko Centre and North languages could be due to *l→r→ɗ, though this process has not been established as regular. The Mpade form is the result of metathesis.

- 1) **Proto-Daba** *wilis^y kidney *rein* 1.1) **Buwal** (Viljoen) ules kidney *rein* 1.2) **Gavar** (Viljoen) wəlɪʃ kidney *rein*
- 2) **Proto-Sukur** *ɣ^wɪlɪsɪsɪ kidney *rein* 2.1) **Sukur** (David) ɣuləʃɪʃi kidney 2.2) **Sukur** (Thomas) ɣuləʃɪʃi kidney; the two organs in the body that remove waste products from the blood and produce urine.

- 3) **Proto-Hurza** *h^wilasase kidney *rein* 3.1) **Vame** (Kinnaird) hùlásásé kidney *rein*
- 4) **Proto-Margi** *k^wìlsi ^y kidney *rein* 4.1) **Bura** (Blench) kulǰi Kidneys 4.2) **Margi** (Hoffman) hulǰi kidney
- 5) **Proto-Mandara** *k^wìlisi ^y kidney *rein* 5.1) **Podoko** (Swackhammer) hulǰe,-ə *rein* 5.2) **Malgwa** (Löhr) ṅursasa kidney 5.3) **Glavda** (Nghagyiva) zrá k^wǰla kidney
- 6) **Proto-Mofu** *wìlas ^y kidney *rein* 6.1) **Dugwor** (Jubumna) wures dāba kidney *rein* 6.2) **Mofu-Gudur** (Hollingsworth) wules-dābá *rein*
- 7) **Proto-Lamang** *ɣ^wìlisisi kidney *rein* 7.1) **Lamang** (Wolff) ɣ^wələsisi kidney 7.2) **Hdi** (Bramlett) hulisisi kidney *le rein*
- 8) **Proto-Higi** *ɣ^wìlisi' kidney *rein* 8.1) **Kamwe-Nkafa** (Harley) goliǰi kidney 8.2) **Kamwe-Futu** (Harley) ɣulətǰi kidney 8.3) **Bana** (Lienhard) wəlìsà *rein*
- 9) **Proto-Kotoko Centre** *h^widìs kidney *rein* 9.1) **Lagwan** (Allison) xudusi kidney *rein* 9.2) **Mser** (Allison) hidis kidney *rein*
- 10) **Proto-Kotoko North** *dìg^wise kidney *rein* 10.1) **Mpade** (Allison) dūgùsé kidney *rein*

ɣ^wimid^y n. beard *barbe* (9 groups, 14 languages) B

The final *d under palatalisation is realised as *j in almost all cases, which is a regular change. This has then been vocalised in Proto-Margi and Proto-Mandara. The palatalisation prosody is retained only in Gidar. *ɣ^w has a wide range of reflexes, as expected.

- 1) **Proto-Sukur** *ɣimaj beard *barbe* 1.1) **Sukur** (David) ɣəmaj beard 1.2) **Sukur** (Thomas) ɣəmai beard:-is a hair that grown on the chin of a man;s mouth.
- 2) **Proto-Hurza** *himaj beard *barbe* 2.1) **Mbuko** (Gravina) həmaj beard *barbe* (f) (*homme, bouc*)
- 3) **Proto-Margi** *k^wimi beard *barbe* 3.1) **Bura** (Blench) kùmí Beard 3.1.1) **Bura** (Blench) jíjí kùmí Beard (on chin)
- 4) **Proto-Mandara** *ɣ^wimi beard *barbe* 4.1) **Matal** (Branger) ag^waj, agoj beard *barbe* 4.2) **Podoko** (Swackhammer) mume,-i *barbe* 4.3) **Mandara** (Fluckiger) uma *barbe* (f) 4.4) **Malgwa** (Löhr) kuuma, uuma beard
- 5) **Proto-Mofu** *himaj beard *barbe* 5.1) **Ouldeme** (Kinnaird) màmáj beard *barbe* 5.2) **Gemzek** (Sabatai) həma beard *barbe*
- 6) **Proto-Maroua** *himin^w beard *barbe* 6.1) **Giziga Moutourwa** (Michielan) hummuṅ *barbe touffue*
- 7) **Proto-Lamang** *ɣ^wimaj beard *barbe* 7.1) **Hdi** (Bramlett) ɣumaj chin, goatee *le menton, la barbe*
- 8) **Proto-Higi** *ɣ^wimid beard *barbe* 8.1) **Kamwe-Futu** (Harley) ɣube beard 8.2) **Kirya** (Blench) ɣumí beard
- 9) **Proto-Gidar** *a^ɔgama ^y beard *barbe* 9.1) **Gidar** (Hungerford) e^ɔgeme *barbe* 9.2) **Gidar** (Schuh) a^ɔgeme *barbe*

ɣ^wipa nf. flour *farine* (12 groups, 36 languages) B

In Proto-Central Chadic, *p had the allophone [p] in word-medial position. However, in Proto-Daba and Proto-Mafa we find *f, which is unestablished. *p has become /^mb/ in Vame and the Tokombere subgroup of the Mofu group, which is also an unestablished change. *ɣ^w has the usual wide range of reflexes, and in some cases has been lost. In Sukur and Proto-Margi the labialisation component has transferred onto *p, which is a common sporadic process.

- 1) **Proto-Bata** *h^wipi flour *farine* 1.1) **Gude** (Hoskinson) əmpúnə flour (from any grain) 1.2) **Jimi** (Djibi) pun *Farine* 1.3) **Sharwa** (Gravina) p^{wə} *farine* 1.4) **Tsuvan** (Johnston) ahp^we *la farine*
- 2) **Proto-Daba** *ɲfa flour *farine* 2.1) **Buwal** (Viljoen) ɲfa flour *farine* 2.2) **Gavar** (Viljoen) ɲfa flour *farine* 2.3) **Mbudum** (Ndokobai) ɲfa flour *farine*
- 3) **Proto-Mafa** *g^wifa flour *farine* 3.1) **Mafa** (Barreteau) gúfá *farine* 3.2) **Cuvok** (Gravina) kəfa flour *farine*
- 4) **Proto-Sukur** *p^wa flour *farine* 4.1) **Sukur** (David) powa flour, millet 4.2) **Sukur** (Thomas) p^wa flour; a fine white or brown powder made from grain, especially guineacorn, maize, etc.
- 5) **Proto-Hurza** *hi^mbiga flour *farine* 5.1) **Vame** (Kinnaird) hə^mbəgà flour *farine*
- 6) **Proto-Margi** *ip^wi flour *farine* 6.1) **Bura** (Blench) mp^wa Flour, meal 6.2) **Margi** (Hoffman) əmpu flour 6.3) **Margi South** (Hoffman) upau flour 6.4) **Kilba** (Hoffman) up^wa flour 6.4.1) **Kilba** (Schuh) up^wa/up flour
- 7) **Proto-Mandara** *k^wipi flour *farine* 7.1) **Matal** (Branger) phaw flour *farine* 7.2) **Podoko** (Swackhammer) pəh^wa,-u *farine* 7.3) **Mandara** (Fluckiger) úkpé *farine* (f) 7.4) **Malgwa** (Löhr) ukpa flour 7.5) **Glavda** (Owens) ax guinea corn flour 7.5.1) **Glavda** (Nghagyiva) àx^wpíja flour
- 8) **Proto-Mofu** *ɣ^wipa flour *farine* 8.1) **Ouldeme** (Kinnaird) hū^mbò flour *farine* 8.2) **Muyang** (Smith) hu^mbu flour *farine* 8.3) **Moloko** (Friesen) ho^mbo *farine* 8.3.1) **Moloko** (Friesen) hə^mbo flour *farine* 8.4) **Proto-Meri** *g^wifa flour *farine* 8.5) **Zulgo** (Haller) gùfá *farine* f. 8.6) **Gemzek** (Sabatai) gufa flour *farine* 8.7) **Merey** (Gravina) gufo flour *farine* 8.8) **Dugwor** (Jubumna) gufo flour *farine* 8.9) **Mofu North** (Barreteau) hápà *farine* 8.10) **Mofu-Gudur** (Hollingsworth) hapa flour *farine*
- 9) **Proto-Maroua** *hapa flour *farine* 9.1) **Giziga Moutourwa** (Michielan) hapa *farine* 9.2) **Giziga Marva** (Hamidou) hapa flour *farine*
- 10) **Proto-Lamang** *h^wipaw flour *farine* 10.1) **Lamang** (Wolff) h^wpo flour 10.2) **Hdi** (Bramlett) hupu flour *la farine*
- 11) **Proto-Higi** *ɣ^wipi flour *farine* 11.1) **Kirya** (Blench) ɣùpó flour 11.2) **Bana** (Lienhard) ɣ^wəpè *farine*
- 12) **Proto-Gidar** *gipa flour *farine* 12.1) **Gidar** (Hungerford) giipa *farine*

ɣ^wir n. field *champ* (5 groups, 5 languages) C **syn:** g^wivih, raj, sika.

This root is found in a small but diverse group of languages. It is possible that the root is cognate with *raj, though there is insufficient evidence to establish this with confidence. There is a regular change *r→l in the languages of the North sub-branch, with the irregular exception of Mbara. *ɣ^w has a wide range of reflexes, not all of which are regular.

- 1) **Proto-Tera** *gar field *champ* 1.1) **Nyimatli** (Harley) gar bush 1.1.1) **Nyimatli** (Harley) gar farm
- 2) **Proto-Sukur** *γ^wir field *champ* 2.1) **Sukur** (David) γur field, plot 2.2) **Sukur** (David) γər farm
- 3) **Proto-Mofu** *gili^y field *champ* 3.1) **Muyang** (Smith) gili fields, cultivated bush *brousse cultivé* 3.1.1) **Muyang** (Smith) gili fields, cultivated bush *brousse cultivé*
- 4) **Proto-Musgum** *wir field *champ* 4.1) **Mbara** (Tourneux) wur field *champ*
- 5) **Proto-Gidar** *g^wilijo field *champ* 5.1) **Gidar** (Hungerford) gulijo *champ, ferme* 5.2) **Gidar** (Schuh) gulijo *champs*

γ^wirip v. blind *aveugle* (11 groups, 35 languages) A

This root is attested as a noun, adjective or verb. The basic sense was the verb 'to be blind'. The *γ^w has the usual wide range of regular and irregular reflexes. The labialisation component has been reanalysed as the labialisation prosody in Proto-Maroua, which is a common sporadic process. There was a regular change *r→l in the groups of the North sub-branch, and also in Proto-Daba. In Proto-Central Chadic, *p was realised as [f] in word-final position, but has the reflex /p/ in Hdi, which is an unestablished change.

- 1) **Proto-Bata** *wirifī blind *aveugle* 1.1) **Gude** (Hoskinson) múuráfá -ə blind person 1.1.1) **Gude** (Hoskinson) uuráfə become blind, be blind, make blind 1.2) **Jimi** (Djibi) wərəfən *Devenir aveugle* ; 1.3) **Tsuvan** (Johnston) awəlfə *l'aveugle*
- 2) **Proto-Daba** *wilif blind *aveugle* 2.1) **Buwal** (Viljoen) ulaf blind person (*un*) *aveugle* 2.1.1) **Buwal** (Viljoen) ulaf make blind *aveugler* 2.2) **Gavar** (Viljoen) wələf blind person (*un*) *aveugle* 2.3) **Mbudum** (Ndokobaï) wuləf blind person (*un*) *aveugle* 2.4) **Daba** (Lienhard) wələf *l'aveugle* ; *aveugler*
- 3) **Proto-Hurza** *γ^wiraf blind *aveugle* 3.1) **Mbuko** (Gravina) hurof be blind *être aveugle* 3.1.1) **Mbuko** (Gravina) hurof blind *aveugle* 3.2) **Vame** (Kinnaird) γùlàf 1 blind person *aveugle* 3.2.1) **Vame** (Kinnaird) γùlàf 2 blind *aveugle*
- 4) **Proto-Margi** *wilifu blind *aveugle* 4.1) **Margi** (Hoffman) ləfə blind person 4.2) **Kilba** (Schuh) wulfu/u blind
- 5) **Proto-Mandara** *γ^wilifi blind *aveugle* 5.1) **Matal** (Branger) g^wələf, guləf blind person *aveugle* 5.2) **Podoko** (Swackhammer) ləfa *aveugler* 5.2.1) **Podoko** (Swackhammer) ləfaha ləfa *devenir aveugle* 5.2.2) **Podoko** (Swackhammer) ʰgùləfa,-ə *aveugle* 5.3) **Mandara** (Fluckiger) welfe *aveugle* 5.4) **Malgwa** (Löhr) ŋulfə, wulfə blind 5.5) **Glavda** (Nghagyiva) gùlfa (be) blind 5.5.1) **Glavda** (Nghagyiva) dàdá gùlfa blind person

- 6) **Proto-Mofu** *ɣ^wilif blind *aveugle* 6.1) **Ouldeme** (Kinnaird) wùlèf blind *aveugle* 6.2) **Mada** (Nkoumou) muwlofa (*un*) *aveugle* 6.3) **Moloko** (Friesen) həlof blind *aveugler* 6.3.1) **Moloko** (Friesen) həlof *un être aveugle* 6.3.2) **Moloko** (Friesen) həlofəga blind animal *animal_aveugle* 6.4) **Zulgo** (Haller) gùluf (ɲá) *aveugle, privé de la vue* 6.4.1) **Zulgo** (Haller) malá gùluf *aveugle m.* 6.5) **Gemzek** (Sabatai) gulof blind person (*un*) *aveugle* 6.5.1) **Gemzek** (Sabatai) megulfe di ^mburo *aveugler* 6.6) **Merey** (Gravina) guluf blind person (*un*) *aveugle* 6.7) **Dugwor** (Jubumna) ⁿdaw gulof araj blind person (*un*) *aveugle* 6.8) **Mofu North** (Barreteau) wùláf *aveugle* 6.8.1) **Mofu North** (Barreteau) méwùlfəj *aveugler, être aveugle* 6.9) **Mofu-Gudur** (Hollingsworth) húlf *aveugler, rendre aveugle* 6.9.1) **Mofu-Gudur** (Hollingsworth) wúlf *aveugler, rendre aveugle* 6.9.2) **Mofu-Gudur** (Hollingsworth) wulaf *aveugle, illettré*
- 7) **Proto-Maroua** *hilif ^w blind *aveugle* 7.1) **Giziga Moutourwa** (Michielan) huluf *être aveugle, devenir aveugle* 7.2) **Giziga Marva** (Hamidou) hulof blind person (*un*) *aveugle*
- 8) **Proto-Lamang** *ɣ^wilpa blind *aveugle* 8.1) **Hdi** (Bramlett) ɣulpaku blind *aveugle*
- 9) **Proto-Higi** *ɣ^wilifi blind *aveugle* 9.1) **Kamwe-Nkafa** (Harley) ɣuli blind 9.1.1) **Kamwe-Nkafa** (Harley) ɣ^wèli Blind. 9.2) **Kamwe-Futu** (Harley) ɣuləpi (be) blind 9.2.1) **Kamwe-Futu** (Harley) mdiyulə blind person 9.3) **Kirya** (Blench) məyùrìpàə blind 9.4) **Bana** (Lienhard) ɣ^wəlf(ə), ɣ^wələf *aveugle*
- 10) **Proto-Kotoko Centre** *nɣ^wif blind *aveugle* 10.1) **Lagwan** (Allison) nxufi blind person (*un*) *aveugle* 10.2) **Mser** (Allison) ng^wafi blind person (*un*) *aveugle*
- 11) **Proto-Kotoko South** *ɣ^wajra blind *aveugle* 11.1) **Zina** (Odden) ɣ^wàjrà blind person (*un*) *aveugle*

ɣ^wits n., v. dance *danser* (8 groups, 15 languages) C

This root is not well attested, and has a fairly diverse collection of attestations. It is not clear if the original root was a noun or a verb.

- 1) **Proto-Bata** *widzi dance *danser* 1.1) **Gude** (Hoskinson) udzə dance 1.2) **Jimi** (Djibi) udzən *Danser* ; 1.3) **Sharwa** (Gravina) udz *Danser* 1.4) **Tsuvan** (Johnston) a wədzəkən *danser*
- 2) **Proto-Mafa** *gats dance *danser* 2.1) **Mafa** (Ndokobai) n getʃe *danser*
- 3) **Proto-Sukur** *dziw dance *danser* 3.1) **Sukur** (David) k^watsak^watsa tassel, dance 3.2) **Sukur** (David) dzú dance 3.3) **Sukur** (Thomas) dzu dance:- to dance when celebrating something.
- 4) **Proto-Margi** *witsi dance *danser* 4.1) **Kilba** (Schuh) utsa/ə dance
- 5) **Proto-Mofu** *kasaw dance *danser* 5.1) **Mofu North** (Barreteau) mékèsèwèj *danser doucement pendant le deuil*
- 6) **Proto-Lamang** *dzag^wa dance *danser* 6.1) **Lamang** (Wolff) dzàg^wàdzàg^wà dance/song (spec.)
- 7) **Proto-Higi** *witsi dance *danser* 7.1) **Kamwe-Nkafa** (Harley) tswə dance 7.2) **Kamwe-Futu** (Harley) tso dance 7.2.1) **Kamwe-Futu** (Harley) tso dance 7.3) **Kirya** (Blench) tswə to dance 7.4) **Psikye** (Angelo) kawutsé dance 7.5) **Bana** (Lienhard) tsé *danser*
- 8) **Proto-Kotoko Island** *watsa dance *danser* 8.1) **Buduma** (McKone) watʃa *jouer, danser.*

ɣ^wiva nf. body *corps* (8 groups, 29 languages) B

This is the general term for the human body. In the Meri subgroup of the Mofu group there was a regular change *v→b. *ɣ^w has been lost in many groups, though in most cases this change is not regular. The labialisation component has been retained in some languages either as *w or as the labialisation prosody.

- 1) **Proto-Mafa** *vaw body *corps* 1.1) **Mafa** (Barreateau) va *corps* 1.2) **Cuvok** (Gravina) vaw body *corps*
- 2) **Proto-Tera** *va body *corps* 2.1) **Tera** (Newman) va body 2.2) **Nyimatli** (Harley) kuzumdi va body 2.2.1) **Nyimatli** (Harley) kuzumdi va skin (of man)
- 3) **Proto-Sukur** *vi body *corps* 3.1) **Sukur** (David) və body 3.2) **Sukur** (Thomas) və body:the hole physical structure of human and an animal.
- 4) **Proto-Mandara** *ɣ^wivi body *corps* 4.1) **Matal** (Branger) vək body *corps* 4.2) **Podoko** (Swackhammer) kava *corps* 4.2.1) **Podoko** (Swackhammer) nava,-ə *corps* 4.3) **Mandara** (Fluckiger) vua *corps* (m) 4.4) **Malgwa** (Löhr) vuwe body 4.5) **Glavda** (Owens) v body 4.6) **Dghwede** (Frick) vəga body
- 5) **Proto-Mofu** *vaw body *corps* 5.1) **Ouldeme** (Kinnaird) vò body *corps* 5.2) **Ouldeme** (Kinnaird) vò self *soi* 5.3) **Muyang** (Smith) vu body, self *corps, soi-même* 5.4) **Mada** (Nkoumou) va, mla ava vá *corps* 5.5) **Moloko** (Friesen) va body *corps* 5.6) **Zulgo** (Haller) ba *corps m.* 5.6.1) **Zulgo** (Haller) bá, dèrvà se 5.6.2) **Zulgo** (Haller) bá, dèrvà *corps m.* 5.7) **Gemzek** (Sabatai) ba body *corps* 5.8) **Merey** (Gravina) ba body *corps* 5.9) **Dugwor** (Jubumna) ba body *corps* 5.10) **Mofu North** (Barreateau) váv *le corps*
- 6) **Proto-Maroua** *va^w body *corps* 6.1) **Giziga Marva** (Hamidou) vo body *corps*
- 7) **Proto-Lamang** *ɣ^wiiva body *corps* 7.1) **Lamang** (Wolff) ɣvə body 7.2) **Hdi** (Bramlett) vəɣa body *le corps*
- 8) **Proto-Higi** *ɣ^wiiva body *corps* 8.1) **Kamwe-Nkafa** (Harley) g^wa body 8.2) **Kamwe-Futu** (Harley) g^wo body 8.3) **Kirya** (Blench) və body 8.4) **Psikye** (Angelo) gəva body 8.5) **Bana** (Lienhard) vɣà *corps*

ɣ^wivi n. faeces *selles* (7 groups, 15 languages) A **syn:** zaj, ^hg^wi.

The initial *ɣ^w is retained only in the Lamang group, and its loss is irregular in almost all cases. In Proto-Daba it has been lost, and in Proto-Bata, Proto-Sukur and Proto-Higi the labialisation component has transferred to the *v, which is a common sporadic process. There is support for *i in all groups where this vowel has been retained.

- 1) **Proto-Bata** *v^wi faeces *selles* 1.1) **Jimi** (Djibi) v^win *Selles, matières fécales* 1.2) **Sharwa** (Gravina) v^waj *selles, excrement*
- 2) **Proto-Daba** *ɲva faeces *selles* 2.1) **Buwal** (Viljoen) ɲva excrement, faeces *excrément* 2.2) **Gavar** (Viljoen) ɲva excrement, faeces *excrément* 2.3) **Mbudum** (Ndokobaï) ɲva excrement *excrément*
- 3) **Proto-Sukur** *v^wi faeces *selles* 3.1) **Sukur** (David) vu faeces 3.2) **Sukur** (Thomas) vu faeces

- 4) **Proto-Margi** *kivi faeces *selles* 4.1) **Bura** (Blench) kivi Excrement, dung, faeces 4.1.1) **Bura** (Blench) tʃivi Refuse, faeces. (See kivi) 4.2) **Kilba** (Schuh) ibi faeces
- 5) **Proto-Mandara** *g^wi vi faeces *selles* 5.1) **Mandara** (Fluckiger) ugve *selles* (*f. pl.*) 5.2) **Malgwa** (Löhr) ugve dung, faeces 5.3) **Glavda** (Nghagyiva) gùva excrement, faeces 5.4) **Dghwede** (Frick) gəve excrement
- 6) **Proto-Lamang** *ɣuvi faeces *selles* 6.1) **Lamang** (Wolff) ɣuvi excrement 6.2) **Hdi** (Bramlett) ɣuvi feces, stool *l'excrément*
- 7) **Proto-Higi** *v^wi faeces *selles* 7.1) **Kirya** (Blench) v^wi faeces

ɣ^wi vi n nm. charcoal *charbon de bois* (14 groups, 30 languages) B

This root is well attested across the Central Chadic languages. The final *n has the reflex *r in the Mandara and Mofu groups, as part of a regular change. However this change should have affected the Margi group, but has not. The change *n to *ŋ in several other groups is also regular, as is the change *v to *f in Proto-Kotoko North. The initial *ɣ^w has the unestablished reflexes *h^w in Proto-Hurza and *ŋg^w in Proto-Daba. There is also a glottal reflex, probably from the unestablished sequence *ɣ→*g→*ʔ. In Moloko this is realised as /d/. In Proto-Kotoko North the glottal has then fused with the *f to create the ejective *f̥, which is a common sporadic process. In some groups the fricative component of *ɣ^w has been lost, leaving the labialisation component. This has the reflex *w in Mser, and is reanalysed as the labialisation prosody in Proto-Daba and Proto-Maroua, another common sporadic process. The labialisation has attached to another consonant in Proto-Margi. There is evidence for the palatalisation prosody from Proto-Bata, Proto-Margi, Proto-Mofu, Proto-Lamang, Proto-Higi and Proto-Musgum. In some cases the prosody has been vocalised.

- 1) **Proto-Bata** *ivini^y charcoal *charbon* 1.1) **Gude** (Hoskinson) ìvə̀njíṅə charcoal. 1.2) **Sharwa** (Gravina) avihi *charbon*
- 2) **Proto-Daba** *ŋg^wi van^w charcoal *charbon* 2.1) **Mbudum** (Ndokobai) ŋguvonj charcoal *charbon de bois* 2.2) **Daba** (Lienhard) ŋgə̀vān' *le charbon de bois*
- 3) **Proto-Mafa** *vaŋ charcoal *charbon* 3.1) **Mafa** (Ndokobai) vaŋ *charbon*
- 4) **Proto-Sukur** *vin charcoal *charbon de bois* 4.1) **Sukur** (David) vin charcoal *charbon*
- 5) **Proto-Hurza** *h^wi van charcoal *charbon* 5.1) **Mbuko** (Gravina) uvon charcoal *charbon* 5.2) **Vame** (Kinnaird) hùvàn coal *charbon*
- 6) **Proto-Margi** *v^wi ni charcoal *charbon* 6.1) **Bura** (Blench) vina Charcoal *charbon* 6.2) **Margi** (Hoffman) vunji charcoal *charbon* 6.3) **Margi South** (Harley) uv^wi ŋgi charcoal 6.3.1) **Margi South** (Harley) uv^wunji charcoal
- 7) **Proto-Mandara** *ɣ^wi viri charcoal *charbon* 7.1) **Matal** (Branger) aval charcoal *charbon* 7.2) **Podoko** (Swackhammer) uvara,-ə *charbon* 7.3) **Glavda** (Nghagyiva) vùvra charcoal *charbon*
- 8) **Proto-Mofu** *ɣ^wavar^y charcoal *charbon* 8.1) **Moloko** (Friesen) dèver carbon *charbon* 8.2) **Zulgo** (Haller) aver *charbon (m.) de bois* 8.2.1) **Zulgo** (Haller) avér *charbon (m.) de bois* 8.3) **Gemzek** (Sabatai) aver charcoal *charbon de bois* 8.4) **Mofu-Gudur** (Hollingsworth) ávaŋ^w *charbon de bois*

- 9) **Proto-Maroua** *avin^w charcoal *charbon* 9.1) **Giziga Moutourwa** (Michielan) vù Mj, Mt), avoŋ, avu (Mv) (j) *charbons éteints*
- 10) **Proto-Lamang** *ɣ^wivani charcoal *charbon* 10.1) **Lamang** (Wolff) ɣuvini charcoal 10.2) **Hdi** (Bramlett) vwani charcoal *le charbon de bois*
- 11) **Proto-Higi** *viʔin charcoal *charbon* 11.1) **Kamwe-Nkafa** (Harley) vjə charcoal *charbon* 11.2) **Kamwe-Futu** (Harley) vəno charcoal *charbon* 11.3) **Bana** (Lienhard) vè̀i *charbon*
- 12) **Proto-Kotoko North** *fanfan charcoal *charbon* 12.1) **Afade** (Allison) fanfaʔn charcoal *charbon de bois* 12.2) **Mpade** (Allison) fònfòn charcoal *charbon de bois* 12.3) **Malgbe** (Allison) fanfan charcoal *charbon de bois*
- 13) **Proto-Kotoko Centre** *wivan charcoal *charbon* 13.1) **Mser** (Allison) uvan charcoal *charbon de bois*
- 14) **Proto-Musgum** *avaŋ^y charcoal *charbon* 14.1) **Vulum** (Tourneux) aveŋ *charbon de bois* 14.1.1) **Vulum** (Tourneux) aŋveŋ *charbon de bois* 14.2) **Muskum** (Tourneux) vet *charbon de bois*

ɣ^w**izim** n. beer *bière* (5 groups, 16 languages) A *syn*: vih^w, mbaɟa.

This root is found in a broad area around the Northern Mandara Mountains. There are three well-attested roots for 'beer', which indicates that the practice of brewing beer was an innovation amongst the Central Chadic peoples, probably around the time of the group proto-languages. The *ɣ^w has the expected variety of regular and irregular reflexes. The fricative component has been lost in many groups, and the labialisation component has been reanalysed as *w, *u or the labialisation prosody. In the Giziga languages, the loss has been compensated for by the prefixation of /m/. The regular word-final change *m→w has taken place in the Mandara group, and also in the Lamang group where this change occurs sporadically.

- 1) **Proto-Mafa** *wizam beer *bière* 1.1) **Mafa** (Barreteau) zóm *bière de mil* 1.2) **Cuvok** (Gravina) wuzam beer *bière* 1.2.1) **Cuvok** (Gravina) wuzam alcohol (general) *alcool (général)* 1.2.2) **Cuvok** (Gravina) wuzam millet beer *bière de mil*
- 2) **Proto-Mandara** *g^wiziw beer *bière* 2.1) **Matal** (Branger) g^wəzəw // guzu beer *bière*
- 3) **Proto-Mofu** *ɣ^wizam beer *bière* 3.1) **Ouldeme** (Kinnaird) wùzàm beer *bière* 3.2) **Muyang** (Smith) zum wine *vin* 3.3) **Mada** (Nkoumou) wzom *biere* 3.4) **Zulgo** (Haller) gùzum *bière (f.) de mil* 3.5) **Gemzek** (Sabatai) gozom beer *bière* 3.5.1) **Gemzek** (Sabatai) guzom *vin* 3.6) **Merey** (Gravina) guzom *vin* 3.6.1) **Merey** (Gravina) guzom alcohol (general) *bière, vin, alcool (général)* 3.7) **Dugwor** (Jubumna) Guzom beer *bière* 3.8) **Mofu North** (Barreteau) zàm *bière de mil* 3.9) **Mofu-Gudur** (Hollingsworth) wuzam ɳga daw *bière de mil*
- 4) **Proto-Lamang** *ɣuziw beer *bière* 4.1) **Lamang** (Wolff) ɣùzò beer *bière* 4.2) **Hdi** (Bramlett) ɣuzu sorghum beer, guinea corn wine *la bière de mil*
- 5) **Proto-Maroua** *mizam^w beer *bière* 5.1) **Giziga Marva** (Hamidou) muzom beer *bière* 5.1.1) **Giziga Marva** (Hamidou) muzom millet beer *bière de mil* 5.2) **Mbazla** (Tourneux) zam *bière*

h

hadaj n. eye *œil* (14 groups, 37 languages) B **syn:** **tsi**^y.

The initial *h in this root is retained in Proto-Daba, Proto-Mofu and Proto-Gidar. In several groups, the presence of an initial vowel indicates that an initial consonant has been lost, giving support to the reconstruction of *h. There was a regular change *d→r in intervocalic position in the North sub-branch. There are two exceptions: Proto-Daba has *r although it is in the South sub-branch, and Proto-Mandara has *d where we would expect *r. There is a subsequent regular change *r→l in Proto-Margi, Moloko and Buduma, and an unestablished change *r→ɸ in Mbuko. There was also the unestablished change *d→t in Proto-Tera. In many cases the final *j has been vocalised, a common sporadic process.

- 1) **Proto-Bata** *dij eye *œil* 1.1) **Bata** (Boyd) d̥ito eye 1.2) **Sharwa** (Gravina) di *œil*, *yeux* 1.2.1) **Sharwa** (Gravina) di *visage* 1.3) **Tsuvan** (Johnston) adəj *les yeux*
- 2) **Proto-Daba** *hirij eye *œil* 2.1) **Daba** (Lienhard) h̥ərā' *les yeux* 2.2) **MazagwayHidi** (Noussi) rija *œil*
- 3) **Proto-Mafa** *daj eye *œil* 3.1) **Mafa** (Barreteau) daj *œil* 3.2) **Cuvok** (Gravina) ⁿdej face *visage* 3.2.1) **Cuvok** (Gravina) ⁿdej eye *œil*
- 4) **Proto-Tera** *jiti eye *œil* 4.1) **Tera** (Newman) jitə eye 4.2) **Nyimatli** (Harley) jiti eye
- 5) **Proto-Hurza** *araj eye *œil* 5.1) **Mbuko** (Gravina) ide eye *œil*, *yeux* 5.1.1) **Mbuko** (Gravina) ide face *visage* 5.2) **Vame** (Kinnaird) āraj eye *œil*
- 6) **Proto-Margi** *li eye *œil* 6.1) **Margi** (Hoffman) li eye 6.2) **Margi South** (Harley) li eye 6.3) **Kilba** (Schuh) li eye
- 7) **Proto-Mandara** *di eye *œil* 7.1) **Matal** (Branger) jawdi, jewdi, jewdəj eye *œil* 7.2) **Podoko** (Swackhammer) de,-i *œil* 7.3) **Dghwede** (Frick) ⁿde eye
- 8) **Proto-Mofu** *haraj eye *œil* 8.1) **Ouldeme** (Kinnaird) āraj eye *œil*; *œil* ; *vision* 8.2) **Muyang** (Smith) eri eye ; face ; share ; miserly *œil*; *les yeux*; *visage*; *part* 8.3) **Mada** (Nkoumou) èrè *œil* 8.4) **Moloko** (Friesen) ele eye *œil* 8.5) **Zulgo** (Haller) aré *œil m.*, *yeux m.pl.* 8.5.1) **Zulgo** (Haller) are *œil m.*, *yeux m.pl.* 8.6) **Gemzek** (Sabatai) ere eye *œil* 8.7) **Merey** (Gravina) dəre eye *œil* 8.8) **Dugwor** (Jubumna) re eye *œil* 8.9) **Proto-Mofu Subgroup** *daj^y eye *œil* 8.10) **Mofu North** (Barreteau) dej eye *œil* 8.11) **Mofu-Gudur** (Hollingsworth) dej eye *œil* ; *vue* 8.11.1) **Mofu-Gudur** (Hollingsworth) dej face, likeness *figure*, *visage*
- 9) **Proto-Maroua** *araj eye *œil* 9.1) **Giziga Marva** (Hamidou) re eye *œil* 9.2) **Mbazla** (Tourneux) 'araj *yeux*, *œil* 9.2.1) **Mbazla** (SILSurvey) àraj eye *œil*
- 10) **Proto-Lamang** *iri eye *œil* 10.1) **Lamang** (Wolff) íl eye 10.1.1) **Lamang** (Wolff) íl eyes 10.2) **Hdi** (Bramlett) iri eye *l'œil*
- 11) **Proto-Kotoko Island** *jil eye *œil* 11.1) **Buduma** (McKone) jəl *œil*, *yeux*.
- 12) **Proto-Kotoko South** *are eye *œil* 12.1) **Zina** (Odden) ir̥i eye *œil* 12.2) **Mazera** (Allison) ade eye *œil*

13) **Proto-Musgum** *araj eye *oeil* 13.1) **Vulum** (Tourneux) araj *yeux* 13.2) **Mbara** (Tourneux) ree eyes *yeux* 13.2.1) **Mbara** (Tourneux) ree face

14) **Proto-Gidar** *hara eye *oeil* 14.1) **Gidar** (Schuh) hara/a *oeil* 14.2) **Gidar** (Hungerford) hara *oeil*

hadik nm. thorn *épine* (10 groups, 31 languages) A

The initial *h in this root is retained in Proto-Mafa, Proto-Mofu and Proto-Musgum, and the initial vowels in Proto-Hurza and Proto-Mandara support the reconstruction of an initial consonant, since Proto-Central Chadic did not permit initial vowels. In the Mafa group, the loss of *h has been compensated for by the addition of a prefix /v/ in Mafa and /m/ in Cuvok. This is a common process in these languages. *d has become *t in Proto-Mafa and Proto-Lamang, and in Proto-Higi, where this is a regular change. The reflex /dz/ in Sukur is unestablished. The *k is realised as *h in Proto-Bata, an unestablished change, and as /t/ in Muskum, a regular change. *i is reconstructed, rather than the palatalisation prosody, primarily on the evidence from the Bata and Higi groups, with support from the Tera, Sukur, Lamang and Musgum groups. In the Bata group, *i has the reflex /ə/ in both Gude and Sharwa. In Sharwa, *i has the contrasting reflex /i/. The Bata group data therefore supports the reconstruction of *i.

1) **Proto-Bata** *dihī thorn *épine* 1.1) **Gude** (Hoskinson) dəhá -ə thorn, thorn tree. 1.2) **Sharwa** (Gravina) dəhə *épine*

2) **Proto-Mafa** *hitak thorn *épine* 2.1) **Mafa** (Barreteau) vatak *épine* 2.2) **Cuvok** (Gravina) mətak thorn *épine*

3) **Proto-Tera** *ⁿdeki thorn *épine* 3.1) **Tera** (Newman) ⁿdeki thorn 3.2) **Nyimatli** (Harley) ⁿdzakhti thorn 3.3) **Hwana** (Harley) ⁿdáxá thorn

4) **Proto-Sukur** *dzik ^y thorn *épine* 4.1) **Sukur** (Thomas) dzik thorn; it is the general term for thorns.

5) **Proto-Hurza** *adak thorn *épine* 5.1) **Mbukō** (Gravina) adak thorn *épine* 5.2) **Vame** (Kinnaird) àdègà thorn ; prickle *épine*

6) **Proto-Mandara** *adaki thorn *épine* 6.1) **Matal** (Branger) àtāk thorn *épine* 6.2) **Podoko** (Swackhammer) taka,-ə *épine* 6.3) **Mandara** (Fluckiger) dáké *épine* (f) 6.4) **Malgwa** (Löhr) dake thorn 6.5) **Glavda** (Nghagyiva) tàka thorn

7) **Proto-Mofu** *hadak thorn *épine* 7.1) **Ouldeme** (Kinnaird) ādāk thorn *épinés* ; *une épine* 7.2) **Muyang** (Smith) adak thorn *épine* (*mot général*) 7.3) **Moloko** (Friesen) hadak thorn *épine* 7.4) **Zulgo** (Haller) adák *épine* f. 7.5) **Gemzek** (Sabatai) adak thorn *épine* 7.6) **Merey** (Gravina) dak *épine* (f) 7.6.1) **Merey** (Gravina) adak thorn *épine* 7.7) **Dugwor** (Jubumna) adak thorn *épine* 7.8) **Mofu North** (Barreteau) ⁿdāk *épine* 7.9) **Mofu-Gudur** (Hollingsworth) hátak *épine*, *épineux*

8) **Proto-Lamang** *tiki thorn *épine* 8.1) **Lamang** (Wolff) tiki thorn 8.2) **Hdi** (Bramlett) teki thorn *l'épine*

9) **Proto-Higi** *tiki thorn *épine* 9.1) **Kamwe-Nkafa** (Harley) tikə thorn 9.2) **Bana** (Lienhard) t(é)kí *épine*

10) **Proto-Musgum** *hadak^y thorn *épine* 10.1) **Vulum** (Tourneux) hedek *épine* 10.2) **Mbara** (Tourneux) taha thorn *épine* 10.3) **Muskum** (Tourneux) hedet *épine*

hadik^w nm. grasshopper *sauterelle* (11 groups, 32 languages) B *cf*: **dzaraj**.

This root is difficult to reconstruct. The initial *h is retained in most groups, but was lost in Proto-Mafa and many individual languages, which is a common sporadic process. The *d is retained only in Gidar. In many groups it has fused with the *i to become *j, and this *j triggered the creation of the palatalisation prosody in several languages in the Mofu group. These are both sporadic processes. However, in Hdi *d has the reflex /ʔ/ and in Kilba /ʔⁱ/. These are unestablished changes. The final *k^w has been lost in several groups. In Proto-Bata, Proto-Margi and Proto-Mandara it has become *w, and this change also led to the creation of *o in Mpade. In Proto-Daba the labialisation component became *w and replaced the lost *h. In the Maroua group the labialisation component was reanalysed as the labialisation prosody. In the Higi group, *i and *k fused to create /g^l/. In Bata, the *k fused with *d to create /q/. All these processes are known sporadic processes.

- 1) **Proto-Bata** *adik^w grasshopper *sauterelle* 1.1) **Bata** (Boyd) qaawe locust *criquet* 1.2) **Gude** (Hoskinson) ájìwá grasshopper
- 2) **Proto-Daba** *wajak grasshopper *sauterelle* 2.1) **Buwal** (Viljoen) wajak grasshopper *sauterelle* 2.2) **Gavar** (Viljoen) wajak grasshopper *sauterelle* 2.3) **Mbudum** (Ndokobai) wajak grasshopper *sauterelle* 2.4) **Daba** (Lienhard) wàjēp' *le criquet*
- 3) **Proto-Mafa** *jak^w grasshopper *sauterelle* 3.1) **Cuvok** (Gravina) jak^w grasshopper *sauterelle*
- 4) **Proto-Margi** *hadìw grasshopper *sauterelle* 4.1) **Bura** (Blench) hauwa Locust sp. 4.2) **Kilba** (Schuh) ha'ji locust *criquet*
- 5) **Proto-Mandara** *hijìwì grasshopper *sauterelle* 5.1) **Matal** (Branger) hajaw locust *locuste, criquet* 5.2) **Podoko** (Swackhammer) hijawa,-ə *sauterelle* 5.3) **Mandara** (Fluckiger) íwa *criquet (m)* 5.4) **Malgwa** (Löhr) iiwe locust gen. *criquet*
- 6) **Proto-Mofu** *hajak^w grasshopper *sauterelle* 6.1) **Ouldeme** (Kinnaird) àwàjàk cricket *criquet* 6.2) **Muyang** (Smith) ejew generic term for grasshopper *criquet (mot générique)* 6.3) **Mada** (Nkoumou) ájàw màdàlá *criquet (sp.)* 6.4) **Moloko** (Friesen) hejew cricket, generic name *criquet; nom_geàneàral* 6.5) **Zulgo** (Haller) hájaw *sauterelle f. sp.* 6.6) **Gemzek** (Sabatai) hejew grasshopper *sauterelle* 6.7) **Merey** (Gravina) hejew grasshopper *sauterelle, criquet* 6.7.1) **Merey** (Gravina) hejew grasshopper *sauterelle, criquet* 6.8) **Dugwor** (Jubumna) h^wejek locust *locuste, criquet* 6.8.1) **Dugwor** (Jubumna) h^wejek grasshopper *sauterelle* 6.9) **Mofu North** (Barreteau) h^wàjàk^w *sauterelle (nom g-en.)* 6.10) **Mofu-Gudur** (Hollingsworth) ajak^w *sauterelle, criquet (nom générique)* ; (*par ext.*) *insecte*
- 7) **Proto-Maroua** *hajak^w grasshopper *sauterelle* 7.1) **Giziga Moutourwa** (Michielan) juk(u) *sauterelle (générique), criquet* 7.1.1) **Giziga Moutourwa** (Michielan) juk(u) *grosse sauterelle* 7.1.2) **Giziga Moutourwa** (Michielan) juk(u) *petite sauterelle noire* 7.2) **Giziga Marva** (Hamidou) hojok grasshopper *sauterelle* 7.2.1) **Giziga Marva** (Hamidou) hojok locust *locuste, criquet*

- 8) **Proto-Lamang** *hiʔi grasshopper *sauterelle* 8.1) **Hdi** (Bramlett) hi'i grasshopper *le criquet, la sauterelle*
- 9) **Proto-Higi** *hadik grasshopper *sauterelle* 9.1) **Kamwe-Nkafa** (Harley) hagi grasshopper 9.2) **Kamwe-Futu** (Harley) hagi grasshopper 9.3) **Kirya** (Blench) hagi grasshopper 9.4) **Bana** (Lienhard) xaj *sauterelle*
- 10) **Proto-Kotoko North** *hajaw grasshopper *sauterelle* 10.1) **Mpade** (Allison) hajó grasshopper *criquet* 10.1.1) **Mpade** (Allison) gajo grasshopper *sauterelle*
- 11) **Proto-Gidar** *hajdaŋ^y grasshopper *sauterelle* 11.1) **Gidar** (Hungerford) heejdeŋ *locuste (migrateur), sauterelle, criquet* 11.2) **Gidar** (Hungerford) hejdeŋ *sauterelle* 11.3) **Gidar** (Hungerford) hejdeŋ *criquet, sauterelle*

hajay n. ground squirrel *écureuil* (8 groups, 20 languages) C

This root is primarily found in the languages of the North sub-branch, but is also found in the Hurza group. The initial *h is retained in Proto-Mofu, and implied by the abnormal initial vowels in Proto-Hurza, Proto-Mandara, Proto-Maroua and Proto-Kotoko South, and the (compensatory) reduplication in Proto-Musgum. The *y is retained in Glavda and Lamang. It has the reflex /g/ in Mpade, /h/ in the Hurza group, Mazera and Moloko, which borrowed the root from Mbuko. *ŋ is the reflex of *y in Proto-Mofu, which was borrowed by Matal. The reflex *w in the Giziga languages is less natural, and may imply that *y was labialised. None of these changes are established regular changes. The *j has triggered the creation of the palatalisation in some Mofu group languages, which is a common sporadic process.

- 1) **Proto-Hurza** *ajah squirrel *écureuil* 1.1) **Mbuko** (Gravina) ajah squirrel *écureuil* 1.1.1) **Mbuko** (Gravina) wananajah squirrel *écureuil* 1.2) **Vame** (Kinnaird) ajáh squirrel *écureuil*
- 2) **Proto-Mandara** *ajay squirrel *écureuil* 2.1) **Matal** (Branger) hājàŋ squirrel *écureuil* 2.2) **Mandara** (Fluckiger) jàjè *écureuil (m)* 2.3) **Malgwa** (Löhr) jeje squirrel *écureuil* 2.4) **Glavda** (Nghagyiva) ajàwájàwa squirrel *écureuil* 2.4.1) **Glavda** (Owens) ajayája squirrel *écureuil*
- 3) **Proto-Mofu** *hajaŋ squirrel *écureuil* 3.1) **Ouldeme** (Kinnaird) àjèŋ squirrel *écureuil* 3.2) **Muyang** (Smith) ejeŋ Striped ground squirrel *Écureuil fouisseur (écureuil de terre)* 3.3) **Moloko** (Friesen) ajah squirrel *écureuil* 3.4) **Zulgo** (Haller) híjén *écureuil (m.) de terre* 3.5) **Gemzek** (Sabatai) hijeŋ squirrel *écureuil* 3.6) **Merey** (Gravina) hijeŋ palm rat *rat de palme* 3.6.1) **Merey** (Gravina) hijeŋ *écureuil* 3.7) **Dugwor** (Jubumna) hijeŋ palm rat *rat de palme* 3.7.1) **Dugwor** (Jubumna) hijeŋ squirrel *écureuil* 3.8) **Mofu-Gudur** (Hollingsworth) ajaŋ squirrel *écureuil terrestre ou "Rat palmiste"* 3.8.1) **Mofu-Gudur** (Hollingsworth) ajaŋ aŋg^wa *l'écureuil qui habite sur les rochers* 3.8.2) **Mofu-Gudur** (Hollingsworth) ajaŋ ^ɲga palah *l'écureuil qui habite sur la plaine*
- 4) **Proto-Maroua** *ajaw squirrel *écureuil* 4.1) **Giziga Moutourwa** (Michielan) jaw, ajaw *écureuil, scyurus* 4.1.1) **Giziga Moutourwa** (Michielan) jaw, ajaw *écureuil, scyurus, un enfant né très petit, ou nim donné par un devin, ou surnom donné à un enfant qui commence à marcher très petit - On tourne l'enfant autour de la termitière pour qu'il grassit, surnom d'un enfant maigre* 4.2) **Giziga Marva** (Hamidou) ajew palm rat *rat de palme* 4.2.1) **Giziga Marva** (Hamidou) ajew squirrel *écureuil*

- 5) **Proto-Lamang** *jaye squirrel *écureuil* 5.1) **Lamang** (Wolff) jáy squirrel 5.1.1) **Lamang** (Wolff) jáyè ground squirrel
- 6) **Proto-Kotoko North** *jaga squirrel *écureuil* 6.1) **Mpade** (Allison) jágà flying squirrel *écureil volant*
- 7) **Proto-Kotoko South** *ajahe squirrel *écureuil* 7.1) **Mazera** (Allison) ajahe squirrel *écureuil*
- 8) **Proto-Musgum** *jaja squirrel *écureuil* 8.1) **Mbara** (Tourneux) jaja squirrel *écureuil*

hak^w nf. fire *feu* (14 groups, 39 languages) B

This root is an established Chadic root, though the exact form of the Proto-Central Chadic root is harder to pin down. The *k^w is present in six of the group proto-languages, and has the reflex *g^w in the Bata and Kotoko South groups, *ɣ^w in the Higi group, *ʔ^w in the Margi group, and *w in the Maroua, Kotoko Island, Kotoko North and Kotoko Centre groups, and in Mbara in the Musgum group. These are not established changes. There is strong evidence for an initial consonant, and an initial *h is reconstructed. The *h is present in the Daba, Margi, Kotoko North and Musgum groups. However, in many groups the *h has been lost completely. There are a few unusual reflexes. The Proto-Daba root is the result of metathesis. In the Mafa group, the *h has been lost, triggering compensatory prefixation in Mafa and compensatory reduplication in Cuvok.

- 1) **Proto-Bata** *g^wi fire *feu* 1.1) **Gude** (Hoskinson) gúnə fire, heat. 1.2) **Jimi** (Djibi) gun *Le feu* 1.3) **Sharwa** (Gravina) rug^{wə} *feu* 1.4) **Tsuvan** (Johnston) gulk^we *le feu*
- 2) **Proto-Daba** *k^wah^wi fire *feu* 2.1) **Buwal** (Viljoen) k^wah^waw fire *feu* 2.2) **Gavar** (Viljoen) k^wahu fire *feu* 2.2.1) **Gavar** (Viljoen) k^wahu (be) hot 2.3) **Mbudum** (Ndokobai) kahaw fire *feu* 2.4) **Daba** (Lienhard) kùhū *le feu, la lampe*
- 3) **Proto-Mafa** *hak^wa fire *feu* 3.1) **Mafa** (Barreteau) vog^wa *feu* 3.2) **Cuvok** (Gravina) k^wak^waw fire *feu*
- 4) **Proto-Sukur** *k^wi fire *feu* 4.1) **Sukur** (David) ku fire 4.2) **Sukur** (Thomas) ku fire; is the general term for fire.
- 5) **Proto-Hurza** *ak^wa fire *feu* 5.1) **Mbuko** (Gravina) uko fire, light, electricity *feu, lumière, électricité* 5.2) **Vame** (Kinnaird) ák^wa fire *feu*
- 6) **Proto-Margi** *hi^wi fire *feu* 6.1) **Bura** (Blench) u'u Fire 6.2) **Margi** (Hoffman) u'u fire 6.3) **Margi South** (Harley) u'u fire 6.4) **Kilba** (Schuh) hu'u fire
- 7) **Proto-Mofu** *ak^wi fire *feu* 7.1) **Ouldeme** (Kinnaird) àkù fire *feu* 7.2) **Muyang** (Smith) aku fire *le feu, le courant électrique* 7.3) **Moloko** (Friesen) oko fire *feu* 7.4) **Zulgo** (Haller) ak^wá *feu m.* 7.5) **Gemzek** (Sabatai) ako fire *feu* 7.6) **Merey** (Gravina) ako *feu* 7.7) **Dugwor** (Jubumna) ak^wa fire *feu* 7.8) **Mofu-Gudur** (Hollingsworth) awaw fire *feu, chaleur torride*
- 8) **Proto-Maroua** *aw^wi fire *feu* 8.1) **Mbazla** (Tourneux) awu *feu* 8.1.1) **Mbazla** (SILSurvey) àwú fire *feu*
- 9) **Proto-Higi** *ɣ^wi fire *feu* 9.1) **Kamwe-Nkafa** (Harley) ɣ^wi 1.fire.2.flower 9.2) **Kamwe-Futu** (Harley) ɣ^wi fire 9.3) **Kirya** (Blench) yù fire 9.4) **Psikye** (Angelo) g^wu fire 9.5) **Bana** (Lienhard) ɣ^wə *feu*
- 10) **Proto-Kotoko Island** *aw fire *feu* 10.1) **Buduma** (McKone) aəw fire *feu* 10.2) **Buduma** (McKone) àw *feu*.

- 11) **Proto-Kotoko North** *hiw fire *feu* 11.1) **Afade** (Allison) hiw fire *feu* 11.2) **Malgbe** (Allison) u fire *feu* 11.3) **Maltam** (Allison) jau fire *feu*
- 12) **Proto-Kotoko Centre** *awi fire *feu* 12.1) **Mser** (Allison) awu fire *feu*
- 13) **Proto-Kotoko South** *ag^wa fire *feu* 13.1) **Mazera** (Allison) ago fire *feu*
- 14) **Proto-Musgum** *huu, ak^wi fire *feu* 14.1) **Mbara** (Tourneux) huu fire *feu* 14.2) **Muskum** (Tourneux) aku *feu, chaud*

ha^mbir nm. skin *peau* (5 groups, 13 languages) A

*h is retained only in Moloko, but the presence of an initial vowel in the other Mofu group languages, along with Proto-Hurza and Vulum, supports its presence. No Proto-Central Chadic words begin with a vowel. The *^mb is found in all reflexes, except for Vulum where it has become /m/. *r has become *l as a result of a regular change in all the languages of the North major group, and also in Cuvok from a separate regular change. /r/ in Moloko is also the result of regular change.

- 1) **Proto-Mafa** *^mbar skin *peau* 1.1) **Cuvok** (Gravina) ^mbal skin (of man) *peau (d'homme)* 1.1.1) **Cuvok** (Gravina) ^mbal skin (animal) (v) *peau (d'animal)* 1.1.2) **Cuvok** (Gravina) ^mbal hide (of animal) *peau (d'animal)*
- 2) **Proto-Hurza** *a^mbar skin *peau* 2.1) **Mbuko** (Gravina) a^mbar animal skin *peau d'un animal* 2.2) **Vame** (Kinnaird) à^mbàr skin ; hide *peau*
- 3) **Proto-Mofu** *ha^mbìl skin *peau* 3.1) **Ouldeme** (Kinnaird) ā^mbèl skin, part of body *peau, partie du corps* 3.2) **Muyang** (Smith) a^mbəl skin ; leather *peau; cuir* 3.3) **Mada** (Nkoumou) a^mbal *peau, cuir* 3.3.1) **Mada** (Nkoumou) a^mbal *peau* 3.4) **Moloko** (Friesen) ha^mbar skin *peau* 3.5) **Gemzek** (Sabatai) a^mbəl hide (of animal); skin (animal) (v) *peau (d'animal)* 3.6) **Merey** (Gravina) ^mbal hide (of animal) *peau (d'animal)* 3.7) **Dugwor** (Jubumna) a^mbal hide (of animal); skin (of man) *peau (d'animal); peau (d'homme)* 3.8) **Mofu-Gudur** (Hollingsworth) á^mbal *peau (humaine ou animale)*
- 4) **Proto-Higi** *^mbìl skin *peau* 4.1) **Bana** (Lienhard) ^mbəl *sac en peau*
- 5) **Proto-Musgum** *amir skin *peau* 5.1) **Vulum** (Tourneux) amir *peau*

ha^mbiz ^y n. blood *sang* (10 groups, 28 languages) A

The initial *h is lost in almost all languages, only being present in Mbazla. It is reconstructed largely due to the frequent reduplication, which is strongly indicative of a lost consonant. This compensatory reduplication has taken place in the Daba, Mafa, Sukur, Mofu, Maroua and Higi groups. The *^mb is not reduplicated in its entirety except in Buwal. In other languages, either the /b/ or the /m/ component is used to replace the lost *h. In the Hurza, Margi, Mandara and Higi groups, and the Tokombere subgroup of the Mofu group, *^mb has become *m, which is an unestablished change. In Mandara and Malgwa there was a regular change *m→w. The *z is devoiced in Proto-Margi as part of a regular change, and it is deleted in Proto-Higi, which is a common but not fully regular process for final consonants. There was metathesis of *^mb and *z in Proto-Bata. There is good support for the presence of the palatalisation prosody.

- 1) **Proto-Bata** *za^mbe blood *sang* 1.1) **Bata** (Boyd) zàà^mbe blood 1.2) **Bachama** (Skinner) za^mbe blood
- 2) **Proto-Daba** *ha^mbiz blood *sang* 2.1) **Buwal** (Viljoen) ^mba^mbaz blood *sang* 2.2) **Gavar** (Viljoen) 'ampəs blood *sang* 2.3) **Mbudum** (Ndokobai) mu^mbəz blood *sang*
- 3) **Proto-Mafa** *ba^mbaz^y blood *sang* 3.1) **Mafa** (Ndokobai) pa^mbaz *sang* 3.2) **Cuvok** (Gravina) be^mbez blood *sang* 3.2.1) **Cuvok** (Gravina) be^mbez blood *sang*
- 4) **Proto-Sukur** *mu^mbus blood *sang* 4.1) **Sukur** (David) mu^mbuss blood
- 5) **Proto-Hurza** *miza^y blood *sang* 5.1) **Mbuko** (Gravina) mez blood *sang* 5.2) **Vame** (Kinnaird) m̀̀nzè blood *sang*
- 6) **Proto-Margi** *masi^y blood *sang* 6.1) **Kilba** (Schuh) maʃi blood
- 7) **Proto-Mandara** *mizi^y blood *sang* 7.1) **Matal** (Branger) aɲiz, aɲiz blood *sang* 7.2) **Podoko** (Swackhammer) muzá,-ə *sang* 7.3) **Mandara** (Fluckiger) úze *sang* (m) 7.4) **Malgwa** (Löhr) uuze blood
- 8) **Proto-Mofu** *ha^mbiz^y blood *sang* 8.1) **Proto-Tokombere** *amiz^y blood *sang* 8.2) **Ouldeme** (Kinnaird) ámiz blood *sang* 8.3) **Mada** (Nkoumou) emez *sang* 8.4) **Zulgo** (Haller) má^mb̀̀z *sang* m. 8.5) **Gemek** (Sabatai) ba^mbaz blood *sang* 8.6) **Merey** (Gravina) ba^mbaz blood *sang* 8.7) **Mofu North** (Barreteau) má^mb̀̀z *sang* 8.8) **Mofu-Gudur** (Hollingsworth) ma^mbaz *sang*
- 9) **Proto-Maroua** *hi^mbis^w blood *sang* 9.1) **Giziga Marva** (Hamidou) pu^mbus blood *sang* 9.2) **Mbazla** (Tourneux) 'a^mbus, ha^mbus *sang* 9.2.1) **Mbazla** (SILSurvey) ǎ^mbūs blood *sang*
- 10) **Proto-Higi** *mimi blood *sang* 10.1) **Kamwe-Nkafa** (Harley) mimji blood 10.1.1) **Kamwe-Nkafa** (Harley) mí mí blood 10.2) **Kamwe-Futu** (Harley) mjimji blood 10.3) **Kirya** (Blench) mí mí blood 10.4) **Bana** (Lienhard) mí mí *sang*

hidzin^y nf. mortar *mortier* (12 groups, 34 languages) C

There are two different cognate roots which are mixed here. In the presentation the Daba, Hurza and Mofu entries are divided according to which root is being used. The main difference between the roots is the choice of *n or *r as the final consonant. There is a regular change of final *n→r in the Margi-Mandara-Mofu major group, but this does not account for *r in the Proto-Bata, Proto-Sukur and Proto-Higi roots, along with Daba and Vame. Nor does it account for the /ŋ/ (from *n) in several Mofu group languages. A possible explanation is that the root existed before the sound change in the Margi-Mandara-Mofu major group, but that the different forms developed different uses, e.g. one was a large mortar for pounding millet and the other was a small mortar for pounding other items, and the two roots spread independently. *h is proposed to account for the frequent reduplication of the *n root. The *dz is frequently prenasalised, which is a sporadic process. The changes *dz→d in Proto-Musgum and *dz→z in Proto-Kotoko Centre are regular.

- 1) **Proto-Bata** *ⁿdziri^y mortar *mortier* 1.1) **Jimi** (Djibi) aⁿdzərən *Petit mortier qui sert à piler le tabac pour priser.* 1.2) **Sharwa** (Gravina) ⁿdzirə *mortier*
- 2) **Proto-Daba** *ⁿdzar^y mortar *mortier* 2.1) **Daba** (Lienhard) ⁿdzēr *mortier*
- 3) **Proto-Daba** *dzidzaŋ^y mortar *mortier* 3.1) **Mbudum** (Ndokobai) dzidzeŋ mortar *mortier*

- 4) **Proto-Sukur** *dzimdzir^y mortar *mortier* 4.1) **Sukur** (David) jim zər mortar, wooden 4.2) **Sukur** (Thomas) jimdzər, jimnzər, jimzər mortar; - is wooden mortar used for grinding source for soup.
- 5) **Proto-Hurza** *dzira^y mortar *mortier* 5.1) **Vame** (Kinnaird) dzǎré mortar *mortier*
- 6) **Proto-Hurza** *dziⁿdzan^y mortar *mortier* 6.1) **Mbuko** (Gravina) dzəⁿdzen mortar *mortier*
- 7) **Proto-Margi** *ⁿdzir^y mortar *mortier* 7.1) **Bura** (Blench) ⁿdzir Grain mortar
- 8) **Proto-Mandara** *dziri mortar *mortier* 8.1) **Matal** (Branger) dzərəw // dzəru mortar *mortier* 8.2) **Podoko** (Swackhammer) dzǎra,-ə *mortier* 8.3) **Mandara** (Fluckiger) dzerá *mortier (m)* 8.4) **Malgwa** (Löhr) dzəra mortar 8.5) **Glavda** (Nghagyiva) dz̄^ɔra mortar, pounding pot 8.5.1) **Glavda** (Owens) dzi mortar
- 9) **Proto-Mofu** *dzira mortar *mortier* 9.1) **Ouldeme** (Kinnaird) dzǎró mortar *mortier* 9.2) **Muyang** (Smith) dzəra mortar *mortier* 9.3) **Mada** (Nkoumou) adzra *mortier* 9.4) **Zulgo** (Haller) dzəra *mortier m.*
- 10) **Proto-Mofu** *dzidzaj^y mortar *mortier* 10.1) **Muyang** (Smith) dzidziŋ mortar *mortier* 10.2) **Moloko** (Friesen) tʃədʒen mortar *mortier* 10.3) **Gemzek** (Sabatai) dzeŋdzeŋ mortar *mortier* 10.4) **Merey** (Gravina) dzəⁿdzeŋ mortar *mortier* 10.5) **Dugwor** (Jubumna) dzədʒeŋ mortar *mortier* 10.6) **Mofu North** (Barreteau) dzəŋdzəŋ *mortier* 10.7) **Mofu-Gudur** (Hollingsworth) dzédzeŋ *mortier*
- 11) **Proto-Maroua** *dzidziŋ^y mortar *mortier* 11.1) **Giziga Moutourwa** (Michielan) dzidziŋ *mortier à mil* 11.1.1) **Giziga Moutourwa** (Michielan) dzidziŋ *pilon à mil* 11.2) **Giziga Marva** (Hamidou) dzidzeŋ mortar *mortier*
- 12) **Proto-Higi** *ⁿdzir mortar *mortier* 12.1) **Kamwe-Nkafa** (Harley) ⁿdzírí Mortar 12.2) **Kamwe-Futu** (Harley) ⁿdzir mortar; pounding pot
- 13) **Proto-Kotoko Island** *adzin mortar *mortier* 13.1) **Buduma** (McKone) aedziŋ mortar *mortier* 13.2) **Buduma** (McKone) âdziŋ *mortier*.
- 14) **Proto-Kotoko Centre** *ziŋ mortar *mortier* 14.1) **Lagwan** (Allison) zinha mortar *mortier* 14.2) **Mser** (Allison) aziŋ mortar *mortier*
- 15) **Proto-Musgum** *diŋ mortar *mortier* 15.1) **Vulum** (Tourneux) adiŋ *mortier* 15.2) **Mbara** (Tourneux) dinaj mortar 15.3) **Muskum** (Tourneux) tiŋ *Ceiba pentandra (Bombacaceae)* 15.3.1) **Muskum** (Tourneux) tiŋ *mortier*

hiji n. millet *mil* (8 groups, 14 languages) A *syn*: **daw**, **vijaw**.

This is one of three or more well-attested roots for millet, the staple crop in the region. The forms of the root are very consistent, with the primary differences being in the quality of the vowels. The root is found in languages from a wide area, and so may be reasonably old. However the existence of four different roots for the staple crop suggests that agriculture was not practiced by the earliest Central Chadic peoples.

- 1) **Proto-Bata** *haj millet *mil* 1.1) **Sharwa** (Gravina) hajən *graine* 1.2) **Tsuvan** (Johnston) he *le mil*
- 2) **Proto-Sukur** *hij millet *mil* 2.1) **Sukur** (Thomas) hai guineacorn; general term for guineacorn
- 3) **Proto-Hurza** *ahaj millet *mil* 3.1) **Vame** (Kinnaird) āháj millet *mil*

- 4) **Proto-Mandara** *hiji millet *mil* 4.1) **Matal** (Branger) hi, həj millet *mil* 4.2) **Podoko** (Swackhammer) hijá,-ə 1 *grain* 4.2.1) **Podoko** (Swackhammer) hijá,-ə 2 *mil* 4.3) **Mandara** (Fluckiger) hiá *mil* (*m*)
- 5) **Proto-Mofu** *haj millet *mil* 5.1) **Ouldeme** (Kinnaird) həj millet *mil* 5.2) **Moloko** (Friesen) haj millet *mil*
- 6) **Proto-Lamang** *hija millet *mil* 6.1) **Lamang** (Wolff) xíjá millet 6.2) **Hdi** (Bramlett) hija sorghum, guinea corn *le sorgho, le mil*
- 7) **Proto-Higi** *ha millet *mil* 7.1) **Psikye** (Angelo) xá millet, corn 7.2) **Bana** (Lienhard) xà *mil* (*nom générique*)
- 8) **Proto-Gidar** *haji millet *mil* 8.1) **Gidar** (Hungerford) hajja *mil de saison de pluie, sorgho* 8.2) **Gidar** (Schuh) haja/0 *mil* 8.3) **Gidar** (Schuh) haja/0 *sorgho*

hikan num. ten *dix* (3 groups, 6 languages) A **syn:** k^wim, kiriw.

This is one of three widespread roots for 'ten'. This root is found in three of the four Kotoko groups. *h is lost in Proto-Kotoko North.

- 1) **Proto-Kotoko Island** *hikan ten *dix* 1.1) **Buduma** (McKone) həkan ten (10) *dix* (10)
- 2) **Proto-Kotoko North** *kan ten *dix* 2.1) **Afade** (Allison) kan ten (10) *dix* (10) 2.2) **Mpade** (Allison) kán ten (10) *dix* (10) 2.3) **Malgbe** (Allison) kan ten (10) *dix* (10)
- 3) **Proto-Kotoko Centre** *hikan ten *dix* 3.1) **Lagwan** (Allison) xkan ten (10) *dix* (10) 3.2) **Mser** (Allison) kan ten (10) *dix* (10)

hikin num. three *trois* (12 groups, 42 languages) A

This root is attested across all groups except for Gidar, Musgum and the Kotoko groups. The final *n has become *r in the Margi, Mandara and Mofu groups as part of a regular change. However *r is also found in the Mafa group and in the Giziga languages, and the /d/ in the Daba group is also a reflex of *r. These forms are the result of borrowing. The unestablished *r→d change also took place in Mandara, Malgwa and Glavda. In Mandara the *i and *d fused to create /j/. In Malgwa, there was an intermediate /d^h/, which moved to a velar position as part of a regular process of velarisation of palatalised alveolars. All groups except for the Mandara and Lamang groups have *ma- prefixed to the root. In several groups, the *h has been lost, triggering compensatory lengthening of the *a from the prefix. The *i vowel is reconstructed on the basis of evidence from the Margi, Mandara and Maroua groups. The evidence is not conclusive as there is no support for *i from the Bata or Higi groups.

- 1) **Proto-Bata** *mahikin three *trois* 1.1) **Bata** (Boyd) m^wààkín three 1.2) **Gude** (Hoskinson) mákə three 1.3) **Jimi** (Djibi) mahəkən *Trois* 1.3.1) **Jimi** (Djibi) mahəkən 3
- 2) **Proto-Daba** *mahkad three *trois* 2.1) **Buwal** (Viljoen) mahkad three (3) *trois* (3) 2.2) **Gavar** (Viljoen) mahkad three (3) *trois* (3) 2.3) **Mbudum** (Ndokobai) makad three (3) *trois* (3) 2.4) **Daba** (Lienhard) màkād *trois*
- 3) **Proto-Mafa** *mahkar three *trois* 3.1) **Mafa** (Barreteau) makár *trois* 3.2) **Cuvok** (Gravina) mahkar three (3) *trois* (3)

- 4) **Proto-Tera** *mahkan three *trois* 4.1) **Ga'anda** (Gwaji) mahkan three
- 5) **Proto-Sukur** *maakın three *trois* 5.1) **Sukur** (David) maakən three
- 6) **Proto-Hurza** *maakan three *trois* 6.1) **Mbuko** (Gravina) maakan three *trois* 6.2) **Vame** (Kinnaird) má^ɔgān three *trois*
- 7) **Proto-Margi** *maakir three *trois* 7.1) **Bura** (Blench) makir Three 7.2) **Margi South** (Harley) maakər three 7.3) **Kilba** (Schuh) maakəru// three
- 8) **Proto-Mandara** *hikiri three *trois* 8.1) **Matal** (Branger) māk̀̀r three *trois* 8.2) **Podoko** (Swackhammer) mak̀̀ra,-ə *trois* 8.3) **Mandara** (Fluckiger) kéjé *trois* 8.4) **Malgwa** (Löhr) kəjje three 8.5) **Glavda** (Nghagyiva) xk̀̀da three (3) 8.6) **Dghwede** (Frick) xkre three
- 9) **Proto-Mofu** *mahkir three *trois* 9.1) **Ouldeme** (Kinnaird) m̀̀k̀̀r three *trois* 9.2) **Muyang** (Smith) mahkər three *trois* 9.3) **Moloko** (Friesen) makar three *trois* 9.4) **Gemzek** (Sabatai) makar three (3) *trois* (3) 9.4.1) **Gemzek** (Sabatai) makər three *trois* 9.5) **Merey** (Gravina) mahkar *trois* 9.6) **Dugwor** (Jubumna) makar three (3) *trois* (3) 9.7) **Mofu North** (Barreteau) m̀̀k̀̀r *trois* 9.8) **Mofu-Gudur** (Hollingsworth) maakar three *trois*
- 10) **Proto-Maroua** *maakaŋ three *trois* 10.1) **Giziga Moutourwa** (Michielan) makir *trois* 10.1.1) **Giziga Moutourwa** (Michielan) makir *trente* 10.2) **Giziga Marva** (Hamidou) makir three (3) *trois* (3) 10.3) **Mbazla** (SILSurvey) m̀̀k̀̀ŋ three *trois* 10.3.1) **Mbazla** (Tourneux) maakaŋ *trois*
- 11) **Proto-Lamang** *hikina three *trois* 11.1) **Lamang** (Wolff) xk̀̀ń́a three 11.2) **Hdi** (Bramlett) həkən three *trois*
- 12) **Proto-Higi** *maxkin three *trois* 12.1) **Kamwe-Nkafa** (Harley) makənə three 12.1.1) **Kamwe-Nkafa** (Harley) m̀̀k̀̀ń́ Three 12.2) **Kamwe-Futu** (Harley) makəo three 12.3) **Kirya** (Blench) makən three 12.4) **Psikye** (Angelo) maxkón three 12.4.1) **Psikye** (Angelo) maxkóń́ three 12.5) **Bana** (Lienhard) m̀̀xk̀̀ń́ *trois*

hi^mbiw n. armpit *aisselle* (7 groups, 19 languages) B

This root is attested across a good range of groups. The initial *h has been lost in Bachama and Mbuko. In Bachama this has triggered compensatory reduplication. The final *w has been reanalysed as labialisation in Bachama and Proto-Margi. In Bachama the *w has fused with the *^mb to form /m^w/, and in Proto-Margi it fused with *h to form *h^w. All of these are common sporadic processes. In the Mofu group and in Mbuko the attested roots have extra material added, i.e. /jik/ or /d/, possibly reflecting an underlying compound. The Proto-Mafa form comes from metathesis of the first two consonants, a sporadic change.

- 1) **Proto-Bata** *m^wam^wa armpit *aisselle* 1.1) **Bachama** (Skinner) m^wam^watə armpit
- 2) **Proto-Daba** *ha^mbiwa armpit *aisselle* 2.1) **Buwal** (Viljoen) sa^mbuwa armpit *aisselle* 2.2) **Gavar** (Viljoen) ska papa armpit *aisselle* 2.3) **Mbudum** (Ndokobai) pumpa armpit *aisselle*
- 3) **Proto-Mafa** *^mbihaw armpit *aisselle* 3.1) **Mafa** (Ndokobai) h^wad^mbəhaw *aisselle* 3.1.1) **Mafa** (Barreteau) ^mbəhaw *aisselle* 3.2) **Cuvok** (Gravina) ^mbuwa armpit *aisselle*
- 4) **Proto-Hurza** *a^mbajak^w y armpit *aisselle* 4.1) **Mbuko** (Gravina) a^mbijœk armpit *aisselle*

- 5) **Proto-Margi** *h^{wi}m^{bi} armpit *aisselle* 5.1) **Margi** (Hoffman) hu^mbu armpit 5.2) **Kilba** (Schuh) u^mbu armpit
- 6) **Proto-Mofu** *hi^mbid^y, h^{wi}m^{bajak}^y, m^{bi}wa armpit *aisselle* 6.1) **Ouldeme** (Kinnaird) hù^mbùwáj armpit *aisselle* 6.2) **Moloko** (Friesen) m^{be}jewk armpit *aisselle* 6.3) **Zulgo** (Haller) hì^mbid^f *aisselle* f. 6.4) **Gemzek** (Sabatai) hə^mbed armpit *aisselle* 6.5) **Merey** (Gravina) hu^mbejək armpit *aisselle* 6.5.1) **Merey** (Gravina) hu^mbejək armpit *aisselle* 6.6) **Dugwor** (Jubumna) hu^mbajek^w armpit *aisselle* 6.7) **Mofu North** (Barreteau) m^búwā *aisselle* 6.8) **Mofu-Gudur** (Hollingsworth) m^bəwá *aisselle* 6.8.1) **Mofu-Gudur** (Hollingsworth) sí^mbəwá *aisselle*
- 7) **Proto-Higi** *ha^mbiwi armpit *aisselle* 7.1) **Kamwe-Nkafa** (Harley) ha^mbuwə armpit 7.2) **Kamwe-Futu** (Harley) haⁿduwa armpit

himid^y nm. wind *vent* (14 groups, 37 languages) A **cf:** tał.

This root is attested across the Central Chadic languages. The basic meaning is 'wind', but is extended to cover the concept 'cold' in many languages. The initial *h is realised as *s in several groups. This does not correspond with any known regular change, but it may be due to spreading of a cognate form from another branch of Chadic. The root *k^{wi}him 'mouse' shows similar distribution of *s and *h. The initial /h/ in Buduma is probably the result of a regular change *s→h in that language, rather than a reflex of Proto-Central Chadic *h. The *h has been sporadically lost in many languages, and has resulted in compensatory reduplication in Cuvok and the two Mofu languages. *m is sporadically realised as *mb in a few languages. There is evidence for the palatalisation prosody from almost all groups where it is expected. In Gidar the /j/ is the regular result of the palatalisation of *d.

- 1) **Proto-Bata** *midī wind *vent* 1.1) **Gude** (Hoskinson) mɛdǎ -ə air, wind 1.2) **Jimi** (Djibi) m^{bi}dɛn *Vent, souffle*
- 2) **Proto-Daba** *mid^y wind *vent* 2.1) **Buwal** (Viljoen) maɗ (be) cold (objects) (*être*) *froid* 2.2) **Gavar** (Viljoen) mid wind (n) *vent* 2.2.1) **Gavar** (Viljoen) mid air *air* 2.3) **Mbudum** (Ndokobai) maɗ (be) cold (objects) (*être*) *froid* 2.4) **Daba** (Lienhard) mid *le vent, le souffle, la vie*
- 3) **Proto-Mafa** *mamad^y wind *vent* 3.1) **Cuvok** (Gravina) memed wind *vent* 3.1.1) **Cuvok** (Gravina) memed cold *froid*
- 4) **Proto-Sukur** *mid^y wind *vent* 4.1) **Sukur** (David) mid wind 4.2) **Sukur** (Thomas) mid wind
- 5) **Proto-Hurza** *himade wind *vent* 5.1) **Mbuko** (Gravina) maɗ wind; cold *vent, froid* 5.2) **Ndreme** (Kinnaird) hùmàdè 5.3) **Vame** (Kinnaird) hèmàdè *vent*
- 6) **Proto-Margi** *samad^y wind *vent* 6.1) **Bura** (Blench) ʃa^mbar Cold 6.1.1) **Bura** (Blench) ʃa^mbar Wind 6.2) **Margi** (Hoffman) jamadə wind, cold 6.3) **Margi South** (Harley) jə^mbaɗu wind
- 7) **Proto-Mofu** *himid^y wind *vent* 7.1) **Ouldeme** (Kinnaird) àmàɗ wind *vent* 7.2) **Muyang** (Smith) aməɗ air ; wind ; cold ; breath *vent; froid* 7.3) **Mada** (Nkoumou) amad *vent* 7.4) **Moloko** (Friesen) həmaɗ wind, cold *vent; froid* 7.5) **Zulgo** (Haller) hí^mbíd *vent m.* 7.6) **Gemzek** (Sabatai) hə^mbed *le vent* 7.7) **Dugwor** (Jubumna) həmed wind *vent* 7.8) **Mofu North** (Barreteau) mèməɗ *vent* 7.8.1) **Mofu North** (Barreteau) mèməɗ *froid* 7.9) **Mofu-Gudur** (Hollingsworth) memed *vent, froid*

- 8) **Proto-Maroua** *himid^y wind *vent* 8.1) **Giziga Moutourwa** (Michielan) himid(i) *vent, froid* 8.1.1) **Giziga Moutourwa** (Michielan) himid(i) *se dégonfler* 8.2) **Giziga Marva** (Hamidou) himed wind *vent* 8.3) **Mbazla** (Tourneux) simeḏ *vent* 8.3.1) **Mbazla** (Tourneux) tʃimeḏ *vent*
- 9) **Proto-Kotoko Island** *ha^mbaḏi wind *vent* 9.1) **Buduma** (McKone) həa^mbaḏə; lieni cold weather *temps froid* 9.2) **Buduma** (McKone) hə^mbaḏə *le froid.* 9.3) **Buduma** (McKone) hə^mbəḏa *froid.*
- 10) **Proto-Kotoko North** *samaḏe wind *vent* 10.1) **Afade** (Allison) semaḏe cold weather *temps froid* 10.2) **Mpade** (Allison) sɪmáḏi cold weather *temps froid* 10.3) **Malgbe** (Allison) tʃ'amare cold weather *temps froid*
- 11) **Proto-Kotoko Centre** *simadī wind *vent* 11.1) **Lagwan** (Allison) ʃima cold weather *temps froid* 11.1.1) **Lagwan** (Allison) simadī; ɣ^wava wind *vent* 11.2) **Mser** (Allison) simadī cold weather *temps froid*
- 12) **Proto-Kotoko South** *simade wind *vent* 12.1) **Zina** (Odden) asmaḏə; mǎgǎwǎ wind *vent* 12.2) **Mazera** (Allison) simḏe wind *vent*
- 13) **Proto-Musgum** *simad^y wind *vent* 13.1) **Vulum** (Tourneux) simer *vent* 13.1.1) **Vulum** (Tourneux) simer *vent* 13.2) **Mbara** (Tourneux) sum'daj cold 13.2.1) **Mbara** (Tourneux) sum'daj wind 13.3) **Muskum** (Tourneux) simet *vent*
- 14) **Proto-Gidar** *simja wind *vent* 14.1) **Gidar** (Hungerford) səmja *vent, froid* 14.2) **Gidar** (Schuh) səmja *froid* 14.3) **Gidar** (Schuh) səmja *vent* 14.4) **Gidar** (Hungerford) simja *froid*

hina v. lie down *se coucher* (8 groups, 21 languages) A

The basic sense is 'to lie down in order to sleep', but is extended to include 'give birth' in some languages. It is also used to denote the period of time when someone is asleep or extended periods in general, and in at least one language the nominalised form has the sense of a 'day', i.e. a period of twenty-four hours. The root is not found in any languages of the South sub-branch, except for Cuvok where this may be one of many borrowings from Mofu-Gudur. The *h has been lost in several Mofu group languages, and there has been metathesis of the *h and *n in Cuvok and Mbuko.

- 1) **Proto-Mafa** *naha lie down *se coucher* 1.1) **Cuvok** (Gravina) naha lie down *se coucher*
- 2) **Proto-Hurza** *hina lie down *se coucher* 2.1) **Mbuko** (Gravina) nahaj lie_down *coucher* 2.2) **Vame** (Kinnaird) hənákádè lie down *coucher*
- 3) **Proto-Mandara** *hina lie down *se coucher* 3.1) **Matal** (Branger) mahən hiŋ, mahin ~ lie down *coucher* 3.2) **Podoko** (Swackhammer) həna 1 *coucher* 3.2.1) **Podoko** (Swackhammer) həna 2 *passer la nuit* 3.2.2) **Podoko** (Swackhammer) həna 3 *rester longtemps* 3.3) **Glavda** (Nghagyiva) xí^ŋgàna lie down
- 4) **Proto-Mofu** *hina lie down *se coucher* 4.1) **Zulgo** (Haller) hóná *se coucher* 4.2) **Zulgo** (Haller) hóná *passer la nuit* 4.3) **Gemzek** (Sabatai) mehəne lie down *se coucher* 4.4) **Merey** (Gravina) həna lie down *se coucher* 4.5) **Dugwor** (Jubumna) manaj lie down *se coucher* 4.6) **Mofu North** (Barreteau) ménēj *se coucher* 4.6.1) **Mofu North** (Barreteau) ménēj *passer la nuit* 4.6.2) **Mofu North** (Barreteau) ménēj *durer* 4.7) **Mofu-Gudur** (Hollingsworth) 'n sleep *dormir, se coucher ; passer la nuit ; durer*

- 5) **Proto-Maroua** *hin lie down *se coucher* 5.1) **Giziga Marva** (Hamidou) hən lie down *se coucher* 5.2) **Mbazla** (Tourneux) hən *accoucher*
- 6) **Proto-Lamang** *hini lie down *se coucher* 6.1) **Lamang** (Wolff) hini sleep, lie down 6.2) **Hdi** (Bramlett) hanadata lie down to sleep *se coucher*
- 7) **Proto-Higi** *hini lie down *se coucher* 7.1) **Kamwe-Nkafa** (Harley) hinig^{wə} lie down. 7.2) **Kirya** (Blench) hààné to lie down 7.3) **Bana** (Lienhard) xèní *se coucher*
- 8) **Proto-Kotoko Island** *hinaj lie down *se coucher* 8.1) **Buduma** (McKone) hənaj lie down *se coucher*

hipaɫ ^ɣ nf. shoulder *épaule* (8 groups, 19 languages) B *rel. to: paɟa*.

This root is probably related to the root *paɟa 'upper arm', though the lack of regularity in the reflexes of the lateral fricatives in the two roots indicates that these should not be considered as a single root, but as two related forms deriving from one root. The initial *h is lost in many languages, and this loss has triggered compensatory reduplication in many cases. There is evidence for the palatalisation prosody from almost all groups. There was metathesis of *p and *ɫ in the Mandara group, a sporadic process.

- 1) **Proto-Mafa** *paɫpaɫ ^ɣ shoulder *épaule* 1.1) **Mafa** (Ndokobai) peɫpeɫ *épaule*
- 2) **Proto-Sukur** *tapaɫ shoulder *épaule* 2.1) **Sukur** (Thomas) tapaɫ shoulder; either of the two parts of the body between the top of each arm and the neck.
- 3) **Proto-Hurza** *paɫpaɫ ^ɣ shoulder *épaule* 3.1) **Vame** (Kinnaird) péɫpéɫ shoulder *épaule*
- 4) **Proto-Margi** *apaɫa shoulder *épaule* 4.1) **Bura** (Blench) páɫáhà Shoulder Also páɫláhù 4.2) **Margi South** (Harley) papaɟa shoulder 4.3) **Kilba** (Schuh) paɫəka shoulder
- 5) **Proto-Mandara** *aɫapi ^ɣ shoulder *épaule* 5.1) **Matal** (Branger) dzàbàɫà shoulder *épaule* 5.2) **Mandara** (Fluckiger) náhjápéhjápe *épaule* (f) 5.3) **Malgwa** (Löhr) nahjepe shoulder 5.3.1) **Malgwa** (Löhr) lahjepe shoulder 5.4) **Glavda** (Owens) aɟá shoulder 5.4.1) **Glavda** (Nghagyiva) āɟápa shoulder
- 6) **Proto-Mofu** *hipaɫ ^ɣ shoulder *épaule* 6.1) **Ouldeme** (Kinnaird) mēpépéɫ shoulder *épaule* 6.2) **Muyang** (Smith) həpəɫ both the shoulders, the part of the body that can be moved *les épaules (qu'on peut hausser)* 6.3) **Mada** (Nkoumou) ahpəɫ *épaule* 6.4) **Mofu-Gudur** (Hollingsworth) pepéɫ *omoplate, épaule*
- 7) **Proto-Maroua** *papaɟ ^ɣ shoulder *épaule* 7.1) **Giziga Marva** (Hamidou) pepeɟ shoulder *épaule*
- 8) **Proto-Higi** *baɟa shoulder *épaule* 8.1) **Kamwe-Nkafa** (Harley) báɟa shoulder 8.2) **Kamwe-Futu** (Harley) ^mbaɟa shoulder 8.3) **Kirya** (Blench) bàbàɟà shoulder 8.4) **Bana** (Lienhard) báɟí *épaule*

hira n. arm, hand *bras, main* (8 groups, 25 languages) C *syn: paɟa, dzivi* ^ɣ.

This is the most widely attested of the three roots for 'arm'. We expect to find *r→l in the languages of the North sub-branch, but the data from Podoko and much of the Mofu group contradicts this. Proto-Maroua *n word-final corresponds with *r word-final in these two groups, so it may be that the North sub-branch languages are reflexes of a different root *(a)han.

- 1) **Proto-Daba** *ra arm *bras* 1.1) **Buwal** (Viljoen) ra arm *bras* 1.1.1) **Buwal** (Viljoen) ra hand *main* 1.2) **Gavar** (Viljoen) ra hand *main* 1.2.1) **Gavar** (Viljoen) ra arm *bras*
- 2) **Proto-Mafa** *raj arm *bras* 2.1) **Mafa** (Barreteau) ráj *main, bras* 2.2) **Cuvok** (Gravina) ha hand, hand *main, bras*
- 3) **Proto-Tera** *xar arm *bras* 3.1) **Tera** (Newman) xar hand (arm) 3.2) **Nyimatli** (Harley) khar hand 3.3) **Ga'anda** (Gwaji) ^mbərahəra arm
- 4) **Proto-Sukur** *ri arm, hand *bras, main* 4.1) **Sukur** (David) ri arm, hand 4.2) **Sukur** (Thomas) rəi hand:- is the part of the body at the end of the arm.
- 5) **Proto-Hurza** *alaj arm *bras* 5.1) **Mbuko** (Gravina) alaj hand *bras, main* 5.2) **Vame** (Kinnaird) āláj arm |uc{*main, bras*} - *de l'épaule jusqu'au bout des doigts*
- 6) **Proto-Mandara** *hari arm *bras* 6.1) **Matal** (Branger) ahal arm *bras* 6.2) **Podoko** (Swackhammer) hará,-ə *main; bras*
- 7) **Proto-Mofu** *ahír, hīlaj arm *bras* 7.1) **Ouldeme** (Kinnaird) āhár arm - from the shoulder to the tips of the fingers |uc{*main, bras*} - *de l'épaule jusqu'au bout des doigts* 7.2) **Muyang** (Smith) ahar hand ; arm ; handle ; branch *main; bras; manche; branche* 7.3) **Mada** (Nkoumou) ahar *bras supérieur* 7.4) **Moloko** (Friesen) ahar arm; hand *bras; main* 7.5) **Zulgo** (Haller) ahár *main f.* 7.6) **Gemzek** (Sabatai) ahər arm *bras* 7.7) **Merey** (Gravina) həlaj arm *bras, main* 7.8) **Dugwor** (Jubumna) laj arm *bras* 7.8.1) **Dugwor** (Jubumna) laj hand *main* 7.9) **Mofu North** (Barreteau) hār *bras, main* 7.10) **Mofu-Gudur** (Hollingsworth) har hand, arm *la main, bras* 7.10.1) **Mofu-Gudur** (Hollingsworth) har (*sens figuré*) *temps, occasion*
- 8) **Proto-Maroua** *han arm *bras* 8.1) **Giziga Moutourwa** (Michielan) haŋ *main, bras* 8.2) **Giziga Marva** (Hamidou) han, haŋ hand; arm *main; bras* 8.3) **Mbazla** (Tourneux) haŋ *bras* 8.3.1) **Mbazla** (SILSurvey) hāŋ arm / hand *bras / main*

hiridz ^y nf. scorpion *scorpion* (12 groups, 35 languages) B

This root is found across almost all the Central Chadic groups, but is not found in any of the Kotoko groups. The initial *h is lost in several languages, a common sporadic change. In Mafa this has been compensated for by the addition of a prefixed /v/, a common process. The *r is expected to have the reflex *l in the groups of the North sub-branch, but this is not the case. The implication is that the root did not come into the languages from Proto-Central Chadic. The breadth of the attestations, and the changes found in the reflexes imply that the root is old. It may have existed in the South sub-branch, and spread from there into the North sub-branch. The *dz has the reflexes *ts, *d and *z. The *d in Proto-Musgum and *z in Proto-Gidar are regular, but there are no consistent patterns to the reflexes of *dz in other groups. The palatalisation prosody is retained in almost all groups where it is expected.

- 1) **Proto-Bata** *hiradzi ^y scorpion *scorpion* 1.1) **Gude** (Hoskinson) àrədədə́nə scorpion. 1.2) **Jimi** (Djibi) redzən 1 - *Varan*; 2 - *Scorpion* 1.3) **Sharwa** (Gravina) ardə *scorpion* 1.4) **Tsuvan** (Johnston) hərdekən *le scorpion*

- 2) **Proto-Daba** *ridzi^y scorpion *scorpion* 2.1) **Buwal** (Viljoen) redže scorpion *scorpion* 2.2) **Gavar** (Viljoen) rədʒi scorpion *scorpion* 2.3) **Daba** (Lienhard) irdì *le scorpion*
- 3) **Proto-Mafa** *haradz scorpion *scorpion* 3.1) **Mafa** (Ndokobai) varadza *scorpion* 3.2) **Cuvok** (Gravina) rats scorpion *scorpion*
- 4) **Proto-Sukur** *^mbirdaj scorpion *scorpion* 4.1) **Sukur** (Thomas) ^mbərdai scorpion; a small creature like an insects with sex legs, two front claws and a long tail that curves over it's back and can a poisonous sting.
- 5) **Proto-Hurza** *ridza^y scorpion *scorpion* 5.1) **Mbuko** (Gravina) rədže scorpion *scorpion*
- 6) **Proto-Margi** *hida^y scorpion *scorpion* 6.1) **Bura** (Blench) hidi Scorpion 6.2) **Kilba** (Schuh) ida/a scorpion
- 7) **Proto-Mandara** *radzi^y scorpion *scorpion* 7.1) **Matal** (Branger) ālìʒ scorpion *scorpion* 7.2) **Podoko** (Swackhammer) raⁿdzá,-ə scorpion 7.3) **Mandara** (Fluckiger) érdze *scorpion (m)* 7.4) **Malgwa** (Löhr) ərdza scorpion 7.5) **Glavda** (Owens) ard scorpion 7.5.1) **Glavda** (Nghagyiva) árdza scorpion
- 8) **Proto-Mofu** *hirida^y scorpion *scorpion* 8.1) **Ouldeme** (Kinnaird) árdà scorpion *scorpion* 8.2) **Muyang** (Smith) aⁿdra (small yellow) scorpion *sorte de petit scorpion jaune* 8.3) **Moloko** (Friesen) harats scorpion *scorpion* 8.4) **Zulgo** (Haller) hìrde *scorpion m.* 8.5) **Gemzek** (Sabatai) hərdede scorpion *scorpion* 8.6) **Merey** (Gravina) hərdəde scorpion *scorpion* 8.7) **Dugwor** (Jubumna) arəde scorpion *scorpion* 8.8) **Mofu-Gudur** (Hollingsworth) aráts scorpion *scorpion*
- 9) **Proto-Maroua** *arats^y scorpion *scorpion* 9.1) **Giziga Marva** (Hamidou) arətʃe scorpion *scorpion* 9.2) **Mbazla** (Tourneux) 'aretʃ scorpion 9.2.1) **Mbazla** (Tourneux) 'ariʃ scorpion
- 10) **Proto-Lamang** *rida scorpion *scorpion* 10.1) **Lamang** (Wolff) érdà scorpion 10.2) **Hdi** (Bramlett) rəda scorpion *le scorpion*
- 11) **Proto-Musgum** *hiridiw scorpion *scorpion* 11.1) **Vulum** (Tourneux) hirduu *scorpion* 11.2) **Mulwi** (Tourneux) hirduu *scorpion* 11.3) **Mbara** (Tourneux) hurtuwaj scorpion 11.4) **Muskum** (Tourneux) hurut *scorpion*
- 12) **Proto-Gidar** *hirzija scorpion *scorpion* 12.1) **Gidar** (Hungerford) hərzija *scorpion*

hirig^wiv n. baboon *babouin* (6 groups, 16 languages) B

This root is quite difficult to reconstruct. The initial *h is retained only in Mbuko and Moloko, which are neighbours. The *r has changed to *l as expected in the languages of the North sub-branch and the Daba group. The *g^w has the unestablished reflexes *k^w in Proto-Mandara and Ouldeme, *ʔ^w in an intermediate form leading to Proto-Maroua, and *h^w in Proto-Daba, Proto-Mofu and the forms leading to Proto-Tera and Proto-Gidar. In these last two groups, the resulting *h component has been lost and the labialisation reanalysed as the labialisation prosody, resulting in back vowels. This is a common sporadic process. In some Mofu group languages, there has been metathesis of the *l and *h^w (from *g^w). The labialisation component of the original *g^w has also become the labialisation prosody in Proto-Daba, Proto-Hurza and Proto-Maroua. The final *v has become *f in Mbudum and Proto-Maroua, which is an unestablished change. There is no reflex of *v in Malgwa, which would be unusual, implying that the Malgwa word is a chance similarity.

- 1) **Proto-Daba** *lahav^w baboon *babouin* 1.1) **Mbudum** (Ndokobaï) lahaf baboon *babouin* 1.2) **Daba** (Lienhard) lòhòv *le cynoc[ephale, le babouin]*
- 2) **Proto-Tera** *ruf baboon *babouin* 2.1) **Tera** (Newman) ruf baboon
- 3) **Proto-Hurza** *hìrgav^w baboon *babouin* 3.1) **Mbuko** (Gravina) hægov baboon *babouin*
- 4) **Proto-Mandara** *lik^wiva baboon *babouin* 4.1) **Malgwa** (Löhr) nagula, lagula baboon 4.2) **Glavda** (Nghagyiva) lúkùva baboon
- 5) **Proto-Mofu** *hilig^wiv baboon *babouin* 5.1) **Ouldeme** (Kinnaird) ālkùv baboon *babouin* ; *cynocéphale*
5.2) **Muyang** (Smith) aluguv baboon *babouin* 5.3) **Moloko** (Friesen) hægov monkey *singe(noir, gros)*
5.4) **Zulgo** (Haller) àlùv *babouin m.* 5.5) **Gemzek** (Sabatai) hulov baboon *babouin* 5.6) **Merey** (Gravina) wuluv baboon *babouin* 5.7) **Mofu-Gudur** (Hollingsworth) lag^wav *Babouin*
- 6) **Proto-Maroua** *ləʔif^w baboon *babouin* 6.1) **Giziga Moutourwa** (Michielan) lu'uf *singe noir de la montagne, babouin* 6.2) **Giziga Marva** (Hamidou) al'of monkey *singe*
- 7) **Proto-Gidar** *lava^w baboon *babouin* 7.1) **Gidar** (Schuh) lovo, o *babouin*

hiwij v. to run *courir* (10 groups, 21 languages) B

This root is found in many different groups. In Mbuko and Sukur the *h and *w are two separate consonants, rather than the single labialised consonant found in almost all the other languages. The process of fusion of *w with another consonant to form a labialised consonant is very common, and there are no clear cases of the separation of the labialisation from the consonant in this way, so the reconstruction with separate *h and *w is preferred.

- 1) **Proto-Bata** *h^wij run *courir* 1.1) **Jimi** (Djibi) hujən *Courir* ;
- 2) **Proto-Daba** *hij run *courir* 2.1) **Buwal** (Viljoen) hej run *courir* 2.1.1) **Buwal** (Viljoen) hej flee *s'enfuir* 2.1.2) **Buwal** (Viljoen) hej spread (disease, fire) *se répandre, s'étendre* 2.2) **Mbudum** (Ndokobaï) hi run *courir*
- 3) **Proto-Mafa** *h^waj run *courir* 3.1) **Mafa** (Barreteau) ha *courir* 3.2) **Cuvok** (Gravina) h^waj run *courir*
- 4) **Proto-Sukur** *hiwi run *courir* 4.1) **Sukur** (David) huwi run, to 4.2) **Sukur** (Thomas) hui run

- 5) **Proto-Hurza** *h^wi run *courir* 5.1) **Mbuko** (Gravina) haw run; flee *courir; fuir* 5.1.1) **Mbuko** (Gravina) haw *se précipiter sur*
- 6) **Proto-Margi** *h^wi run *courir* 6.1) **Bura** (Blench) h^wi To run 6.1.1) **Bura** (Blench) huh^wi To run (Sustained action) 6.2) **Margi** (Hoffman) wi to run 6.3) **Margi South** (Hoffman) h^wi to run 6.4) **Kilba** (Hoffman) h^wi to run 6.4.1) **Kilba** (Schuh) h^wi/i handle (hoe etc.) 6.4.2) **Kilba** (Schuh) h^wi/i run
- 7) **Proto-Mandara** *h^waj run *courir* 7.1) **Matal** (Branger) màh^wājāj run *courir*
- 8) **Proto-Mofu** *h^waj run *courir* 8.1) **Merey** (Gravina) h^waj run *courir, s'enfuir* 8.2) **Dugwor** (Jubumna) mah^waj run *courir* 8.3) **Mofu North** (Barreteau) máh^wāj *courir* 8.4) **Mofu-Gudur** (Hollingsworth) h^w(á) *courir, fuir, s'enfuir* 8.4.1) **Mofu-Gudur** (Hollingsworth) h^w(á) *rouler vite (voiture, mobylette)* 8.4.2) **Mofu-Gudur** (Hollingsworth) h^w(á) *dérouler une botte de paille (un sekko)*
- 9) **Proto-Lamang** *h^waj run *courir* 9.1) **Hdi** (Bramlett) h^wajaj to run *courir*
- 10) **Proto-Higi** *h^wi run *courir* 10.1) **Kamwe-Nkafa** (Harley) h^weh^wə run 10.2) **Kamwe-Futu** (Harley) hoho run 10.3) **Kirya** (Blench) h^wji to run 10.4) **Psikye** (Angelo) x^we run

h^wadik n. earth *terre* (12 groups, 24 languages) C

The basic meaning of this root is the soil or earth that the ground is made from. The evidence for *h^w rather than *h comes from Cuvok, Mbuko and Lamang. In Cuvok the *h component has been lost, resulting in /w/. In Mbuko the labialisation is reanalysed as the labialisation prosody, and in Lamang it has resulted in /o/. These are common sporadic processes. In several languages the *d and *i have fused, resulting in *j. In the Kilba the result is /ʔ/. In Kamwe-Futu and Bana the *i has caused the palatalisation of the *h. *k has been lost in all groups except for the Daba, Mafa and Hurza, which is not a regular process. The final /k/ in Hdi is a frozen suffix, and not a reflex of *k. The *i has direct support from the Margi, Lamang and Higi groups.

- 1) **Proto-Daba** *hajak earth *terre* 1.1) **Buwal** (Viljoen) hajak ground, land *sol* 1.1.1) **Buwal** (Viljoen) hajak dirt, soil *sol* 1.1.2) **Buwal** (Viljoen) hajak country, ethnic area *pays* 1.2) **Gavar** (Viljoen) hajak dirt, soil *terre* 1.2.1) **Gavar** (Viljoen) hajak ground, land *sol* 1.2.2) **Gavar** (Viljoen) hajak country, ethnic area *pays* 1.3) **Mbudum** (Ndokobaï) hajak dirt, soil *terre, sol* 1.3.1) **Mbudum** (Ndokobaï) hajak ground, land *terre* 1.4) **Daba** (Lienhard) hàjək ' *la terre, le pays*
- 2) **Proto-Mafa** *wijak earth *terre* 2.1) **Cuvok** (Gravina) ujak *terre*
- 3) **Proto-Tera** *ɣaj earth *terre* 3.1) **Tera** (Newman) ɣaj earth 3.1.1) **Tera** (Newman) ɣaj ground 3.1.2) **Tera** (Newman) ɣaj town 3.2) **Nyimatli** (Harley) ɣai dirt, soil
- 4) **Proto-Sukur** *had earth *terre* 4.1) **Sukur** (Thomas) had ground
- 5) **Proto-Hurza** *h^wigaj earth *terre* 5.1) **Mbuko** (Gravina) jugo earth *la terre* 5.2) **Vame** (Kinnaird) hígàj ground ; earth *sol ; terre*
- 6) **Proto-Margi** *hidì earth *terre* 6.1) **Bura** (Blench) hi Earth, soil, dirt 6.2) **Kilba** (Schuh) hə'i earth 6.2.1) **Kilba** (Schuh) hə'i land
- 7) **Proto-Mandara** *haja earth *terre* 7.1) **Mandara** (Fluckiger) háhá *terre (f)* 7.2) **Malgwa** (Löhr) haha earth, soil, ground 7.3) **Dghwede** (Frick) xaja earth
- 8) **Proto-Mofu** *ahid earth *terre* 8.1) **Zulgo** (Haller) àhəd *terre f., sol m.*
- 9) **Proto-Maroua** *haj earth *terre* 9.1) **Mbazla** (Tourneux) haj *terre*
- 10) **Proto-Lamang** *h^wadi earth *terre* 10.1) **Lamang** (Wolff) hodò ground, earth 10.2) **Hdi** (Bramlett) hadik soil, earth *la terre*
- 11) **Proto-Higi** *hidì earth *terre* 11.1) **Kamwe-Futu** (Harley) hjidì ground; land; earth 11.2) **Kirya** (Blench) hàhàj soil 11.3) **Psikye** (Angelo) xedí dirt, earth, ground 11.4) **Bana** (Lienhard) xjidì *terre, pays*
- 12) **Proto-Musgum** *jahaj earth *terre* 12.1) **Mbara** (Tourneux) jahaj earth *terre*

h^waⁿdav n. hare *lièvre* (7 groups, 16 languages) A *syn:* **vida**.

There are two widespread roots for 'hare', with the other being *vidi. These roots are possibly cognate, though it is not clear how these two forms could have come about. The *h^w has been lost in many languages, leaving /w/ in Mafa and several Mofu group languages, and a back vowel in Ouldeme and Mbara. In many cases /m/ has been prefixed to the root to compensate. This is one of only three roots where *ⁿd has been reconstructed. In Musgum the *ⁿd has the reflex /d/. *v has the reflex *f in Proto-Maroua. These are unestablished changes.

- 1) **Proto-Daba** *maⁿdavan hare *lièvre* 1.1) **Buwal** (Viljoen) maⁿdəvan hare *lièvre* 1.2) **Gavar** (Viljoen) maⁿdəvan hare *lièvre* 1.3) **Mbudum** (Ndokobai) məⁿdeveŋ hare *lièvre* 1.4) **Daba** (Lienhard) māⁿdāvən *le lapin, le lièvre*
- 2) **Proto-Mafa** *waⁿdav hare *lièvre* 2.1) **Mafa** (Barreteau) wáⁿdáv *lièvre*
- 3) **Proto-Hurza** *ⁿdivan^y hare *lièvre* 3.1) **Vame** (Kinnaird) ⁿdivèŋ rabbit ; hare *lapin ; lièvre*
- 4) **Proto-Mofu** *h^waⁿdav hare *lièvre* 4.1) **Ouldeme** (Kinnaird) ādāvò hare *lièvre* 4.2) **Zulgo** (Haller) h́áⁿdáv *lièvre m.* 4.3) **Merey** (Gravina) waⁿdav hare *lièvre* 4.4) **Dugwor** (Jubumna) waⁿdav hare *lièvre* 4.5) **Mofu North** (Barreteau) wáⁿdáv *lapin* 4.6) **Mofu-Gudur** (Hollingsworth) h^waⁿdav-ŋg^wa *Lapin d'Afrique* 4.6.1) **Mofu-Gudur** (Hollingsworth) h^waⁿdav ⁿga palah *Lièvre à oreilles de lapin* 4.6.2) **Mofu-Gudur** (Hollingsworth) h^waⁿdav *lapin (nom gén.)*
- 5) **Proto-Maroua** *maⁿdaf hare *lièvre* 5.1) **Giziga Moutourwa** (Michielan) maⁿdaf *lapin, lièvre (567,577,578)* 5.2) **Giziga Marva** (Hamidou) maⁿdaf hare *lièvre*
- 6) **Proto-Musgum** *mudivaj hare *lièvre* 6.1) **Mbara** (Tourneux) mudivaj hare *lièvre*
- 7) **Proto-Gidar** *maⁿdava hare *lièvre* 7.1) **Gidar** (Schuh) maⁿdava/a *lapin* 7.2) **Gidar** (Hungerford) maⁿdava *lièvre, lapin*

h^waraj n. shame *honte* (6 groups, 11 languages) B *syn:* **zirwa^y**.

This root is one of two roots for 'shame', the best attested concept that relates solely to an emotional state. The attestations are limited, which is to be expected as this concept is only found in the better developed word lists and dictionaries, but they come from a range of groups and show the changes that are expected in a long-standing Central Chadic root. The *h^w is retained in Proto-Mafa, Proto-Mofu and Proto-Lamang. In the other three groups it is realised as *w, which is a common sporadic process. In Gemzek the labialisation component has been reanalysed as the labialisation prosody. The *r has undergone the regular change to *l in the languages of the North sub-branch and Proto-Daba, except that *r is found in Proto-Mofu. This indicates a certain degree of borrowing within Central Chadic. The *j is reanalysed as the palatalisation prosody in Daba, as /i/ in Gidar, and is lost in Hdi. These are all common sporadic processes.

- 1) **Proto-Daba** *wali^y shame *honte* 1.1) **Daba** (Lienhard) wèli *la honte, la gêne*
- 2) **Proto-Mafa** *h^waraj shame *honte* 2.1) **Mafa** (Barreteau) h^waraj *honte* 2.2) **Cuvok** (Gravina) h^waraj (be) ashamed (*avoir*) *honte* 2.2.1) **Cuvok** (Gravina) h^waraj shame (n) *honte*
- 3) **Proto-Hurza** *waraj shame *honte* 3.1) **Mbuko** (Gravina) waraj shame *honte*

- 4) **Proto-Mofu** *h^waraj shame *honte* 4.1) **Zulgo** (Haller) h^warwá *honte f.* 4.2) **Gemzek** (Sabatai) horo shame (n) *honte* 4.3) **Merey** (Gravina) h^waraj shame (n) *honte* 4.4) **Dugwor** (Jubumna) h^woraj shame (n) *honte* 4.5) **Mofu-Gudur** (Hollingsworth) h^waraj *honte, déshonneur*
- 5) **Proto-Lamang** *h^wila shame *honte* 5.1) **Hdi** (Bramlett) hula shame *la honte*
- 6) **Proto-Gidar** *wili shame *honte* 6.1) **Gidar** (Hungerford) wili *honte*

h^wid n. stomach *ventre* (9 groups, 29 languages) B

The basic sense of this root is the interior of the belly, i.e. the lower part of the abdomen, and in particular the stomach. In some languages the word is used in prepositional constructions to mean 'inside something'. The *h^w is retained in most groups, but has the reflex *w in Proto-Maroua, Proto-Musgum and Dugwor, which is a common sporadic change. The *d has the reflex *r in Ga'anda, Mbazla and Proto-Musgum, which is an unestablished change. This is also a regular change word-finally for several Higi group languages, as is the loss of final consonants. The *i is reconstructed from the evidence from Proto-Tera, Proto-Lamang and Proto-Higi.

- 1) **Proto-Mafa** *h^wad belly *ventre* 1.1) **Mafa** (Ndokobai) h^wad *ventre* 1.2) **Cuvok** (Gravina) h^wad abdomen (external) *estomac, abdomen (externe)* 1.2.1) **Cuvok** (Gravina) lam da h^wad stomach (internal) *ventre (interne)*
- 2) **Proto-Tera** *h^wira belly *ventre* 2.1) **Ga'anda** (Gwaji) h^wira stomach
- 3) **Proto-Sukur** *h^wid belly *ventre* 3.1) **Sukur** (David) yud belly 3.2) **Sukur** (Thomas) hud stomach; belly:- some body with a big stomach either man or woman.
- 4) **Proto-Mandara** *h^widī belly *ventre* 4.1) **Matal** (Branger) h^wad belly *ventre* 4.2) **Podoko** (Swackhammer) huda,-ə 1 *ventre* 4.2.1) **Podoko** (Swackhammer) huda,-ə 2 *intérieur* 4.3) **Mandara** (Fluckiger) hude *ventre (m), intérieur (m), entrailles (f. pl.)* 4.4) **Malgwa** (Löhr) hude stomach 4.5) **Glavda** (Nghagyiva) xuda stomach (internal) 4.5.1) **Glavda** (Owens) x^wad belly 4.6) **Dghwede** (Frick) x^wt'e belly
- 5) **Proto-Mofu** *h^wid belly *ventre* 5.1) **Ouldeme** (Kinnaird) hurad stomach *ventre* 5.2) **Muyang** (Smith) hud belly ; interior ; underide *ventre; dessous* 5.3) **Mada** (Nkoumou) hod *ventre (interne)* 5.3.1) **Mada** (Nkoumou) hod *ventre (interne)* 5.4) **Moloko** (Friesen) hod stomach *ventre* 5.5) **Zulgo** (Haller) hud *ventre m.* 5.5.1) **Zulgo** (Haller) huf *ventre m.* 5.6) **Gemzek** (Sabatai) hud *sein* 5.6.1) **Gemzek** (Sabatai) hod *le sein* 5.7) **Merey** (Gravina) hud *ventre* 5.8) **Dugwor** (Jubumna) wad stomach (internal) *ventre (interne)* 5.8.1) **Dugwor** (Jubumna) wad (taseve) abdomen (external) *estomac, abdomen (externe)* 5.9) **Mofu North** (Barreteau) h^wad *ventre* 5.9.1) **Mofu North** (Barreteau) h^wad *ventre* 5.10) **Mofu-Gudur** (Hollingsworth) h^wad stomach *ventre* 5.10.1) **Mofu-Gudur** (Hollingsworth) h^wad *intérieur, centre*
- 6) **Proto-Maroua** *wuru belly *ventre* 6.1) **Mbazla** (Tourneux) wuru *ventre* 6.1.1) **Mbazla** (SILSurvey) awurù belly *ventre*
- 7) **Proto-Lamang** *hudī belly *ventre* 7.1) **Lamang** (Wolff) xudí belly, inside 7.2) **Hdi** (Bramlett) hufi abdomen *le ventre*

- 8) **Proto-Higi** *h^wid belly *ventre* 8.1) **Kamwe-Nkafa** (Harley) h^wí stomach 8.2) **Kamwe-Futu** (Harley) h^wi stomach (internal) 8.3) **Kirya** (Blench) h^wúr stomach 8.4) **Bana** (Lienhard) x^wér *ventre, gressesse*
- 9) **Proto-Musgum** *war belly *ventre* 9.1) **Vulum** (Tourneux) war *ventre* 9.2) **Mbara** (Tourneux) war belly

h^wisis nf. hedgehog *hérisson* (6 groups, 15 languages) C

The initial *h^w has become *w in Proto-Hurza and Margi, *u in Proto-Mandara, and has developed into the labialisation prosody in Mbuko and Gemzek, with or without the *h component. It has become *h in Proto-Higi and has been lost in several languages of the Mofu group. These are all common sporadic changes. The /f/ in Kirya could be a development of *h, or the root could be unrelated. In Buwal, Merey and Mofu North there is evidence for a glottal consonant in the word. The form that we have reconstructed could be a reflex of a reduplicated form such as *h^wisa-h^wisa. If there was a glottal consonant, the original root may have been *h^wisad, with the other forms coming from simplified versions of the reduplicated root. More data is needed to clarify this.

- 1) **Proto-Daba** *h^wasasaɓ hedgehog *hérisson* 1.1) **Buwal** (Viljoen) h^wasasaɓ cane rat, cutting grass, grass cutter *hérisson*
- 2) **Proto-Hurza** *wisa hedgehog *hérisson* 2.1) **Mbuko** (Gravina) usos hedgehog *hérisson* 2.2) **Vame** (Kinnaird) āwúfāwúfà hedgehog *hérisson*
- 3) **Proto-Margi** *h^wisi hedgehog *hérisson* 3.1) **Bura** (Blench) h^wisa Hedgehog Erinaceus albiventris *hérisson* 3.2) **Margi** (Hoffman) wisə hedgehog *hérisson*
- 4) **Proto-Mandara** *ususa hedgehog *hérisson* 4.1) **Mandara** (Fluckiger) úsusa *hérisson (m)* 4.2) **Malgwa** (Löhr) ususa hedgehog *hérisson*
- 5) **Proto-Mofu** *h^wasis hedgehog *hérisson* 5.1) **Ouldeme** (Kinnaird) āsás hedgehog *hérisson* 5.2) **Muyang** (Smith) asus hedgehog *hérisson* 5.3) **Zulgo** (Haller) asús *hérisson m.* 5.4) **Gemzek** (Sabatai) hosos cane rat, cutting grass, grass cutter *hérisson* 5.5) **Merey** (Gravina) dasus cane rat, cutting grass, grass cutter *hérisson* 5.6) **Mofu North** (Barreteau) ?ō?ōs *hérisson*
- 6) **Proto-Higi** *hasisi hedgehog *hérisson* 6.1) **Kirya** (Blench) fīsà hedgehog *hérisson* 6.2) **Bana** (Lienhard) xàsósə *hérisson*

h^widifil ^y nm., v. cough *tousser* (14 groups, 33 languages) B *rel. to: g^widifil*.

This root may represent the noun or the verb. It is related to the root for 'belch', with belching being a voiced version of coughing. The root is difficult to reconstruct. The initial *h^w is retained in Proto-Mandara and Proto-Musgum, has the reflex *w in Proto-Mafa, Proto-Kotoko South and Proto-Gidar., and in Proto-Maroua the reflex is *h. These are all common sporadic changes. In Proto-Tera it has the reflex *k^w, which is an unestablished change. In Mbuko, the *h^w is lost, and triggers the compensatory reduplication of /ɓ/. The *d is lost in many groups, also triggering compensatory reduplication in languages of the Meri sub-group. Loss of these consonants and the resulting compensatory reduplication is a common sporadic process. In Proto-Sukur, Proto-Maroua and Proto-Gidar *d has the reflex *r, which is an unestablished change. In other groups the glottal component has fused with the reflex of *h^w. In Bura *w and *d have fused to give *ɓ→b. The same process of *w + *d→ɓ has taken place in Muyang and Moloko. In Kilba the process is *w + *d→ʔ^w. These are common sporadic processes. In Zina the *d was affected by the palatalisation prosody at some earlier time, resulting in the regular *d^l→j. In the Higi group, the change is *d^l→ʔ^l. In Mpade *h^w has become *k^w (an unestablished change), and this has fused with *d to form the ejective /k^w/. *ɗ has the regular reflex *ɓ in the South sub-group, though Mafa has the irregular reflex /ɗ/. There are also regular changes in Mpade *ɗ→ɓ, in Mser and Zina *ɗ→s, and in Mandara, Malgwa and Glavda *ɗ^l→h^l. The palatalisation prosody is retained in several groups. There are also several instances where sporadic metathesis has taken place.

- 1) **Proto-Mafa** *wiɗa cough *toux* 1.1) **Mafa** (Ndokobai) wuɗa *toux*
- 2) **Proto-Tera** *k^wiɗa cough *toux* 2.1) **Tera** (Newman) kuɗa cough 2.2) **Nyimatli** (Harley) kuɗa cough (v)
- 3) **Proto-Sukur** *ɓar ^y cough *tousser* 3.1) **Sukur** (Thomas) ɓjar cough; to force out air suddenly and noisily through your throat, for when you have a cold.
- 4) **Proto-Hurza** *ɓiɗah ^y cough *toux* 4.1) **Mbuko** (Gravina) ɓɛɗe(h) cough *toux*
- 5) **Proto-Margi** *widɗa cough *toux* 5.1) **Bura** (Blench) buɗa Cough 5.1.1) **Bura** (Blench) buɗa To cough 5.2) **Kilba** (Schuh) 'uɗa/a cough(ing)
- 6) **Proto-Mandara** *h^wiɗah ^y cough *toux* 6.1) **Matal** (Branger) mabɛɗəh^waj cough *tousser* 6.2) **Podoko** (Swackhammer) kuɗaha *tousser* 6.3) **Mandara** (Fluckiger) uɗja *tousser* 6.4) **Malgwa** (Löhr) ŋ^wiɗja cough 6.5) **Glavda** (Nghagyiva) wuɗga cough (v) 6.6) **Dghwede** (Frick) wuɗaxa to cough
- 7) **Proto-Mofu** *h^widifil ^y cough *toux* 7.1) **Proto-Tokombere** *widɗaj cough *toux* 7.2) **Ouldeme** (Kinnaird) dɗaj cough *tousser* 7.3) **Muyang** (Smith) bɗaj cough *tousser* 7.4) **Moloko** (Friesen) bɗaj cough *tousser* 7.5) **Proto-Meri** *diɗah ^y cough *toux* 7.6) **Zulgo** (Haller) ɗɗah *toux f.* 7.7) **Gemzek** (Sabatai) mege ɗɗah cough (v) *tousser* 7.8) **Merey** (Gravina) ɗɗeh cough (v) *tousser* 7.9) **Dugwor** (Jubumna) megej ɗɗe cough (v) *tousser*
- 8) **Proto-Maroua** *hirɗa ^y cough *toux* 8.1) **Giziga Moutourwa** (Michielan) hirɗe *toux, tuberculose* 8.2) **Giziga Marva** (Hamidou) gi irɗe cough (v) *tousser*

- 9) **Proto-Higi** *ʔiɬa cough *toux* 9.1) **Kamwe-Nkafa** (Harley) ʔjáá Cough 9.1.1) **Kamwe-Nkafa** (Harley) ʔjathla cough 9.2) **Kamwe-Futu** (Harley) tsaiɬa cough 9.3) **Psikye** (Angelo) ʔjiá cough 9.4) **Bana** (Lienhard) ʔjiá *la toux, la grippe, le catarrhe*
- 10) **Proto-Kotoko North** *h^widiɬa cough *toux* 10.1) **Afade** (Allison) diɬa; diɬaun cough (v) *tousser* 10.2) **Mpade** (Allison) là k^wàʃán cough (v) *tousser* 10.2.1) **Mpade** (Allison) k^wàʃán cough *toux* 10.3) **Malgbe** (Allison) daɬawun; daɬa cough (v) *tousser*
- 11) **Proto-Kotoko Centre** *widɬa cough *toux* 11.1) **Lagwan** (Allison) uɬawun cough (v) *tousser* 11.2) **Mser** (Allison) dasa cough (v) *tousser*
- 12) **Proto-Kotoko South** *wasja cough *toux* 12.1) **Zina** (Odden) wàsjà cough (v) *tousser*
- 13) **Proto-Musgum** *h^waɬ cough *toux* 13.1) **Mulwi** (Tourneux) huɬi *tousser* 13.1.1) **Mulwi** (Tourneux) hoɬ *toux* 13.2) **Mbara** (Tourneux) ʔoɬ cough
- 14) **Proto-Gidar** *wirɬa cough *tousser* 14.1) **Gidar** (Hungerford) idiwərɬa *tousser, toux*

h^wip nf. tree *arbre* (9 groups, 24 languages) A

The initial *h^w has been retained in Proto-Mandara and Proto-Mofu. In Proto-Mafa, Proto-Sukur, Proto-Lamang, Proto-Higi and Proto-Kotoko South it has the reflex *w. In Proto-Bata, Proto-Margi and some of the Higi group languages, the *h^w has been lost and the labialisation has transferred onto *p. These are common sporadic processes. The /n/ prefix in Podoko and Mandara and the /ma/ prefix in Zina are compensation for the lost *h^w. Proto-Central Chadic *p was realised as [f] in word-final position, and this has led to the phonemicization of *f in the group proto-languages.

- 1) **Proto-Bata** *f^wiɣi tree *arbre* 1.1) **Gude** (Hoskinson) ən^wá - ə tree 1.1.1) **Gude** (Hoskinson) uf 1.2) **Jimi** (Djibi) f^wən *Nom général de l'arbre*. 1.3) **Sharwa** (Gravina) f^wəgə *Arbre* 1.4) **Tsuvan** (Johnston) f^wege *l'arbre*
- 2) **Proto-Mafa** *waf tree *arbre* 2.1) **Mafa** (Barreteau) wáf *arbre*
- 3) **Proto-Sukur** *fwaj tree *arbre* 3.1) **Sukur** (David) fwoj tree 3.2) **Sukur** (Thomas) fwai tree; is the general term for tree.
- 4) **Proto-Margi** *f^wi tree *arbre* 4.1) **Bura** (Blench) n^wa Tree 4.2) **Margi** (Hoffman) wu tree 4.3) **Kilba** (Schuh) wa tree
- 5) **Proto-Mandara** *h^wifa tree *arbre* 5.1) **Matal** (Branger) āhàf tree *arbre* 5.2) **Podoko** (Swackhammer) nafá,-ə 1 *arbre* 5.2.1) **Podoko** (Swackhammer) nafá,-ə 2 *bois* 5.2.2) **Podoko** (Swackhammer) nafá,-ə 3 *médicament indigène* 5.3) **Mandara** (Fluckiger) nafá *arbre (m)* 5.4) **Glavda** (Owens) u tree 5.4.1) **Glavda** (Nghagyiva) ù:fa tree 5.5) **Dghwede** (Frick) ʔufa tree
- 6) **Proto-Mofu** *h^waf tree *arbre* 6.1) **Muyang** (Smith) haf medicine *remède* 6.1.1) **Muyang** (Smith) haf tree *arbre* 6.2) **Dugwor** (Jubumna) h^waf tree *arbre*
- 7) **Proto-Lamang** *fwi tree *arbre* 7.1) **Lamang** (Wolff) ufu tree 7.2) **Hdi** (Bramlett) fu tree *l'arbre*
- 8) **Proto-Higi** *wifɬi tree *arbre* 8.1) **Kamwe-Nkafa** (Harley) f^wə tree 8.1.1) **Kamwe-Nkafa** (Harley) f^wə tree 8.1.2) **Kamwe-Nkafa** (Harley) f^wá Plant 8.2) **Kamwe-Futu** (Harley) f^wo tree 8.3) **Kirya** (Blench) f^wə tree in general 8.4) **Psikye** (Angelo) wufá tree 8.5) **Bana** (Lienhard) fá *arbre*

9) **Proto-Kotoko South** *mafwi tree *arbre* 9.1) **Zina** (Odden) màfù tree *arbre*

h^wipid v. bite *mordre* (5 groups, 15 languages) B **cf:** zim; **syn:** dzaj.

The basic sense of this verb is to bite or chew solid food items. Proto-Central Chadic *p was realised as [p] in word-medial position, and this is the form found in all the data. *p has the reflexes *b in Proto-Margi and /^mb/ in Mofu-Gudur, which are unestablished changes. The *h^w is retained in the Mandara group, and has the reflexes /h/ in Proto-Mofu and /x/ in Lamang, which are common sporadic changes.

- 1) **Proto-Hurza** pij eat *manger* 1.1) **Mbuko** (Gravina) pa eat *manger* 1.2) **Vame** (Kinnaird) píyā eat *manger*
- 2) **Proto-Margi** *bdī bite *mordre* 2.1) **Bura** (Blench) bda, bdi To chew; to eat (when chewing is necessary) 2.2) **Margi** (Hoffman) bdfā chew
- 3) **Proto-Mandara** *h^wipada bite *mordre* 3.1) **Podoko** (Swackhammer) upadā 1 *mâcher, manger* 3.2) **Malgwa** (Löhr) ukpada chew with teeth 3.3) **Glavda** (Nghagyiva) xūpádf^oga chew
- 4) **Proto-Mofu** *hipid bite *mordre* 4.1) **Ouldeme** (Kinnaird) pad eat meat or something hard *croquer; manger la viande ou qqch de dure* 4.2) **Muyang** (Smith) hāpəf eat (meat) *manger ce qui est dur, mâcher* 4.3) **Moloko** (Friesen) pad bite; chew *croquer; mordre* 4.4) **Zulgo** (Haller) papəf *manger (viande et des choses croquantes)* 4.5) **Gemzek** (Sabatai) mehāpəfē chew *mâcher* 4.6) **Merey** (Gravina) hāpəf chew *manger, mâcher, croquer* 4.7) **Dugwor** (Jubumna) mēpəfēj ba bite (v) *mordre* 4.7.1) **Dugwor** (Jubumna) mēpəfēj (golgovaŋ) strike (snake) *mordre, piquer (serpent)* 4.8) **Mofu-Gudur** (Hollingsworth) há^mbəf *croquer, mâcher; faire mal (à la tête, aux articulations)*
- 5) **Proto-Lamang** *xpada bite *mordre* 5.1) **Lamang** (Wolff) xpada bite, chew

h^wirip nf. grain *semence* (9 groups, 24 languages) A

The basic meaning of this root is probably millet grain. This root is consistent across Central Chadic, whereas there are several roots for the millet plant. It is likely that the Central Chadic peoples were pastoralists rather than agriculturalists, so the root meaning would refer to the grain as a food stuff obtained through trade rather than as seed for sowing. The initial *h^w is retained in all groups, but has the unestablished reflex *g^w in Proto-Kotoko North. The *r has become *l in all languages of the North sub-branch, as part of a regular change. The similar change in Cuvok is also regular. Dghwede and Mofu-Gudur - two very distant languages - both have a final /d/, and several Mofu group languages and Cuvok show evidence of a final /j/, which is often a reflex of *d under palatalisation. This may imply that the root was in fact *h^wiripid, though more data is needed to establish this. *p was realised as [f] in word-final position in Proto-Central Chadic, and this is retained in all groups.

- 1) **Proto-Bata** *h^wirifi seed *semence* 1.1) **Jimi** (Djibi) hurəfən 1 - *Race*; 2 - *Semence*
- 2) **Proto-Mafa** *h^warfej seed *semence* 2.1) **Cuvok** (Gravina) h^walfej seed *graine, semence*
- 3) **Proto-Margi** *h^wilfi seed *semence* 3.1) **Bura** (Blench) h^wulfa Seed (for planting) 3.1.1) **Bura** (Blench) hulfu Seed for planting

- 4) **Proto-Mandara** *h^wilfiɖi seed *semence* 4.1) **Matal** (Branger) fafləw, faflu grain *semence* 4.2) **Podoko** (Swackhammer) hələpa,-ə *semence*; *qualité* 4.3) **Malgwa** (Löhr) hulfe seed 4.4) **Glavda** (Nghagyiva) xùlfa seed 4.4.1) **Glavda** (Owens) x^wál seed 4.5) **Dghwede** (Frick) xulfət'e seed
- 5) **Proto-Mofu** *h^wilfaɖ^y seed *semence* 5.1) **Ouldeme** (Kinnaird) hēlēfē grain ; seed *graine* ; *semence* 5.1.1) **Ouldeme** (Kinnaird) hēlēfē family *famille* 5.2) **Mada** (Nkoumou) hoelfe *descendance*, *semence*, *espèce* 5.3) **Moloko** (Friesen) həlfe seed *semence* 5.4) **Zulgo** (Haller) h^wilfé *semence f.* 5.5) **Gemzek** (Sabatai) hulfe seed *graine*, *semence* 5.6) **Merey** (Gravina) hulfe seed *graine*, *semence* 5.6.1) **Merey** (Gravina) hulfe *semence* 5.7) **Dugwor** (Jubumna) həlfe seed *graine*, *semence* 5.8) **Mofu North** (Barreteau) hálfa^w *semence* 5.9) **Mofu-Gudur** (Hollingsworth) húlfaɖ *semence* ; (*sens fig.*) *enfant*
- 6) **Proto-Maroua** *h^wilfa seed *semence* 6.1) **Giziga Marva** (Hamidou) hulfa seed *graine*, *semence*
- 7) **Proto-Lamang** *hulfa seed *semence* 7.1) **Lamang** (Wolff) hulfa seed 7.2) **Hdi** (Bramlett) hulfa grain / seed *la semence*
- 8) **Proto-Higi** *h^wilifi seed *semence* 8.1) **Kamwe-Futu** (Harley) hulof^wo seed 8.2) **Psikye** (Angelo) fólax^wé seed 8.3) **Bana** (Lienhard) x^wálfé *semence*
- 9) **Proto-Kotoko North** *g^wilfan seed *semence* 9.1) **Mpade** (Allison) gulfan seed *graine*, *semence*

h^witaɖ^y nf. skin *peau* (5 groups, 9 languages) B

The meaning of this root is the skin of a human or an animal. *h^w is realised as /g^w/ in Mbuko (an unestablished change). The *ɖ has been lost in all but two languages, which is a common sporadic process.

- 1) **Proto-Mafa** *h^witaɖ^y skin *peau* 1.1) **Mafa** (Barreteau) hutéɖ *peau*
- 2) **Proto-Hurza** *g^wita skin *peau* 2.1) **Mbuko** (Gravina) guta hide, skin *peau (déjà travaillée)*; *la corde faite d'une peau*
- 3) **Proto-Mofu** *h^witaɖ^y skin *peau* 3.1) **Mofu-Gudur** (Hollingsworth) huted *cuir*, *ceinture de cuir* ; *morceau de peau*
- 4) **Proto-Lamang** *h^wita skin *peau* 4.1) **Hdi** (Bramlett) huta skin *la peau*
- 5) **Proto-Higi** *h^wəta skin *peau* 5.1) **Kamwe-Nkafa** (Harley) wtá skin 5.2) **Kamwe-Futu** (Harley) wta skin (of man) 5.3) **Kirya** (Blench) twá skin 5.4) **Psikye** (Angelo) x^wəta skin 5.5) **Bana** (Lienhard) x^wtá *peau*, *cuir*

h^witif num. five *cinq* (4 groups, 14 languages) B *syn*: **ɣidim**, **ɬensi**.

This is one of three widely attested roots for 'five'. It is found in the groups of the Nigerian Plains. Proto-Central Chadic had no *f, but *p was realised as [f] in word-final position. If this root comes from Proto-Central Chadic, then the final consonant would be *p. However it is more likely that this root originated later, at a time when the *p/*f distinction had been phonemicized, and for this reason the final consonant is given as *f. The initial *h^w is retained only in the Lamang group. In Proto-Higi it has the reflex *w. In the Bata and Margi groups, the labialisation component has transferred to the *f, from where it has become vocalised. These are common sporadic changes. The *t has become *ts in Proto-Higi, which is an irregular change, and this has been palatalised by the following *i. There is metathesis of *w and *ts in the two Kamwe dialects, a sporadic process.

- 1) **Proto-Bata** *tif^w five *cinq* 1.1) **Bata** (Boyd) tuf five 1.2) **Gude** (Hoskinson) tufə five 1.3) **Jimi** (Djibi) tef^{wə} *Cinq* 5 1.4) **Sharwa** (Gravina) təf, təkə *Cinq*, *cinquième*
- 2) **Proto-Margi** *tif^w five *cinq* 2.1) **Bura** (Blench) ntufu Five 2.2) **Margi South** (Harley) təffu five 2.3) **Kilba** (Schuh) təfu/u five
- 3) **Proto-Lamang** *h^witaf five *cinq* 3.1) **Lamang** (Wolff) x^wtáfá five 3.2) **Hdi** (Bramlett) hutaf five *cinq*
- 4) **Proto-Higi** *witsⁱifi five *cinq* 4.1) **Kamwe-Nkafa** (Harley) ntʃùfə Five 4.2) **Kamwe-Futu** (Harley) mtʃwafə five 4.3) **Kirya** (Blench) ntʃifə five 4.4) **Psikye** (Angelo) mtʃéfə five 4.4.1) **Psikye** (Angelo) mtʃèf five 4.5) **Bana** (Lienhard) tʃif[(ə) *cinq*

h^witsin ^y nm. nose *nez* (15 groups, 52 languages) A

This is one of the most widely attested Central Chadic roots, and is absent from the data only in the Tera, Musgum and Gidar groups. The initial *h^w is retained in several groups. In the Giziga languages the labialisation component has become the labialisation prosody, and in several other groups the labialisation component has been dropped. The *h^w has been lost completely in a number of languages, and this has led to compensatory prefixation in Proto-Daba. These are all common sporadic processes. The *ts has the reflex *t in Proto-Mandara, Proto-Mofu and Proto-Maroua. However we would expect the reflex *t in Proto-Bata and Proto-Lamang, but not in the proto-languages where it is found in the data. *ts has the regular reflex *s in Proto-Kotoko Centre and Proto-Sukur. The final *n has become *r in the languages of the Margi-Mandara-Mofu major group as part of a regular change. The palatalisation prosody is present in all groups where it is expected, except for the Mafa group.

- 1) **Proto-Bata** *tsini ^y nose *nez* 1.1) **Bata** (Boyd) ʃine nose 1.2) **Gude** (Hoskinson) ʃiná -ə nose 1.3) **Jimi** (Djibi) ʃənən *Nez* 1.4) **Sharwa** (Gravina) tʃinə *nez* 1.5) **Tsvan** (Johnston) mətʃine *le nez*
- 2) **Proto-Daba** *mitsin ^y nose *nez* 2.1) **Buwal** (Viljoen) mtʃar nose *nez* 2.2) **Gavar** (Viljoen) mtsər nose *nez* 2.3) **Mbudum** (Ndokobai) ntʃur nose *nez* 2.4) **Daba** (Lienhard) mɪtʃɪn *le nez*
- 3) **Proto-Mafa** *hitsan nose *nez* 3.1) **Mafa** (Barreteau) hótʃán *nez* 3.2) **Cuvok** (Gravina) hətaŋ nose *nez*
- 4) **Proto-Sukur** *sin ^y nose *nez* 4.1) **Sukur** (David) ʃin nose 4.2) **Sukur** (Thomas) ʃin nose
- 5) **Proto-Hurza** *h^witsan ^y nose *nez* 5.1) **Mbuko** (Gravina) tʃœn nose *nez* 5.2) **Vame** (Kinnaird) hətʃɛŋ nose *nez*

- 6) **Proto-Margi** *h^witsir^y nose *nez* 6.1) **Margi** (Hoffman) mtʃir nose 6.2) **Margi South** (Hoffman) tʃir nose 6.3) **Kilba** (Hoffman) tʃir nose 6.3.1) **Kilba** (Schuh) tʃir nose 6.4) **Bura** (Blench) kutʃir Nose
- 7) **Proto-Mandara** *hitiri^y nose *nez* 7.1) **Matal** (Branger) ʃir nose *nez* 7.2) **Podoko** (Swackhammer) fətəra,-ə *nez* 7.3) **Mandara** (Fluckiger) ektare *nez* 7.4) **Malgwa** (Löhr) əktare nose 7.5) **Glavda** (Owens) xátə nose 7.5.1) **Glavda** (Nghagyiva) x^ɔtra nose 7.6) **Dghwede** (Frick) xtire nose
- 8) **Proto-Mofu** *h^witir^y nose *nez* 8.1) **Ouldeme** (Kinnaird) hūⁿdār nose *nez* 8.2) **Muyang** (Smith) hiⁿdir nose *nez* 8.3) **Mada** (Nkoumou) hⁿdoer *nez* 8.4) **Moloko** (Friesen) həⁿder *nez* 8.5) **Zulgo** (Haller) hitir *nez m.* 8.6) **Gemzek** (Sabatai) həter nose *nez* 8.7) **Merey** (Gravina) həter nose *nez* 8.8) **Dugwor** (Jubumna) məter nose *nez* 8.9) **Mofu North** (Barreteau) hətār *nez* 8.10) **Mofu-Gudur** (Hollingsworth) heter nose *nez ; trompe (de l'éléphant)*
- 9) **Proto-Maroua** *hitin^w, kitiŋ^y nose *nez* 9.1) **Giziga Moutourwa** (Michielan) hutuŋ *nez* 9.2) **Giziga Marva** (Hamidou) huton nose *nez* 9.3) **Mbazla** (Tourneux) kitiŋ *nez* 9.3.1) **Mbazla** (SILSurvey) kitiŋ nose *nez*
- 10) **Proto-Lamang** *hitsiŋ nose *nez* 10.1) **Lamang** (Wolff) xtsínì nose 10.1.1) **Lamang** (Wolff) htsiŋ nose 10.2) **Hdi** (Bramlett) hətsiŋ nose *le nez*
- 11) **Proto-Higi** *hitsjin nose *nez* 11.1) **Kamwe-Nkafa** (Harley) ntʃhi nose 11.2) **Kamwe-Futu** (Harley) ntʃi nose 11.3) **Kirya** (Blench) nʃín nose 11.4) **Bana** (Lienhard) kʃán *nez*
- 12) **Proto-Kotoko Island** *tsinaj nose *nez* 12.1) **Buduma** (McKone) tʃənaj nose *nez*
- 13) **Proto-Kotoko North** *tsihin nose *nez* 13.1) **Afade** (Allison) tsin nose *nez* 13.2) **Mpade** (Allison) hásan nose *nez* 13.3) **Maltam** (Allison) sin nose *nez* 13.4) **Malgbe** (Allison) skin nose *nez* 13.4.1) **Malgbe** (Allison) skare nose *nez*
- 14) **Proto-Kotoko Centre** *hisini nose *nez* 14.1) **Lagwan** (Allison) xsini nose *nez* 14.2) **Mser** (Allison) asin nose *nez*
- 15) **Proto-Kotoko South** *hitsine nose *nez* 15.1) **Zina** (Odden) hískíní nose *nez* 15.2) **Mazera** (Allison) hitʃine nose *nez*

j

ja nf. mother *mère* (6 groups, 10 languages) B **syn:** **mama**.

This root is borrowed from Kanuri, and is found only in the groups with close contact with Kanuri.

- 1) **Proto-Mandara** *ija mother *mère* 1.1) **Matal** (Branger) əja, ija mother *mère*
- 2) **Proto-Kotoko Island** *ji mother *mère* 2.1) **Buduma** (McKone) jaj *mère*. 2.2) **Buduma** (McKone) jə *mère*, yi. 2.3) **Buduma** (McKone) ji *mère* (s). 2.4) **Buduma** (McKone) ji; jaj mother *mère*
- 3) **Proto-Kotoko North** *ija mother *mère* 3.1) **Afade** (Allison) ija mother *mère* 3.2) **Mpade** (Allison) já mother *mère* 3.3) **Malgbe** (Allison) ija mother *mère*
- 4) **Proto-Kotoko Centre** *ija mother *mère* 4.1) **Lagwan** (Allison) ima; ija mother *mère* 4.2) **Mser** (Allison) ija; mi tirin mother *mère*
- 5) **Proto-Kotoko South** *ija mother *mère* 5.1) **Zina** (Odden) íjà mother *mère* 5.2) **Mazera** (Allison) ija mother *mère*
- 6) **Proto-Musgum** *?ija mother *mère* 6.1) **Mbara** (Tourneux) `ija mother *mère*
- 7) **Kanuri** já mother *mère*

k

kaligimo n. camel *chameau* (3 groups, 6 languages) A **syn:** ʔig^wami^y, ʔg^jaluba.

This root is a borrowing from the old Kanuri /kaligimo/, and is found in three of the Kotoko groups. There were no back vowels in these groups at an earlier point in their history, and this has led to the displacement of the back vowel next to velar consonants in Lagwan, Mser and Mazera. The back vowel was reanalysed as labialisation of the velar consonants, which then condition a following *i to be realised as [u].

- 1) **Proto-Kotoko North** *kilgimu camel *chameau* 1.1) **Afade** (Allison) girgimu camel *chameau* 1.2) **Mpade** (Allison) galdzìmò camel *chameau* 1.3) **Maltam** (Allison) girdzimu camel *chameau*
- 2) **Proto-Kotoko Centre** *k^wirg^wima camel *chameau* 2.1) **Lagwan** (Allison) kurguma camel *chameau* 2.2) **Mser** (Allison) gurguma camel *chameau*
- 3) **Proto-Kotoko South** *k^wirg^wima camel *chameau* 3.1) **Mazera** (Allison) kurguma camel *chameau*
- 4) **Kanuri** kalímo; kalímo ng^wáana / kàlíímò // kàligímò camel *chameau*

kasi num. two *deux* (3 groups, 5 languages) B **syn:** biwak, tsijiw, siwra₁.

This root is found in the Kotoko Island, North and Centre groups, but not Kotoko South. The change *s→x in Buduma is regular. The *k has reflexes *k, *g and *x, which are unestablished changes.

- 1) **Proto-Kotoko Island** *kihi two *deux* 1.1) **Buduma** (McKone) kixi two (2) *deux* (2) 1.2) **Buduma** (McKone) kixi *deux*.
- 2) **Proto-Kotoko North** *gasi two *deux* 2.1) **Afade** (Allison) gasi two (2) *deux* (2) 2.2) **Mpade** (Allison) gàsì two (2) *deux* (2)
- 3) **Proto-Kotoko Centre** *xisa two *deux* 3.1) **Lagwan** (Allison) xsífa two (2) *deux* (2) 3.2) **Mser** (Allison) kitfo two (2) *deux* (2)

katakam n. mouse *mouse* (3 groups, 4 languages) B **syn:** k^wihim, k^wisim.

This root is found in a few languages in the south-eastern part of the Central Chadic area. The labialisation prosody in Proto-Maroua is a common sporadic innovation in that language.

- 1) **Proto-Daba** *katakam mouse *souris* 1.1) **Daba** (Lienhard) kàtàkàm *la souris de la maison*
- 2) **Proto-Maroua** *katakam^w mouse *souris* 2.1) **Giziga Moutourwa** (Michielan) kotokom *souris* 2.1.1) **Giziga Moutourwa** (Michielan) kotokom *plante* 2.2) **Giziga Marva** (Hamidou) kotokom rat *rat* 2.2.1) **Giziga Marva** (Hamidou) kotokom mouse *souris*
- 3) **Proto-Gidar** *katkam mouse *souris* 3.1) **Gidar** (Schuh) katkam *rat* 3.2) **Gidar** (Hungerford) katkam *souris, rat*

kidim nm. crocodile *crocodile* (11 groups, 33 languages) C *syn: rigi*.

This well-attested root is surprisingly difficult to reconstruct. It is probably borrowed from Nilo-Saharan at an early stage of the history of Central Chadic, but does not come directly from the Kanuri 'karam'. The initial *k has the unestablished reflexes *g in Mbuko and some of the Mofu group languages, and *h in Proto-Musgum. *d is reconstructed as the second consonant. There was a change of word-medial *d→r in the North sub-branch, though the *d is not retained in Proto-Bata or Proto-Sukur. The presence of *d coincides with the presence of *g. The original root may have been *gīdim, and developed into *kīrim in the North sub-branch, and then the two competing roots spread between languages at a later stage. Alternatively, two different cognates may have been borrowed into Central Chadic from different directions. In Proto-Mandara, the final *m has become *w as part of a regular change.

- 1) **Proto-Bata** *kīrim crocodile *crocodile* 1.1) **Gude** (Hoskinson) kárámá -ə crocodile 1.2) **Jimi** (Djibi) kərəmən *Crocodile*
- 2) **Proto-Mafa** *kīrdam, gīdam crocodile *crocodile* 2.1) **Mafa** (Ndokobai) kərđam *crocodile* 2.2) **Cuvok** (Gravina) gəđam crocodile *crocodile*
- 3) **Proto-Sukur** *kīlīm crocodile *crocodile* 3.1) **Sukur** (David) kəlūm crocodile 3.2) **Sukur** (Thomas) kələm crocodile; a large reptile with a long tail, hard skin, big jaws and lives in rivers.
- 4) **Proto-Hurza** *gīdam crocodile *crocodile* 4.1) **Mbuko** (Gravina) gəđam crocodile *crocodile*
- 5) **Proto-Margi** *hīm, karam crocodile *crocodile* 5.1) **Margi** (Hoffman) həm crocodile 5.2) **Margi South** (Harley) həm crocodile 5.3) **Kilba** (Schuh) karam crocodile
- 6) **Proto-Mandara** *kīrwi ^y crocodile *crocodile* 6.1) **Matal** (Branger) k^wədəw, kudu crocodile *crocodile* 6.2) **Mandara** (Fluckiger) kjérrúe *caïman (m), crocodile, alligator* 6.3) **Malgwa** (Löhr) kirwe crocodile 6.4) **Glavda** (Nghagyiva) kírwa crocodile 6.4.1) **Glavda** (Owens) kír crocodile
- 7) **Proto-Mofu** *kīrim, gīdam crocodile *crocodile* 7.1) **Muyang** (Smith) kur^mbu Nile crocodile *crocodile* 7.2) **Mada** (Nkoumou) akrám crocodile 7.3) **Moloko** (Friesen) kəra^mba crocodile *cayman crocodile* 7.4) **Zulgo** (Haller) kərəm crocodile *m.* 7.5) **Gemzek** (Sabatai) kəram crocodile *crocodile* 7.6) **Merey** (Gravina) gəđam crocodile *crocodile* 7.7) **Dugwor** (Jubumna) gəđam crocodile *crocodile* 7.8) **Mofu North** (Barreteau) gəđəm crocodile 7.9) **Mofu-Gudur** (Hollingsworth) gədem crocodile
- 8) **Proto-Maroua** *hīrim ^w crocodile *crocodile* 8.1) **Giziga Moutourwa** (Michielan) hurum *caïpman, crocodile* 8.2) **Giziga Marva** (Hamidou) hurom crocodile *crocodile* 8.3) **Mbazla** (Tourneux) hurum crocodile
- 9) **Proto-Lamang** *kīram crocodile *crocodile* 9.1) **Lamang** (Wolff) kəram crocodile 9.2) **Hdi** (Bramlett) kəram crocodile *le crocodile*
- 10) **Proto-Higi** *kīlīm crocodile *crocodile* 10.1) **Kamwe-Nkafa** (Harley) kálímí crocodile 10.2) **Kamwe-Futu** (Harley) kələmə^g crocodile 10.3) **Kirya** (Blench) həlémé crocodile 10.4) **Bana** (Lienhard) kəlám^b crocodile, *claman*
- 11) **Proto-Musgum** *hīrim ^w crocodile *crocodile* 11.1) **Vulum** (Tourneux) horum crocodile 11.2) **Mbara** (Tourneux) hurum crocodile *crocodile*
- 12) **Kanuri** kárám crocodile *crocodile*

kija nm. moon *lune* (7 groups, 23 languages) A *syn*: **tira**.

The basic sense of this root is 'moon', but it has the extended sense 'month' i.e. a period of time, in almost all languages. This is one of two roots for 'moon', with *tira being used widely across Chadic languages. The *k is realised as *h in Proto-Margi, an unestablished change, and also in Zina where this is a regular change. In some Mofu group languages the *j has triggered the creation of the palatalisation prosody, which is a common sporadic process.

- 1) **Proto-Mafa** *kija moon *lune* 1.1) **Mafa** (Barreteau) kija *lune* 1.2) **Cuvok** (Gravina) kija moon *lune* 1.2.1) **Cuvok** (Gravina) kija month *mois*
- 2) **Proto-Hurza** *kija moon *lune* 2.1) **Mbuko** (Gravina) kija moon; month *lune; mois* 2.2) **Vame** (Kinnaird) kija *hkhē* moon *lune* ; *mois*
- 3) **Proto-Margi** *hja moon *lune* 3.1) **Margi** (Hoffman) hja moon, month 3.2) **Margi South** (Harley) hja moon 3.3) **Kilba** (Schuh) hja moon, month
- 4) **Proto-Mofu** *kija moon *lune* 4.1) **Ouldeme** (Kinnaird) k^wijò moon *lune* 4.1.1) **Ouldeme** (Kinnaird) k^wijò month *mois* 4.2) **Muyang** (Smith) kiji moon ; month *lune; mois* 4.3) **Mada** (Nkoumou) màwɔ̀ràr já kja *clarté de la lune* 4.4) **Moloko** (Friesen) kəja moon *lune* 4.4.1) **Moloko** (Friesen) kəja month *mois* 4.5) **Zulgo** (Haller) kije *lune f.* 4.5.1) **Zulgo** (Haller) kije *mois m.* 4.6) **Gemzek** (Sabatai) kije month *mois* 4.6.1) **Gemzek** (Sabatai) kije moon *lune* 4.7) **Merey** (Gravina) kije month *mois; lune* 4.8) **Dugwor** (Jubumna) kija moon; month *lune; mois* 4.9) **Mofu North** (Barreteau) kija *lune, mois* 4.10) **Mofu-Gudur** (Hollingsworth) kijá *lune* 4.10.1) **Mofu-Gudur** (Hollingsworth) kijá *mois (lunaire)* 4.10.2) **Mofu-Gudur** (Hollingsworth) kijá *saison*
- 5) **Proto-Maroua** *kija moon *lune* 5.1) **Giziga Moutourwa** (Michielan) kija *lune, mois* 5.1.1) **Giziga Moutourwa** (Michielan) kija *début saison des pluies (IV-I)* 5.1.2) **Giziga Moutourwa** (Michielan) kija 5.2) **Giziga Marva** (Hamidou) kija moon *lune* 5.2.1) **Giziga Marva** (Hamidou) kija month *mois* 5.3) **Mbazla** (SILSurvey) kija *h* moon *lune* 5.3.1) **Mbazla** (Tourneux) kija *lune*
- 6) **Proto-Kotoko Island** *kija moon *lune* 6.1) **Buduma** (McKone) kija *mois, nouvelle lune.* 6.2) **Buduma** (McKone) kija; kija hə bohu month *mois*
- 7) **Proto-Kotoko South** *kija moon *lune* 7.1) **Zina** (Odden) hìjà moon *lune* 7.1.1) **Zina** (Odden) hìjà month *mois* 7.2) **Mazera** (Allison) kija moon *lune*

kilid n. broom *balai* (5 groups, 9 languages) D *syn*: **simit**^y, **sirik**^w.

This root is found in a mixed group of languages. This, and the variation in the reflexes, make it uncertain that these are all cognate. The word is undoubtedly an innovation that was not in use in Proto-Central Chadic.

- 1) **Proto-Daba** *ⁿkilid broom *balai* 1.1) **Buwal** (Viljoen) mɫad broom *balai* 1.2) **Gavar** (Viljoen) ŋkəɫəd broom *balai* 1.3) **Mbudum** (Ndokobai) ŋgəɫəd broom *balai*
- 2) **Proto-Margi** *ɫati broom *balai* 2.1) **Kilba** (Schuh) ɫata/ə broom
- 3) **Proto-Mandara** *maɫad broom *balai* 3.1) **Matal** (Branger) maɫad broom *balai*

- 4) **Proto-Kotoko North** *wiɪɪf broom *balai* 4.1) **Afade** (Allison) witso broom *balai* 4.2) **Mpade** (Allison) wós'ó broom *balai* 4.3) **Malgbe** (Allison) waɪi broom *balai*
- 5) **Proto-Musgum** *liha broom *balai* 5.1) **Muskum** (Tourneux) liha *balai*

kir v., n. steal *voler* (16 groups, 49 languages) B

This is one of the best attested roots in Central Chadic. Some of the entries are for the verb 'to steal', and some are for the nouns 'theft' and 'thief'. It is not clear which form is the basic root. The *k has the reflexes *h, *h^w, *ɣ and *ɣ^w, which are unestablished reflexes. No labialisation is reconstructed since the support comes only from an unusual reflex in Lagwan, and from the Giziga languages where sporadic labialisation is common. It is not clear whether the proto-form had *h or *k, but *k is preferred as *k→h is more common than the opposite change in Central Chadic. The *r has the regular reflex *l in the North sub-branch and Proto-Daba. The *r in Proto-Kotoko North is an exception. In a few languages *r has the reflex /d/, which is an unestablished change. There is some evidence for reconstructing *i, but the mix of noun and verb forms makes it difficult to reconstruct the vowels with confidence. For this reason the root is given the confidence level B rather than A.

- 1) **Proto-Bata** *hír steal *voler* 1.1) **Bata** (Boyd) hír steal 1.2) **Gude** (Hoskinson) harə steal. 1.3) **Jimi** (Djibi) hərən *Voler, dérober*; 1.4) **Sharwa** (Gravina) har *Voler, dérober* 1.4.1) **Sharwa** (Gravina) maharə, maharə'əkə *Voleur, euse* 1.5) **Tsvan** (Johnston) ahəlle *le voleur*
- 2) **Proto-Daba** *hil steal *voler* 2.1) **Buwal** (Viljoen) ŋhel steal *voler (dérober)* 2.1.1) **Buwal** (Viljoen) ŋhel thief *voleur* 2.1.2) **Buwal** (Viljoen) ŋhel theft *vol* 2.2) **Gavar** (Viljoen) ŋhəl steal *voler (dérober)* 2.2.1) **Gavar** (Viljoen) ŋhəl thief *voleur* 2.2.2) **Gavar** (Viljoen) ŋhəl theft 2.3) **Mbudum** (Ndokobaï) mihil theft *vol* 2.3.1) **Mbudum** (Ndokobaï) mihəl thief *voleur* 2.3.2) **Mbudum** (Ndokobaï) hil steal *voler (dérober)* 2.4) **Daba** (Lienhard) həl *faire; lutter; voler* 2.5) **MzagwayHidi** (Noussi) həl *vol*
- 3) **Proto-Mafa** *kir steal *voler* 3.1) **Cuvok** (Gravina) kəraw theft *il faut voler* 3.1.1) **Cuvok** (Gravina) kərej steal *voler (dérober)*
- 4) **Proto-Sukur** *kir steal *voler* 4.1) **Sukur** (David) kər steal, to 4.2) **Sukur** (Thomas) kər steal; to take something from a person permission or without intending to return it or pay for it.
- 5) **Proto-Hurza** *kíra steal *voler* 5.1) **Mbuko** (Gravina) akar theft *vol* 5.1.1) **Mbuko** (Gravina) kəra to steal st *voler* 5.2) **Vame** (Kinnaird) ākár *vol*
- 6) **Proto-Margi** *hila steal *voler* 6.1) **Bura** (Blench) hila Theft 6.1.1) **Bura** (Blench) hila To steal 6.2) **Margi South** (Harley) həl to steal 6.3) **Kilba** (Schuh) həla theft
- 7) **Proto-Mandara** *ɣil steal *voler* 7.1) **Matal** (Branger) mād gəl steal *voler* 7.2) **Mandara** (Fluckiger) ílá *voler* 7.2.1) **Mandara** (Fluckiger) ílá *vol (m)* 7.3) **Malgwa** (Löhr) naŋəle thief 7.3.1) **Malgwa** (Löhr) ŋəla steal 7.4) **Glavda** (Nghagyiva) gla thief 7.4.1) **Glavda** (Owens) g thief 7.4.2) **Glavda** (Nghagyiva) ɛ́l^əga steal 7.5) **Dghwede** (Frick) gəle thief

- 8) **Proto-Mofu** *kil steal *voler* 8.1) **Ouldeme** (Kinnaird) àkàl *vol* 8.2) **Mada** (Nkoumou) akkal *vol* 8.3) **Moloko** (Friesen) akar robbery *le vol* 8.3.1) **Moloko** (Friesen) akar thief *voleur* 8.3.2) **Moloko** (Friesen) akar thief *voleur* 8.3.3) **Moloko** (Friesen) karaj steal *voler; dérober* 8.4) **Zulgo** (Haller) akál *vol m.* 8.5) **Gemzek** (Sabatai) akəl theft *vol* 8.5.1) **Gemzek** (Sabatai) mekəle steal *voler (dérober)* 8.6) **Merey** (Gravina) kəla steal *voler (dérober)* 8.6.1) **Merey** (Gravina) məkal theft *vol, voleur* 8.7) **Dugwor** (Jubumna) nəkal thief *voleur* 8.7.1) **Dugwor** (Jubumna) nəkal theft *vol* 8.7.2) **Dugwor** (Jubumna) mənəkəlej steal *voler (dérober)* 8.8) **Mofu North** (Barreteau) méhùlèj *voler* 8.8.1) **Mofu North** (Barreteau) méhùlèj *dérober* 8.8.2) **Mofu North** (Barreteau) máhàl *voleur* 8.9) **Mofu-Gudur** (Hollingsworth) lál *voler, dérober, détourner* 8.9.1) **Mofu-Gudur** (Hollingsworth) malaj *voleur*
- 9) **Proto-Maroua** *h^wil steal *voler* 9.1) **Giziga Moutourwa** (Michielan) hul *voler* 9.1.1) **Giziga Moutourwa** (Michielan) hul *mentir, faire son coup en douce, travailler par en dessous, fausseté, parler derrière pas franchement, calomnier* 9.2) **Giziga Marva** (Hamidou) hul theft *vol* 9.3) **Mbazla** (Tourneux) laj *voler (dérober)* 9.3.1) **Mbazla** (SILSurvey) àlāí' steal *voler (dérober)*
- 10) **Proto-Lamang** *yila steal *voler* 10.1) **Lamang** (Wolff) yila steal 10.1.1) **Lamang** (Wolff) yìli theft 10.2) **Hdi** (Bramlett) yali thief *le voleur*
- 11) **Proto-Higi** *yili steal *voler* 11.1) **Kamwe-Nkafa** (Harley) yəli to steal 11.1.1) **Kamwe-Nkafa** (Harley) yəli steal 11.2) **Kamwe-Futu** (Harley) yirə thief 11.2.1) **Kamwe-Futu** (Harley) yire steal 11.3) **Kirya** (Blench) yə̀lè steal 11.4) **Bana** (Lienhard) y(ə)lí *voler, piler*
- 12) **Proto-Kotoko North** *hir steal *voler* 12.1) **Afade** (Allison) hi?i thief *voleur* 12.2) **Mpade** (Allison) hádi thief *voleur* 12.3) **Malgbe** (Allison) hiru thief *voleur*
- 13) **Proto-Kotoko Centre** *y^wij steal *voler* 13.1) **Lagwan** (Allison) musxui thief *voleur* 13.2) **Mser** (Allison) nyəj thief *voleur*
- 14) **Proto-Kotoko South** *hila steal *voler* 14.1) **Zina** (Odden) àhəl thief *voleur* 14.2) **Mazera** (Allison) jale thief *voleur*
- 15) **Proto-Musgum** *hil steal *voler* 15.1) **Vulum** (Tourneux) mihil *vol*
- 16) **Proto-Gidar** *ihala steal *voler* 16.1) **Gidar** (Schuh) əhala *voler (de voleur)* 16.2) **Gidar** (Hungerford) ihala *dérober, voler* 16.3) **Gidar** (Hungerford) i hala *vol, dérober*

kirakał^y n. bone os (4 groups, 10 languages) C **syn: dīł**.

This root is found primarily in three groups that are currently unconnected (the Moloko word is borrowed from neighbouring Mbuko). However at some time in the past these groups may have been adjacent. The exact form of the original root is difficult to determine.

- 1) **Proto-Daba** *kiri^ɔgił^y bone os 1.1) **Buwal** (Viljoen) kerə^ɔgeł bone os 1.2) **Mbudum** (Ndokobai) kirŋgił bone os 1.3) **Daba** (Lienhard) gè^ɔgíríłz l'os
- 2) **Proto-Hurza** *kilakał bone os 2.1) **Mbuko** (Gravina) kəlakał bone os, *bec* 2.2) **Vame** (Kinnaird) āłāłāk bone os
- 3) **Proto-Mofu** *kilakał bone os 3.1) **Moloko** (Friesen) kəlakał bone os

- 4) **Proto-Musgum** *kaŋka^ɤ bone os 4.1) **Mulwi** (Tourneux) keŋke os 4.2) **Vulum** (Tourneux) keŋke os 4.3) **Mbara** (Tourneux) ^ɤgiŋ bone os 4.4) **Muskum** (Tourneux) kiŋit os

kiri nm. dog *chien* (13 groups, 35 languages) C

This root may have come into Central Chadic from Kanuri or from Nilo-Saharan. The root presents some unusual difficulties. *r has the reflex *d in some languages, and *l in others. If this root were a Proto-Central Chadic root, then we would expect *r→l in the North sub-branch, but this is the case only in a few groups, some of which have a separate, later *r→l change. A Proto-Central Chadic root with *d in medial position should give *r in the North sub-branch. There is a reasonable degree of consistency in this, but there are many exceptions. The best explanation for the forms is that the word entered Central Chadic at the time of the group proto-languages. The final vowel is reconstructed as *i, as in Kanuri, and this is reflected in Proto-Margi, Proto-Lamang and Proto-Higi. In the Higi group the *i has been reanalysed as palatalisation of *l.

- 1) **Proto-Mafa** *kida dog *chien* 1.1) **Mafa** (Ndokobai) kəda dog *chien* 1.1.1) **Mafa** (Barreteau) kəda *chien* 1.2) **Cuvok** (Gravina) gəda dog *chien*
- 2) **Proto-Sukur** *kira dog *chien* 2.1) **Sukur** (David) kəra dog 2.2) **Sukur** (Thomas) kəra dog
- 3) **Proto-Hurza** *kila dog *chien* 3.1) **Mbuko** (Gravina) kəla dog *chien* 3.2) **Vame** (Kinnaird) kəlá dog *chien*
- 4) **Proto-Margi** *kila dog *chien* 4.1) **Bura** (Blench) kila Dog
- 5) **Proto-Mandara** *kida dog *chien* 5.1) **Matal** (Branger) kəda dog *chien* 5.2) **Podoko** (Swackhammer) kədə́,-a *chien* 5.3) **Mandara** (Fluckiger) kéré *chien* (m) 5.4) **Malgwa** (Löhr) kəre dog 5.5) **Dghwede** (Frick) gde dog
- 6) **Proto-Mofu** *kira dog *chien* 6.1) **Ouldeme** (Kinnaird) kərə dog *chien* 6.2) **Muyang** (Smith) kəra dog *chien* 6.3) **Moloko** (Friesen) kəra dog *chien* 6.4) **Zulgo** (Haller) kəra *chien* m. 6.5) **Gemzek** (Sabatai) kəra dog *chien* 6.6) **Dugwor** (Jubumna) kəra dog *chien* 6.7) **Proto-Mofu Subgroup** *gɪdaj^ɤ dog *chien* 6.8) **Mofu North** (Barreteau) gədɛj *chien* 6.9) **Mofu-Gudur** (Hollingsworth) gədɛj *chien*
- 7) **Proto-Maroua** *kiri^ɤ dog *chien* 7.1) **Giziga Moutourwa** (Michielan) kiri (Mt) k(i) ri (ɗu) *chien* (kiri nañ (Mj) kri nañ (Mt) son *chien* 7.2) **Giziga Marva** (Hamidou) kre dog *chien* 7.3) **Mbazla** (Tourneux) kire *chien* 7.3.1) **Mbazla** (SILSurvey) kré' dog *chien*
- 8) **Proto-Lamang** *kiri dog *chien* 8.1) **Lamang** (Wolff) kéré dog 8.2) **Hdi** (Bramlett) kəri dog *le chien*
- 9) **Proto-Higi** *kili dog *chien* 9.1) **Kamwe-Nkafa** (Harley) kəlǰə dog 9.2) **Kamwe-Futu** (Harley) kəlǰe dog 9.3) **Kirya** (Blench) kərí dog 9.4) **Bana** (Lienhard) k(ə)rí *chien*
- 10) **Proto-Kotoko Island** *kili dog *chien* 10.1) **Buduma** (McKone) kəliə dog *chien* 10.2) **Buduma** (McKone) kəli *chien*.
- 11) **Proto-Kotoko North** *kilew dog *chien* 11.1) **Afade** (Allison) gilew dog *chien* 11.2) **Mpade** (Allison) kílèw dog *chien* 11.3) **Malgbe** (Allison) gilew dog *chien*
- 12) **Proto-Kotoko Centre** *kile dog *chien* 12.1) **Lagwan** (Allison) kle; kile dog *chien* 12.2) **Mser** (Allison) kle dog *chien*

13) **Proto-Gidar** *kira dog *chien* 13.1) **Gidar** (Schuh) kəra *chien* 13.2) **Gidar** (Hungerford) kra *chien*

14) **Kanuri** kəri dog *chien*

kirip^y nf. fish *poisson* (15 groups, 46 languages) A

This is one of the best attested Central Chadic roots. The initial *k has the regular reflex *j in the Tera group, and the unestablished reflex /h/ in Vulum. There was a regular change *r→l in the North sub-branch, the Daba group and Cuvok in the Mafa group, though the /l/ in Mafa itself is irregular. *p was realised as [f] in word-final position in Proto-Central Chadic, and /f/ was then phonemicised, but in this word it has the reflex *p in Proto-Lamang and Proto-Higi. These are unestablished changes. The palatalisation prosody is retained in all groups where the palatalisation prosody exists.

1) **Proto-Bata** *kirifi^y fish *poisson* 1.1) **Bata** (Boyd) qərɸjée fish 1.2) **Gude** (Hoskinson) hərə̀ɸinə fish. 1.3) **Jimi** (Djibi) hə̀ɸjə̀ɸən *Poisson* 1.4) **Sharwa** (Gravina) kurjə̀ɸi *poisson* 1.5) **Tsuvan** (Johnston) wulfin *les poissons*

2) **Proto-Daba** *kilif^y fish *poisson* 2.1) **Buwal** (Viljoen) ɲkələf fish *poisson* 2.2) **Gavar** (Viljoen) ɲkilif fish *poisson* 2.3) **Mbudum** (Ndokobai) kəl:ɪf fish *poisson* 2.4) **Daba** (Lienhard) kilif *le poisson* 2.5) **MazagwayHidi** (Noussi) kilif *poisson*

3) **Proto-Mafa** *kilaf^y fish *poisson* 3.1) **Mafa** (Barreteau) kíléf *nom gén. pour les gros poissons* 3.2) **Cuvok** (Gravina) kələf fish *poisson*

4) **Proto-Tera** *jirvi^w fish *poisson* 4.1) **Tera** (Newman) jurvu fish 4.2) **Nyimatli** (Harley) jurvu fish

5) **Proto-Sukur** *kirif^y fish *poisson* 5.1) **Sukur** (David) kirif fish 5.2) **Sukur** (Thomas) kirif fish; is the general term for fishes.

6) **Proto-Hurza** *kilaf^y fish *poisson* 6.1) **Mbuko** (Gravina) kələf fish *poisson*

7) **Proto-Margi** *kilfi^y fish *poisson* 7.1) **Bura** (Blench) kilfa General name for fish 7.2) **Margi** (Hoffman) kjifi fish 7.3) **Margi South** (Harley) kalfi fish 7.4) **Kilba** (Schuh) kalfi fish

8) **Proto-Mandara** *kilifi^y fish *poisson* 8.1) **Matal** (Branger) kilfi, kilfə̀j fish *poisson* 8.2) **Podoko** (Swackhammer) kilə̀ɸe,-ə *poisson* 8.3) **Mandara** (Fluckiger) kelfe *poisson (m)* 8.4) **Malgwa** (Löhr) kələf fish gen. 8.5) **Glavda** (Owens) kil fish 8.5.1) **Glavda** (Nghagyiva) kiilfa fish 8.6) **Dghwede** (Frick) klfe fish

9) **Proto-Mofu** *kilif^y fish *poisson* 9.1) **Ouldeme** (Kinnaird) kəlif *poisson* 9.2) **Moloko** (Friesen) kələf fish *poisson en général* 9.3) **Zulgo** (Haller) kílif *poisson m.* 9.4) **Gemzek** (Sabatai) kələf fish *poisson* 9.5) **Merey** (Gravina) kələf fish *poisson* 9.6) **Dugwor** (Jubumna) kələf fish *poisson* 9.7) **Mofu North** (Barreteau) kəléf *poisson (nom g-en.)*

10) **Proto-Maroua** *kilif^y fish *poisson* 10.1) **Giziga Moutourwa** (Michielan) kilif *poisson (ne général)* 10.2) **Giziga Marva** (Hamidou) kilf fish *poisson* 10.3) **Mbazla** (Tourneux) kilif *poisson* 10.3.1) **Mbazla** (SILSurvey) kiliv fish *poisson*

11) **Proto-Lamang** *kilipi fish *poisson* 11.1) **Lamang** (Wolff) kəlpi fish 11.2) **Hdi** (Bramlett) kəlpi fish *le poisson*

- 12) **Proto-Higi** *kilipi fish *poisson* 12.1) **Kamwe-Futu** (Harley) kələpə fish 12.2) **Kirya** (Blench) kàrèpé fish (general) 12.2.1) **Kirya** (Blench) kàrìpé fish 12.3) **Psikye** (Angelo) kələpé fish 12.4) **Bana** (Lienhard) k(ə)lìpè *poisson* 12.4.1) **Bana** (Lienhard) kərpì *poissons* (pl)
- 13) **Proto-Kotoko South** *kilfi fish *poisson* 13.1) **Zina** (Odden) həlfə fish *poisson* 13.2) **Mazera** (Allison) kilfa fish *poisson*
- 14) **Proto-Musgum** *hilif^y fish *poisson* 14.1) **Vulum** (Tourneux) hilif *poisson* (*générique*)
- 15) **Proto-Gidar** *kilfi^y fish *poisson* 15.1) **Gidar** (Hungerford) kilfi *poisson*

kiriw num. ten *dix* (5 groups, 18 languages) C **syn:** **hikan**, **k^wim**.

This is one of three widely-attested roots for 'ten'. It is found in the area around the Mandara Mountains. The *r is expected to be realised as *l in the North sub-branch, but this is only the case for the Mandara group, and not for the Maroua and Mofu groups. In the Mafa group, /l/ is found in Mafa where /r/ is expected and /r/ is found in Cuvok where /l/ is expected. This indicates that the root may not be very old, and that it spread by borrowing rather than being inherited. The *w is variously interpreted as labialisation of *k or as the labialisation prosody.

- 1) **Proto-Mafa** *k^wiraw ten *dix* 1.1) **Mafa** (Barreateau) kula *dix* 1.2) **Cuvok** (Gravina) kuraw ten (10) *dix* (10)
- 2) **Proto-Hurza** *k^wira ten *dix* 2.1) **Mbuko** (Gravina) kuro ten *dix*
- 3) **Proto-Mandara** *kilawa ten *dix* 3.1) **Matal** (Branger) k^wl(u) ten *dix* 3.2) **Mandara** (Fluckiger) kelawa *dix* 3.3) **Glavda** (Owens) kəl ten 3.3.1) **Glavda** (Nghagyiva) klà:wa ten (10)
- 4) **Proto-Mofu** *kiraw ten *dix* 4.1) **Ouldeme** (Kinnaird) k^wlū ten *dix* 4.2) **Muyang** (Smith) kru ten *dix* 4.3) **Moloko** (Friesen) kəro ten *dix* 4.4) **Zulgo** (Haller) k^wrwá *dix* 4.5) **Gemzek** (Sabatai) kuro ten (10) *dix* (10) 4.6) **Merey** (Gravina) kuro ten (10) *dix* (10) 4.7) **Dugwor** (Jubumna) kurow ten (10) *dix* (10) 4.8) **Mofu North** (Barreateau) k^wráw *dix* 4.8.1) **Mofu North** (Barreateau) k^wráw *dix* 4.9) **Mofu-Gudur** (Hollingsworth) k^wráw *dix*
- 5) **Proto-Maroua** *k^wiri ten *dix* 5.1) **Giziga Moutourwa** (Michielan) kuru'u *dix* 5.2) **Giziga Marva** (Hamidou) kuru ten (10) *dix* (10) 5.3) **Mbazla** (Tourneux) kuru *dix* 5.3.1) **Mbazla** (SILSurvey) k^wúru ten *dix*

kiwah num. six *six* (9 groups, 29 languages) A **syn:** **vinahkir**, **markid^y**, **ḥira**.

This is one of four well-attested roots for 'six'. It has the widest distribution, and is the most likely candidate for the Proto-Central Chadic root. The *w has been reinterpreted as labialisation of *k in several groups. The final *h has been lost in most groups. These are common sporadic processes. In common with some other numerals, a nasal has been prefixed to the root in most cases.

- 1) **Proto-Bata** *kiwa six *six* 1.1) **Gude** (Hoskinson) k^wrwá six *six* 1.2) **Jimi** (Djibi) ənko *Six*
- 2) **Proto-Daba** *k^wah six *six* 2.1) **Buwal** (Viljoen) ŋk^wah six (6) *six* (6) 2.2) **Gavar** (Viljoen) ŋk^wah six (6) *six* (6) 2.3) **Mbudum** (Ndokobai) ŋkuh six (6) *six* (6) 2.4) **Daba** (Lienhard) kōh *six*

- 3) **Proto-Mafa** *mak^wa six six 3.1) **Mafa** (Barreteau) mok^wa six 3.2) **Cuvok** (Gravina) mak^wa six (6) six (6)
- 4) **Proto-Sukur** *mik^wa six six 4.1) **Sukur** (David) muk^wa six 4.2) **Sukur** (Thomas) mək^wa six
- 5) **Proto-Margi** *k^wa six six 5.1) **Bura** (Blench) nk^wa six six 5.2) **Margi South** (Harley) k^wa six
- 6) **Proto-Mandara** *mikiwah six six 6.1) **Matal** (Branger) m̄k^wá six six 6.2) **Podoko** (Swackhammer) məkuwá,-ə six 6.3) **Malgwa** (Löhr) unk^we six 6.4) **Glavda** (Nghagyiva) ùŋk^wàxa six (6)
- 7) **Proto-Mofu** *mik^waw six six 7.1) **Ouldeme** (Kinnaird) mūkú six six 7.2) **Muyang** (Smith) muku six six 7.3) **Moloko** (Friesen) məko six six 7.4) **Merey** (Gravina) mək^wa six (6) six (6) 7.5) **Dugwor** (Jubumna) mukow six (6) six (6) 7.6) **Mofu North** (Barreteau) múk^wa six 7.7) **Mofu-Gudur** (Hollingsworth) maak^wáw six ; *chiffre signalant un nombre impair dans la divination par les cailloux* 7.7.1) **MofuGudur** (Hollingsworth) maak^wáw six ; *chiffre signalant un nombre impair dans la divination par les cailloux*
- 8) **Proto-Lamang** *mkiwa six six 8.1) **Lamang** (Wolff) mk^wá six 8.1.1) **Lamang** (Wolff) ìnkúwá six 8.2) **Hdi** (Bramlett) mə'ku six six
- 9) **Proto-Higi** *k^waŋ six six 9.1) **Kamwe-Nkafa** (Harley) nk^wáŋgá six 9.2) **Kamwe-Futu** (Harley) nk^waŋgo six 9.3) **Kirya** (Blench) k^wáŋg six 9.4) **Psikye** (Angelo) ŋk^wáŋgá six 9.5) **Bana** (Lienhard) k^waŋ six (6)

koro n. donkey *âne* (9 groups, 20 languages) B **syn:** zi^ŋg^wa, ^mhuri.

This is a widespread African root that may have come into Central Chadic from Kanuri. Many Central Chadic languages do not have back vowels, and the *o has been reinterpreted as labialisation of *k, the labialisation prosody or as the sequence /aw/. The *r has not changed in any languages, which indicates a very short time depth for the introduction of this root into Central Chadic.

- 1) **Proto-Bata** *k^wara donkey *âne* 1.1) **Bata** (Boyd) k^wáárééto donkey 1.2) **Gude** (Hoskinson) k^wará donkey 1.3) **Jimi** (Djibi) k^wara *Ane* 1.4) **Sharwa** (Gravina) k^wara *Ane*
- 2) **Proto-Tera** *koro donkey *âne* 2.1) **Tera** (Newman) koro donkey 2.2) **Nyimatli** (Harley) koro donkey
- 3) **Proto-Margi** *k^wara donkey *âne* 3.1) **Bura** (Blench) k^wara Ass 3.1.1) **Bura** (Blench) k^wara Donkey 3.2) **Margi South** (Harley) k^wara donkey 3.3) **Kilba** (Schuh) k^wara/a donkey
- 4) **Proto-Maroua** *kawra donkey *âne* 4.1) **Giziga Moutourwa** (Michielan) kawra; awra *âne à museau blanc*
- 5) **Proto-Higi** *k^wara donkey *âne* 5.1) **Kamwe-Nkafa** (Harley) k^wara donkey 5.2) **Kamwe-Futu** (Harley) k^wara donkey 5.3) **Kirya** (Blench) k^wàrà donkey 5.4) **Psikye** (Angelo) k^wará donkey
- 6) **Proto-Kotoko Island** *kuro donkey *âne* 6.1) **Buduma** (McKone) kuro *âne*.
- 7) **Proto-Kotoko North** *koro donkey *âne* 7.1) **Mpade** (Allison) kóró donkey *âne* 7.2) **Malgbe** (Allison) gro donkey *âne*
- 8) **Proto-Musgum** *k^wira^y donkey *âne* 8.1) **Vulum** (Tourneux) kure *âne* 8.2) **Mbara** (Tourneux) kuro donkey *âne* 8.3) **Muskum** (Tourneux) kuret *âne*

9) **Proto-Gidar** *kara^w donkey *âne* 9.1) **Gidar** (Schuh) koro *âne*

10) **Kanuri** kóro / kóró donkey *âne*

k^wadāh v. boil *bouillir* (9 groups, 20 languages) A

The basic sense of this word is to cook by boiling. In most cases it is a transitive verb with a person being the agent and the liquid being the patient. *k^w is retained in all groups, though the labialisation has been lost in a few languages (a sporadic process). The *d→r in Tera is an unestablished process. *h is widely retained, which is unusual, and has the irregular reflex /s/ in Bachama. Two groups have palatalisation in the forms given, but this may be a property of the citation form that is used rather than of the root itself.

- 1) **Proto-Bata** *k^wadāsa^y boil *bouillir* 1.1) **Bachama** (Skinner) k^wadāsa bubble
- 2) **Proto-Daba** *k^widāh^y boil *bouillir* 2.1) **Mbudum** (Ndokobai) kjdeh boil (food) *bouillir* (*la nourriture*)
2.2) **Daba** (Lienhard) kùdāj *bouillir un liquide*
- 3) **Proto-Mafa** *k^widāha boil *bouillir* 3.1) **Cuvok** (Gravina) kudaha boil *bouillir* (*la nourriture*)
- 4) **Proto-Tera** *k^widāh boil *bouillir* 4.1) **Tera** (Newman) kuraxi boil 4.1.1) **Nyimatli** (Harley) kuḷgakh
boil (water), bubble up
- 5) **Proto-Hurza** *k^wadāh boil *bouillir* 5.1) **Mbuko** (Gravina) k^wadāh to boil, dilute *bouillir*, *diluer* 5.1.1)
Vame (Kinnaird) k^wādāhā boil ; simmer *bouillir*
- 6) **Proto-Margi** *k^widu boil *bouillir* 6.1) **Bura** (Blench) kudu Boil
- 7) **Proto-Mandara** *k^wadāh boil *bouillir* 7.1) **Podoko** (Swackhammer) k^wadāha *bouillir*, *cuire dans de l'eau bouillante* 7.2) **Malgwa** (Löhr) k^wada boil
- 8) **Proto-Mofu** *k^wadāh boil *bouillir* 8.1) **Ouldeme** (Kinnaird) k^wādēhèṅ *bouillir* 8.1.1) **Ouldeme**
(Kinnaird) k^wādēhèṅ *cuire longtemps* 8.2) **Muyang** (Smith) kodahaj boil (trs) *cuire; faire bouillir* 8.3)
Mada (Nkoumou) māk^wādāh *cuire (faire-, mijoter longtemps)* 8.4) **Zulgo** (Haller) k^wādāh *bouillir*,
bouillonner 8.5) **Gemzek** (Sabatai) mek^wedehe *bouillir* 8.6) **Dugwor** (Jubumna) mək^wodehej (jam)
bubble up, boil (water) *bouillonner (l'eau)* 8.7) **Mofu North** (Barreteau) mək^wēdēhèṅ *bouillir*
- 9) **Proto-Lamang** *k^wadāh boil *bouillir* 9.1) **Lamang** (Wolff) k^wadāh boil, heat, cook 9.2) **Hdi**
(Bramlett) kādāhaj to boil *bouillir*

k^war v. refuse *refuser* (8 groups, 12 languages) B

This root is found in a good selection of groups, but only in one or two languages in each group with the data available. The initial *k^w has lost the labialisation component in many cases as a sporadic process. *r has the regular reflex *l in the languages of the North sub-branch and in Proto-Daba as expected.

- 1) **Proto-Bata** *kar refuse *refuser* 1.1) **Gude** (Hoskinson) kaaree refuse, reject 1.2) **Jimi** (Djibi)
karanən *Refuser* ;
- 2) **Proto-Daba** *kal refuse *refuser* 2.1) **Gavar** (Viljoen) ṅkal refuse *refuser*

- 3) **Proto-Sukur** *kar refuse *refuser* 3.1) **Sukur** (David) kar refuse, to 3.2) **Sukur** (Thomas) kar refuse: to say that you will not do something that somebody has asked you to do.
- 4) **Proto-Hurza** *kira refuse *refuser* 4.1) **Vame** (Kinnaird) k^àrà miss *refuser d'aller*
- 5) **Proto-Mandara** *k^wala refuse *refuser* 5.1) **Podoko** (Swackhammer) k^walá 1 *refuser* 5.1.1) **Podoko** (Swackhammer) k^walá 2 *rejeter* 5.2) **Mandara** (Fluckiger) k^wala *refuser*
- 6) **Proto-Mofu** *k^wal refuse *refuser* 6.1) **Ouldeme** (Kinnaird) k^wàl *refuser* 6.1.1) **Ouldeme** (Kinnaird) k^wàl *ne devrait-il pas?* 6.2) **Muyang** (Smith) kelej cut with axe *couper; refuser* 6.3) **Merey** (Gravina) k^ərah refuse *refuser*
- 7) **Proto-Lamang** *k^wala refuse *refuser* 7.1) **Hdi** (Bramlett) k^walayuta to refuse *refuser*
- 8) **Proto-Higi** *kili refuse *refuser* 8.1) **Kamwe-Nkafa** (Harley) k^əljə refuse 8.1.1) **Kamwe-Nkafa** (Harley) k^ərjə refuse

k^waraj n. rainbow, drought *arc-en-ciel, sécheresse* (5 groups, 17 languages) A

In most languages, this root has two senses: a rainbow; and a period of dry weather during rainy season. It is not obvious how the two senses are related, though the Giziga Moutourwa definition offers an interesting explanation. The root is found in the languages of the Mandara Mountains. There was a regular change *r→l in the North sub-branch, Proto-Daba and Cuvok, leaving Mafa as the only language represented here to retain *r.

- 1) **Proto-Daba** *k^walaj rainbow *arc-en-ciel* 1.1) **Buwal** (Viljoen) k^walaj drought, famine *sécheresse, famine, disette* 1.1.1) **Buwal** (Viljoen) k^walaj rainbow *arc-en-ciel* 1.2) **Gavar** (Viljoen) ŋk^walaj drought, famine *sécheresse, famine, disette* 1.3) **Mbudum** (Ndokobaï) kolaj rainbow *arc-en-ciel*
- 2) **Proto-Mafa** *k^waraj rainbow *arc-en-ciel* 2.1) **Mafa** (Barreteau) k^waráj *arc-en-ciel* 2.2) **Cuvok** (Gravina) k^walaj drought, famine *sécheresse, famine, disette*
- 3) **Proto-Hurza** *k^wilaj rainbow *arc-en-ciel* 3.1) **Mbuko** (Gravina) kulaj rainbow, dry period during rainy season *arc en ciel, sécheresse entre les pluies*
- 4) **Proto-Mofu** *k^wilaj, makilah rainbow *arc-en-ciel* 4.1) **Ouldeme** (Kinnaird) māk^wālāj drought *sécheresse ; périodes sèches de la saison des pluies* 4.2) **Muyang** (Smith) mak^wal drought ; rainbow *période de sécheresse après les premières semailles: arc-en-ciel qui annonce soit une pluie immédiate, soit la sécheresse* 4.3) **Moloko** (Friesen) kolaj rainbow *arc en ciel* 4.4) **Zulgo** (Haller) māk^wlāh *arc-en-ciel m.* 4.5) **Gemzek** (Sabatai) kula rainbow *arc-en-ciel* 4.5.1) **Gemzek** (Sabatai) kula drought, famine *sécheresse, famine, disette* 4.5.2) **Gemzek** (Sabatai) mak^walah rainbow *arc-en-ciel* 4.6) **Merey** (Gravina) mak^walah *sécheresse* 4.7) **Dugwor** (Jubumna) kulaj rainbow *arc-en-ciel* 4.8) **Mofu North** (Barreteau) k^wālāj *arc-en-ciel, arrêt entre deux pluies* 4.9) **Mofu-Gudur** (Hollingsworth) k^walaj *arc-en-ciel* 4.9.1) **Mofu-Gudur** (Hollingsworth) k^walaj *sécheresse en saison des pluies*

5) **Proto-Maroua** *k^walaj rainbow *arc-en-ciel* 5.1) **Giziga Moutourwa** (Michielan) k^walaj (Mv kolaj) *arc en ciel, le kwalay : arrête la pluie en pleine saison, même pendant 20 jours c'est le soleil qui se reflète sur de vieilles houes abandonnées en brousse, ce qui provoque l'arc-ce-ciel. il y a un grand serpent en haut ; s'il se roule sur lui-même il ne pleut pas ; s'il se déroule, il pleut (kaw madiëa)* 5.1.1) **Giziga Moutourwa** (Michielan) k^walaj (Mv kolaj) *empêcher de pleuvoir* 5.2) **Giziga Marva** (Hamidou) kolaj rainbow *arc-en-ciel* 5.2.1) **Giziga Marva** (Hamidou) kolaj drought, *famine sécheresse, famine, disette*

k^wasik^wa nm. market (n) *marché* (12 groups, 24 languages) B

This root derives ultimately from the Arabic 'suq', through Shoa Arabic 'sug' and Kanuri 'kasugu'. The back vowels are reinterpreted as labialisation of *k or *g. The Fulfulde word 'luumo' is replacing this root in many areas. There are no real indicators in the data of the age of this borrowing.

- 1) **Proto-Tera** *kasu market *marché* 1.1) **Hwana** (Harley) kàsú market
- 2) **Proto-Sukur** *sik^{wi} market *marché* 2.1) **Sukur** (David) suku market 2.2) **Sukur** (Thomas) səku market:- is a place where people gather to sell and buy things.
- 3) **Proto-Hurza** *kasik^wa market *marché* 3.1) **Mbuko** (Gravina) k^wasuko market *marché* 3.2) **Vame** (Kinnaird) kāsúkā market *marché*
- 4) **Proto-Margi** *sik^{wi} market *marché* 4.1) **Kilba** (Schuh) səku market
- 5) **Proto-Mandara** *k^wasik^wa market *marché* 5.1) **Matal** (Branger) k^wasək^wa // kosuka market *marché* 5.2) **Podoko** (Swackhammer) k^wasák^wa,-a *marché* 5.3) **Malgwa** (Löhr) k^wask^we market 5.4) **Glavda** (Owens) kású market, week 5.4.1) **Glavda** (Owens) kásúk market, business, week 5.4.2) **Glavda** (Nghagyiva) kàsúk^wa market (n)
- 6) **Proto-Mofu** *k^wasik^wa market *marché* 6.1) **Ouldeme** (Kinnaird) k^wāsk^wā market *marché* 6.2) **Muyang** (Smith) gosku *marché, semaine* 6.3) **Mada** (Nkoumou) goskó (kosko) *marché* 6.4) **Moloko** (Friesen) kosoko market *marché* 6.5) **Zulgo** (Haller) k^wásk^wà *semaine f.* 6.5.1) **Zulgo** (Haller) k^wásk^wà *marché m.*
- 7) **Proto-Maroua** *kaska^w market *marché* 7.1) **Giziga Marva** (Hamidou) kosko market (n) *marché*
- 8) **Proto-Higi** *s'ik^{wi} market *marché* 8.1) **Kamwe-Futu** (Harley) jik^{wi} market 8.2) **Psikye** (Angelo) jk^{wu} market 8.2.1) **Psikye** (Angelo) jek^{wu} market
- 9) **Proto-Kotoko Island** *kahag^{wi} market *marché* 9.1) **Buduma** (McKone) kaxaguə market (n) *marché*
- 10) **Proto-Kotoko North** *kasig^{wi} market *marché* 10.1) **Afade** (Allison) gasibi market (n) *marché* 10.2) **Mpade** (Allison) kàsúgù market (n) *marché* 10.3) **Malgbe** (Allison) gegbi market (n) *marché*
- 11) **Proto-Kotoko Centre** *kask^{wi} market *marché* 11.1) **Lagwan** (Allison) kasku market (n) *marché* 11.2) **Mser** (Allison) kasku market (n) *marché*
- 12) **Proto-Musgum** *kask^wa market *marché* 12.1) **Mbara** (Tourneux) kasko market *marché*
- 13) **Kanuri** kasúwu //// kāsugū market (n) *marché*
- 14) **Shoa Arabic** sūg; sawaga market (n) *marché*

k^wihiim n. mouse *souris* (8 groups, 21 languages) A *syn:* **katakam, k^wisim**.

This root is cognate with *k^wisim, though there isn't a regular change that accounts for the distribution of the two forms. The *k^w has the unestablished reflex *y^w in Proto-Tera. The labialisation component has been reanalysed as the labialisation prosody in many Mofu group languages. The *h has been lost in several groups as a sporadic process, and has the irregular reflex *f in Matal, Muyang and Moloko.

- 1) **Proto-Bata** *hⁱimi mouse *souris* 1.1) **Gude** (Hoskinson) himà -ə mouse 1.2) **Tsuvan** (Johnston) himkən *la souris*
- 2) **Proto-Mafa** *k^wama mouse *souris* 2.1) **Mafa** (Barreteau) k^wama *souris*
- 3) **Proto-Tera** *y^wim mouse *souris* 3.1) **Tera** (Newman) yum mouse 3.2) **Nyimatli** (Harley) yum rat
- 4) **Proto-Sukur** *k^wim mouse *souris* 4.1) **Sukur** (David) kum mouse 4.2) **Sukur** (Thomas) kum mouse; a small animal that is covered in fur and has a long thin tail. It lives in bush, people's house or where food is stored.
- 5) **Proto-Hurza** *k^wiham mouse *souris* 5.1) **Mbuko** (Gravina) kuhom mouse *souris* 5.2) **Vame** (Kinnaird) k^wàm mouse *souris*
- 6) **Proto-Mandara** *k^wihiim mouse *souris* 6.1) **Matal** (Branger) k^wəfu, kufu mouse *souris* 6.2) **Podoko** (Swackhammer) kuma *souris*
- 7) **Proto-Mofu** *k^wihiim mouse *souris* 7.1) **Ouldeme** (Kinnaird) kūm mouse *souris* 7.2) **Muyang** (Smith) akfum mouse (general word) *souris (mot général)* 7.3) **Moloko** (Friesen) okfom mouse *souris* 7.4) **Zulgo** (Haller) k^wàhúm *souris f.* 7.5) **Gemzek** (Sabatai) kohom mouse *souris* 7.6) **Merey** (Gravina) kuhom mouse *souris* 7.7) **Dugwor** (Jubumna) kohom mouse *souris* 7.8) **Mofu North** (Barreteau) h^wàm *souris* 7.9) **Mofu-Gudur** (Hollingsworth) ah^wam mouse *souris (nom gén.)*
- 8) **Proto-Higi** *k^wim mouse *souris* 8.1) **Psikye** (Angelo) k^wu mouse 8.2) **Bana** (Lienhard) kúm *souris*

k^wikad nf. baobab *baobab* (10 groups, 21 languages) B *syn:* **mbatuɓ**.

This root may be borrowed from the Kanuri 'kalkuka', though it is more likely that the word was borrowed from Chadic languages by Kanuri since the forms that are attested in Central Chadic cannot easily be derived from *kuka. In addition, the Proto-Bata and Proto-Lamang forms indicate that there was a glottal component in the word, which is not present in Kanuri. The labialisation has spread from the *k^w onto the *k in several languages. The glottal component is accounted for by reconstructing a final *ɗ, though more evidence is needed before this can be established with confidence.

- 1) **Proto-Bata** *kikiɗ^w baobab *baobab* 1.1) **Bata** (Boyd) kawto baobab 1.1.1) **Bata** (Boyd) kaawe baobab 1.2) **Bachama** (Skinner) kawtə, kəwe baobab tree 1.3) **Gude** (Hoskinson) kúkù' únə baobab tree 1.4) **Sharwa** (Gravina) kəkə'wə *baobab* 1.5) **Tsuvan** (Johnston) kuk^wakən *le baobab*
- 2) **Proto-Tera** *k^wika baobab *baobab* 2.1) **Nyimatli** (Harley) kuka baobab tree 2.2) **Ga'anda** (Gwaji) kuk^wata baobab
- 3) **Proto-Hurza** *k^wak^wa baobab *baobab* 3.1) **Mbuko** (Gravina) koko *baobab* 3.2) **Vame** (Kinnaird) k^wàk^wà tree type *baobab*

- 4) **Proto-Margi** *k^wag^wi baobab *baobab* 4.1) **Bura** (Blench) k^wàgú Baobab monkey bread tree See also kogu *Adansonia digitata* 4.1.1) **Bura** (Blench) kogu Baobab tree cf. kwagu 4.2) **Kilba** (Schuh) gu baobab
- 5) **Proto-Mandara** *k^wak^wa baobab *baobab* 5.1) **Matal** (Branger) mak^wak^wa, makok^wa baobab *baobab* 5.2) **Mandara** (Fluckiger) k^wak^wa *baobab (m) ou feuille comestible de baobab* 5.3) **Malgwa** (Löhr) k^wak^wa, kok^wa tree sp., baobab, *Adansonia digitata*, baobab leaf 5.4) **Glavda** (Nghagyiva) k^wàk^wa baobab tree
- 6) **Proto-Mofu** *kaka^w baobab *baobab* 6.1) **Moloko** (Friesen) koko tree baobab *baobab*
- 7) **Proto-Lamang** *ka^w baobab *baobab* 7.1) **Hdi** (Bramlett) ka'u baobab tree *le baobab*
- 8) **Proto-Higi** *k^wik^wi baobab *baobab* 8.1) **Kirya** (Blench) kúkù baobab 8.2) **Bana** (Lienhard) k^wák^wè *baobab, Adansonia digitala*
- 9) **Proto-Kotoko North** *k^wika baobab *baobab* 9.1) **Afade** (Allison) kuka baobab tree *baobab*
- 10) **Proto-Kotoko Centre** *k^wika baobab *baobab* 10.1) **Lagwan** (Allison) kuka baobab tree *baobab*
- 11) **Hausa** kúukà baobab tree *baobab*

k^wim num. ten *dix* (5 groups, 11 languages) C **syn:** **hikan, k^wiriw.**

This is one of several roots for 'ten', and is the most likely to have been the Proto-Central Chadic root. The Nyimatli, Sukur and Hdi forms are possibly not cognate. In the Higi group there is sporadic metathesis in all languages except Kirya.

- 1) **Proto-Tera** *k^wim ten *dix* 1.1) **Nyimatli** (Harley) g^wa^g ten (10) 1.2) **Ga'anda** (Gwaji) kum ten
- 2) **Proto-Sukur** *waŋ ten *dix* 2.1) **Sukur** (David) waŋ ten
- 3) **Proto-Margi** *k^wima ten *dix* 3.1) **Bura** (Blench) kuma Ten 3.2) **Margi South** (Harley) kumou ten
- 4) **Proto-Lamang** *ɣ^waŋ ten *dix* 4.1) **Hdi** (Bramlett) ɣ^waŋ ten *dix*
- 5) **Proto-Higi** *g^wim ten *dix* 5.1) **Kamwe-Nkafa** (Harley) mù^gé Ten 5.2) **Kamwe-Futu** (Harley) mu^gə ten 5.3) **Kirya** (Blench) gùm ten 5.4) **Psikye** (Angelo) məŋ ten 5.4.1) **Psikye** (Angelo) məŋé ten 5.5) **Bana** (Lienhard) mǎŋ *dix*

k^wima n. face *visage* (5 groups, 8 languages) B

This root is not widely attested. Where it does occur, the labialisation of *k^w has often been sporadically lost.

- 1) **Proto-Bata** *k^winwi face *visage* 1.1) **Gude** (Hoskinson) kúnwá -ə face ? (upper dialect)
- 2) **Proto-Sukur** *kima face *visage* 2.1) **Sukur** (David) kəma face
- 3) **Proto-Margi** *k^wima face *visage* 3.1) **Bura** (Blench) kuma Face
- 4) **Proto-Lamang** *kima face *visage* 4.1) **Lamang** (Wolff) kámá face, front 4.2) **Hdi** (Bramlett) kəma face *la figure*
- 5) **Proto-Higi** *kima face *visage* 5.1) **Kamwe-Nkafa** (Harley) kəma face 5.2) **Kamwe-Futu** (Harley) kəma face 5.3) **Psikye** (Angelo) kəma face

k^winij n. urine *urine* (13 groups, 31 languages) B

This root is well attested across the Central Chadic languages. The *k^w is retained in most groups, but has the reflex *k in Proto-Hurza, Proto-Kotoko South and Proto-Gidar, a sporadic change. There is a regular *n→r change word-medially in Proto-Mandara, and a sporadic *n→r change in some of the Kotoko groups. This change also appears in the Mafa and Sukur data, where it is irregular. There is a subsequent unestablished *r→ɗ change, which gives the forms for Proto-Hurza, several Mofu group languages and Mazera. The distribution of the changes suggests that a certain degree of borrowing took place between languages. The *j has been vocalised in several languages, and in Gidar it is reanalysed as the palatalisation prosody, both of which are common sporadic processes.

- 1) **Proto-Mafa** *k^wiraj urine *urine* 1.1) **Mafa** (Ndokobai) kuraj *urine*
- 2) **Proto-Sukur** *k^wir^y urine *urine* 2.1) **Sukur** (Thomas) miskuir urine
- 3) **Proto-Hurza** *mikadaj urine *urine* 3.1) **Mbuk** (Gravina) məkadaj urine *urine* 3.2) **Vame** (Kinnaird) kəmədáj, kumadaj (Afem) tribe ; descendant *urine; tribu ; descendant*
- 4) **Proto-Margi** *k^wini urine *urine* 4.1) **Bura** (Blench) kini Urine 4.2) **Kilba** (Schuh) kunji urine
- 5) **Proto-Mandara** *k^wirij urine *urine* 5.1) **Matal** (Branger) k^ulāj urine *urine* 5.2) **Podoko** (Swackhammer) kure,-i *urine* 5.3) **Mandara** (Fluckiger) kúré *urine (f)* 5.4) **Malgwa** (Löhr) kure urine 5.5) **Glavda** (Owens) kur urine 5.5.1) **Glavda** (Nghagyiva) kùrìja urine
- 6) **Proto-Mofu** *k^winaj urine *urine* 6.1) **Ouldeme** (Kinnaird) kùnāj *urine* 6.2) **Muyang** (Smith) kùdìj urine *urine* 6.3) **Mada** (Nkoumou) k^wne *urine* 6.4) **Moloko** (Friesen) k^wənen urine *urine* 6.5) **Zulgo** (Haller) k^widé *urine f.* 6.6) **Gemzek** (Sabatai) kude urine *urine* 6.7) **Merey** (Gravina) kude urine *urine* 6.7.1) **Merey** (Gravina) kudej *urine* 6.8) **Dugwor** (Jubumna) kunej urine *urine* 6.9) **Mofu North** (Barreteau) kùràj *urine* 6.10) **Mofu-Gudur** (Hollingsworth) kuráj *urine*
- 7) **Proto-Maroua** *k^winaj urine *urine* 7.1) **Giziga Moutourwa** (Michielan) k^wanaj *urine* 7.2) **Giziga Marva** (Hamidou) kunaj urine *urine* 7.3) **Mbazla** (SILSurvey) kúnaf' urine *urine* 7.3.1) **Mbazla** (Tourneux) kunaj *urine*
- 8) **Proto-Lamang** *k^wani urine *urine* 8.1) **Hdi** (Bramlett) k^wani urine *l'urine*
- 9) **Proto-Kotoko Island** *k^waraj urine *urine* 9.1) **Buduma** (McKone) koraj *urine*.
- 10) **Proto-Kotoko North** *k^wire urine *urine* 10.1) **Mpade** (Allison) kùrè urine *urine*
- 11) **Proto-Kotoko Centre** *k^wine urine *urine* 11.1) **Lagwan** (Allison) nkune urine *urine* 11.2) **Mser** (Allison) kure urine *urine*
- 12) **Proto-Kotoko South** *kimadé urine *urine* 12.1) **Mazera** (Allison) kimadé urine *urine*
- 13) **Proto-Gidar** *kina^y urine *urine* 13.1) **Gidar** (Hungerford) kine *urine* 13.2) **Gidar** (Schuh) kine/e *urine*

k^wisap n. grass *grass* (6 groups, 12 languages) A **syn:** **k^wizin** ^ɣ.

This root probably had a different meaning from *k^wizin ^ɣ. The original sense may have referred to grassland as an area, rather than to the grass itself, or possibly to hay. The *k^w has lost the labialisation component in Matal (a sporadic process), and is lost in Mbuko and Proto-Higi, which is an irregular process. *p was realised as [f] in Proto-Central Chadic in word-final position, and this appears in all the data.

- 1) **Proto-Daba** *^ɔk^wisaf grass *herbe* 1.1) **Buwal** (Viljoen) ŋkusaf grass *herbe* 1.2) **Gavar** (Viljoen) ŋkəsaf grass *herbe* 1.3) **Mbudum** (Ndokobai) ŋgusof grass *herbe*
- 2) **Proto-Mafa** *k^wisaf grass *herbe* 2.1) **Cuvok** (Gravina) kusaf blade (of grass) *brin (d'herbe)*
- 3) **Proto-Hurza** *saf bush *brousse* 3.1) **Mbuko** (Gravina) saf bush *brousse*
- 4) **Proto-Mandara** *kisaf grass *herbe* 4.1) **Matal** (Branger) ksaf, kəsaf grass *herbe*
- 5) **Proto-Mofu** *k^wisaf grass *herbe* 5.1) **Gemzek** kəsaf bush country, rural area *brousse, campagne* 5.2) **Merey** kəsaf forest *brousse, forêt* 5.3) **MofuNorth** (Barreteau) kúsáf *brousse* 5.3.1) **MofuNorth** (Barreteau) kúsáf *broussaille* 5.3.2) **MofuNorth** (Barreteau) kúsáf *brousse* 5.4) **Mofu-Gudur** (Hollingsworth) kusaf *brousse, herbes*
- 6) **Proto-Higi** *sifi grass *herbe* 6.1) **Bana** (Lienhard) sáfè *herbes seches, jaune* 6.2) **Kirya** (Blench) jafa bush

k^wisim n. mouse *souris* (5 groups, 12 languages) B **syn:** **katakam, k^wihim**.

This root is cognate with *k^wihim, though it may come from a separate source. There is no known regular change that would account for *h to *s or vice versa. The root with *h is also found in East Chadic and this root with *s is also found in West Chadic. It is strange that this root is found in the more easterly Central Chadic languages.

- 1) **Proto-Mofu** *g^wamso mouse *souris* 1.1) **Ouldeme** (Kinnaïrd) g^wàmsò *souris ; rat roussard* 1.2) **Moloko** (Friesen) gəmso field mouse, grey *souris de brousse; gris*
- 2) **Proto-Kotoko North** *k^wisim mouse *souris* 2.1) **Mpade** (Allison) kusumu mouse *souris* 2.2) **Malgbe** (Allison) gbim mouse *souris* 2.3) **Maltam** (Allison) bisim mouse *souris*
- 3) **Proto-Kotoko Centre** *k^wisim mouse *souris* 3.1) **Lagwan** (Allison) xsumi mouse *souris* 3.2) **Mser** (Allison) kusum mouse *souris*
- 4) **Proto-Kotoko South** *k^wisim mouse *souris* 4.1) **Zina** (Odden) àksùm mouse *souris* 4.2) **Mazera** (Allison) kusime mouse *souris*
- 5) **Proto-Musgum** *kisim ^w mouse *souris* 5.1) **Vulum** (Tourneux) kusum *souris* 5.2) **Mbara** (Tourneux) kusum mouse *souris* 5.3) **Muskum** (Tourneux) guzum *souris*
- 6) **Hausa** kúsù // kuusù, kuusanjàa mouse *souris*

k^witir ^y n. tail *queue* (11 groups, 26 languages) B

This root is well attested across the Central Chadic languages. The initial *k^w has a wider range of reflexes than with other roots. These reflexes include *h^w, *w, *g^w, *g and *f, and are all unestablished. In Gidar the labialisation component has been reanalysed as the labialisation prosody, which is a common sporadic process. The *t has the unestablished reflexes /d/ and /ⁿd/ in some languages. In Glavda, *t is palatalised by the palatalisation prosody, and *t^j→k^j due to the regular process of velarisation of palatalised alveolars. *r has the regular reflex *l in the North sub-branch and in Proto-Daba, with a few irregular exceptions.

- 1) **Proto-Bata** *h^witiri tail *queue* 1.1) **Sharwa** (Gravina) hutirə *queue*
- 2) **Proto-Daba** *k^witil ^y tail *queue* 2.1) **Buwal** (Viljoen) kutel tail *queue* 2.2) **MazagwayHidi** (Noussi) k^wetir *queue*
- 3) **Proto-Mafa** *h^witar tail *queue* 3.1) **Mafa** (Barreteau) fútór *queue* 3.2) **Cuvok** (Gravina) h^wadar tail *queue*
- 4) **Proto-Sukur** *tur tail *queue* 4.1) **Sukur** (David) tur tail 4.2) **Sukur** (Thomas) tur tail:- a long thin park at the back of animals normally they used it to protect them from fly.
- 5) **Proto-Hurza** *k^witar ^y tail *queue* 5.1) **Mbuko** (Gravina) guter tail *queue* 5.2) **Vame** (Kinnaird) kuter tail *queue* 5.2.1) **Vame** (Kinnaird) k^witér tail *queue*
- 6) **Proto-Mandara** *k^witili ^y tail *queue* 6.1) **Podoko** (Swackhammer) fətəla,-ə *queue* 6.2) **Mandara** (Fluckiger) uktere *la queue* (f) 6.2.1) **Mandara** (Fluckiger) ugdere *queue* (f) 6.2.2) **Mandara** (Fluckiger) katalía *queue* (f) 6.3) **Malgwa** (Löhr) gatalija tail 6.4) **Glavda** (Nghagyiva) xùk^jla tail 6.4.1) **Glavda** (Owens) x^wçə tail 6.5) **Dghwede** (Frick) x^wtəle tail
- 7) **Proto-Mofu** *h^witil ^y tail *queue* 7.1) **Ouldeme** (Kinnaird) àftəl tail *queue* 7.2) **Muyang** (Smith) hutul tail *queue* 7.3) **Moloko** (Friesen) h^wəter tail *queue* 7.4) **Gemzek** (Sabatai) gutel tail *queue* 7.5) **Merey** (Gravina) hutel tail *queue* 7.6) **Dugwor** (Jubumna) mətel tail *queue* 7.7) **Mofu-Gudur** (Hollingsworth) deŋg^wél *queue* (Mokong) 7.7.1) **Mofu-Gudur** (Hollingsworth) g^weⁿdél *queue* (Gudur)
- 8) **Proto-Lamang** *h^witir tail *queue* 8.1) **Lamang** (Wolff) h^wtir tail 8.2) **Hdi** (Bramlett) hutur tail *la queue*
- 9) **Proto-Higi** *twili tail *queue* 9.1) **Kirya** (Blench) twólá tail
- 10) **Proto-Gidar** *kitiri ^w tail *queue* 10.1) **Gidar** (Schuh) kutəro/0 *queue* 10.2) **Gidar** (Hungerford) kutur, kuturo *queue*
- 11) **Proto-Musgum** *gidar ^y, hintil ^w tail *queue* 11.1) **Vulum** (Tourneux) gider *queue* 11.1.1) **Mbara** (Tourneux) huntul tail *queue*

k^wizin ^y nm. grass *herbe* (10 groups, 30 languages) B **syn:** k^wisap.

This is a well attested Central Chadic root. The initial *k^w has the reflexes *k, *w, *g^w and *g, of which only the change in Proto-Higi is known to be regular. *z has the regular reflex *s in Proto-Margi, and the unestablished reflex *dz in Mbuko. The final *n→r in the Margi-Mandara-Mofu major group is a regular change. In Mbuko and Dugwor the *r has then changed to /d/, an unestablished process.

- 1) **Proto-Bata** *k^wizini grass *herbe* 1.1) **Gude** (Hoskinson) kùzəná -ə grass (general term) 1.2) **Jimi** (Djibi) k^wəzənən *Nom général d'herbe* 1.3) **Sharwa** (Gravina) huzənə *herbe* 1.4) **Tsuvan** (Johnston) huzene *l'herbe*
- 2) **Proto-Mafa** *kizan^y grass *herbe* 2.1) **Cuvok** (Gravina) kəzeŋ grass *herbe*
- 3) **Proto-Tera** *wizin grass *herbe* 3.1) **Tera** (Newman) wuzən grass 3.2) **Nyimatli** (Harley) wuzun grass
- 4) **Proto-Hurza** *g^widzad^y grass *herbe* 4.1) **Mbuko** (Gravina) gudzəd grass *herbe*
- 5) **Proto-Margi** *k^wisar grass *herbe* 5.1) **Bura** (Blench) kusar Grass 5.2) **Margi** (Hoffman) psar grass 5.3) **Margi South** (Hoffman) sar grass 5.4) **Kilba** (Hoffman) sar grass 5.4.1) **Kilba** (Schuh) sar grass 5.4.2) **Kilba** (Schuh) sar waist
- 6) **Proto-Mandara** *k^wiziri^y grass *herbe* 6.1) **Podoko** (Swackhammer) kuzəra,-ə *herbe* 6.2) **Mandara** (Fluckiger) kúzaré *herbe sauvage aux grains très minuscules que l'on mangeait en période de disette*
- 7) **Proto-Mofu** *k^wizir^y grass *herbe* 7.1) **Ouldeme** (Kinnaird) kùzàr grass *herbe* 7.2) **Muyang** (Smith) kuzir grass *herbe* 7.2.1) **Muyang** (Smith) kuzir fodder, leaves or grass *foin, feuilles ou herbe* 7.3) **Moloko** (Friesen) ag^wədzer grass, straw *herbe; paille* 7.4) **Zulgo** (Haller) k^wizir *herbe f.* 7.5) **Gemzek** (Sabatai) kozer grass *herbe* 7.6) **Merey** (Gravina) guzer thatch (n) *herbe, paille, chaume* 7.7) **Dugwor** (Jubumna) gudzəd grass *herbe* 7.8) **Mofu North** (Barreteau) gùzèr *herbe* 7.9) **Mofu-Gudur** (Hollingsworth) guzer *herbe (nom gén.)* 7.9.1) **Mofu-Gudur** (Hollingsworth) guzer *sekko*
- 8) **Proto-Maroua** *giziŋ^y grass *herbe* 8.1) **Giziga Moutourwa** (Michielan) giziŋ *herbe en général* 8.2) **Giziga Marva** (Hamidou) giziŋ grass *herbe* 8.3) **Mbazla** (Tourneux) giziŋ *herbe*
- 9) **Proto-Lamang** *k^wiziŋ grass *herbe* 9.1) **Hdi** (Bramlett) kuzuŋ herb *l'herbe*
- 10) **Proto-Higi** *g^wizin grass *herbe* 10.1) **Kirya** (Blench) swən grass 10.2) **Psikye** (Angelo) g^wəzə grass 10.2.1) **Psikye** (Angelo) g^wəzú grass 10.2.2) **Psikye** (Angelo) guzú grass 10.3) **Bana** (Lienhard) g^w(ə)zən *herbe, paille, litière*

lagan n. horn *corne* (3 groups, 5 languages) D **syn:** **dirim**, ^m**bik^wim**, **mah^wa**.

This is one of several roots for the horn of an animal. *l was not a Proto-Central Chadic phoneme, and it is unlikely that this root has any significant time depth. The root is found primarily in Kotoko languages, and also Mbuko.

- 1) **Proto-Hurza** *likam horn *corne* 1.1) **Mbuko** (Gravina) ləkam horn *corne*
- 2) **Proto-Kotoko North** *lagan horn *corne* 2.1) **Mpade** (Allison) lagan horn *corne* 2.2) **Malgbe** (Allison) lagan horn *corne* 2.3) **Maltam** (Allison) lagare horn *corne*
- 3) **Proto-Kotoko Centre** *lagar horn *corne* 3.1) **Mser** (Allison) lagar horn *corne*

livari n. lion *lion* (8 groups, 14 languages) D **syn:** **mabor**, **zijil**.

There are a variety of apparently cognate forms collected here. The root is unlikely to have existed in Proto-Central Chadic, but was a later innovation or borrowing. The initial consonant was probably *l, which is not a native Central Chadic phoneme. In languages of the South sub-branch, where *l had not yet developed, the reflex was *ɟ. In other languages it had the reflex *r. The Mbara form is possibly cognate, though the balance of likelihood is that it is not.

- 1) **Proto-Bata** *ɟavari ^y lion *lion* 1.1) **Gude** (Hoskinson) livjàrá -ə lion 1.2) **Tsuvan** (Johnston) ɟjaɟjaware *le lion*
- 2) **Proto-Daba** *ɟivari lion *lion* 2.1) **Buwal** (Viljoen) leveré lion *lion* 2.2) **Daba** (Lienhard) ɟə̀vəri *le lion*
- 3) **Proto-Sukur** *rivari lion *lion* 3.1) **Sukur** (Thomas) livari lion:- is a kind of very strong animals living in the bush with big eye. which seem to be the king of the whole animals. 3.2) **Sukur** (Thomas) rivari lion
- 4) **Proto-Hurza** *alvare lion *lion* 4.1) **Vame** (Kinnaird) álvàrè lion *lion*
- 5) **Proto-Margi** *livari lion *lion* 5.1) **Margi South** (Harley) ləvari lion
- 6) **Proto-Mandara** *rivari lion *lion* 6.1) **Podoko** (Swackhammer) rəvára,-ə lion 6.2) **Mandara** (Fluckiger) évare *lion* 6.3) **Malgwa** (Löhr) ərvare lion 6.4) **Glavda** (Nghagyiva) árvàra lion 6.4.1) **Glavda** (Owens) árvá lion
- 7) **Proto-Higi** *livari lion *lion* 7.1) **Kamwe-Futu** (Harley) ləvari lion 7.2) **Kirya** (Blench) wùràvànè lion
- 8) **Proto-Musgum** *divaŋ lion *lion* 8.1) **Mbara** (Tourneux) divaŋ lion

‡₁ nf. cow *bœuf* (18 groups, 54 languages)

This is the best attested root in Central Chadic, occurring in all eighteen groups. *‡ has the regular reflex *‡ in the South sub-branch, with the further regular reflex *l within part of the Bata group. *‡ also has the regular reflexes *h in Buduma, *s in Proto-Kotoko South and some of the other Kotoko languages, and *ʃ in Mpade.

- 1) **Proto-Bata** *‡a cow *vache* 1.1) **Gude** (Hoskinson) là cow 1.2) **Jimi** (Djibi) lan 2 - *Bœuf* 1.3) **Sharwa** (Gravina) la *Bœuf, bœufs* 1.3.1) **Sharwa** (Gravina) la *vache* 1.4) **Tsvan** (Johnston) ‡a le *bœuf* 1.4.1) **Tsvan** (Johnston) ‡akən la *vache*
- 2) **Proto-Daba** *‡a cow *vache* 2.1) **Buwal** (Viljoen) ‡a ox (general term), bovine *bœuf* 2.2) **Gavar** (Viljoen) ‡a ox (general term), bovine *bœuf* 2.3) **Mbudum** (Ndokobai) ‡a ox *bœuf* 2.4) **MazagwayHidi** (Noussi) ‡a *boeuf* 2.5) **Daba** (Lienhard) ‡à la *vache, le bétail*
- 3) **Proto-Mafa** *‡a cow *vache* 3.1) **Mafa** (Ndokobai) ‡e cow *boeuf* 3.2) **Cuvok** (Gravina) ‡a ox *bœuf*
- 4) **Proto-Tera** *‡a cow *vache* 4.1) **Tera** (Newman) ‡a cow 4.2) **Nyimatli** (Harley) ‡e cow 4.2.1) **Nyimatli** (Harley) ‡a cow (female)
- 5) **Proto-Sukur** *‡i cow *vache* 5.1) **Sukur** (David) ‡ə cow, general term for cattle 5.2) **Sukur** (Thomas) ‡əŋa my cow; not belong to some one
- 6) **Proto-Hurza** *‡a cow *vache* 6.1) **Mbuko** (Gravina) ‡a cow *boeuf, vache* 6.2) **Vame** (Kinnaird) ālā ox *boeuf*
- 7) **Proto-Margi** *‡a cow *vache* 7.1) **Margi** (Hoffman) ‡a cow 7.2) **Margi South** (Harley) thla cow 7.3) **Kilba** (Schuh) ‡a cow 7.4) **Bura** (Blench) ‡a, ‡i Cow
- 8) **Proto-Mandara** *‡a cow *vache* 8.1) **Matal** (Branger) ‡a cow *boeuf* 8.2) **Podoko** (Swackhammer) ‡a, - a *vache, boeuf* 8.3) **Mandara** (Fluckiger) élā *boeuf (m)* 8.4) **Malgwa** (Löhr) əthla cattle, cow 8.5) **Glavda** (Nghagyiva) ‡a cow (female)
- 9) **Proto-Mofu** *‡a cow *vache* 9.1) **Ouldeme** (Kinnaird) ‡à ox *boeuf* 9.2) **Moloko** (Friesen) ‡a cow *vache; boeuf* 9.3) **Zulgo** (Haller) ‡a *vache f.* 9.4) **Gemzek** (Sabatai) ‡a ox *bœuf* 9.5) **Merey** (Gravina) ‡a ox *bœuf* 9.6) **Dugwor** (Jubumna) mamij ‡a cow *vache* 9.7) **Mofu North** (Barreteau) ‡ā *bovin, vache, boeuf.* 9.8) **Mofu-Gudur** (Hollingsworth) ‡a cow *bovin, vache*
- 10) **Proto-Maroua** *‡a cow *vache* 10.1) **Giziga Moutourwa** (Michielan) ‡a *vache* 10.2) **Giziga Marva** (Hamidou) ‡a ox *bœuf* 10.2.1) **Giziga Marva** (Hamidou) ‡a cow *vache* 10.3) **Mbazla** (Tourneux) ‡a *vache*
- 11) **Proto-Lamang** *‡a cow *vache* 11.1) **Lamang** (Wolff) ‡á cow 11.2) **Hdi** (Bramlett) ‡a cow la *vache variété zébu*
- 12) **Proto-Higi** *‡a cow *vache* 12.1) **Kamwe-Nkafa** (Harley) ‡á cow 12.1.1) **Kamwe-Nkafa** (Harley) thla cow 12.2) **Kirya** (Blench) ‡á cow 12.3) **Psikye** (Angelo) ‡a cow 12.4) **Bana** (Lienhard) ‡á *vache*

- 13) **Proto-Kotoko Island** *ha cow *vache* 13.1) **Buduma** (McKone) ha cow *vache*
- 14) **Proto-Kotoko North** *ɬa cow *vache* 14.1) **Afade** (Allison) ɬa; ɬa l girim cow *vache* 14.2) **Mpade** (Allison) ʃá cow *vache* 14.3) **Malgbe** (Allison) ɬa cow *vache*
- 15) **Proto-Kotoko Centre** *ɬa cow *vache* 15.1) **Lagwan** (Allison) nɬa cow *vache* 15.2) **Mser** (Allison) sa ox *bœuf*
- 16) **Proto-Kotoko South** *sa cow *vache* 16.1) **Zina** (Odden) àsà cow *vache* 16.2) **Mazera** (Allison) kisa cow *vache*
- 17) **Proto-Musgum** *ɬaj cow *vache* 17.1) **Vulum** (Tourneux) ɬaj *vache* 17.2) **Mulwi** (Tourneux) ɬe *boeuf* 17.3) **Mbara** (Tourneux) wurɬaj cow
- 18) **Proto-Gidar** *waɬija cow *vache* 18.1) **Gidar** (Hungerford) waɬija *vache, boeuf* 18.2) **Gidar** (Schuh) waɬija/0 *vache*

ɬa₂ v. cut *couper* (13 groups, 34 languages) A

This is a very well attested Central Chadic root. The *ɬ has the regular reflex *ɬ in the South sub-branch. Within the Bata group, there has been a subsequent regular change *ɬ→l in most languages. *ɬ also has the regular reflex *s in several Kotoko languages. The ejective that is present in Proto-Kotoko North and Proto-Kotoko Centre may indicate that the root originally contained a glottal consonant such as *ɖ, which fused with the reflex of *ɬ, but without any supporting evidence this cannot be included in the reconstruction.

- 1) **Proto-Bata** *ɬa cut *couper* 1.1) **Gude** (Hoskinson) la cut 1.2) **Jimi** (Djibi) lan 1 - *Trouver, couper avec un couteau ou une hache* ; 1.3) **Sharwa** (Gravina) la (*se*) *couper* 1.4) **Tsuvan** (Johnston) a ɬakən *couper en morceau?*
- 2) **Proto-Daba** *ɬa cut *couper* 2.1) **Buwal** (Viljoen) ɬa cut *couper* 2.2) **Gavar** (Viljoen) ɬa cut with a blade (tr) *couper avec une lame* 2.2.1) **Gavar** (Viljoen) ɬa saw (wood) *scier* 2.3) **Mbudum** (Ndokobai) ɬu cut (tr) *couper* 2.3.1) **Mbudum** (Ndokobai) kəɬa butcher, cut up (meat) (v) *abattre, découper (viande)* 2.4) **Daba** (Lienhard) ɬà *couper*
- 3) **Proto-Tera** *ɬa cut *couper* 3.1) **Tera** (Newman) ɬa cut (e.g. w/ knife)
- 4) **Proto-Sukur** *ɬi cut *couper* 4.1) **Sukur** (David) ɬə cut, to
- 5) **Proto-Hurza** *ɬa cut *couper* 5.1) **Mbuko** (Gravina) ɬa to cut (eg grass) *couper (eg herbe)* 5.2) **Vame** (Kinnaird) ɬáwā cut *couper*
- 6) **Proto-Margi** *ɬa cut *couper* 6.1) **Bura** (Blench) ɬa To cut up in pieces 6.2) **Margi** (Hoffman) ɬə to cut (with axe) 6.3) **Kilba** (Schuh) ɬa/a cut 6.3.1) **Kilba** (Schuh) ɬa/a slaughter 6.3.2) **Kilba** (Schuh) ɬau cut
- 7) **Proto-Mandara** *ɬa cut *couper* 7.1) **Podoko** (Swackhammer) ɬa *couper*

- 8) **Proto-Mofu** *ɬ cut *couper* 8.1) **Ouldeme** (Kinnaird) ɬi cut *couper* 8.2) **Muyang** (Smith) ɬaj cut with a sickle *couper (avec la faucille), couper en enlevant, couper l'obscurité* 8.3) **Zulgo** (Haller) ɬe *couper, faire une incision* 8.4) **Dugwor** (Jubumna) maɬaj cut (tr) *couper* 8.5) **Mofu North** (Barreteau) mɛɬɛj *couper, circoncire* 8.5.1) **Mofu North** (Barreteau) mɛɬɛj *apparaître pour la lune, commencer (mois)* 8.5.2) **Mofu North** (Barreteau) mɛɬɛj *ravir, épouser (femme)* 8.6) **Mofu-Gudur** (Hollingsworth) ɬ' *couper; circoncire* 8.6.1) **Mofu-Gudur** (Hollingsworth) ɬ' *apparaître (la lune), commencer (le mois)*
- 9) **Proto-Maroua** *ɬi cut *couper* 9.1) **Mbazla** (Tourneux) ɬi *couper*
- 10) **Proto-Higi** *ɬa cut *couper* 10.1) **Kamwe-Futu** (Harley) ɬa cut open (papaya) 10.2) **Kirya** (Blench) ɬá cut, trim, sneeze, smell 10.3) **Psiky** (Angelo) ɬá cut 10.4) **Bana** (Lienhard) ɬá *couper, tailler, trancher*
- 11) **Proto-Kotoko North** *ɬ'a cut *couper* 11.1) **Afade** (Allison) s'a; s'el chop into pieces *fendre, couper en morceaux* 11.2) **Mpade** (Allison) s'à hò cut open *fendre, ouvrir avec un couteau* 11.2.1) **Mpade** (Allison) ns'á chop into pieces *fendre, couper en morceaux* 11.3) **Malgbe** (Allison) ɬawun cut open *fendre, ouvrir avec un couteau* 11.3.1) **Malgbe** (Allison) s'injawun chop into pieces *fendre, couper en morceaux*
- 12) **Proto-Kotoko Centre** *s'a cut *couper* 12.1) **Lagwan** (Allison) s'awun chop into pieces *fendre, couper en morceaux* 12.2) **Mser** (Allison) s'ia cut open *fendre, ouvrir avec un couteau* 12.2.1) **Mser** (Allison) s'ia has has chop into pieces *fendre, couper en morceaux*
- 13) **Proto-Musgum** *ɬi cut *couper* 13.1) **Mulwi** (Tourneux) ɬi *couper* 13.2) **Mbara** (Tourneux) ɬii cut *couper*

ɬa^mbah n. leaf *feuille* (6 groups, 17 languages) D

This root is attested in some languages in the Mandara Mountains area. There is a fair degree of variation in the forms, and some parts of the reconstruction are provisional. Not all of the forms cited are necessarily cognate. It is possibly related to the root *ɬimid 'ear'.

- 1) **Proto-Daba** *g^waɬak leaf *feuille* 1.1) **Buwal** (Viljoen) g^waɬak^w wide leaf used for wrapping things *feuille large qui sert à l'emballage* 1.2) **Gavar** (Viljoen) g^waɬak leaf *feuille*
- 2) **Proto-Mafa** *ɬa^mbaj, gamɬak leaf *feuille* 2.1) **Mafa** (Barreteau) ɬa^mbaj *feuille de mil* 2.2) **Cuvok** (Gravina) gamɬak leaf *feuille*
- 3) **Proto-Mandara** *ɬibahi leaf *feuille* 3.1) **Matal** (Branger) babaɬ ahaf leaf *feuille* 3.2) **Podoko** (Swackhammer) ɬɛ́baha,-ə *feuille* 3.3) **Mandara** (Fluckiger) ɬapa *feuille (f), papier (m)* 3.4) **Dghwede** (Frick) lbaxa leaf
- 4) **Proto-Mofu** *ɬa^mbah leaf *feuille* 4.1) **Mada** (Nkoumou) ɬbah j elle *légume, feuille* 4.2) **Moloko** (Friesen) aɬa^mbah leaf *feuille* 4.3) **Zulgo** (Haller) ɬa^mbah *feuille f.* 4.4) **Gemzek** (Sabatai) ɬa^mbah leaf *feuille* 4.5) **Merey** (Gravina) ɬa^mbah leaf *feuille* 4.6) **Dugwor** (Jubumna) ɬa^mba leaf *feuille* 4.7) **Mofu North** (Barreteau) bāɬāh *feuille*
- 5) **Proto-Maroua** *haɬaɬ leaf *feuille* 5.1) **Giziga Moutourwa** (Michielan) haɬaɬ *feuilles du mil*

6) **Proto-Gidar** *ga^lmba leaf *feuille* 6.1) **Gidar** (Schuh) ga^lmba/a *feuilles* 6.2) **Gidar** (Hungerford) ga^lmba *feuille*

ɛnsi num. five *cinq* (3 groups, 6 languages) E **syn:** h^witif, ɛidim.

The forms here are not necessarily cognate, and the existence of this root, even within a subset of Central Chadic groups, is by no means certain.

- 1) **Proto-Kotoko Island** *hi^ɔgi five *cinq* 1.1) **Buduma** (McKone) xi^ɔgi five (5) *cinq* (5) 1.2) **Buduma** (McKone) xi^ɔgi *cinq*.
- 2) **Proto-Kotoko North** *ɸentsi five *cinq* 2.1) **Afade** (Allison) ɸentsi five (5) *cinq* (5) 2.2) **Mpade** (Allison) ʃɛnsi five (5) *cinq* (5) 2.3) **Malgbe** (Allison) ɛnsi five (5) *cinq* (5)
- 3) **Proto-Kotoko Centre** *ʃɛʃi five *cinq* 3.1) **Lagwan** (Allison) ʃɛʃi five (5) *cinq* (5) 3.2) **Mser** (Allison) ʃɛʃi five (5) *cinq* (5)

ɛini nf., v. work *travail* (11 groups, 34 languages) A

*ɛ has the regular reflex *ɛ in the South sub-branch, and here that is the case in Proto-Daba and Proto-Sukur. However, in the Tera group we expect /ɛ/ but find /ɛ̄/, and in the Bata group we expect /ɛ̄/ in Tsuvan and /l/ in the other languages cited, but find /ɛ̄/ in all languages except Bata. The *n has the regular reflex *r in the Margi-Mandara-Mofu major group, and here also in the Giziga languages, borrowed from Mofu-Gudur. *i is reconstructed based on its presence in Proto-Bata, Proto-Margi, Proto-Mandara and Proto-Higi. In most other groups *i is no longer contrastive.

- 1) **Proto-Bata** *ɛini work *travail* 1.1) **Bata** (Boyd) lɛnto work 1.2) **Gude** (Hoskinson) ɛənə work 1.2.1) **Gude** (Hoskinson) ɛəná -ə work 1.3) **Jimi** (Djibi) ɛinən *Travail, travailler* ; 1.4) **Sharwa** (Gravina) ɛən *travail* 1.5) **Tsuvan** (Johnston) ɛinikən *le travail*
- 2) **Proto-Daba** *ɛ̄in work *travail* 2.1) **Buwal** (Viljoen) ɛ̄an work (n) *travail* 2.2) **Gavar** (Viljoen) ɛ̄ən work (n) *travail*
- 3) **Proto-Tera** *ɛina work *travail* 3.1) **Tera** (Newman) ɛəna work 3.2) **Nyimatli** (Harley) ɛuna work (n)
- 4) **Proto-Sukur** *ɛ̄in work *travail* 4.1) **Sukur** (David) ɛ̄ən work 4.2) **Sukur** (Thomas) ɛ̄ən work
- 5) **Proto-Hurza** *ɛina work *travail* 5.1) **Mbuko** (Gravina) aɛan *travail* 5.2) **Vame** (Kinnaird) ɛ̄ərə work *travail*
- 6) **Proto-Margi** *ɛir work *travail* 6.1) **Bura** (Blench) kiɛir Work 6.2) **Margi** (Hoffman) ɛər work 6.3) **Kilba** (Schuh) ɛəra// work
- 7) **Proto-Mandara** *ɛiri work *travail* 7.1) **Matal** (Branger) ɛ̄rāj work *travail* 7.2) **Podoko** (Swackhammer) ɛ̄ərə *travailler, cultiver* 7.2.1) **Podoko** (Swackhammer) ɛ̄əra,-i *travail* 7.3) **Malgwa** (Löhr) thləra work 7.4) **Glavda** (Nghagyiva) ɛra work (n) 7.4.1) **Glavda** (Owens) ɛə work 7.5) **Dghwede** (Frick) ɛəra work

8) Proto-Mofu *ɬir work *travail* 8.1) **Ouldeme** (Kinnaird) à̀̀̀̀̀r work *travail* 8.2) **Moloko** (Friesen) ɬərele work *travail* 8.3) **Gemzek** (Sabatai) mə̀̀̀̀̀r work (n) *travail* 8.4) **Merey** (Gravina) mə̀̀̀̀̀r work (n) *travail* 8.5) **Dugwor** (Jubumna) mə̀̀̀̀̀r work (n) *travail* 8.6) **Mofu-Gudur** (Hollingsworth) ɬəra *travail*

9) Proto-Maroua *ɬira work *travail* 9.1) **Giziga Moutourwa** (Michielan) ɬra, ɬra *travail* 9.1.1) **Giziga Moutourwa** (Michielan) ɬra *travail* 9.2) **Giziga Marva** (Hamidou) ɬira work (n) *travail*

10) Proto-Lamang *ɬina work *travail* 10.1) **Hdi** (Bramlett) ɬəna work *le travail*

11) Proto-Higi *ɬini work *travail* 11.1) **Kamwe-Nkafa** (Harley) ɬ́́́́nə Work 11.2) **Kamwe-Futu** (Harley) ɬ́́́́nə work 11.3) **Kirya** (Blench) ɬ́́́́nə work, duty 11.4) **Psikye** (Angelo) ɬ́́́́nə work 11.5) **Bana** (Lienhard) ɬ́́́́ní *travail, travailler*

ɬira num. six *six* (2 groups, 3 languages) C **syn: kiwah, vinahkir, markid**^y.

This is one of several roots for 'six', and is found only in the Musgum and Gidar groups. The vowel *i is tentatively reconstructed, but without great confidence.

- 1) **Proto-Musgum** *ɬira six *six* 1.1) **Vulum** (Tourneux) ɬaara *six* 1.2) **Mbara** (Tourneux) ɬira six
- 2) **Proto-Gidar** *ɬira^y six *six* 2.1) **Gidar** (Schuh) ɬəre *six* 2.2) **Gidar** (Hungerford) ɬre *six*, 6

ɬidɪn^y nf. tooth *dent* (18 groups, 53 languages) B

This root is found in all groups, and can be reconstructed for Proto-Chadic and in other branches of Afroasiatic. *ɬ behaves as expected, having the regular reflex *ɬ̥ in the South sub-branch and other regular reflexes such as /l/, /s/ and /h/ in individual languages or group proto-languages. The final *n has the regular reflex *r in the Margi-Mandara-Mofu major group. *d is reconstructed based on data from the Daba and Lamang groups. In the Daba group, the reflex /d/ is found. In the Lamang group the Lamang language has /d/ and Hdi has /ʔ/, giving good grounds for reconstructing *d. In the Hurza group, the Vame word gives support for a middle consonant in the root, but does not provide support for *d itself. Under palatalisation, *d regularly becomes /j/ in most languages, which accounts for its absence in some cases. There is evidence for the palatalisation prosody from almost all groups where it is a productive feature.

- 1) **Proto-Bata** *ɬɪni^y tooth *dent* 1.1) **Bata** (Boyd) linto tooth 1.2) **Gude** (Hoskinson) linj́́́́nə (inher. poss., body part) tooth, teeth 1.3) **Jimi** (Djibi) linjən *Dent* 1.4) **Sharwa** (Gravina) linjə *Dent* 1.5) **Tsuvan** (Johnston) ɬjine *la dent*
- 2) **Proto-Daba** *ɬidəɲ^y tooth *dent* 2.1) **Buwal** (Viljoen) ɬədeɲ tooth *dent* 2.2) **Gavar** (Viljoen) ɬidenɲ tooth *dent*
- 3) **Proto-Mafa** *ɬjan^y tooth *dent* 3.1) **Mafa** (Barreteau) ɬgene *dent* 3.2) **Cuvok** (Gravina) ɬɛɲ tooth *dent*
- 4) **Proto-Tera** *ɬjin tooth *dent* 4.1) **Tera** (Newman) ɬjin tooth (general term and incisor) 4.2) **Nyimatlɪ** (Harley) ɬjin tooth
- 5) **Proto-Sukur** *ɬjin^y tooth *dent* 5.1) **Sukur** (David) ɬjin tooth 5.2) **Sukur** (Thomas) ɬjin teeth:- is something in the mouth for both human and animal usually for eating and biting.

- 6) **Proto-Hurza** *ɬahan tooth *dent* 6.1) **Mbuko** (Gravina) ɬan tooth *dent* 6.2) **Vame** (Kinnaird) ɬāhán tooth *dent*
- 7) **Proto-Margi** *ɬir^y tooth *dent* 7.1) **Margi** (Hoffman) hjir tooth 7.2) **Margi South** (Harley) hjir tooth 7.2.1) **Margi South** (Hoffman) hjir tooth 7.3) **Kilba** (Hoffman) hjir tooth 7.3.1) **Kilba** (Schuh) hjir tooth 7.4) **Bura** (Blench) ɬir Tooth (Preferably 'hlir') (BR) 7.4.1) **Bura** (Blench) hir Tooth 7.4.2) **Bura** (Blench) hjir, hir Tooth, teeth
- 8) **Proto-Mandara** *ɬiri^y tooth *dent* 8.1) **Matal** (Branger) ɬid tooth *dent* 8.2) **Podoko** (Swackhammer) ɬira,-ə *dent* 8.3) **Mandara** (Fluckiger) ɬaré *dent* (*f*), *défense d'éléphant, tranchant de la lame d'un instrument, croc d'un animal* 8.4) **Malgwa** (Löhr) thlaare tooth 8.5) **Glavda** (Nghagyiva) ɬɔda tooth 8.6) **Dghwede** (Frick) ɬire tooth
- 9) **Proto-Mofu** *ɬir^y tooth *dent* 9.1) **Ouldeme** (Kinnaird) ɬáár tooth *dent* 9.2) **Muyang** (Smith) aɬər tooth *dent* 9.3) **Mada** (Nkoumou) aɬár *dent* 9.4) **Moloko** (Friesen) aɬar tooth *dent* 9.5) **Zulgo** (Haller) ɬír *dent f.* 9.6) **Gemzek** (Sabatai) ɬer tooth *dent* 9.7) **Merey** (Gravina) ɬer tooth *dent* 9.8) **Dugwor** (Jubumna) ɬer tooth *dent* 9.9) **Mofu North** (Barreteau) ɬér *dent* 9.10) **Mofu-Gudur** (Hollingsworth) ɬer *dent ; croc, défense (d'éléphant)*
- 10) **Proto-Maroua** *ɬin^y tooth *dent* 10.1) **Giziga Moutourwa** (Michielan) ɬin *dent* 10.2) **Giziga Marva** (Hamidou) ɬin tooth *dent* 10.3) **Mbazla** (Tourneux) ɬin *dent* 10.3.1) **Mbazla** (SILSurvey) hín tooth *dent*
- 11) **Proto-Lamang** *ɬidiŋ tooth *dent* 11.1) **Lamang** (Wolff) ɬidiŋ teeth 11.2) **Hdi** (Bramlett) ɬi'ini tooth *la dent*
- 12) **Proto-Higi** *ɬini tooth *dent* 12.1) **Kamwe-Futu** (Harley) ɬino tooth 12.2) **Kirya** (Blench) ɬàj tooth 12.3) **Psikye** (Angelo) ɬənɔ tooth 12.4) **Bana** (Lienhard) ɬini *dent*
- 13) **Proto-Kotoko Island** *ɬinaj tooth *dent* 13.1) **Buduma** (McKone) hənaj *dent*.
- 14) **Proto-Kotoko North** *ɬir tooth *dent* 14.1) **Afade** (Allison) ɬir tooth *dent* 14.2) **Mpade** (Allison) ɬán tooth *dent* 14.3) **Malgbe** (Allison) ɬir tooth *dent*
- 15) **Proto-Kotoko Centre** *ɬini tooth *dent* 15.1) **Lagwan** (Allison) ɬini tooth *dent* 15.2) **Mser** (Allison) sir tooth *dent*
- 16) **Proto-Kotoko South** *sin tooth *dent* 16.1) **Zina** (Odden) sin tooth *dent* 16.2) **Mazera** (Allison) sine tooth *dent*
- 17) **Proto-Musgum** *ɬin *dent* 17.1) **Vulum** (Tourneux) ɬin *dent*
- 18) **Proto-Gidar** *ɬaja tooth *dent* 18.1) **Gidar** (Schuh) ɬaja, *dent* 18.2) **Gidar** (Hungerford) ɬaja *dent*

ɬimid^y n. ear *oreille* (18 groups, 53 languages) A **cf:** ɬimid^y₁.

This root is attested in all Central Chadic groups. The initial *ɬ has the regular reflex *ɬ in the South sub-branch and has regular reflexes in all languages. The *m is stable, except for the sporadic change to /^mb/ in Mafa. The final *d is retained in Mafa and the Giziga languages, and there is the reflex /ʔ/ in Daba and Mbazla. Elsewhere the *d has either been lost completely, or has been palatalised, with *d^f→j. As a result of this, the palatalisation prosody is only apparent in four groups.

- 1) **Proto-Bata** *ɣimi^y ear *oreille* 1.1) **Gude** (Hoskinson) ləmá -ə (inher. poss.) name 1.2) **Jimi** (Djibi) limən 1 - *Oreille*; 2 - *Nom* 1.3) **Sharwa** (Gravina) limi *oreille* 1.3.1) **Sharwa** (Gravina) limi *nom* 1.4) **Tsuvan** (Johnston) ɣəme *l'oreille*
- 2) **Proto-Daba** *ɣimi?^y ear *oreille* 2.1) **Gavar** (Viljoen) ɣəm ear *oreille* 2.2) **Buwal** (Viljoen) ɣəm ear *oreille* 2.3) **MazagwayHidi** (Noussi) ɣimi *oreille* 2.4) **Daba** (Lienhard) ɣimi ' *l'oreille* ; *écouter, entendre, obéir* 2.5) **Mbudum** (Ndokobai) ɣəm ear *oreille*
- 3) **Proto-Mafa** *ɣimad ear *oreille* 3.1) **Mafa** (Barreteau) ɣə^mbad *oreille* 3.2) **Cuvok** (Gravina) ɣəmaj ear *oreille*
- 4) **Proto-Tera** *ɣim ear *oreille* 4.1) **Tera** (Newman) ɣim ear 4.1.1) **Tera** (Newman) ɣim name 4.2) **Nyimatli** (Harley) ɣum ear 4.2.1) **Nyimatli** (Harley) ɣum name
- 5) **Proto-Sukur** *ɣimaj ear *oreille* 5.1) **Sukur** (David) ɣəmaj ear 5.2) **Sukur** (Thomas) ɣəmai ear; is the general term for ear.
- 6) **Proto-Hurza** *ɣimaj ear *oreille* 6.1) **Mbuko** (Gravina) ɣəmaj ear *oreille* 6.2) **Vame** (Kinnaird) ɣəmaj ear *oreille*
- 7) **Proto-Margi** *ɣimi^y ear *oreille* 7.1) **Margi** (Hoffman) ɣimi ear 7.2) **Margi South** (Harley) himi ear 7.3) **Kilba** (Schuh) hjimi ear 7.4) **Bura** (Blench) ɣim Ear
- 8) **Proto-Mandara** *ɣimi^y ear *oreille* 8.1) **Matal** (Branger) ɣəm ear *oreille* 8.2) **Podoko** (Swackhammer) ɣəma,-ə 1 *oreille* 8.2.1) **Podoko** (Swackhammer) ɣəma,-ə 2 *barbillon d'une flèche* 8.3) **Mandara** (Fluckiger) hjama *oreille (f)* 8.4) **Malgwa** (Löhr) hjima ear 8.5) **Glavda** (Nghagyiva) ɣimja ear 8.5.1) **Glavda** (Owens) ɣimi leaf, ear 8.6) **Dghwede** (Frick) ɣəme ear
- 9) **Proto-Mofu** *ɣimaj ear *oreille* 9.1) **Ouldeme** (Kinnaird) ɣəmāj ear *oreille* 9.2) **Muyang** (Smith) ɣimi ear ; name *oreille*; *nom* 9.3) **Mada** (Nkoumou) ɣme *oreille* 9.4) **Zulgo** (Haller) ɣəm *oreille f.* 9.5) **Gemzek** (Sabatai) ɣəm ear *oreille* 9.6) **Merey** (Gravina) ɣəm ear *oreille* 9.7) **Dugwor** (Jubumna) ɣəm ear *oreille* 9.8) **Mofu North** (Barreteau) ɣəmāj *oreille* 9.9) **Mofu-Gudur** (Hollingsworth) ɣəmaj ear *oreille*
- 10) **Proto-Maroua** *ɣimid^y ear *oreille* 10.1) **Giziga Moutourwa** (Michielan) ɣimid(i) *oreille, nom, prénom* 10.2) **Giziga Marva** (Hamidou) ɣimed ear *oreille* 10.3) **Mbazla** (Tourneux) ɣəmaj *oreille* 10.3.1) **Mbazla** (SILSurvey) ɣimē' ear *oreille*
- 11) **Proto-Lamang** *ɣimiŋ ear *oreille* 11.1) **Hdi** (Bramlett) ɣəməŋ ear *l'oreille*
- 12) **Proto-Higi** *ɣimi ear *oreille* 12.1) **Kamwe-Nkafa** (Harley) ɣəmə ear 12.2) **Kamwe-Futu** (Harley) ɣimo^g ear 12.3) **Kirya** (Blench) ɣəm ear, name 12.4) **Bana** (Lienhard) ɣəmá *oreille*
- 13) **Proto-Kotoko Island** *ɣimu ear *oreille* 13.1) **Buduma** (McKone) həmuə ear *oreille* 13.2) **Buduma** (McKone) həmu *oreille, nom, anse.*
- 14) **Proto-Kotoko North** *ɣim ear *oreille* 14.1) **Afade** (Allison) ɣim ear *oreille* 14.2) **Mpade** (Allison) ɣimu ear *oreille* 14.3) **Malgbe** (Allison) ɣim ear *oreille*
- 15) **Proto-Kotoko Centre** *ɣimi ear *oreille* 15.1) **Lagwan** (Allison) ɣimi ear *oreille* 15.2) **Mser** (Allison) sim; tobo ear *oreille*
- 16) **Proto-Kotoko South** *sime ear *oreille* 16.1) **Mazera** (Allison) sime ear *oreille*

17) **Proto-Musgum** *ɬima^w ear *oreille* 17.1) **Mbara** (Tourneux) ɬumo ear

18) **Proto-Gidar** *ɬima ear *oreille* 18.1) **Gidar** (Hungerford) ɬəma *oreille* 18.1.1) **Gidar** (Schuh) ɬəma/a *oreille*

19) **Kanuri** səmo ear *oreille*

ɬimid^y₁ nm. name *nom* (12 groups, 23 languages) A cf: **ɬimid^y₂**.

This root is reconstructed to be identical with the root for 'ear', though the reflexes in individual languages may differ. It is not known if the two words are in fact two senses of the same word. *ɬ has the regular reflex *ɬ in the languages of the South sub-branch, and other regular reflexes in individual languages. The final *d has the reflex *j in several groups due to the effect of palatalisation.

1) **Proto-Daba** *ɬim name *nom* 1.1) **Buwal** (Viljoen) ɬam name *nom* 1.2) **Gavar** (Viljoen) ɬəm name *nom*

2) **Proto-Mafa** *ɬim^mbad name *nom* 2.1) **Mafa** (Barreteau) ɬim^mbad name *nom*

3) **Proto-Tera** *ɬim name *nom* 3.1) **Nyimatli** (Harley) ɬum name

4) **Proto-Hurza** *ɬimaj name *nom* 4.1) **Mbuko** (Gravina) ɬəmaj name *nom*

5) **Proto-Margi** *ɬim name *nom* 5.1) **Bura** (Blench) ɬim Name 5.2) **Kilba** (Schuh) ɬəm name

6) **Proto-Mandara** *ɬim name *nom* 6.1) **Matal** (Branger) ɬəm name *nom*

7) **Proto-Mofu** *ɬimij name *nom* 7.1) **Muyang** (Smith) ɬimi ear ; name *oreille*; *nom* 7.2) **Mada**

(Nkoumou) ɬme *nom* 7.3) **Moloko** (Friesen) ɬəmaj ear *oreille* 7.3.1) **Moloko** (Friesen) ɬəmaj name *nom* 7.4) **Gemzek** (Sabatai) ɬam name *nom* 7.5) **Dugwor** (Jubumna) ɬam name *nom*

8) **Proto-Maroua** *ɬimad^y name *nom* 8.1) **Giziga Marva** (Hamidou) ɬimed name *nom* 8.2) **Mbazla** (Tourneux) ɬəmaj *nom* 8.2.1) **Mbazla** (SILSurvey) səməí name *nom*

9) **Proto-Kotoko North** *ɬim name *nom* 9.1) **Afade** (Allison) ɬim; ɬim sewe; ɬim a tse name *nom* 9.2) **Mpade** (Allison) ɬim name *nom* 9.3) **Malgbe** (Allison) ɬim name *nom* 9.4) **Maltam** (Allison) ɬim si wawun; ɬim si hili (mawe / grim) name *nom*

10) **Proto-Kotoko Centre** *ɬimi name *nom* 10.1) **Lagwan** (Allison) ɬimi; ɬimi a bilam name *nom* 10.2) **Mser** (Allison) sim name *nom*

11) **Proto-Kotoko South** *sima^y name *nom* 11.1) **Zina** (Odden) səm name *nom* 11.2) **Mazera** (Allison) sime name *nom*

12) **Proto-Musgum** *ɬim^y name *nom* 12.1) **Mbara** (Tourneux) ɬim name

ɬin v. send *envoyer* (12 groups, 24 languages) A

The basic sense is to send someone to do something. The initial *ɬ has the regular reflex *ɮ in the languages of the South sub-branch, along with other regular reflexes in individual languages and groups. The *n has the regular reflex *r in the Mandara and Mofu groups. However, the final /n/ in Bura is expected to be /r/, and in Cuvok /n/ is expected where /r/ is found. The /l/ in Matal is the result of a subsequent regular change *r→l. In Lagwan and Mser there may be two similar roots *ɬin and *ɬim. The second of these, which is also given for Mpade, may not be cognate. The Bura word contains the vowel /e/, which is not part of the core phonemic inventory.

- 1) **Proto-Daba** *ɮin send *envoyer* 1.1) **Gavar** (Viljoen) ɮən send *envoyer* 1.2) **Daba** (Lienhard) ɮən *envoyer*
- 2) **Proto-Mafa** *ɮin send *envoyer* 2.1) **Mafa** (Barreteau) ɮi^ɔgd *envoyer* 2.2) **Cuvok** (Gravina) ɮəra send (something to someone) *envoyer (qqch à qqun)* 2.2.1) **Cuvok** (Gravina) ɮar ^ɔda send (someone to do something) *envoyer en commission*
- 3) **Proto-Hurza** *ɬin send *envoyer* 3.1) **Mbuko** (Gravina) ɬan send *envoyer* 3.2) **Vame** (Kinnaird) ɬnā send *envoyer*
- 4) **Proto-Margi** *ɬen send *envoyer* 4.1) **Bura** (Blench) ɬenta To send (BR) Preferably hlenta 4.1.1) **Bura** (Blench) hjenta To send; to cause to go
- 5) **Proto-Mandara** *ɬir send *envoyer* 5.1) **Matal** (Branger) mətəlāj send *envoyer*
- 6) **Proto-Mofu** *ɬir send *envoyer* 6.1) **Ouldeme** (Kinnaird) ɬər send *envoyer* 6.2) **Mada** (Nkoumou) maɬla *envoyer en mission* 6.3) **Moloko** (Friesen) ɬar send *envoyer* 6.4) **Zulgo** (Haller) ɬər *envoyer, déléguer* 6.5) **Gemzek** (Sabatai) məɬəre send (something to someone) *envoyer (qqch à qqun)* 6.6) **Merey** (Gravina) ɬər send *envoyer* 6.7) **Dugwor** (Jubumna) məɬərej send (someone to do something) *envoyer en commission* 6.8) **Mofu-Gudur** (Hollingsworth) ɬər *envoyer qqn, charger d'une commission, commissioner, rendre service*
- 7) **Proto-Maroua** *ɬin send *envoyer* 7.1) **Giziga Moutourwa** (Michielan) ɬin *envoyer* 7.2) **Giziga Marva** (Hamidou) ɬəŋne send (someone to do something) *envoyer en commission*
- 8) **Proto-Kotoko North** *ts'am send *envoyer* 8.1) **Mpade** (Allison) tʃ'am send (s.o. to do sth.) *envoyer en commission*
- 9) **Proto-Kotoko Centre** *ɬin send *envoyer* 9.1) **Lagwan** (Allison) ɬi (ni) send (s.o. to do sth.) *envoyer en commission* 9.1.1) **Lagwan** (Allison) ɬimwun; ɬim send (s.o. to do sth.) *envoyer en commission* 9.2) **Mser** (Allison) sin (bilam) send (s.o. to do sth.) *envoyer en commission* 9.2.1) **Mser** (Allison) s'am (ni) send (sth. to s.o.) *envoyer (qqch à qqn)*
- 10) **Proto-Kotoko South** *sine send *envoyer* 10.1) **Mazera** (Allison) sine send (sth. to s.o.) *envoyer (qqch à qqn)* 10.1.1) **Mazera** (Allison) sine send (s.o. to do sth.) *envoyer en commission*
- 11) **Proto-Musgum** *ɬini ^y send *envoyer* 11.1) **Mulwi** (Tourneux) ɬini *envoyer*
- 12) **Proto-Gidar** *ɬina send *envoyer* 12.1) **Gidar** (Hungerford) wəɬəna *envoyer*

hirigi nf. root *racine* (11 groups, 31 languages) C

This root presents some difficulties in its reconstruction. The *ɬ is expected to have the reflex *ɮ in the South sub-branch, but this is not the case in any of the South groups (Bata, Daba, Mafa, Sukur). In the Bata group, there should also have been a subsequent change *ɮ→l in most languages, and this has not taken place. However, the regular change *r→l in the North sub-branch has taken place with a good degree of consistency. The *g has the unestablished reflexes /k/, /h/, /^ɔg/, /ŋ/ and /j/. In the Daba, Mafa and Maroua groups, and in some Mofu group languages, there is reduplication of the *ɬ. This is normally a sign that an initial consonant such as *h has been lost, but there is no direct evidence for such an initial consonant.

- 1) **Proto-Bata** *hirigi root *racine* 1.1) **Gude** (Hoskinson) lhárəgínə root(s) 1.2) **Jimi** (Djibi) ɬərəgin *Racines* 1.3) **Sharwa** (Gravina) ɬjərjəgi *racine* 1.4) **Tsuvan** (Johnston) ɬere *la racine*
- 2) **Proto-Daba** *ɬaɬalaj root *racine* 2.1) **Buwal** (Viljoen) ɬaɬalaj root *racine*
- 3) **Proto-Mafa** *ɬaɬaraj root *racine* 3.1) **Cuvok** (Gravina) ɬaɬalaj root *racine*
- 4) **Proto-Sukur** *ɬij root *racine* 4.1) **Sukur** (David) ɬi root 4.2) **Sukur** (Thomas) ɬəi root:- the part of a plant that grows under the ground and absorbs water and minerals that is send to the rest of the plant.
- 5) **Proto-Hurza** *ɬilikaj root *racine* 5.1) **Mbuko** (Gravina) ɬələj root *racine* 5.2) **Vame** (Kinnaird) ɬəlkə root *racine*
- 6) **Proto-Mandara** *ɬalih root *racine* 6.1) **Matal** (Branger) ɬlɪh root *racine* 6.2) **Mandara** (Fluckiger) ɬalwe *racine (f)* 6.3) **Malgwa** (Löhr) thlalawe root 6.4) **Glavda** (Nghagyiva) ɬəlija root 6.5) **Dghwede** (Frick) ɬəla root
- 7) **Proto-Mofu** *ɬilaj root *racine* 7.1) **Ouldeme** (Kinnaird) ɬikili root *racine* 7.2) **Moloko** (Friesen) ɬələj root *racine* 7.3) **Zulgo** (Haller) ɬɪlé *racine f.* 7.4) **Gemzek** (Sabatai) ɬəle *racine* 7.5) **Merey** (Gravina) ɬələj root *racine* 7.6) **Dugwor** (Jubumna) ɬəɬələj root *racine* 7.7) **Mofu North** (Barreteau) ɬəfáj root *racine* 7.8) **Mofu-Gudur** (Hollingsworth) ɬaɬalaj *racine ; (sens fig.) fils, richesse*
- 8) **Proto-Maroua** *ɬaɬalaki root *racine* 8.1) **Giziga Moutourwa** (Michielan) ɬaɬalak(a) da^mbaɬa (Mj) *racine d'arbre, remède (Mv: slaslak = dambasla: écorce de racine, racine. Mj slaslalak = racine d'un arbre sec* 8.2) **Giziga Marva** (Hamidou) ɬaɬalak root *racine* 8.3) **Mbazla** (Tourneux) ɬilki, ɬjelki *racine* 8.3.1) **Mbazla** (SILSurvey) hiliki' root *racine*
- 9) **Proto-Lamang** *hirin root *racine* 9.1) **Hdi** (Bramlett) ɬərən root *la racine*
- 10) **Proto-Higi** *ɬili^ɔgi root *racine* 10.1) **Kamwe-Nkafa** (Harley) thlərəna root 10.1.1) **Kamwe-Nkafa** (Harley) thərna root 10.2) **Kirya** (Blench) ɬir^ɔgá root 10.3) **Psikye** (Angelo) ɬúgú root 10.4) **Bana** (Lienhard) xjílíliŋ(ə) *racine*
- 11) **Proto-Gidar** *ɬalwaja root *racine* 11.1) **Gidar** (Hungerford) ɬalwaja *racine*

ɬiwid^y nm. meat *viande* (16 groups, 43 languages) A

This is one of the most widely attested roots. The initial *ɬ has the regular reflex *ɮ in the South sub-branch, and the other reflexes are regular. The palatalisation prosody is present in many of the groups. In some groups it has combined with *d, resulting in *j. In Mandara and Malgwa the *ɬ has been palatalised and then moved to the velar position, resulting *h^j, which is a regular process. In Matal and Podoko the *w and *d have fused, resulting in /b/, and in Hdi the same phonemes have resulted in /ʔ^w/. These are both common sporadic processes.

- 1) **Proto-Bata** *ɬiwi^y meat *viande* 1.1) **Gude** (Hoskinson) ləwá -ə meat, wild animal 1.2) **Jimi** (Djibi) liwən *Viande* 1.3) **Sharwa** (Gravina) liwə *Viande* 1.4) **Tsuvan** (Johnston) ɮiwe *la viande*
- 2) **Proto-Daba** *ɬij^y meat *viande* 2.1) **Buwal** (Viljoen) ɮej flesh *chair* 2.1.1) **Buwal** (Viljoen) ɮej meat *viande* 2.2) **Gavar** (Viljoen) ɮi meat *viande* 2.2.1) **Gavar** (Viljoen) ɮi flesh *chair* 2.3) **Mbudum** (Ndokobai) ɮi meat *viande*
- 3) **Proto-Mafa** *ɬiwad^y meat *viande* 3.1) **Mafa** (Ndokobai) ɮuwed meat *viande* 3.1.1) **Mafa** (Barreteau) ɮúwéd *viande* 3.2) **Cuvok** (Gravina) ɬaw meat *viande*
- 4) **Proto-Tera** *ɬu meat *viande* 4.1) **Tera** (Newman) ɮu meat 4.2) **Nyimatli** (Harley) ɮu meat
- 5) **Proto-Sukur** *ɬiwid^y meat *viande* 5.1) **Sukur** (David) ɬuwij meat 5.2) **Sukur** (Thomas) ɮui meat; is the general term for meat; the flesh of an animals or a birds eating as food.
- 6) **Proto-Hurza** *ɬiwad^y meat *viande* 6.1) **Mbuko** (Gravina) ɬuwed meat *viande* 6.2) **Vame** (Kinnaird) ɬúwé meat *viande*
- 7) **Proto-Mandara** *ɬiwid^y meat *viande* 7.1) **Matal** (Branger) ɬəb meat *viande* 7.2) **Podoko** (Swackhammer) ɬəba, -ə *viande* 7.3) **Mandara** (Fluckiger) hjua *viande (f)* 7.4) **Malgwa** (Löhr) hjuwa meat, flesh 7.5) **Glavda** (Nghagyiva) ɬúwa meat 7.5.1) **Glavda** (Owens) ɬ meat
- 8) **Proto-Mofu** *ɬiw meat *viande* 8.1) **Ouldeme** (Kinnaird) ɬú meat *viande* 8.2) **Muyang** (Smith) aɬu flesh ; meat *viande; chaire* 8.3) **Mada** (Nkoumou) osɬo *viande* 8.4) **Zulgo** (Haller) ɬú *viande f.* 8.5) **Gemzek** (Sabatai) ɬo meat *viande* 8.6) **Merey** (Gravina) ɬaw *viande* 8.6.1) **Merey** (Gravina) ɮaw meat *viande* 8.6.2) **Merey** (Gravina) ɬo *viande* 8.7) **Dugwor** (Jubumna) ɬaw meat *viande* 8.8) **Mofu North** (Barreteau) ɬəw *viande* 8.9) **Mofu-Gudur** (Hollingsworth) aɬaw meat *viande, chair animale (viande ou poisson)*
- 9) **Proto-Lamang** *ɬi^{ʔw}i meat *viande* 9.1) **Lamang** (Wolff) ɬúw meat 9.2) **Hdi** (Bramlett) ɬu'i meat *la viande*
- 10) **Proto-Higi** *ɬij meat *viande* 10.1) **Kamwe-Futu** (Harley) ɬji meat; flesh 10.2) **Kirya** (Blench) ɬè meat 10.3) **Psikye** (Angelo) ɬi meat
- 11) **Proto-Kotoko Island** *hu meat *viande* 11.1) **Buduma** (McKone) xù meat *viande*
- 12) **Proto-Kotoko North** *ɬiw meat *viande* 12.1) **Mpade** (Allison) ɮú meat *viande* 12.2) **Malgbe** (Allison) ɬu meat *viande*
- 13) **Proto-Kotoko Centre** *ɬiw meat *viande* 13.1) **Lagwan** (Allison) ɬu meat *viande* 13.2) **Mser** (Allison) su meat *viande*
- 14) **Proto-Kotoko South** *asu meat *viande* 14.1) **Zina** (Odden) àsú meat *viande*

15) Proto-Musgum **hiwit* meat *viande* 15.1) **Vulum** (Tourneux) *luk viande* 15.2) **Mbara** (Tourneux) *luk meat* 15.3) **Muskum** (Tourneux) *luwut viande*

16) Proto-Gidar **hiwi* meat *viande* 16.1) **Gidar** (Schuh) *luwa/0 viande* 16.2) **Gidar** (Hungerford) *luwa viande*

ḥabaj adj. left *gauche* (6 groups, 10 languages) A **syn:** g^wila.

This root is one of two well-attested roots for 'left'. There are very few changes that have taken place.

- 1) **Proto-Daba** *ḥabaj left *gauche* 1.1) **Daba** (Lienhard) ḥàbāj ; à ḥābāj à *gauche*
- 2) **Proto-Sukur** *ḥabaj left *gauche* 2.1) **Sukur** (David) ri ḥabaj left (hand) 2.2) **Sukur** (Thomas) ḥabai left:- on the left side
- 3) **Proto-Mandara** *ḥaba left *gauche* 3.1) **Podoko** (Swackhammer) ḥába,-i *main gauche, gaucher* 3.1.1) **Podoko** (Swackhammer) haró ḥába *main gauche* 3.2) **Mandara** (Fluckiger) naaḥaba *gauche (f)* 3.2.1) **Mandara** (Fluckiger) naḥaba *gauche* 3.3) **Malgwa** (Löhr) ərva na dhlaba left-hand 3.3.1) **Malgwa** (Löhr) nadhlaba left-hand person 3.3.2) **Malgwa** (Löhr) nathlaba left 3.4) **Glavda** (Owens) ḥa side, left 3.4.1) **Glavda** (Owens) ḥa side, left 3.4.2) **Glavda** (Owens) dāvá ḥéḥa left hand 3.4.3) **Glavda** (Nghagyiva) d^ovā ḥába left (direction) 3.5) **Dghwede** (Frick) dāvə ḥaʔa left (hand)
- 4) **Proto-Lamang** *ḥaba left *gauche* 4.1) **Hdi** (Bramlett) ḥaba left *gauche*
- 5) **Proto-Higi** *ḥeḥi left *gauche* 5.1) **Bana** (Lienhard) ḥèḥ(i) *gauche*
- 6) **Proto-Gidar** *ḥabaj left *gauche* 6.1) **Gidar** (Hungerford) vaaḥabaj (à) *gauche*

ḥidim num. five *cinq* (7 groups, 25 languages) B **syn:** h^witif, ḥensi.

This root is found in the languages of the Mandara Mountains and the Eastern Plains, though not in the Hurza or Daba groups. The initial *ḥ is devoiced in the Musgum and Gidar groups. In Gidar this is a regular change, but it is irregular in Proto-Musgum. *ḥ is reconstructed on the basis of evidence from the Mandara, Maroua, Musgum and Gidar groups. In Proto-Mandara there was a regular change *m→w word-final, but Podoko retains /m/ here. In Mandara, Malgwa, Glavda and Dghwede the *w has fused with *ḥ to form /ḥ/, which is a regular sporadic process. In the Maroua group, the Mbazla data includes /ⁿd/ as an irregular reflex of *ḥ. In the Musgum and Gidar groups, there is /ʔ/ as a reflex of *ḥ which is a common sporadic change. There is no language where *ḥ is retained as /ḥ/, but the evidence justifies the reconstruction of *ḥ. *i is reconstructed in Proto-Mandara and Proto-Maroua. It is possible that *i should be reconstructed for Proto-Central Chadic, but more data would be necessary to justify this.

- 1) **Proto-Mafa** *ḥam five *cinq* 1.1) **Mafa** (Barreteau) ḥám *cinq* 1.2) **Cuvok** (Gravina) ḥam five (5) *cinq* (5)
- 2) **Proto-Sukur** *ḥam five *cinq* 2.1) **Sukur** (David) ḥam five 2.2) **Sukur** (Thomas) ḥamḥam five:- five for counting things.
- 3) **Proto-Mandara** *ḥidim five *cinq* 3.1) **Matal** (Branger) əḥu, əḥəw five *cinq* 3.2) **Podoko** (Swackhammer) ḥama,-ə *cinq* 3.3) **Mandara** (Fluckiger) ḥéḥe *cinq* 3.4) **Malgwa** (Löhr) iidhləbe five 3.5) **Glavda** (Nghagyiva) ḥ^oba five (5) 3.6) **Dghwede** (Frick) ḥip'e five

- 4) **Proto-Mofu** *ɣim five *cinq* 4.1) **Ouldeme** (Kinnaird) ɣàm five *cinq* 4.2) **Muyang** (Smith) ɣam five *cinq* 4.3) **Mada** (Nkoumou) zɣàm, ázɣàmá *cinq* 4.4) **Moloko** (Friesen) ɣom five *cinq* 4.5) **Zulgo** (Haller) əɣəm *cinq* 4.6) **Gemzek** (Sabatai) ɣəm five *cinq* 4.7) **Merey** (Gravina) ɣam five (5) *cinq* (5) 4.8) **Dugwor** (Jubumna) ɣam five (5) *cinq* (5) 4.9) **Mofu North** (Barreteau) ɣàm (*num.*) *cinq* 4.10) **Mofu-Gudur** (Hollingsworth) ɣam *cinq*
- 5) **Proto-Maroua** *ɣiⁿdam five *cinq* 5.1) **Giziga Moutourwa** (Michielan) ɣùm *cinq*, 5 5.2) **Giziga Marva** (Hamidou) ɣom five (5) *cinq* (5) 5.3) **Mbazla** (SILSurvey) lídāmu' five *cinq* 5.3.1) **Mbazla** (Tourneux) ɣiⁿdam *cinq*
- 6) **Proto-Musgum** *ɣim^y five *cinq* 6.1) **Vulum** (Tourneux) ɣim *cinq* 6.2) **Mbara** (Tourneux) 'iɣim five
- 7) **Proto-Gidar** *ɣa? ^y five *cinq* 7.1) **Gidar** (Hungerford) ɣe' *cinq*

ɣig^wami^y nf. camel *chameau* (14 groups, 32 languages) A **syn:** kaligimo, ^ɣg^ɣaluba.

This root has come into Central Chadic from the Berber *alɣəm. The *ɣ is realised as *l in Proto-Kotoko Island, Proto-Kotoko North and Proto-Musgum, and is devoiced in Proto-Higi and Proto-Gidar. The change in Proto-Gidar is a regular change, but the change is irregular in the other groups. The evidence for the palatalisation prosody is inconsistent. The prosody is present in Jimi in the Bata group, and in the Hurza and Mofu groups, but is absent in other groups where it would be expected. There is support from the *i in Proto-Tera and Proto-Higi, the *e in Proto-Kotoko Island and Proto-Kotoko North and from some languages in the Mandara group.

- 1) **Proto-Bata** *ɣig^wami^y camel *chameau* 1.1) **Bata** (Boyd) lùk^wàpto camel 1.2) **Jimi** (Djibi) lig^wamən *Chameau* 1.3) **Tsuvan** (Johnston) ɣə^ɣgume *le chameau*
- 2) **Proto-Daba** *ɣakama^w camel *chameau* 2.1) **Daba** (Lienhard) ɣòkòmò *le chameau*
- 3) **Proto-Tera** *ɣimox camel *chameau* 3.1) **Nyimatli** (Harley) ɣimokh camel
- 4) **Proto-Sukur** *ɣig^wam camel *chameau* 4.1) **Sukur** (Thomas) ɣəg^wam camel: is an animal with a long neck and a hump on its back. it is used for carrying goods and for ridding.
- 5) **Proto-Hurza** *ɣig^wama^y camel *chameau* 5.1) **Mbuko** (Gravina) ɣug^weme camel (occasional visitor from Chad) *chameau (vient rarement de Tchad)* 5.2) **Vame** (Kinnaird) áɣəg^wèmè camel *chameau*
- 6) **Proto-Margi** *ɣig^wam camel *chameau* 6.1) **Bura** (Blench) likamo Camel 6.2) **Margi South** (Harley) ɣug^wam camel
- 7) **Proto-Mandara** *ɣig^wami camel *chameau* 7.1) **Matal** (Branger) ɣəg^wməj, ɣəg^wmi, ɣugmi camel *chameau* 7.2) **Podoko** (Swackhammer) ɣəg^wama,-ə *chameau* 7.3) **Mandara** (Fluckiger) éɣeg^wame *chameau (m)* 7.4) **Malgwa** (Löhr) ədhlug^wame camel 7.5) **Glavda** (Nghagyiva) áɣg^wàma camel 7.6) **Dghwede** (Frick) ɣug^wama camel

- 8) **Proto-Mofu** *ʒig^wama^y camel *chameau* 8.1) **Ouldeme** (Kinnaïrd) áʒəg^wèmè camel *chameau* 8.2) **Muyang** (Smith) eʒigwemi camel *chameau* 8.3) **Moloko** (Friesen) eʒeg^weme camel *chameau* 8.4) **Zulgo** (Haller) ʒig^wimè *chameau m.* 8.5) **Gemzek** (Sabatai) ʒegume camel *chameau* 8.5.1) **Gemzek** (Sabatai) ʒugme *chameau* 8.6) **Merey** (Gravina) ʒəg^weme camel *chameau* 8.7) **Dugwor** (Jubumna) ʒeg^weme camel *chameau* 8.8) **Mofu North** (Barreteau) ʒèg[ivèmè *dromadaire* 8.8.1) **Mofu North** (Barreteau) ʒèg[ivèmè *chameau* 8.9) **Mofu-Gudur** (Hollingsworth) ʒag^wama *dromadaire, chameau*
- 9) **Proto-Maroua** *ʒigama^w camel *chameau* 9.1) **Giziga Moutourwa** (Michielan) ʒogomo (Mt), ʒogomoŋ (Mj), aʒogomoŋ (Mv) *dromadaire* 9.2) **Mbazla** (Tourneux) 'aʒgomo *chameau, dromadaire*
- 10) **Proto-Higi** *ʒig^wami camel *chameau* 10.1) **Kamwe-Futu** (Harley) thəg^wami camel
- 11) **Proto-Kotoko Island** *log^wime camel *chameau* 11.1) **Buduma** (McKone) loguəme; loguəmema camel *chameau* 11.2) **Buduma** (McKone) logume *chameau*.
- 12) **Proto-Kotoko North** *logome camel *chameau* 12.1) **Malgbe** (Allison) logome camel *chameau*
- 13) **Proto-Musgum** *lukma camel *chameau* 13.1) **Mbara** (Tourneux) lukma *dromedary dromadaire, chameau*
- 14) **Proto-Gidar** *ʒagama^w camel *chameau* 14.1) **Gidar** (Hungerford) ʒogomo *chameau*

ʒiwin n. fear *peur* (6 groups, 16 languages)

The reflexes of this root are largely regular. Word-final *n→r in Proto-Mofu as part of a regular process. There are several examples of the irregular loss of the *n, and an interesting instance of reduplication in Podoko. The *i in Proto-Mandara and Proto-Lamang, and the palatalisation prosody in Proto-Mofu may indicate that the palatalisation prosody should be reconstructed, though the Mafa, Hurza and Maroua data does not give support.

- 1) **Proto-Mafa** *ʒaw fear *peur* 1.1) **Mafa** (Barreteau) ʒáw *peur*
- 2) **Proto-Hurza** *ʒiwan fear *peur* 2.1) **Mbuko** (Gravina) ʒawan fear *peur* 2.2) **Vame** (Kinnaïrd) ʒùŋg^wàts fear ; be frightened *craindre* 2.2.1) **Vame** (Kinnaïrd) ʒè^ɔgùtsà frighten *effrayer*
- 3) **Proto-Mandara** *ʒiʒiwi fear *peur* 3.1) **Podoko** (Swackhammer) ʒiʒəwe,-i *peur*
- 4) **Proto-Mofu** *ʒiwir^y fear *peur* 4.1) **Ouldeme** (Kinnaïrd) ʒəŋàts be afraid *craindre* 4.2) **Mada** (Nkoumou) máʒàwàl *craindre* 4.2.1) **Mada** (Nkoumou) maʒawa *craindre* 4.3) **Moloko** (Friesen) ʒaw fear *craindre* 4.4) **Merey** (Gravina) ʒuwer fear (n) *crainte* 4.5) **Dugwor** (Jubumna) ʒuwer (be) afraid (*avoir peur*) 4.6) **Mofu North** (Barreteau) méʒùrèj *craindre* 4.6.1) **Mofu North** (Barreteau) méʒùrèj *avoir peur* 4.7) **Mofu-Gudur** (Hollingsworth) ʒúr *craindre, avoir peur, effrayer*
- 5) **Proto-Maroua** *ʒiwin fear *peur* 5.1) **Giziga Moutourwa** (Michielan) ʒuwun ti *avoir peur, craindre, être angoissé* 5.2) **Giziga Marva** (Hamidou) ʒuwan fear (n) *craindre* 5.2.1) **Giziga Marva** (Hamidou) ʒuwan (be) afraid (*avoir peur*) 5.3) **Mbazla** (Tourneux) ʒaw *craindre*
- 6) **Proto-Lamang** *ʒiwiŋ fear *peur* 6.1) **Lamang** (Wolff) ʒuwiŋ fear 6.2) **Hdi** (Bramlett) ʒəŋ fear *la peur* 6.2.1) **Hdi** (Bramlett) ʒəŋaj to fear *craindre*

m

mabor n. lion *lion* (5 groups, 9 languages) B *syn:* **livari**, **zijil**.

This is one of three roots for 'lion'. It is unusual in that the labialisation prosody is present in two groups, and there is a back vowel in the Daba group. Neither the labialisation prosody nor back vowels are reconstructed for Proto-Central Chadic, and any back vowels in reflexes can normally be explained as originating with *w or a labialised velar. In this case, no such explanation is evident. There was no change *r→l, so the root cannot have any great time depth. The root could have been borrowed, though the source is not known, or it could be a comparatively recent coining. *ma- is a common nominalizing prefix, and the word may denote 'a thing that goes bor', for example.

- 1) **Proto-Daba** *mabor lion *lion* 1.1) **Mbudum** (Ndokobai) mabor lion *lion*
- 2) **Proto-Mafa** *mabar lion *lion* 2.1) **Cuvok** (Gravina) mabar lion *lion*
- 3) **Proto-Hurza** *birbar^w lion *lion* 3.1) **Mbuko** (Gravina) bərbor animal *animal (comme le lion?)*
- 4) **Proto-Mofu** *mabar lion *lion* 4.1) **Moloko** (Friesen) mabor brush lion *lion_de_la_brousse* 4.2) **Dugwor** (Jubumna) mabor lion *lion* 4.3) **Mofu North** (Barreteau) mábàr lion 4.4) **Mofu-Gudur** (Hollingsworth) mabár lion
- 5) **Proto-Maroua** *mabar^w lion *lion* 5.1) **Giziga Moutourwa** (Michielan) mobor lion 5.1.1) **Giziga Moutourwa** (Michielan) mobor *urnom du chef (majesté)* 5.2) **Giziga Marva** (Hamidou) mobor lion *lion*

madiwan n. rat *rat* (6 groups, 13 languages) A

This root is found in a wide range of languages around the Mandara Mountains. It is expected that there would be a change of word-final *n→r in Proto-Mandara and Proto-Mofu. However this has not taken place, indicating that the root may have been borrowed into these groups from another language such as Mafa.

- 1) **Proto-Daba** *maⁿdiwan rat *rat* 1.1) **Buwal** (Viljoen) maⁿduwan rat *rat* 1.2) **Daba** (Lienhard) māⁿdəwàn *le rat palmiste*
- 2) **Proto-Mafa** *madiwan rat *rat* 2.1) **Mafa** (Ndokobai) madəwa rat 2.1.1) **Mafa** (Barreteau) məduwa *rat de Gambie* 2.2) **Cuvok** (Gravina) madwəŋ rat *rat*
- 3) **Proto-Sukur** *midwan rat *rat* 3.1) **Sukur** (David) mudwan rat, large 3.2) **Sukur** (Thomas) mədwan rat; a small animal with a long tail, that looks like large mouse usually considered as a pest.
- 4) **Proto-Hurza** *mididiwan rat *rat* 4.1) **Mbuko** (Gravina) mədəduwan rat *rat, raton*
- 5) **Proto-Mandara** *madiwani rat *rat* 5.1) **Podoko** (Swackhammer) madəwana, -ə rat *palmiste*
- 6) **Proto-Mofu** *madiwan rat *rat* 6.1) **Muyang** (Smith) madwəŋ rat 6.2) **Moloko** (Friesen) mədəwan palm rat *rat_palmiste* 6.3) **Zulgo** (Haller) mədiwiŋ rat *m.* 6.4) **Gemzek** (Sabatai) maduwaŋ rat *rat* 6.5) **Merey** (Gravina) maduwaŋ rat *rat* 6.6) **Mofu-Gudur** (Hollingsworth) maⁿdəwəŋ *Rat de Gambie*

mah^wa n. horn *corne* (3 groups, 4 languages) C *syn:* **lagan**, **dirim**, ^m**bik^wim**.

This is one of the rarer roots for 'horn', and is found only in three groups in the Eastern Plains area. The labialisation component of the *h has been reanalysed as the labialisation prosody in Proto-Musgum and Proto-Gidar, which is a common sporadic process.

- 1) **Proto-Kotoko South** *ah^wa horn *corne* 1.1) **Zina** (Odden) àh^wàl horn *corne* 1.2) **Mazera** (Allison) mihue horn *corne*
- 2) **Proto-Musgum** *maha^w horn *corne* 2.1) **Mbara** (Tourneux) moho horn
- 3) **Proto-Gidar** *maha^w horn *corne* 3.1) **Gidar** (Schuh) moho, o *corne* 3.2) **Gidar** (Hungerford) mohõ *corne*

maj₂ nm. mouth *bouche* (15 groups, 43 languages) A

This is an extremely well-attested root, and is found in all groups except for Kotoko Island, Kotoko North and Kotoko Centre. There was a regular change *m→w word-initial before a vowel in the Wandala and Dghwede subgroups of the Mandara group, and this form has been borrowed by Podoko and Lamang. The *j has been lost in several groups, has combined with *a to produce *e in the Tera and Kotoko South groups, and has been reanalysed as the palatalisation prosody in the Hurza and Maroua groups. All these are common sporadic processes.

- 1) **Proto-Bata** *ma mouth *bouche* 1.1) **Gude** (Hoskinson) má (inher. poss. body part) mouth, edge, rim. 1.2) **Jimi** (Djibi) man *Bouche* 1.3) **Sharwa** (Gravina) ma *bouche* 1.4) **Tsuvan** (Johnston) ma *la bouche*
- 2) **Proto-Daba** *ma mouth *bouche* 2.1) **Buwal** (Viljoen) ma mouth (outside) *bouche (extérieur)* 2.1.1) **Buwal** (Viljoen) ma language *langue, language* 2.1.2) **Buwal** (Viljoen) ma word *parole* 2.1.3) **Buwal** (Viljoen) ma problem *problème* 2.1.4) **Buwal** (Viljoen) ma issue *question* 2.2) **Gavar** (Viljoen) ma mouth (outside) *bouche (extérieur)* 2.2.1) **Gavar** (Viljoen) ma language *langue* 2.2.2) **Gavar** (Viljoen) ma speech *discours* 2.2.3) **Gavar** (Viljoen) ma issue *problème* 2.3) **Mbudum** (Ndokobai) ma mouth *bouche* 2.4) **Daba** (Lienhard) mà *la bouche, les mots, le langage, la parole*
- 3) **Proto-Mafa** *ma mouth *bouche* 3.1) **Mafa** (Barreteau) ma *bouche* 3.2) **Cuvok** (Gravina) ma mouth *bouche*
- 4) **Proto-Tera** *me mouth *bouche* 4.1) **Tera** (Newman) me mouth 4.2) **Nyimatli** (Harley) me mouth
- 5) **Proto-Sukur** *ɲ^wi mouth *bouche* 5.1) **Sukur** (Thomas) ɲ^wu mouth
- 6) **Proto-Hurza** *ma^ʔ, ?am mouth *bouche* 6.1) **Mbukò** (Gravina) 'am mouth *bouche* 6.2) **Vame** (Kinnaird) mé 1 language ; mouth ; word *langue ; bouche ; parole* 6.2.1) **Vame** (Kinnaird) mé 2 beak *bec*
- 7) **Proto-Margi** *mja mouth *bouche* 7.1) **Bura** (Blench) mja Mouth 7.2) **Margi South** (Harley) mija mouth 7.2.1) **Margi South** (Harley) mja mouth 7.3) **Kilba** (Schuh) nja/a mouth
- 8) **Proto-Mandara** *wa mouth *bouche* 8.1) **Podoko** (Swackhammer) wa,-a *bouche* 8.2) **Mandara** (Fluckiger) we *bouche (f)* 8.3) **Malgwa** (Löhr) we mouth 8.4) **Dghwede** (Frick) wuwe mouth

- 9) **Proto-Mofu** *maj mouth *bouche* 9.1) **Ouldeme** (Kinnaird) mà mouth *bouche* 9.1.1) **Ouldeme** (Kinnaird) mà opening *ouverture* 9.2) **Muyang** (Smith) ma mouth ; face ; shape *bouche; visage; forme* 9.2.1) **Muyang** (Smith) ma entrance ; door *entrée; porte* 9.2.2) **Muyang** (Smith) ma word ; matter ; language *mot; parole; langue* 9.2.3) **Muyang** (Smith) ma front *devant* 9.3) **Mada** (Nkoumou) màmma *bouche* 9.4) **Moloko** (Friesen) ma mouth *bouche* 9.4.1) **Moloko** (Friesen) ma language *langue* 9.4.2) **Moloko** (Friesen) ma word *parole* 9.4.3) **Moloko** (Friesen) ma beak *bec* 9.5) **Zulgo** (Haller) àhəm *langue f., langage m.* 9.5.1) **Zulgo** (Haller) àhəm *parole f.* 9.6) **Merey** (Gravina) me *bouche* 9.7) **Dugwor** (Jubumna) mej mouth *bouche* 9.7.1) **Dugwor** (Jubumna) mej word *mot, parole* 9.8) **Mofu North** (Barreteau) méj *bouche, gueule, bec* 9.8.1) **Mofu North** (Barreteau) méj *bord, bout, extrémité, entrée* 9.8.2) **Mofu North** (Barreteau) méj *devant, début, avant* 9.8.3) **Mofu North** (Barreteau) méj *parole, langue, langage* 9.8.4) **Mofu North** (Barreteau) méj *affaire, palabre* 9.8.5) **Mofu North** (Barreteau) méj *bouche* 9.8.6) **Mofu North** (Barreteau) méj *parole* 9.9) **Mofu-Gudur** (Hollingsworth) méj mouth *bouche, lèvres ; gueule ; bec* 9.9.1) **Mofu-Gudur** (Hollingsworth) méj word *parole, langue, langage* 9.9.2) **Mofu-Gudur** (Hollingsworth) méj opening *bord, bout, extrémité, entrée* 9.9.3) **Mofu-Gudur** (Hollingsworth) méj *devant, début, avant* 9.9.4) **Mofu-Gudur** (Hollingsworth) méj *affaires, palabre*
- 10) **Proto-Maroua** *ma^y mouth *bouche* 10.1) **Giziga Marva** (Hamidou) me mouth *bouche* 10.2) **Mbazla** (SILSurvey) me' mouth *bouche* 10.2.1) **Mbazla** (Tourneux) me *bouche*
- 11) **Proto-Lamang** *waj mouth *bouche* 11.1) **Lamang** (Wolff) éwé mouth
- 12) **Proto-Higi** *mi mouth *bouche* 12.1) **Kirya** (Blench) mí mouth 12.2) **Bana** (Lienhard) mí *bouche*
- 13) **Proto-Kotoko South** *me mouth *bouche* 13.1) **Zina** (Odden) mì mouth *bouche* 13.2) **Mazera** (Allison) me mouth *bouche*
- 14) **Proto-Musgum** *maj mouth *bouche* 14.1) **Vulum** (Tourneux) meŋ *bouche* 14.2) **Mulwi** (Tourneux) me^g *bouche* 14.3) **Mbara** (Tourneux) maj mouth *bouche* 14.4) **Muskum** (Tourneux) mut *bouche*
- 15) **Proto-Gidar** *ma mouth *bouche* 15.1) **Gidar** (Schuh) ma, a *bouche* 15.2) **Gidar** (Hungerford) ma' *bouche*

maj₁ nm. hunger *faim* (13 groups, 35 languages) A

This extremely well-attested root has the same form as the root for 'mouth', and was probably originally an extended sense of the same root. The basic sense is 'hunger', and this is extended in many languages to cover a time of famine. There was a regular change *m→w word-initial before a vowel in the Wandala and Dghwede subgroups of the Mandara group.

- 1) **Proto-Bata** *mi hunger *faim* 1.1) **Sharwa** (Gravina) miki *faim, famine*
- 2) **Proto-Mafa** *maj hunger *faim* 2.1) **Mafa** (Ndokobai) maj *famine, famine, faim* 2.2) **Cuvok** (Gravina) maj (be) hungry, hunger (v) (*avoir*) *faim*
- 3) **Proto-Tera** *mii hunger *faim* 3.1) **Tera** (Newman) me hunger 3.2) **Nyimatli** (Harley) mee drought, famine 3.2.1) **Nyimatli** (Harley) mee (be) hungry, hunger (v) 3.3) **Ga'anda** (Gwaji) miita *famine*

- 4) **Proto-Sukur** *maj hunger *faim* 4.1) **Sukur** (David) máj hunger 4.2) **Sukur** (Thomas) mai hungry; is the general term for hungry; feeling that you want to eat something. For example food.
- 5) **Proto-Hurza** *maj hunger *faim* 5.1) **Mbuko** (Gravina) maj hunger *faim* 5.2) **Vame** (Kinnaïrd) hùmáj famine *famine* 5.2.1) **Vame** (Kinnaïrd) māj hunger *faim*
- 6) **Proto-Margi** *mi hunger *faim* 6.1) **Bura** (Blench) mi Hunger Famine To be hungry ka mi. He is hungry mi ata kita ni 6.2) **Margi** (Hoffman) mi hunger
- 7) **Proto-Mandara** *majj hunger *faim* 7.1) **Matal** (Branger) maj hunger *faim* 7.2) **Podoko** (Swackhammer) maja,-ə *faim, famine* 7.3) **Mandara** (Fluckiger) waja *faim (m)* 7.4) **Malgwa** (Löhr) waja famine, scarcity 7.4.1) **Malgwa** (Löhr) waja hunger 7.5) **Glavda** (Nghagyiva) wàja (be) hungry, hunger (v) 7.5.1) **Glavda** (Owens) wa hunger, famine
- 8) **Proto-Mofu** *maj hunger *faim* 8.1) **Moloko** (Friesen) maj hunger *faim* 8.2) **Zulgo** (Haller) máj *faim f.* 8.3) **Gemzek** (Sabatai) maj *la famine* 8.4) **Merey** (Gravina) maj hunger *faim* 8.5) **Dugwor** (Jubumna) maj (be) hungry, hunger (v) (*avoir*) *faim* 8.6) **Mofu North** (Barreteau) máj *faim* 8.6.1) **Mofu North** (Barreteau) máj *famine* 8.7) **Mofu-Gudur** (Hollingsworth) maj *faim, famine*
- 9) **Proto-Maroua** *maj hunger *faim* 9.1) **Giziga Moutourwa** (Michielan) maj *faim, désir* 9.2) **Giziga Marva** maj gi dze (be) hungry, hunger (v) (*avoir*) *faim* 9.3) **Mbazla** (Tourneux) maj *faim* 9.3.1) **Mbazla** (SILSurvey) omái' hunger (general) *faim (général)*
- 10) **Proto-Lamang** *maja hunger *faim* 10.1) **Lamang** (Wolff) maja hunger 10.2) **Hdi** (Bramlett) maja hunger *la faim*
- 11) **Proto-Higi** *ma hunger *faim* 11.1) **Kamwe-Nkafa** (Harley) mǎ hunger 11.2) **Kamwe-Futu** (Harley) ma (be) hungry; hunger (v) 11.3) **Kirya** (Blench) 'má hunger 11.4) **Psikye** (Angelo) má hunger 11.5) **Bana** (Lienhard) má *faim*
- 12) **Proto-Musgum** *maj hunger *faim* 12.1) **Mbara** (Tourneux) mijamaj hunger *faim*
- 13) **Proto-Gidar** *maja hunger *faim* 13.1) **Gidar** (Hungerford) maja *famine* 13.2) **Gidar** (Hungerford) maja *faim*

mama nf. mother *mère* (14 groups, 39 languages) A **syn:** ja.

The root *mama or *ma is a common root for 'mother' cross-linguistically. In many Central Chadic languages there is also the variant *man. The expected change *m→w in Mandara and Malgwa did not take place. The root *ja is found in the Kotoko languages.

- 1) **Proto-Bata** *me mother *mère* 1.1) **Tsvan** (Johnston) mekən *la mère*
- 2) **Proto-Daba** *ma mother *mère* 2.1) **Buwal** (Viljoen) man mother *mère* 2.2) **Gavar** (Viljoen) mama mother *mère* 2.3) **Mbudum** (Ndokobaï) mama mother *mère* 2.4) **Daba** (Lienhard) māj *ma mère*
- 3) **Proto-Mafa** *mama mother *mère* 3.1) **Mafa** (Barreteau) mǎmá *mère* 3.2) **Cuvok** (Gravina) mamañ mother *maman* 3.2.1) **Cuvok** (Gravina) ma mother *mère*
- 4) **Proto-Sukur** *mama mother *mère* 4.1) **Sukur** (David) ma, mama mother 4.2) **Sukur** (Thomas) mama mother: a female parent of a child or animals. and is a person who is acting as a mother to a child.

- 5) **Proto-Hurza** *mama mother *mère* 5.1) **Mbuko** (Gravina) man mother *mère (d'un animal)* 5.1.1) **Mbuko** (Gravina) mamaj mother *mère* 5.1.2) **Mbuko** (Gravina) maj mother *mère* 5.2) **Vame** (Kinnaird) māmá mother *mère*
- 6) **Proto-Margi** *ma mother *mère* 6.1) **Bura** (Blench) muma Mother 6.1.1) **Bura** (Blench) maja Mother 6.2) **Margi South** (Harley) ama mother 6.3) **Kilba** (Schuh) ama mother
- 7) **Proto-Mandara** *ma mother *mère* 7.1) **Podoko** (Swackhammer) mamá,-a *mère* 7.2) **Mandara** (Fluckiger) mama *mère (f)* 7.2.1) **Mandara** (Fluckiger) emma *mère (f)* 7.3) **Malgwa** (Löhr) mama mother 7.3.1) **Malgwa** (Löhr) əmma mother 7.3.2) **Malgwa** (Löhr) uuma mother, female 7.3.3) **Malgwa** (Löhr) ma mother
- 8) **Proto-Mofu** *ma mother *mère* 8.1) **Ouldeme** (Kinnaird) māṅ mother *mère* 8.2) **Muyang** (Smith) mma mother (form of address) 8.3) **Mada** (Nkoumou) amma *mère* 8.4) **Moloko** (Friesen) mama mother *mère* 8.5) **Zulgo** (Haller) māmár *mère f.* 8.5.1) **Zulgo** (Haller) māmá (gà) *mère f.* 8.6) **Gemzek** (Sabatai) mamər mother *mère* 8.6.1) **Gemzek** (Sabatai) məmar mother *mère* 8.7) **Merey** (Gravina) maja *mère* 8.7.1) **Merey** (Gravina) maj *mère* 8.8) **Dugwor** (Jubumna) mama mother *mère* 8.9) **Mofu North** (Barreteau) mājá *mère* 8.10) **Mofu-Gudur** (Hollingsworth) mamaṅ mother (*sa, la*) *mère*
- 9) **Proto-Maroua** *ma mother *mère* 9.1) **Giziga Moutourwa** (Michielan) maha *maman, mère* 9.1.1) **Giziga Moutourwa** (Michielan) mumuṅ *mère* 9.2) **Giziga Marva** (Hamidou) uma mother *mère* 9.3) **Mbazla** (Tourneux) ma *mère*
- 10) **Proto-Lamang** *mama mother *mère* 10.1) **Lamang** (Wolff) mamaa mother 10.2) **Hdi** (Bramlett) mama mother *la mère*
- 11) **Proto-Higi** *ma mother *mère* 11.1) **Kamwe-Nkafa** (Harley) ma mother 11.2) **Kamwe-Futu** (Harley) mama mother 11.3) **Kirya** (Blench) mājì (mà) mother, grandmother 11.4) **Psikye** (Angelo) ma mother 11.4.1) **Psikye** (Angelo) miji mother
- 12) **Proto-Kotoko Island** *man mother *mère* 12.1) **Buduma** (McKone) man *mère*.
- 13) **Proto-Musgum** *maa mother *mère* 13.1) **Vulum** (Tourneux) amaa *ma mère* 13.2) **Muskum** (Tourneux) maana *ma mère*
- 14) **Proto-Gidar** *ma mother *mère* 14.1) **Gidar** (Schuh) ma *mère* 14.2) **Gidar** (Hungerford) əma, ma *mère, maman* 14.3) **Gidar** (Schuh) mma *mère*

mar n. oil *huile* (13 groups, 33 languages) A

The basic sense is the oil used in cooking, but the root can be applied to other types of oil. There was a regular change *r→l in the North sub-branch, the Daba group and Cuvok. There was also a regular change *m→w word-initial pre-vocalic in the Wandala and Dghwede subgroups of the Mandara group which accounts for the change in Glavda.

- 1) **Proto-Bata** *mari oil *huile* 1.1) **Jimi** (Djibi) marən *L'huile* 1.2) **Sharwa** (Gravina) marə *huile, crème*
- 2) **Proto-Daba** *mal^y oil *huile* 2.1) **Buwal** (Viljoen) mel oil *huile* 2.2) **Gavar** (Viljoen) mali oil *huile*
- 3) **Proto-Mafa** *mar oil *huile* 3.1) **Mafa** (Barreteau) ^mbár *huile* 3.2) **Cuvok** (Gravina) mal oil *huile*
- 4) **Proto-Tera** *mar oil *huile* 4.1) **Tera** (Newman) mar oil 4.2) **Nyimatli** (Harley) mor oil

- 5) **Proto-Sukur** *mir oil *huile* 5.1) **Sukur** (David) mir oil 5.2) **Sukur** (Thomas) mir oil; is the general term for oil; it can be petroleum, engine oil, groundnut oil etc.
- 6) **Proto-Hurza** *amar oil *huile* 6.1) **Mbuko** (Gravina) amar oil (cooking) *huile* 6.2) **Vame** (Kinnaird) ā^mbār oil *huile*
- 7) **Proto-Margi** *mal oil *huile* 7.1) **Bura** (Blench) mal Fat, oil 7.2) **Kilba** (Schuh) mal oil = fat
- 8) **Proto-Mandara** *mali oil *huile* 8.1) **Matal** (Branger) āmàl oil *huile* 8.2) **Podoko** (Swackhammer) mala,-ə *huile* 8.3) **Glavda** (Owens) wal oil, vegetable oil 8.3.1) **Glavda** (Owens) wá oil, cream 8.3.2) **Glavda** (Nghagyiva) wàla oil
- 9) **Proto-Mofu** *amal oil *huile* 9.1) **Ouldeme** (Kinnaird) āmāl oil *huile* 9.2) **Muyang** (Smith) amal oil, fuel *huile* ; *carburant* 9.3) **Mada** (Nkoumou) amal *huile* 9.4) **Moloko** (Friesen) amar oil *huile* 9.5) **Zulgo** (Haller) mal *huile* f. 9.6) **Gemzek** (Sabatai) mal oil *huile* 9.7) **Merey** (Gravina) mal *huile* 9.8) **Mofu North** (Barreteau) mál *huile* 9.9) **Mofu-Gudur** (Hollingsworth) mál *huile*
- 10) **Proto-Maroua** *mal oil *huile* 10.1) **Giziga Moutourwa** (Michielan) mal *graisse, huile, matière grasse* 10.2) **Giziga Marva** (Hamidou) mal oil *huile*
- 11) **Proto-Kotoko South** *amīl oil *huile* 11.1) **Zina** (Odden) àmēl oil *huile* 11.2) **Mazera** amle fat *graisse*
- 12) **Proto-Musgum** *mal oil *huile* 12.1) **Vulum** (Tourneux) amel *huile, buerre* 12.2) **Mbara** (Tourneux) mal oil *huile* 12.3) **Muskum** (Tourneux) miltuw *huile, beurre*
- 13) **Proto-Gidar** *mali^y oil *huile* 13.1) **Gidar** (Schuh) mele/0 *huile* 13.2) **Gidar** (Hungerford) mele *huile*

markid^y num. six six (2 groups, 5 languages) **syn:** **kiwah, vinahkir, ĩira.**

This is one of the less-common roots for 'six', and is found only in the Hurza and Maroua groups. There is a sporadic change *m→^mb in Mbuko, along with sporadic loss of *d.

- 1) **Proto-Hurza** *marka six six 1.1) **Mbuko** (Gravina) ^mbərka six six 1.2) **Vame** (Kinnaird) márkà six six
- 2) **Proto-Maroua** *markid^y six six 2.1) **Giziga Moutourwa** (Michielan) merked(e) six 2.2) **Giziga Marva** (Hamidou) merkíd six (6) six (6) 2.3) **Mbazla** (Tourneux) merki six 2.3.1) **Mbazla** (SILSurvey) mèrké' six six

mits v. to extinguish *éteindre* (8 groups, 14 languages) **B rel. to: mits.**

The basic meaning of this verb is 'to put out a fire'. This root is very similar to the root for 'to die', the only difference is that *i is reconstructed. It could possibly be a causative form, i.e. 'to cause (a fire) to die'. There is a regular word-final change *ts→t in several groups.

- 1) **Proto-Bata** *miiti extinguish *éteindre* 1.1) **Jimi** (Djibi) miitən *Eteindre* ;
- 2) **Proto-Daba** *muts, mitsi?n extinguish *éteindre* 2.1) **Mbudum** (Ndokobai) kəmutʃkəhaw quench, extinguish *éteindre* 2.2) **Daba** (Lienhard) mītʃi'n *éteindre*
- 3) **Proto-Mafa** *mitsa extinguish *éteindre* 3.1) **Cuvok** (Gravina) mətsa quench, extinguish *éteindre*

- 4) **Proto-Hurza** *muⁿdzija extinguish *éteindre* 4.1) **Vame** (Kinnaird) mūⁿdʒíjā extinguish ; put out *éteindre*
- 5) **Proto-Mandara** *mitsi extinguish *éteindre* 5.1) **Matal** (Branger) mamatsiŋ ala, mamatʃiŋ ala extinguish *éteindre* 5.2) **Podoko** (Swackhammer) metʃe *éteindre* 5.3) **Glavda** (Nghagyiva) ím̄tsá ká:ra quench, extinguish
- 6) **Proto-Mofu** *mat^y extinguish *éteindre* 6.1) **Ouldeme** (Kinnaird) mētétj *éteindre* 6.2) **Muyang** (Smith) met cause to die, extinguish *éteindre* 6.2.1) **Muyang** (Smith) metiŋ cause to die, extinguish *faire mourir, éteindre* 6.3) **Mofu North** (Barreteau) mém̄tsèj *éteindre (feu)*
- 7) **Proto-Maroua** *muts extinguish *éteindre* 7.1) **Giziga Moutourwa** (Michielan) mutʃ *éteindre le feu, fais mourir le feu* 7.2) **Giziga Marva** (Hamidou) mutʃa quench, extinguish *éteindre*
- 8) **Proto-Lamang** *mitaj extinguish *éteindre* 8.1) **Hdi** (Bramlett) mətaj to extinguish a fire *éteindre un feu*

midip num. seven *sept* (6 groups, 15 languages) C **syn: tasirad**.

This is one of two widely distributed roots for 'seven'. This root is found in the languages of the Nigerian Plains. The *p is not present in the Tera group. In Proto-Higi there has been a change *d→r, which is regular in all languages except for Psikye, and also a sporadic change *m→^mb. *p was realised as [p] in medial position and [f] in word-final position in Proto-Central Chadic. The widespread presence of /f/ implies that the *p was the final consonant, and that the final *n in the Bata and Higi groups is an addition to the root.

- 1) **Proto-Bata** *midifiŋ seven *sept* 1.1) **Gude** (Hoskinson) m̄d̄d̄f̄ seven 1.2) **Jimi** (Djibi) ^mb̄r̄əf̄iŋ seven *Sept*
- 2) **Proto-Tera** *mu^d seven *sept* 2.1) **Nyimatli** (Harley) mut seven (7) 2.2) **Ga'anda** (Gwaji) mu^d seven
- 3) **Proto-Sukur** *ma^daf seven *sept* 3.1) **Sukur** (David) ma^daf seven 3.2) **Sukur** (Thomas) ma^daf seven
- 4) **Proto-Margi** *midifaw seven *sept* 4.1) **Bura** (Blench) murfa Seven 4.2) **Margi South** (Harley) m̄d̄əf̄au seven
- 5) **Proto-Mandara** *midifi seven *sept* 5.1) **Matal** (Branger) m̄^{d̄}f̄ nine *neuf* 5.2) **Podoko** (Swackhammer) ma^{d̄}əf̄á,-ə seven *sept* 5.3) **Glavda** (Nghagyiva) ù:d̄ífa seven (7)
- 6) **Proto-Higi** *^mbirfiŋ seven *sept* 6.1) **Kamwe-Nkafa** (Harley) ^mb̄r̄f̄ú^g Seven 6.2) **Kamwe-Futu** (Harley) ^mbrfa^g seven 6.3) **Kirya** (Blench) ^mb̄r̄f̄ó^g seven 6.4) **Psikye** (Angelo) ^mb̄r̄əf̄áŋ seven 6.5) **Bana** (Lienhard) ^mb̄r̄f̄(ə)ŋ *sept* (7)

mits v. to die *mourir* (18 groups, 47 languages) A **rel. to: mits**.

This is one of the most widely-attested Central Chadic roots, and reflexes are found in all eighteen groups. There is a regular change *ts→t which took place independently in several different groups. The resulting *t has the unestablished reflexes *d in Proto-Kotoko North, *d̄ in Proto-Musgum and *r in Proto-Kotoko South. If the Sukur word is cognate, then we have the regular change *ts→s, and the initial *m has the irregular reflex /ŋ^w/.

- 1) **Proto-Bata** *mit die *mourir* 1.1) **Jimi** (Djibi) mətən *Mourir* 1.2) **Sharwa** (Gravina) mitə *mourir*
- 2) **Proto-Daba** *mits die *mourir* 2.1) **Buwal** (Viljoen) matʃ die *mourir* 2.2) **Gavar** (Viljoen) mtʃa die *mourir* 2.3) **Mbudum** (Ndokobai) kəmətʃ die *mourir* 2.4) **Daba** (Lienhard) mətʃ *la mort, mourir*
- 3) **Proto-Mafa** *mitsa die *mourir* 3.1) **Mafa** (Barreteau) mətʃa *mourir* 3.2) **Cuvok** (Gravina) mətʃa die *mourir*
- 4) **Proto-Tera** *mit die *mourir* 4.1) **Tera** (Newman) mædi die 4.1.1) **Tera** (Newman) mædi death 4.1.2) **Tera** (Newman) mædi corpse 4.2) **Nyimatli** (Harley) mʊt die
- 5) **Proto-Sukur** *ɲ^wis die *mourir* 5.1) **Sukur** (Thomas) ɲus die
- 6) **Proto-Hurza** *mits die *mourir* 6.1) **Mbuko** (Gravina) mats to die *mourir* 6.2) **Vame** (Kinnaird) mətʃa die *mourir*
- 7) **Proto-Margi** *mita die *mourir* 7.1) **Bura** (Blench) mta To die Past tense mta
- 8) **Proto-Mandara** *mitsa die *mourir* 8.1) **Matal** (Branger) mamtsaj die *mourir* 8.2) **Podoko** (Swackhammer) mitʃé 1 *mourir* 8.3) **Malgwa** (Löhr) mtsa die, death 8.4) **Glavda** (Nghagyiva) ɪmʃga die 8.5) **Dghwede** (Frick) mtsa death, to die
- 9) **Proto-Mofu** *mit die *mourir* 9.1) **Ouldeme** (Kinnaird) mət die *mourir* 9.2) **Mada** (Nkoumou) mamta *mourir* 9.3) **Moloko** (Friesen) mat die *mourir* 9.4) **Zulgo** (Haller) mət *mourir* 9.5) **Gemzek** (Sabatai) meməte die *mourir* 9.6) **Merey** (Gravina) mət die *mourir, (être) mort* 9.7) **Dugwor** (Jubumna) məmʃaj die *mourir* 9.8) **Mofu-Gudur** (Hollingsworth) mətʃ die *mourir* 9.8.1) **Mofu-Gudur** (Hollingsworth) məmʃaj *mourir, la mort*
- 10) **Proto-Maroua** *muts die *mourir* 10.1) **Giziga Moutourwa** (Michielan) mutʃ *mourir, mort* 10.2) **Giziga Marva** (Hamidou) mutʃ die *mourir* 10.3) **Mbazla** (Tourneux) mutʃ *mourir* 10.3.1) **Mbazla** (SILSurvey) múitʃ die *mourir*
- 11) **Proto-Lamang** *mita die *mourir* 11.1) **Lamang** (Wolff) mta die 11.2) **Hdi** (Bramlett) mətaj to die *mourir*
- 12) **Proto-Higi** *miti die *mourir* 12.1) **Kamwe-Nkafa** (Harley) mté Die 12.1.1) **Kamwe-Nkafa** (Harley) mtə to die 12.2) **Kamwe-Futu** (Harley) mto die; dying 12.3) **Psikye** (Angelo) mté die 12.4) **Bana** (Lienhard) m(ə)tí *mourir, la mort*
- 13) **Proto-Kotoko Island** *mati die *mourir* 13.1) **Buduma** (McKone) matə die *mourir*
- 14) **Proto-Kotoko North** *madi die *mourir* 14.1) **Afade** (Allison) madi die *mourir* 14.2) **Mpade** (Allison) mādì die *mourir* 14.3) **Malgbe** (Allison) madi die *mourir*
- 15) **Proto-Kotoko Centre** *mit die *mourir* 15.1) **Lagwan** (Allison) miti die *mourir* 15.2) **Mser** (Allison) mato die *mourir*
- 16) **Proto-Kotoko South** *mara die *mourir* 16.1) **Zina** (Odden) màrà die *mourir*
- 17) **Proto-Musgum** *midɪ^y die *mourir* 17.1) **Vulum** (Tourneux) miri *mourir* 17.2) **Mulwi** (Tourneux) miri *mourir* 17.3) **Mbara** (Tourneux) mi'dinj die
- 18) **Proto-Gidar** *imta die *mourir* 18.1) **Gidar** (Hungerford) əmta *mourir* 18.2) **Gidar** (Schuh) umta *mourir*
- 19) **Shoa Arabic** mât; môt; majjit die *mourir*

ᵐᵇa v. able (be) *pouvoir* (7 groups, 14 languages) A

This is the regular verb 'to be able'. A final *n is found in Sharwa, Gemzek and Kirya, but is not part of the original root.

- 1) **Proto-Bata** *ᵐᵇa able *pouvoir* 1.1) **Bachama** (Skinner) ᵐᵇa(m) be able, master 1.2) **Sharwa** (Gravina) ᵐᵇan *Capable*
- 2) **Proto-Daba** *ᵐᵇaj able *pouvoir* 2.1) **Daba** (Lienhard) ᵐᵇāj *connaître, capable*
- 3) **Proto-Hurza** *ᵐᵇa able *pouvoir* 3.1) **Mbuko** (Gravina) ᵐᵇa can *pouvoir*
- 4) **Proto-Mandara** *ᵐᵇa able *pouvoir* 4.1) **Podoko** (Swackhammer) ᵐᵇa *faire attention; savoir (faire)*
- 5) **Proto-Mofu** *ᵐᵇa able *pouvoir* 5.1) **Ouldeme** (Kinnaird) ᵐᵇì *être capable, pouvoir* 5.1.1) **Ouldeme** (Kinnaird) ᵐᵇàkò *pouvoir* 5.2) **Zulgo** (Haller) ᵐᵇà (áhér) *vaincre, surpasser; pouvoir, avoir la faculté de* 5.3) **Gemzek** (Sabatai) maᵐᵇana (be) able (*être*) *capable* 5.4) **Merey** (Gravina) ᵐᵇa faja (be) able (*être*) *capable* 5.5) **Dugwor** (Jubumna) maᵐᵇij hafaᵇ know how to *savoir (être capable de)* 5.5.1) **Dugwor** (Jubumna) maᵐᵇij fahaᵇ (be) able (*être*) *capable* 5.6) **Merey** (Gravina) ᵐᵇa able *pouvoir*
- 6) **Proto-Higi** *ᵐᵇa able *pouvoir* 6.1) **Kirya** (Blench) ᵐᵇàᵇ to be able to, can 6.2) **Bana** (Lienhard) ᵐᵇà(j) *savoir faire (doit être suivi par pronom obj.)*
- 7) **Proto-Gidar** *ᵇaᵇa able *pouvoir* 7.1) **Gidar** (Hungerford) əᵇaᵇa *savoir (être capable de), pouvoir*

ᵐᵇaᵇa nm. beer *bière* (7 groups, 14 languages) A **syn:** ᵇ^wizim, vih^w.

This is one of three widespread roots for 'millet beer'. It may be cognate with the Kanuri ᵐᵇal. If so, it is more likely that the Kanuri borrowed from Central Chadic than vice versa. If the word was borrowed from Kanuri, the change *l→ᵇ would have been natural at the time of Proto-Central Chadic when *l was not a phoneme in the language. *l developed in Proto-Central Chadic North as a result of the regular change *r→l, so if the word was borrowed into Central Chadic after that time the change would have been unnatural. For this reason it is more likely that this is a native Central Chadic root.

- 1) **Proto-Daba** *ᵐᵇaᵇa beer *bière* 1.1) **Mbudum** (Ndokobaï) ᵐᵇaᵇa corn beer *bière de maïs* 1.2) **Daba** (Lienhard) ᵐᵇàᵇā' *le vin non-filtré, la bière épaisse*
- 2) **Proto-Sukur** *ᵐᵇiᵇaᵇi beer *bière* 2.1) **Sukur** (Thomas) məᵇaᵇə beer; is the general term for beer.
- 3) **Proto-Mandara** *ᵐᵇaᵇa beer *bière* 3.1) **Mandara** (Fluckiger) ᵐᵇaᵇa *vin (m), toute boisson alcoolisée* 3.2) **Malgwa** (Löhr) ᵐᵇadhla, h^wa, wuᵇjike alcoholic beverage (beer, wine)
- 4) **Proto-Mofu** *ᵐᵇaᵇa beer *bière* 4.1) **Ouldeme** (Kinnaird) ᵐᵇàᵇà *bière épaisse ; (mouyangué)* 4.2) **Muyang** (Smith) ᵐᵇaᵇa white wine *vin blanc* 4.3) **Moloko** (Friesen) ᵐᵇaᵇa white wine made in the village *fabriqué au village* 4.3.1) **Moloko** (Friesen) ᵐᵇaᵇa 4.4) **Mofu North** (Barreteau) ᵐᵇàᵇà *bière de mil chaude* 4.5) **Mofu-Gudur** (Hollingsworth) ᵐᵇaᵇa *bière de mil chaude*

- 5) **Proto-Maroua** *^mbaʒa beer *bière* 5.1) **Giziga Moutourwa** (Michielan) ^mbaʒa *la bière du mil, vin*
 5.1.1) **Giziga Moutourwa** (Michielan) ^mbaʒa *bière de mil blanche épaisse*
- 6) **Proto-Higi** *^mbaʒi beer *bière* 6.1) **Kamwe-Nkafa** (Harley) baʒə wine 6.1.1) **Kamwe-Nkafa** (Harley)
 bàʒə local wine. 6.2) **Bana** (Lienhard) ^mbèʒ(i) *bière de mil blanc, vin blanc*
- 7) **Proto-Gidar** *^mbaʒa beer *bière* 7.1) **Gidar** (Schuh) ^mbaʒa *bière non-tamisée*

^mbatuɓ n. baobab *baobab* (4 groups, 6 languages) C **syn:** k^wikad.

This root is far less widespread than *k^wikad. It is problematic in that it contains a back vowel, and back vowels were not present in Proto-Central Chadic. It must be assumed that this root was either coined in Proto-Mafa, or else was borrowed into the languages of the Mandara Mountains at an early stage.

- 1) **Proto-Daba** *^mmatuɓ baobab *baobab* 1.1) **Buwal** (Viljoen) mataɓ baobab tree *baobab* 1.2) **Mbudum**
 (Ndokobai) ^mmatuɓ baobab tree *baobab*
- 2) **Proto-Mafa** *^mbota baobab *baobab* 2.1) **Mafa** (Barreteau) ^mboto-^mbótá *baobab* 2.2) **Cuvok** (Gravina)
^mbaataj baobab tree *baobab*
- 3) **Proto-Sukur** *^mbuti baobab *baobab* 3.1) **Sukur** (David) ^mbutə tree, baobab
- 4) **Proto-Mofu** *^mbaataɓ baobab *baobab* 4.1) **Mofu-Gudur** (Hollingsworth) máataɓ *baobab* 4.1.1)
Mofu-Gudur (Hollingsworth) ^mbáataj *baobab (Gudur)*

^mbida v. change *changer* (8 groups, 24 languages) A

This root has the basic sense 'to change', with extended meanings including 'to turn', 'to exchange', 'to translate' etc. There was a regular word-final change *d→r in part of the Higi group, but otherwise this root has been transmitted largely unchanged.

- 1) **Proto-Daba** *^mbad change *changer* 1.1) **Buwal** (Viljoen) ^mbad exchange *échanger* 1.1.1) **Buwal**
 (Viljoen) ^mbad change *changer* 1.2) **Gavar** (Viljoen) ^mbad alter, change (tr) *changer (tr), modifier*
 1.2.1) **Gavar** (Viljoen) ^mbad barter, exchange *échange (de marchandises)*
- 2) **Proto-Sukur** *^mbida change *change* 2.1) **Sukur** (Thomas) ^mbəda change; to exchange position,
 place, etc. With something else, so that you have what they have, and they have what you have.
- 3) **Proto-Hurza** *^mbida change *changer* 3.1) **Mbuko** (Gravina) ^mbəda transform *transformer* 3.2) **Vame**
 (Kinnaird) ^mbədédè zək transform *transformer*
- 4) **Proto-Mandara** *^mbida change *changer* 4.1) **Matal** (Branger) mabəɗla change *changer* 4.2) **Podoko**
 (Swackhammer) ^mbəda *changer, échanger* 4.3) **Mandara** (Fluckiger) ^mbédá *changer, tomber - v. int. =*
mbádá 4.3.1) **Mandara** (Fluckiger) ^mbádá (*se*) *changer, (se) transformer* 4.4) **Malgwa** (Löhr) ^mbaɗa
 lak^wa change place temporarily 4.5) **Dghwede** (Frick) ^mbət'a to change

- 5) **Proto-Mofu** *^mbiɖ change *changer* 5.1) **Ouldeme** (Kinnaird) ^mbaɖ aɫam exchange *échanger* 5.1.1) **Ouldeme** (Kinnaird) ^mbaɖ aɫam replace *remplacer* 5.2) **Moloko** (Friesen) ^mbaɖ transform *transformer* 5.2.1) **Moloko** (Friesen) ^mbaɖ turn *tourner* 5.2.2) **Moloko** (Friesen) ^mbaɖ change *changer* 5.2.3) **Moloko** (Friesen) ^mbaɖ become *devenir* 5.3) **Zulgo** (Haller) ^mbəɖ *changer, se modifier* 5.4) **Gemzek** (Sabatai) ^mbəɖ change (intr) *changer (intr)* 5.5) **Dugwor** (Jubumna) mə^mbəɖeɟ alter, change (tr) *changer (tr), modifier* 5.5.1) **Dugwor** (Jubumna) mə^mbəɖeɟ change (intr) *changer (intr)* 5.6) **Mofu North** (Barreteau) mé^mbəɖeɟ *tourner, se retourner* 5.6.1) **Mofu North** (Barreteau) mé^mbəɖeɟ *verser* 5.6.2) **Mofu North** (Barreteau) mé^mbəɖeɟ *échanger, transformer* 5.6.3) **Mofu North** (Barreteau) mé^mbəɖeɟ *traduire* 5.7) **Mofu-Gudur** (Hollingsworth) ^mbəɖ turn around (*se*) *tourner, retourner* 5.7.1) **Mofu-Gudur** (Hollingsworth) ^mbəɖ *changer, échanger, (se) transformer ; traduire*
- 6) **Proto-Maroua** *^mbiɖa^y change *changer* 6.1) **Giziga Moutourwa** (Michielan) ^mbiɖi *changer* 6.2) **Giziga Marva** (Hamidou) ^mbiɖe alter, change (tr) *changer (tr), modifier*
- 7) **Proto-Lamang** *^mbiɖa change *changer* 7.1) **Lamang** (Wolff) ^mbodo change, turn 7.2) **Hdi** (Bramlett) ^mbəɖaj to transform, to turn *échanger, tourner*
- 8) **Proto-Higi** *^mbiɖi change *changer* 8.1) **Kamwe-Nkafa** (Harley) ^mbəɖəntə Changed. 8.2) **Kirya** (Blench) ^mbəɖa to change, exchange 8.3) **Bana** (Lienhard) ^mbəɖə *varier, changer, échanger, remplacer, devenir*

^mbi^kwi^m n. horn *corne* (4 groups, 7 languages) C **syn:** lagan, dirim, mah^wa.

This is one of the less common roots for 'horn'. The roots given come from three very distant areas, so this may be a root which had a far wider range, or it may be that this word exists in more languages but hasn't yet been recorded, or else these may simply be chance similarities.

- 1) **Proto-Tera** *^mba^wamⁿda horn *corne* 1.1) **Ga'anda** (Gwaji) ^mbo'omⁿda animal horn
- 2) **Proto-Hurza** *^mba^gwam horn *corne* 2.1) **Vame** (Kinnaird) bəŋg^wəm antenna ; horn ; antler *antenne ; corne*
- 3) **Proto-Mofu** *^mbi^kwam horn *corne* 3.1) **Ouldeme** (Kinnaird) ā^mbəkām horn *corne* 3.2) **Moloko** (Friesen) mo^ggom horn, all types *corne; toutes sortes* 3.3) **Zulgo** (Haller) ^mbükúm *corne f.* 3.4) **Gemzek** (Sabatai) ^mbukom horn *corne*
- 4) **Proto-Musgum** *amak^w horn *corne* 4.1) **Vulum** (Tourneux) amok *corne d'animal*

^mbi^lala^y n. elephant *éléphant* (3 groups, 6 languages) A **syn:** dziwin^y, giwin, nivi.

This root is found in five contiguous languages, and in Tsvan which is very distant from these languages. The Tsvan root follows the right patterning to be the result of contact with the other languages, but the physical and genetic distance between it and the other languages makes it more likely that this is a chance similarity.

- 1) **Proto-Bata** *^mbaɟa elephant *éléphant* 1.1) **Tsvan** (Johnston) ^mbaɟa *l'éléphant*
- 2) **Proto-Hurza** *^mbi^la^y elephant *éléphant* 2.1) **Mbuko** (Gravina) ^mbəle elephant *éléphant* 2.2) **Vame** (Kinnaird) ^mbələlək elephant *éléphant*

- 3) **Proto-Mofu** *^mbala ^y elephant *éléphant* 3.1) **Ouldeme** (Kinnaird) ^mbèlè elephant *éléphant* 3.2)
Muyang (Smith) ^mbeli elephant *éléphant* 3.3) **Moloko** (Friesen) ^mbəlele elephant *éléphant* 3.3.1)
Moloko (Friesen) ^mbəlele

^mbir v. to get well *guérir* (6 groups, 17 languages) A

This verb has the sense of getting better after an illness, and can be used transitively with a human object for curing a person of an illness. The *^r→^l in the North sub-branch and in Proto-Daba is a regular change. The change *^r→^d in the Bata group is an irregular change.

- 1) **Proto-Bata** *^mbid cure *guérir* 1.1) **Gude** (Hoskinson) ə^mbi cure, get well, heal up 1.1.1) **Gude** (Hoskinson) ə^mbi be enough 1.1.2) **Gude** (Hoskinson) ^mbii heal (of sore only, not of sickness) 1.1.3) **Gude** (Hoskinson) ^mbii be enough 1.2) **Jimi** (Djibi) ^mbəðən 1 - *Rester; qui est resté quand les autres sont ou ont fini.*; 2 - *Guérir*;
- 2) **Proto-Daba** *^mbil cure *guérir* 2.1) **Gavar** (Viljoen) ^mbəl get well, recover *se remettre, se guérir* 2.2) **Mbudum** (Ndokobaï) ^mbəl heal (trans.), cure (v) *guérir* 2.2.1) **Mbudum** (Ndokobaï) kə^mbəl get well *se remettre, se guérir*
- 3) **Proto-Hurza** *^mbar cure *guérir* 3.1) **Mbuko** (Gravina) ^mbar heal *être guéri, donner naissance, revenir de la mort* 3.2) **Vame** (Kinnaird) ^mbərə 1 cure *guérir* 3.2.1) **Vame** (Kinnaird) ^mbərə 2 care for ; take care of *soigner*
- 4) **Proto-Mofu** *^mbil cure *guérir* 4.1) **Ouldeme** (Kinnaird) ^mbəl get well *guérir* 4.1.1) **Ouldeme** (Kinnaird) ^mbéléj heal *guérir* 4.2) **Mada** (Nkoumou) me^mbleŋa *guérir* 4.3) **Moloko** (Friesen) ^mbar heal *guérir* 4.3.1) **Moloko** (Friesen) ^mbar care for *soigner* 4.4) **Zulgo** (Haller) ^mbál *guérir, recouvrer la santé* 4.4.1) **Zulgo** (Haller) ^mbál (dór) *guérir, délivrer d'un mal* 4.5) **Gemzek** (Sabatai) me^mbəle *guérir* 4.5.1) **Gemzek** (Sabatai) ^mbəl heal (trans.), cure (v) *guérir* 4.6) **Merey** (Gravina) ^mbəl heal (trans.), cure (v) *guérir* 4.7) **Dugwor** (Jubumna) mə^mbəlej heal (trans.), cure (v) *guérir* 4.8) **Mofu North** (Barreteau) mé^mbəlèj *guérir, se remettre, reprendre (pour une plante repiquée) ressusciter* 4.9) **Mofu-Gudur** (Hollingsworth) ^mbəl *guérir, se remettre, reprendre (pour une plante repiquée), ressusciter*
- 5) **Proto-Maroua** *^mbil ^w cure *guérir* 5.1) **Giziga Moutourwa** (Michielan) ^mbul *guérir (ne se dit pas d'une plaie lèpre, folie, infirmité)*
- 6) **Proto-Gidar** *i^mbila heal *guérir* 6.1) **Gidar** (Hungerford) i^mbəla *guérir*

^mbiw v. to give birth *accoucher* (3 groups, 9 languages) C **syn:** **wahaj**.

This is the less common of the two roots for 'to give birth'. The Proto-Musgum root is possibly cognate, but more likely to be a chance similarity.

- 1) **Proto-Bata** *^mb^wi give birth *naitre* 1.1) **Gude** (Hoskinson) poo give birth, give birth to 1.1.1) **Gude** (Hoskinson) pàwá -ə birth 1.2) **Jimi** (Djibi) puaan *Accoucher* ; 1.3) **Sharwa** (Gravina) mb^wə *accoucher*

- 2) **Proto-Daba** *^mbiw give birth *naitre* 2.1) **Buwal** (Viljoen) ^mbaw bear (child), give birth *accoucher, donner naissance* 2.2) **Gavar** (Viljoen) ^mbəw (be) born *naitre* 2.2.1) **Gavar** (Viljoen) ^mbəw give birth 2.3) **Mbudum** (Ndokobai) kə^mbu (be) born *naitre* 2.3.1) **Mbudum** (Ndokobai) kə^mbu i ^mbu bear (child), give birth *accoucher, donner naissance* 2.4) **Daba** (Lienhard) ^mbù *accoucher, naitre, enfanter ; produire des fruits*
- 3) **Proto-Musgum** *pik^w give birth *naitre* 3.1) **Mulwi** (Tourneux) puki *accoucher* 3.2) **Mbara** (Tourneux) puk give birth *accoucher*

^m**biwran** nm. tamarind tree *tamarinier* (10 groups, 28 languages) B

This, along with the baobab, is one of two tree species reconstructed for Proto-Central Chadic. There was a regular change *r→l in the languages of the North sub-branch and Cuvok, and in Sukur as an irregular change. In the Mandara group, Podoko has the expected /l/, but the other languages have /r/, which is unestablished. The final consonant presents problems. It is *m in Proto-Mafa, Proto-Sukur, Proto-Maroua and Proto-Lamang, *ŋ in Proto-Higi, *r in Proto-Mofu and absent in Proto-Margi and Proto-Mandara. There is a regular change *n→r word-final in the Margi-Mandara-Mofu major group, which accounts for the final *r in Proto-Mofu if the final consonant was originally *n. The absence of *r in Proto-Margi and Proto-Mandara may possibly be due to a constraint forbidding adjacent *l and *r, though this constraint has not been established. The presence of *m as the final consonant in the other groups is irregular. *w is reconstructed to account for the widespread presence of /u/ in groups where the proto-language had no back vowels.

- 1) **Proto-Bata** *^mbiwran tamarind *tamarinier* 1.1) **Tsuvan** (Johnston) ^mburne *le tamarin, le tamarinier* 1.2) **Jimi** (Djibi) gura^mbalan *Le tamarinier*
- 2) **Proto-Mafa** *^mbiwram tamarind *tamarinier* 2.1) **Mafa** (Ndokobai) ^mburom *tamarin* 2.2) **Cuvok** (Gravina) ^mbəlam tamarind tree *tamarinier*
- 3) **Proto-Tera** *^mbirin tamarind *tamarinier* 3.1) **Nyimatli** (Harley) ^mburun tamarind tree
- 4) **Proto-Sukur** *^mbiłim tamarind *tamarinier* 4.1) **Sukur** (David) ^mbələm tree, tamarind 4.2) **Sukur** (Thomas) ^mbələm tamarid; a tropical tree that produce fruit, also called tamarids, that are preserved for cooking porage.
- 5) **Proto-Margi** *^mbiwla tamarind *tamarinier* 5.1) **Bura** (Blench) ^mbula Tamarind tree 5.2) **Bura** (Blench) ^mbula Tamarindus indica 5.3) **Margi South** (Harley) ^mbəla tamarind 5.3.1) **Margi South** (Harley) ^mbila tamarind 5.4) **Kilba** (Schuh) ^mbəla/a tamarind
- 6) **Proto-Mandara** *amiri tamarind *tamarinier* 6.1) **Matal** (Branger) ām^ər tamarind *tamarinier* 6.2) **Podoko** (Swackhammer) ^mbulá,-ə *tamarinier, tamarin* 6.3) **Mandara** (Fluckiger) ure *tamarin (m), tamarinier (m)* 6.4) **Malgwa** (Löhr) ure tree sp., tamarind, Tamarindus indica, and his seeds 6.4.1) **Malgwa** (Löhr) nafuure tree sp., Tamarindus indica 6.5) **Glavda** (Owens) áw tamarind 6.5.1) **Glavda** (Nghagyiva) àwùra tamarind tree

- 7) **Proto-Mofu** *^mbɪwlar tamarind *tamarinier* 7.1) **Zulgo** (Haller) ^mbólár *tamarinier m.* 7.1.1) **Zulgo** (Haller) ^mbólár *fruits (m. pl.) du tamarinier* 7.2) **Gemzek** (Sabatai) ^mbular *tamarinier* 7.2.1) **Gemzek** (Sabatai) *dereḷ* ^mbulor tamarind tree *tamarinier* 7.3) **Merey** (Gravina) ^mbulor tamarind tree *tamarinier* 7.3.1) **Merey** (Gravina) ^mbəlar *tamarinier* 7.4) **Dugwor** (Jubumna) h^waf j ^mbəlor tamarind tree *tamarinier* 7.5) **Mofu North** (Barreteau) ^mbólár *tamarinier* 7.5.1) **Mofu North** (Barreteau) ^mbólár *tamarin*
- 8) **Proto-Maroua** *^mbɪwlam tamarind *tamarinier* 8.1) **Giziga Moutourwa** (Michielan) ^mbulam *tamarin, tamarinier* 8.2) **Giziga Marva** (Hamidou) ^mbulam tamarind tree *tamarinier* 8.3) **Mbazla** (Tourneux) ^mbəlaŋ *tamarinier*
- 9) **Proto-Lamang** *^mbɪlam tamarind *tamarinier* 9.1) **Hdi** (Bramlett) ^mbəlam tamarind tree *le tamarinier*
- 10) **Proto-Higi** *^mbɪwlaŋ tamarind *tamarinier* 10.1) **Kamwe-Nkafa** (Harley) ^mbúlá Tamarine tree. 10.2) **Kamwe-Futu** (Harley) ^mbula tamarind tree 10.3) **Kirya** (Blench) ^mbólá^ŋ tamarind 10.4) **Bana** (Lienhard) ^mb(ə)láj *tamarinier*

^mburi nm. donkey *âne* (5 groups, 6 languages) C **syn:** koro, zi^ŋg^wa.

This is one of three roots for 'donkey' within Central Chadic. The forms cited come from three distinct areas, and may or may not be cognate. The root found in the Kotoko groups is almost certainly a fairly recent borrowing.

- 1) **Proto-Bata** *^mbɪrse donkey *âne* 1.1) **Bata** (Boyd) ^mbɪrse donkey
- 2) **Proto-Daba** *bardzaŋ^y donkey *âne* 2.1) **Buwal** (Viljoen) berdzeŋ donkey *âne*
- 3) **Proto-Kotoko North** *boro donkey *âne* 3.1) **Afade** (Allison) boro donkey *âne*
- 4) **Proto-Kotoko Centre** *^mbɪri donkey *âne* 4.1) **Lagwan** (Allison) ^mburi donkey *âne* 4.2) **Mser** (Allison) ^mbɪri donkey *âne*
- 5) **Proto-Kotoko South** *^mbɪri donkey *âne* 5.1) **Mazera** (Allison) ^mburi donkey *âne*

naɫij nm. tongue *langue* (6 groups, 11 languages) A **syn:** **ɣanaɗ**^y, **ɗirinih**^y.

This is one of three roots for 'tongue', and is found primarily in the eastern part of the Central Chadic area. There is a regular change *ɫ→s in Proto-Kotoko South and Mser, and *ɫ→ʃ in Mpade. The final *j is realised as /i/ in Proto-Kotoko Centre, and as the palatalisation prosody in Proto-Hurza and Proto-Mofu, which are common sporadic processes.

- 1) **Proto-Hurza** *minaɫ^y tongue *langue* 1.1) **Mbuko** (Gravina) mireɫ tongue *langue (de la bouche)* 1.2) **Vame** (Kinnaird) mənɛɫ tongue *langue (partie de la bouche)*
- 2) **Proto-Mofu** hirnaɫ^y tongue *langue* 2.1) **Dugwor** (Jubumna) hærneɫ language *langue, langage*
- 3) **Proto-Kotoko North** *enɫi tongue *langue* 3.1) **Afade** (Allison) enɫi tongue *langue* 3.2) **Mpade** (Allison) ènʃi tongue *langue* 3.3) **Malgbe** (Allison) enɫi tongue *langue*
- 4) **Proto-Kotoko Centre** *enɫi tongue *langue* 4.1) **Lagwan** (Allison) nɫi tongue *langue* 4.2) **Mser** (Allison) ensi; enʃi tongue *langue*
- 5) **Proto-Kotoko South** *nisa tongue *langue* 5.1) **Zina** (Odden) ànisè tongue *langue* 5.2) **Mazera** (Allison) insa tongue *langue*
- 6) **Proto-Musgum** *naɫaj tongue *langue* 6.1) **Mbara** (Tourneux) naɫaj tongue

niy v. to see *voir* (7 groups, 19 languages) A

The final *y has the reflexes *h in Proto-Maroua and *k in Proto-Mofu. It is deleted in Proto-Tera. In Jimi it has the reflex /^ɔg/. These are all irregular or unestablished.

- 1) **Proto-Bata** *niy see *voir* 1.1) **Gude** (Hoskinson) nee see 1.1.1) **Gude** (Hoskinson) nee 1.2) **Jimi** (Djibi) nə^ɔgən *Regarder* ;
- 2) **Proto-Tera** *na see *voir* 2.1) **Tera** (Newman) na this 2.1.1) **Tera** (Newman) na see 2.2) **Nyimatli** (Harley) na see 2.2.1) **Nyimatli** (Harley) na when 2.2.2) **Nyimatli** (Harley) na there
- 3) **Proto-Mandara** *niya see *voir* 3.1) **Matal** (Branger) mən^ɔŋāj see *voir* 3.2) **Podoko** (Swackhammer) naká *voir, regarder* 3.3) **Mandara** (Fluckiger) náha *prévoir, constater, regarder, remplir, mûrir, redire l'avenir - voir* 3.4) **Malgwa** (Löhr) na see 3.5) **Glavda** (Nghagyiva) nɪɣga see
- 4) **Proto-Mofu** *nik see *voir* 4.1) **Mofu North** (Barreteau) ménəkéj *regarder*, 4.1.1) **Mofu North** (Barreteau) ménəkéj *voir* 4.1.2) **Mofu North** (Barreteau) ménəkéj *examiner* 4.2) **Mofu-Gudur** (Hollingsworth) nək look *regarder, voir, examiner*
- 5) **Proto-Maroua** *nahi see *voir* 5.1) **Mbazla** (SILSurvey) nəhí' see *voir*
- 6) **Proto-Lamang** *niya see *voir* 6.1) **Lamang** (Wolff) nya see 6.2) **Hdi** (Bramlett) nəyaj to look, to see *regarder, voir*

7) **Proto-Higi** *niyi see *voir* 7.1) **Kamwe-Nkafa** (Harley) nə nə 1.see.2.kind of shrub 7.2) **Kamwe-Futu** (Harley) negə see 7.3) **Kirya** (Blench) nə to look 7.4) **Psikye** (Angelo) nəwə look 7.4.1) **Psikye** (Angelo) naké see 7.5) **Bana** (Lienhard) niyè *voir*

nih v. to ripen *mûrir* (16 groups, 34 languages) A

The basic meaning of this verb refers to the ripening of fruit or of millet. The final *h has been lost in several groups, which is a common sporadic process. It has the unestablished reflexes *ɣ in Proto-Margi and *k in Proto-Higi.

- 1) **Proto-Bata** *na ripen *mûrir* 1.1) **Gude** (Hoskinson) na fill, become full 1.1.1) **Gude** (Hoskinson) na ripen 1.1.2) **Gude** (Hoskinson) na be ready for use 1.2) **Jimi** (Djibi) nan 1 - *Remplir* ;; 2 - *Mûrir*
- 2) **Proto-Daba** *na ripen *mûrir* 2.1) **Buwal** (Viljoen) na ripen, become ripe *mûrir* 2.1.1) **Buwal** (Viljoen) na ferment *fermenter* 2.2) **Gavar** (Viljoen) na ferment (alcohol) (v) *fermenter* 2.2.1) **Gavar** (Viljoen) na ripen *mûrir* 2.3) **Mbudum** (Ndokobai) kəna (be) ripe (*être*) *mûr (fruit)* 2.3.1) **Mbudum** (Ndokobai) kəna ripen, become ripe *mûrir* 2.4) **Daba** (Lienhard) nə *mûrir*
- 3) **Proto-Mafa** *nih ripen *mûrir* 3.1) **Mafa** (Barreteau) ⁿdəh *mûrir* 3.2) **Cuvok** (Gravina) nəhaj ripen, become ripe *mûrir* 3.2.1) **Cuvok** (Gravina) manha (be) ripe (*être*) *mûr (fruit)*
- 4) **Proto-Sukur** *nih ripen *murir* 4.1) **Sukur** (Thomas) nəh ripe; fully grown and ready to be eaten.
- 5) **Proto-Hurza** *nah ripen *mûrir* 5.1) **Mbuko** (Gravina) nah ripen *murir* 5.2) **Vame** (Kinnaird) ⁿdəhā ripen *faire mûrir* 5.2.1) **Vame** (Kinnaird) ⁿdəhā ripen ; mature *mûrir*
- 6) **Proto-Margi** *niya ripen *mûrir* 6.1) **Bura** (Blench) nya To be ripe, to ripen 6.2) **Kilba** (Schuh) na/ə ripen
- 7) **Proto-Mandara** *hina ripen *mûrir* 7.1) **Matal** (Branger) məhⁿnāj ripen *mûrir* 7.2) **Malgwa** (Löhr) na ripen
- 8) **Proto-Mofu** *nih^w ripen *mûrir* 8.1) **Ouldeme** (Kinnaird) ānūh^w mature, ripe *mûr* 8.1.1) **Ouldeme** (Kinnaird) nūh^w ripen *mûrir* ; cuire 8.2) **Mada** (Nkoumou) mánah *cuire (mûrir)* 8.2.1) **Mada** (Nkoumou) ménehéj *cuire (faire-, faire mûrir)* 8.3) **Moloko** (Friesen) nah ripen, mature *mûrir* 8.4) **Gemzek** (Sabatai) manaha ripe *mûr (fruit)* 8.4.1) **Gemzek** (Sabatai) menehi *murir* 8.4.2) **Gemzek** (Sabatai) menehe ripen, become ripe *mûrir* 8.5) **Merey** (Gravina) nah (be) mature *mûrir, être mûr, mature* 8.6) **Dugwor** (Jubumna) mənəhej (be) ripe (*être*) *mûr (fruit)* 8.6.1) **Dugwor** (Jubumna) mənəhej ripen, become ripe *mûrir* 8.7) **Mofu-Gudur** (Hollingsworth) ⁿnəh *mûrir*
- 9) **Proto-Maroua** *nih^y ripen *mûrir* 9.1) **Giziga Moutourwa** (Michielan) nih(i) *remplir* 9.1.1) **Giziga Moutourwa** (Michielan) nih(i) *fermenter* 9.1.2) **Giziga Moutourwa** (Michielan) nih(i) *mûrir* 9.2) **Giziga Marva** (Hamidou) mənihan (be) ripe (*être*) *mûr (fruit)* 9.2.1) **Giziga Marva** (Hamidou) mənihan ripen, become ripe *mûrir*
- 10) **Proto-Higi** *naka ripen *mûrir* 10.1) **Psikye** (Angelo) naká ripe 10.2) **Bana** (Lienhard) náká *mûrir (grains, chose qu'on doit préparer)*
- 11) **Proto-Kotoko Island** *no ripen *murir* 11.1) **Buduma** (McKone) no *mûrir, être cuite.*

- 12) **Proto-Kotoko North** *na ripen *mûrir* 12.1) **Afade** (Allison) no na (be) ripe (*être*) *mûr* (*fruit*) 12.2) **Mpade** (Allison) nà ripen, become ripe *mûrir* 12.2.1) **Mpade** (Allison) nà (be) ripe (*être*) *mûr* (*fruit*) 12.3) **Malgbe** (Allison) nawun ripen, become ripe *mûrir* 12.3.1) **Malgbe** (Allison) nawun (be) ripe (*être*) *mûr* (*fruit*)
- 13) **Proto-Kotoko Centre** *naha ripen *mûrir* 13.1) **Mser** (Allison) tina ripen, become ripe *mûrir* 13.1.1) **Mser** (Allison) naha (be) ripe (*être*) *mûr* (*fruit*)
- 14) **Proto-Kotoko South** *winha ripen *mûrir* 14.1) **Zina** (Odden) wùnhà ripen, become ripe *mûrir*
- 15) **Proto-Musgum** *niji ripen *mûrir* 15.1) **Mulwi** (Tourneux) niji *entrer, faire l'amour* 15.1.1) **Mulwi** (Tourneux) niji *mûrir*
- 16) **Proto-Gidar** *inaha ripen *murir* 16.1) **Gidar** (Schuh) ənaha *murir* 16.2) **Gidar** (Hungerford) unaha *mûrir*

nivi n. elephant *éléphant* (2 groups, 5 languages) B **syn:** ^m**bilala** ^y, **dziwin** ^y, **giwin**.

This is one of four roots for 'elephant' which have been reconstructed, and is only found in some of the Kotoko languages. The change from *v to *f in Proto-Kotoko North is a regular change. The *n is only found in Lagwan. There is a common sporadic sound change in these groups *n to *r, but there is no evidence of a regular change in the other direction, and so *n is preferred in the reconstruction.

- 1) **Proto-Kotoko North** *arfi elephant *éléphant* 1.1) **Afade** (Allison) arfi elephant *éléphant* 1.2) **Mpade** (Allison) àrfù elephant *éléphant* 1.3) **Malgbe** (Allison) arfi elephant *éléphant*
- 2) **Proto-Kotoko Centre** *rivi elephant *éléphant* 2.1) **Lagwan** (Allison) nivi elephant *éléphant* 2.2) **Mser** (Allison) arvi elephant *éléphant*

ⁿda v. to swallow *avalér* (7 groups, 16 languages) A **syn:** **sidík**.

This is one of the few roots reconstructed with ⁿd. There is some variation in the vowel, but otherwise the root is stable.

- 1) **Proto-Bata** ⁿda swallow *avalér* 1.1) **Gude** (Hoskinson) ⁿda swallow 1.2) **Jimi** (Djibi) ⁿdan *Avalér* ;
- 2) **Proto-Sukur** ⁿdam swallow *avalér* 2.1) **Sukur** (Thomas) ⁿdam to swallow;- to swallow something like tablets.
- 3) **Proto-Mandara** ⁿdi swallow *avalér* 3.1) **Mandara** (Fluckiger) ⁿdé *avalér, engloutir - v. int. = ndánde* 3.2) **Malgwa** (Löhr) ⁿde swallow, consume 3.3) **Glavda** (Nghagyiva) ⁿd°ga swallow
- 4) **Proto-Mofu** ⁿda swallow *avalér* 4.1) **Moloko** (Friesen) ⁿdawaj swallow *avalér* 4.2) **Zulgo** (Haller) ⁿde *avalér* 4.3) **Mofu North** (Barreteau) méⁿdēj *avalér, 4.3.1) Mofu North* (Barreteau) méⁿdēj *manger sans macher 4.3.2) Mofu North* (Barreteau) méⁿdēj *manger gloutonnement 4.3.3) Mofu North* (Barreteau) méⁿdēj *avalér des graines (oiseau) 4.4) Mofu-Gudur* (Hollingsworth) ⁿd´ swallow *avalér ; picorer des graines (oiseaux) 4.4.1) Mofu-Gudur* (Hollingsworth) ⁿd´ (*sens fig.*) être *gourmand*
- 5) **Proto-Maroua** ⁿdi swallow *avalér* 5.1) **Giziga Moutourwa** (Michielan) ⁿdi *engloutir, noyer 5.1.1) Giziga Moutourwa* (Michielan) ⁿdi *avalér 5.2) Giziga Marva* (Hamidou) ⁿdi god swallow *avalér*
- 6) **Proto-Lamang** ⁿda swallow *avalér* 6.1) **Lamang** (Wolff) ⁿda swallow 6.2) **Hdi** (Bramlett) ⁿdaj to swallow *avalér*
- 7) **Proto-Higi** ⁿda swallow *avalér* 7.1) **Kamwe-Nkafa** (Harley) ⁿdá Swallow 7.2) **Kirya** (Blench) ⁿdà swallow

ⁿdiw nm. human *être humain* (9 groups, 21 languages) A **cf:** **zidír** ^y.

This root has the basic meaning of 'a human being' and is not gender specific. It is one of only four roots reconstructed with ⁿd. The final ^w has the reflexes ^u and the labialisation prosody, both common sporadic changes. There has been metathesis of the two consonants in Proto-Mandara and Proto-Higi, which is also a common sporadic change.

- 1) **Proto-Bata** ⁱⁿdiw person *personne* 1.1) **Gude** (Hoskinson) èⁿdá - ə someone, person, human being 1.2) **Sharwa** (Gravina) ⁿdu *personne, homme*
- 2) **Proto-Mafa** ⁿda ^w person *personne* 2.1) **Mafa** (Ndokobai) ⁿdo *homme(generique) 2.2) Cuvok* (Gravina) ⁿdah people *personnes 2.2.1) Cuvok* (Gravina) ⁿda person *personne 2.2.2) Cuvok* (Gravina) ⁿdana person *personne*
- 3) **Proto-Tera** ⁿdik^wi person *personne* 3.1) **Tera** (Newman) ⁿdukku person (plural) 3.1.1) **Tera** (Newman) ⁿduku person 3.2) **Nyimatli** (Harley) ⁿduku human being, person 3.2.1) **Nyimatli** (Harley) ⁿdukh man.people

- 4) **Proto-Sukur** *ⁿdⁱw person *personne* 4.1) **Sukur** (David) ⁿda person 4.2) **Sukur** (Thomas) ⁿdu person 4.3) **Sukur** (David) ⁿdu person
- 5) **Proto-Margi** *ⁿdu person *personne* 5.1) **Kilba** (Schuh) ⁿdu/ə person
- 6) **Proto-Mandara** *^{wi}ⁿdⁱ person *personne* 6.1) **Podoko** (Swackhammer) məⁿda,-ə *personne, quelqu'un* 6.2) **Malgwa** (Löhr) ⁿda people, persons 6.3) **Glavda** (Owens) uu person 6.3.1) **Glavda** (Nghagyiva) ^ùda human being, person 6.4) **Dghwede** (Frick) wude person
- 7) **Proto-Mofu** *ⁿdaw person *personne* 7.1) **Merey** (Gravina) ⁿdo person *homme, personne, être humaine* 7.2) **Merey** (Gravina) ⁿdo *quelqu'un* 7.3) **Dugwor** (Jubumna) wdaw person *personne* 7.4) **Mofu North** (Barreteau) ⁿdàw *homme* 7.4.1) **Mofu North** (Barreteau) ⁿdàw *être humain* 7.4.2) **Mofu North** (Barreteau) ⁿdàw *gens* 7.5) **Mofu-Gudur** (Hollingsworth) ⁿdaw man *homme, être humain, gens*
- 8) **Proto-Lamang** *^{mi}ⁿdu person *personne* 8.1) **Lamang** (Wolff) ^ùⁿdù person 8.2) **Hdi** (Bramlett) məⁿdu man *l'homme*
- 9) **Proto-Higi** *^{wi}ⁿdⁱ person *personne* 9.1) **Kirya** (Blench) ⁿdə person, people 9.1.1) **Kirya** (Blench) ⁿdə man, person, human being 9.2) **Psikye** (Angelo) wuⁿdú person 9.2.1) **Psikye** (Angelo) ⁿdə he, she, it, person

ⁿdzah v. to sit, stay *s'asseoir, rester* (10 groups, 32 languages) B

The basic meaning of this word covers sitting, staying and living (in a place). This is the only root where ⁿdz is reconstructed. In a few cases ⁿdz is simplified to ⁿz. The final *h is only retained in Proto-Mafa and Proto-Hurza, and in Proto-Lamang where it has the irregular reflex *k^w.

- 1) **Proto-Bata** ⁿdza sit *asseoir* 1.1) **Gude** (Hoskinson) ⁿdzaa sit 1.1.1) **Gude** (Hoskinson) ⁿdzaa dwell or live in a place 1.1.2) **Gude** (Hoskinson) ⁿdzaa be, become 1.2) **Jimi** (Djibi) ⁿdzan *Exister, être, rester en vie*; 1.3) **Tsuvan** (Johnston) a *nzakən rester*
- 2) **Proto-Daba** ⁿdza sit *asseoir* 2.1) **Buwal** (Viljoen) ⁿdza sit, stay *s'asseoir* 2.1.1) **Buwal** (Viljoen) ⁿdza dwell, inhabit *habiter* 2.1.2) **Buwal** (Viljoen) ⁿdza remain, stay *rester, demeurer* 2.2) **Gavar** (Viljoen) ⁿdza sit *s'asseoir* 2.2.1) **Gavar** (Viljoen) ⁿdza stay *rester, demeurer* 2.2.2) **Gavar** (Viljoen) ⁿdza dwell, inhabit *habiter* 2.2.3) **Gavar** (Viljoen) ⁿdza calm (oneself) *se calmer* 2.2.4) **Gavar** (Viljoen) ⁿdza land *atterir* 2.2.5) **Gavar** (Viljoen) ⁿdza be *être* 2.3) **Mbudum** (Ndokobai) ⁿdza sit *s'asseoir* 2.4) **Daba** (Lienhard) ⁿdza *être, rester, s'asseoir*
- 3) **Proto-Mafa** ⁿdzaha sit *asseoir* 3.1) **Mafa** (Barreteau) ⁿdza *s'asseoir* 3.2) **Cuvok** (Gravina) ⁿdzahaj remain, stay *rester, demeurer* 3.2.1) **Cuvok** (Gravina) ⁿdzaha sit *s'asseoir* 3.2.2) **Cuvok** (Gravina) ⁿdzaha dwell, inhabit *habiter*
- 4) **Proto-Sukur** ⁿza sit *s'asseoir* 4.1) **Sukur** (David) nza sit, to 4.2) **Sukur** (Thomas) inza sit; to rest your weight on your bottom with your back vertical.
- 5) **Proto-Hurza** ⁿdzahaj sit *asseoir* 5.1) **Mbuko** (Gravina) nzahaj sit *s'asseoir* 5.1.1) **Mbuko** (Gravina) nzahaj *rester*
- 6) **Proto-Margi** ⁿzi sit *asseoir* 6.1) **Bura** (Blench) nzi To sit, to remain
- 7) **Proto-Mandara** ⁿdza sit *asseoir* 7.1) **Matal** (Branger) mād^{z̄} mād^{z̄}áj sit *s'asseoir* 7.2) **Podoko** (Swackhammer) ⁿdza 1 *asseoir* 7.2.1) **Podoko** (Swackhammer) ⁿdza 2 *rester* 7.2.2) **Podoko** (Swackhammer) ⁿdza 3 *habiter* 7.3) **Mandara** (Fluckiger) ⁿdzá (*s'*)*asseoir* - v. *int.* = *njánja* 7.4) **Malgwa** (Löhr) ⁿdza sit 7.5) **Glavda** (Nghagyiva) ⁿdžiga dwell, inhabit 7.6) **Dghwede** (Frick) ⁿdzægi ⁿdzæge sit

- 8) **Proto-Mofu** *ⁿdza sit *asseoir* 8.1) **Ouldeme** (Kinnaird) nzàkán sit; stay in the house *rester* 8.1.1) **Ouldeme** (Kinnaird) nzàkán live *rester à la maison* 8.1.2) **Ouldeme** (Kinnaird) nzàkán *habiter* 8.2) **Moloko** (Friesen) ⁿdžé sit *s'asseoir* 8.2.1) **Moloko** (Friesen) ⁿdžé stay *rester* 8.2.2) **Moloko** (Friesen) ⁿdžé live *habiter* 8.2.3) **Moloko** (Friesen) ⁿdžé attain *atteindre* 8.3) **Zulgo** (Haller) ⁿdza *rester, demeurer, durer, stationner* 8.3.1) **Zulgo** (Haller) ⁿdza *être* 8.4) **Gemzek** (Sabatai) ⁿdza sit, (be) seated, dwell, inhabit, remain, stay *s'asseoir, (être) assis, habiter, rester, demeurer* 8.5) **Merey** (Gravina) ⁿdzaj *rester* 8.6) **Dugwor** (Jubumna) maⁿdzaj dwell, inhabit *habiter* 8.7) **Mofu North** (Barreteau) méⁿdzēj *s'asseoir* 8.7.1) **Mofu North** (Barreteau) méⁿdzēj *rester* 8.7.2) **Mofu North** (Barreteau) méⁿdzēj *habiter* 8.8) **Mofu-Gudur** (Hollingsworth) ⁿdž' stay *s'asseoir ; rester ; habiter ; attendre*
- 9) **Proto-Lamang** *ⁿzak^w sit *asseoir* 9.1) **Lamang** (Wolff) nzuk sit 9.2) **Hdi** (Bramlett) nzaku to be seated *s'asseoir*
- 10) **Proto-Higi** *ⁿdza sit *asseoir* 10.1) **Kamwe-Futu** (Harley) ⁿdza dwell; inhabit; live; stay 10.2) **Kirya** (Blench) ⁿdzá to stay 10.3) **Psikye** (Angelo) nzá exist, stay 10.4) **Bana** (Lienhard) ⁿdzi *s'asseoir, rester, demeurer*

ᵐg^jaluba n. camel *chameau* (4 groups, 5 languages) D *syn*: kaligimo, ʒig^wami ^y.

This is one of several Central Chadic roots for camel. This root is possibly related to the Kanuri 'kaligimo', or may have been borrowed elsewhere.

- 1) **Proto-Bata** *ᵐg^jaluba camel *chameau* 1.1) **Sharwa** (Gravina) ᵐg^jaluba *Chameau(x)*
- 2) **Proto-Tera** *ᵐgelupa camel *chameau* 2.1) **Ga'anda** (Gwaji) ᵐgelupa camel
- 3) **Proto-Lamang** *ᵐjalibuwa camel *chameau* 3.1) **Hdi** (Bramlett) ᵐjalibuwa camel *le chameau*
- 4) **Proto-Higi** *ᵐgaluba camel *chameau* 4.1) **Kirya** (Blench) njálóbà camel 4.2) **Bana** (Lienhard) ᵐgàlùbà camel *chameau*

ɲg^w_i nf. faeces *selles* (6 groups, 11 languages) C **syn:** ʏ^w_ivi, zaj.

This is one of a small number of roots reconstructed with *ɲg^w. It is one of three well-attested roots for 'faeces'. In the Kotoko-North group, *ɲg^w has become /ɲ^mgb/ in Malgbe and possibly Afade. The related change *g^w → gb is regular in Malgbe.

- 1) **Proto-Tera** *ɲgin faeces *selles* 1.1) **Tera** (Newman) ɲgin faeces 1.2) **Nyimatli** (Harley) ɲgin excrement, faeces
- 2) **Proto-Higi** *g^j_wi faeces *selles* 2.1) **Kamwe-Nkafa** (Harley) gjwə faeces/excrement. 2.2) **Kamwe-Futu** (Harley) wɣə excrement; faeces; feces; dung; excreta
- 3) **Proto-Kotoko Island** *niɲg^w_i faeces *selles* 3.1) **Buduma** (McKone) nuɲgu *selles, défécation*.
- 4) **Proto-Kotoko North** *eɲg^w_i excrement *excrément* 4.1) **Afade** (Allison) embɔ ([ɛɲgbo])? excrement *excrément* 4.2) **Mpade** (Allison) èɲgù excrement *excrément* 4.3) **Malgbe** (Allison) fida; emgbi excrement *excrément*
- 5) **Proto-Kotoko Centre** *ɲg^w_i faeces *excrément* 5.1) **Lagwan** (Allison) ɲgu excrement *excrément* 5.2) **Mser** (Allison) eɲgo excrement *excrément*
- 6) **Proto-Kotoko South** *diɲ^w_in faeces *selles* 6.1) **Mazera** (Allison) duyun excrement *excrément*

ɲg^w_irhak n. crow *corbeau* (11 groups, 28 languages) C

This root denotes the pied crow, and is onomatopoeic in origin, resembling the call of the crow. Given the relationships between the forms that are attested, the word may have been coined at an early time.

- 1) **Proto-Bata** g^wahak crow *corbeau* 1.1) **Gude** (Hoskinson) ɣàaká -ə crow 1.1.1) **Gude** (Hoskinson) mèg^wà' ákə crow. 1.2) **Sharwa** (Gravina) k^waa *corbeau* 1.3) **Bata** (Boyd) gàlike crow
- 2) **Proto-Daba** ɲgirhak crow *corbeau* 2.1) **Gavar** (Viljoen) ɲgrak crow *corbeau* 2.2) **Mbudum** (Ndokobai) mənɣarhax crow *corbeau* 2.3) **Daba** (Lienhard) ɲgèràɲ ɲgèràk *le corbeau*
- 3) **Proto-Mafa** ɲgawak crow *corbeau* 3.1) **Cuvok** (Gravina) maɲgawak crow *corbeau*
- 4) **Proto-Tera** k^waɣi crow *corbeau* 4.1) **Nyimatli** (Harley) k^waɣi crow
- 5) **Proto-Hurza** ɲgahak crow *corbeau* 5.1) **Mbuko** (Gravina) ɲgahak crow *corbeau*
- 6) **Proto-Mandara** *ɣiyakri crow *corbeau* 6.1) **Podoko** (Swackhammer) həhaká,-ə *corbeau* 6.2) **Glavda** (Nghagyiva) ʋáɣàxra crow
- 7) **Proto-Mofu** *ɲgahak crow *corbeau* 7.1) **Mada** (Nkoumou) ɲgàwàk *corbeau pie* 7.2) **Moloko** (Friesen) məɲgahak crow *corbeau(esp.)* 7.3) **Zulgo** (Haller) ɲgaák *corbeau m. sp.* 7.4) **Gemzek** (Sabatai) ɲga'ak crow *corbeau* 7.5) **Merey** (Gravina) maɲgəhak crow *corbeau* 7.6) **Dugwor** (Jubumna) məɲgahak crow *corbeau* 7.7) **Mofu North** (Barreteau) máɲgəhák *corbeau* 7.8) **Mofu-Gudur** (Hollingsworth) ɲgaak ɲgaak *cri du Corbeau pie* 7.8.1) **Mofu-Gudur** (Hollingsworth) maɲgahak *Corbeau pie*

- 8) **Proto-Maroua** gahak crow *corbeau* 8.1) **Giziga Marva** (Hamidou) məgahak crow *corbeau* 8.2) **Giziga Moutourwa** (Michielan) magəgəgək, magakgak (maga^ɖgaŋ) *corbeau-corneille d'Afrique* (237)
- 9) **Proto-Kotoko North** *hagi crow *corbeau* 9.1) **Afade** (Allison) hagi crow *corbeau* 9.2) **Malgbe** (Allison) hagi crow *corbeau* 9.3) **Mpade** (Allison) hagi crow *corbeau*
- 10) **Proto-Kotoko Centre** *nyaki crow *corbeau* 10.1) **Mser** (Allison) ^ɖgayi crow *corbeau* 10.2) **Lagwan** (Allison) nyaki crow *corbeau*
- 11) **Proto-Gidar** ga^ɖgraka crow *corbeau* 11.1) **Gidar** (Hungerford) ga^ɖgraka *corbeau*
- 12) **Kanuri** ^ɖgágə /// ^ɖgágə crow *corbeau*

^ɖg^wis nf. woman *femme* (5 groups, 17 languages) C

This word covers the senses 'woman' and 'wife'. The final *s has the irregular reflex *z in Proto-Mafa.

*^ɖg^w has the unestablished reflexes *k^w in Proto-Mandara, and *k in part of the Mofu group. It has been reanalysed as *n with a possible labialisation prosody in Proto-Tera, if indeed the Proto-Tera form is cognate.

- 1) **Proto-Mafa** *^ɖg^waz woman *femme* 1.1) **Mafa** (Ndokobai) ŋg^waz woman *femme* 1.2) **Cuvok** (Gravina) ŋg^waz woman *femme* 1.2.1) **Cuvok** (Gravina) ŋg^waz wife *épouse*
- 2) **Proto-Tera** *nuʃu woman *femme* 2.1) **Tera** (Newman) nuʃu woman 2.1.1) **Tera** (Newman) nuʃuku women, woman (plural) 2.2) **Nyimatli** (Harley) nusu woman 2.2.1) **Nyimatli** (Harley) Nusu woman 2.2.2) **Nyimatli** (Harley) nokhzi wife 2.2.3) **Nyimatli** (Harley) nokhzi female
- 3) **Proto-Mandara** *k^wisi woman *femme* 3.1) **Matal** (Branger) mɪʃ woman *femme* 3.2) **Podoko** (Swackhammer) nəsá,-ə 1 *femme* 3.2.1) **Podoko** (Swackhammer) nəsá,-ə 2 *femelle* 3.3) **Malgwa** (Löhr) mukse woman, female 3.4) **Glavda** (Owens) uu woman 3.4.1) **Glavda** (Nghagyiva) ù:sa wife 3.4.2) **Glavda** (Nghagyiva) ù:sa woman 3.5) **Dghwede** (Frick) niʃe wife
- 4) **Proto-Mofu** *^ɖg^was, mikis woman *femme* 4.1) **Zulgo** (Haller) məkəs *femme f., épouse f.* 4.2) **Gemzek** (Sabatai) məkas woman *femme* 4.2.1) **Gemzek** (Sabatai) məkas wife *femme, épouse* 4.3) **Merey** (Gravina) ŋg^was woman *femme* 4.4) **Dugwor** (Jubumna) ŋg^wos wife *femme, épouse* 4.4.1) **Dugwor** (Jubumna) ŋg^wos woman *femme* 4.5) **Mofu North** (Barreteau) ŋg^wàs *femme* 4.5.1) **Mofu North** (Barreteau) ŋg^wàs *épouse* 4.6) **Mofu-Gudur** (Hollingsworth) ŋg^was wife *femme, épouse* 4.6.1) **Mofu-Gudur** (Hollingsworth) ma^ɖgusa *femelle, femme*
- 5) **Proto-Maroua** *^ɖg^was woman *femme* 5.1) **Giziga Marva** (Hamidou) g^was woman *femme* 5.1.1) **Giziga Marva** (Hamidou) g^was wife *femme, épouse* 5.2) **Mbazla** (Tourneux) ^ɖgas *femme* 5.2.1) **Mbazla** (SILSurvey) ^ɖgāsā woman *femme*

^ɖg^wits ^y n. hair *cheveux* (5 groups, 17 languages) C **syn:** si^mbiti ^y.

This is one of the few roots that contain *^ɖg^w. The root is only attested in five groups, but these cover a wide area, possibly indicating a good time depth. The *ts has the irregular reflexes *s in Proto-Tera and *dz in Proto-Mandara.

- 1) **Proto-Mafa** *^ɲg^watsi hair *cheveux* 1.1) **Mafa** (Barreteau) g^wátsə géf *cheveux* 1.2) **Cuvok** (Gravina) ɲg^wetʃ ta jaŋ hair (of head) *cheveux (de tête)*
- 2) **Proto-Tera** *^yg^wasi hair *cheveux* 2.1) **Tera** (Newman) yos hair (of head); hair (of body); feather 2.2) **Nyimatli** (Harley) yosi djin hair (of head) 2.3) **Ga'anda** (Gwaji) weefa hair
- 3) **Proto-Mandara** *g^widzi ^y hair *cheveux* 3.1) **Matal** (Branger) aŋidz, aŋidz hair *cheveux* 3.2) **Podoko** (Swackhammer) ^ɲgutsa,-ə *cheveux* 3.3) **Malgwa** (Löhr) ugdze hair 3.4) **Glavda** (Nghagyiva) gùd̄za hair (of head) 3.5) **Dghwede** (Frick) guⁿdza hair
- 4) **Proto-Mofu** *a^ɲg^wits ^y hair *cheveux* 4.1) **Muyang** (Smith) eŋgətʃ hair on body, fur, feathers 4.2) **Gemzek** (Sabatai) a^ɲgəz hair *poil* 4.3) **Merey** (Gravina) mək^wes *cheveux* 4.4) **Dugwor** (Jubumna) aŋg^wetʃ hair (of head) *cheveux (de tête)* 4.5) **Mofu-Gudur** (Hollingsworth) éŋg^wetʃ *poils, cheveux, chevelure, crinière*
- 5) **Proto-Maroua** *^ɲg^witsi ^y hair *cheveux* 5.1) **Giziga Moutourwa** (Michielan) ng^witʃi *poil, cheveux* 5.2) **Mbazla** (SILSurvey) ^ɲgùzó' hair (on head) *cheveux (chevelure)*

pak^wadīp nm. lung *poumon* (15 groups, 36 languages) C

This root is complex to reconstruct. It contains four consonants, and the two medial consonants have been lost in several groups. In many cases this has been compensated for by the reduplication of one of the other root consonants. Proto-Central Chadic *p had the allophone [p] in word-initial position and [f] in word-final position. The initial *p has the reflex *b in several groups. The final *p→f has the irregular reflex *v in Proto-Margi and Proto-Kotoko South. *k^w has the reflex *g^w in Gude, Proto-Margi, Proto-Maroua, Proto-Higi and Proto-Musgum, which is regular only in Proto-Higi. In Proto-Tera it has the unestablished reflex *h^w. The labialisation component has been lost in Proto-Mofu, and has been reanalysed as the labialisation prosody in Proto-Tera and Proto-Musgum, along with several individual languages, which are common sporadic processes. The *k^w has been lost completely in several groups, probably through the sporadic changes *k^w→h^w→h→0. The *d is retained only in Daba, and has the reflex /ʔ/ in Giziga Marva. Elsewhere its existence can be deduced from compensatory reduplication. Where either *k^w or *d is lost, many languages have compensated for the lost material by reduplicating a syllable. In Gude, Proto-Tera, Proto-Hurza, Proto-Margi and Proto-Higi, there is reduplication, though this could be triggered by the loss of either the initial *p or the *d. However, in Mofu-Gudur and Proto-Maroua, the *p, *k^w and *f are still present, implying that another consonant has been lost. The evidence for *d is indirect, but cannot be ignored.

- 1) **Proto-Bata** *bifi ʏ, *g^wig^wifi lungs *poumon* 1.1) **Gude** (Hoskinson) gùgùfínə lungs 1.2) **Sharwa** (Gravina) bjəfi *poumon*
- 2) **Proto-Daba** *pak^wadīf lung *poumon* 2.1) **Buwal** (Viljoen) ɣampaf lung *poumon* 2.2) **Gavar** (Viljoen) ɣala kampaf lung *poumon* 2.3) **Mbudum** (Ndokobai) bahaf lung *poumon* 2.4) **Daba** (Lienhard) pòkòdūf *le poumon*
- 3) **Proto-Mafa** *baf lung *poumon* 3.1) **Mafa** (Barreteau) baf *poumon* 3.2) **Cuvok** (Gravina) bef lung *poumon*
- 4) **Proto-Tera** *huhup lung *poumon* 4.1) **Nyimatli** (Harley) khukhup lung
- 5) **Proto-Sukur** *bif lungs *poumon* 5.1) **Sukur** (Thomas) bəf lung in inside the stomach
- 6) **Proto-Hurza** *baf, *k^wik^wifa lung *poumon* 6.1) **Mbuko** (Gravina) baf lungs *poumon* 6.2) **Vame** (Kinnaird) kùkùfà lung *poumon*
- 7) **Proto-Margi** *g^wag^wavi lungs *poumon* 7.1) **Margi South** (Harley) g^wag^wavi lungs 7.2) **Kilba** (Schuh) guguvi lungs
- 8) **Proto-Mandara** *pifa lungs *poumon* 8.1) **Matal** (Branger) pafaf lungs *poumon* 8.2) **Podoko** (Swackhammer) bəfa,-ə *poumon*

- 9) **Proto-Mofu** *abahaf lungs *poumon* 9.1) **Ouldeme** (Kinnaird) ^mbèf lung *poumon* 9.2) **Mada** (Nkoumou) am^mbahaf lung *poumon* 9.3) **Moloko** (Friesen) pahav lung *poumon* 9.4) **Zulgo** (Haller) abaf lung *poumon m.* 9.5) **Gemzek** (Sabatai) abaf lung *poumon* 9.6) **Merey** (Gravina) ba^mbaf lung *le poumon* 9.7) **Dugwor** (Jubumna) bo^mbof lung *poumon* 9.8) **Mofu-Gudur** (Hollingsworth) babəkaf lung *poumon (Gudur)*
- 10) **Proto-Maroua** *babag^waf lung *poumon* 10.1) **Giziga Moutourwa** (Michielan) bobo^ggof(Mt), bofoko(Mj) *poumons* 10.2) **Giziga Marva** (Hamidou) bubu'of lung *poumon* 10.3) **Mbazla** (Tourneux) baagaf *poumons*
- 11) **Proto-Lamang** *bif lung *poumon* 11.1) **Hdi** (Bramlett) bəf lung *le poumon*
- 12) **Proto-Higi** *g^wig^wifi lung *poumon* 12.1) **Kamwe-Nkafa** (Harley) gugufə lung 12.2) **Kirya** (Blench) gùgùfí lungs 12.3) **Bana** (Lienhard) bəfi *poumons*
- 13) **Proto-Kotoko North** *kafo lung *poumon* 13.1) **Afade** (Allison) gafo lung *poumon* 13.2) **Mpade** (Allison) kófo lung *poumon*
- 14) **Proto-Kotoko South** *y^wavi lung *poumon* 14.1) **Mazera** (Allison) y^wavy^wavi lung *poumon*
- 15) **Proto-Musgum** *bubugaf lung *poumon* 15.1) **Vulum** (Tourneux) baagaf *poumon* 15.2) **Mbara** (Tourneux) bubugaf lung

paḷa n. upper arm *avant-bras* (6 groups, 10 languages) C *rel. to:* **hipaḷ** ^y; *syn:* **dzivi** ^y, **hira**.

This root is probably related to the root *hipaḷ ^y 'shoulder'. In three of the groups the *p is realised as /b/, and in two groups the initial consonant has been prenasalised. In all except two of the groups, the *ḷ is realised as /l/, which is an unestablished change.

- 1) **Proto-Daba** *palalaḷ ^y arm *bras* 1.1) **Gavar** (Viljoen) mapeleleḷ arms *bras*
- 2) **Proto-Hurza** *baḷa upper arm *avant-bras* 2.1) **Mbuko** (Gravina) baḷa upper arm *partie supérieure du bras*
- 3) **Proto-Maroua** *baḷa arm *bras* 3.1) **Giziga Moutourwa** (Michielan) hirbaḷa *muscle du bras, bras, supérieur humérus*
- 4) **Proto-Higi** *pila hand *main* 4.1) **Kirya** (Blench) pèlà hand
- 5) **Proto-Kotoko North** *^mbala arm *bras* 5.1) **Afade** (Allison) ^mbila arm *bras* 5.2) **Mpade** (Allison) ^mbala arm *bras* 5.2.1) **Mpade** (Allison) ^mbala forearm *avant-bras* 5.2.2) **Mpade** (Allison) ^mbala upper arm *bras supérieur* 5.3) **Malgbe** (Allison) ^mbala arm *bras* 5.4) **Maltam** (Allison) ^mbala arm *bras*
- 6) **Proto-Kotoko Centre** *mpala forearm *avant-bras* 6.1) **Lagwan** (Allison) mpala arm *bras* 6.2) **Mser** (Allison) mpala arm *bras*

pik^w/pik^w ^y v. whistle *siffler* (6 groups, 18 languages) B *cf:* **vats**, **viḷ**, **v₂**.

Two alternative roots are proposed due to the contradictory evidence. The data from the Daba, Mafa and Mofu groups supports reconstructing the palatalisation prosody, whilst the data from the other groups indicates that the vowel *i should be reconstructed. *p has the reflex *f in all groups, which is not expected in word-initial position. The word may therefore have an onomatopoeic origin.

- 1) **Proto-Bata** *fik^w whistle *siffler* 1.1) **Gude** (Hoskinson) fiku whistle 1.2) **Jimi** (Djibi) fik^wən *Siffler avec la bouche* ;
- 2) **Proto-Daba** *fifak^w ^y whistle *siffler* 2.1) **Buwal** (Viljoen) fefek^w whistle (v) *siffler* 2.2) **Mbudum** (Ndokobai) fəfek whistle (v) *siffler* 2.2.1) **Mbudum** (Ndokobai) fəfək whistle (v) *siffler*
- 3) **Proto-Mafa** *fik^w ^y whistle *siffler* 3.1) **Mafa** (Barreteau) fuk^w *siffler* 3.2) **Cuvok** (Gravina) fəfk^wa hiss *siffler (serpent)* 3.2.1) **Cuvok** (Gravina) fəfk^wa blow *souffler* 3.2.2) **Cuvok** (Gravina) fəfk^wa whistle (v) *siffler*
- 4) **Proto-Mandara** *fik^wa whistle *siffler* 4.1) **Podoko** (Swackhammer) fik^wá *siffler* 4.2) **Mandara** (Fluckiger) fik^wa *siffler* 4.3) **Malgwa** (Löhr) fiik^wa whistle 4.4) **Glavda** (Nghagyiva) fəfik^wa whistle (v) 4.5) **Dghwede** (Frick) fəge to blow
- 5) **Proto-Mofu** *fik^w ^y whistle *siffler* 5.1) **Muyang** (Smith) fik^wej whistle *siffler* 5.2) **Moloko** (Friesen) fokaj whistle with your lips *siffler avec les lèvres* 5.3) **Zulgo** (Haller) fèfek^wé *siffler* 5.4) **Gemzek** (Sabatai) mefuk^we dədœ hiss *siffler (serpent)* 5.4.1) **Gemzek** (Sabatai) mefuk^we *siffler* 5.4.2) **Gemzek** (Sabatai) fuk blow *souffler* 5.5) **Merey** (Gravina) fəfək^w blow, hiss *siffler (serpent), souffler* 5.6) **Mofu-Gudur** (Hollingsworth) fáfák^w *siffler* 5.6.1) **Mofu-Gudur** (Hollingsworth) fáfák^w whistle (with mouth, without instrument), call by whistling (a dog, goat) *siffler (avec la bouche, sans instrument), appeler en sifflant (un chien, chèvre)*
- 6) **Proto-Higi** *fig^we whistle *siffler* 6.1) **Kamwe-Futu** (Harley) fig^we whistle

pitsi nf. sun *soleil* (14 groups, 45 languages) A

In Proto-Central Chadic [p] and [f] were allophones of *p, but they split into separate phonemes by the time of the group proto-languages. [p] was the word-initial allophone of *p, and so *p is found in many groups. *f is the reflex in Proto-Bata, Proto-Tera, Proto-Mandara, Proto-Lamang, Proto-Kotoko South and Proto-Musgum, with Proto-Higi *v being a development from *f. There is no known rule to account for this change. *ts has the reflex *s in Proto-Sukur (regular) and in Proto-Maroua (irregular). It has the regular reflex *t in Proto-Lamang and Proto-Musgum, with Proto-Tera *d being an unestablished development from *t.

- 1) **Proto-Bata** *fiti sun *soleil* 1.1) **Jimi** (Djibi) fitən *Soleil, s'emploie aussi pour désigner le jour comme durée.* 1.2) **Sharwa** (Gravina) fətə *soleil, jour* 1.3) **Tsuvan** (Johnston) fete *le soleil*
- 2) **Proto-Daba** *pits^y sun *soleil* 2.1) **Buwal** (Viljoen) pes daytime *ournée* 2.1.1) **Buwal** (Viljoen) pes sun *soleil* 2.2) **Gavar** (Viljoen) piʃ sun *soleil* 2.2.1) **Gavar** (Viljoen) piʃ day *jour* 2.3) **Mbudum** (Ndokobai) pis sun *soleil* 2.4) **Daba** (Lienhard) pītʃ *le soleil, le jour*
- 3) **Proto-Mafa** *pats sun *soleil* 3.1) **Mafa** (Barreteau) páts *soleil, jour (lumière)* 3.2) **Cuvok** (Gravina) pas day *jour* 3.2.1) **Cuvok** (Gravina) pas sun *soleil*
- 4) **Proto-Tera** *fida sun *soleil* 4.1) **Tera** (Newman) fəda sun 4.1.1) **Tera** (Newman) fəda day 4.2) **Nyimatli** (Harley) fūda day 4.2.1) **Nyimatli** (Harley) fūda sun 4.2.2) **Nyimatli** (Harley) fūdar day
- 5) **Proto-Sukur** *pis sun *soleil* 5.1) **Sukur** (David) pis sun 5.2) **Sukur** (Thomas) pis sun; the star that shine in the sky during the day and give the earth heat and light.

- 6) **Proto-Hurza** *pats sun *soleil* 6.1) **Mbuko** (Gravina) pats sun *soleil* 6.1.1) **Mbuko** (Gravina) pats day *jour (m)* 6.2) **Vame** (Kinnaird) ápās sun *soleil*
- 7) **Proto-Margi** *pitsi sun *soleil* 7.1) **Bura** (Blench) ptʃi Day (when counting) 7.1.1) **Bura** (Blench) ptʃi Sun 7.2) **Margi South** (Harley) pətʃi sun. day 7.3) **Kilba** (Schuh) pətʃi sun
- 8) **Proto-Mandara** *fatsi ^y sun *soleil* 8.1) **Matal** (Branger) āfàts sun *soleil* 8.2) **Podoko** (Swackhammer) patsa,-a *jour* 8.2.1) **Podoko** (Swackhammer) patsa,-ə *soleil* 8.3) **Malgwa** (Löhr) vatʃija sun, daylight 8.4) **Glavda** (Owens) fač day, sun 8.4.1) **Glavda** (Nghagyiva) fātʃija sun 8.4.2) **Glavda** (Nghagyiva) dvātʃija day 8.5) **Dghwede** (Frick) fitʃe sun, day
- 9) **Proto-Mofu** *pats sun *soleil* 9.1) **Ouldeme** (Kinnaird) fat sun *soleil* 9.1.1) **Ouldeme** (Kinnaird) fat *l'heure du jour* 9.2) **Muyang** (Smith) fat sun ; day *soleil; jour* 9.3) **Moloko** (Friesen) fat sun *soleil* 9.3.1) **Moloko** (Friesen) fat day *jour; moment* 9.4) **Zulgo** (Haller) pat *soleil m.* 9.5) **Gemzek** (Sabatai) pat sun *soleil* 9.5.1) **Gemzek** (Sabatai) həpət day *jour* 9.6) **Merey** (Gravina) pat *soleil* 9.6.1) **Merey** (Gravina) həpat day *jour, journée, midi* 9.7) **Dugwor** (Jubumna) pat sun *soleil* 9.8) **Mofu North** (Barreteau) pas *soleil* 9.8.1) **Mofu North** (Barreteau) pas *jour* 9.8.2) **Mofu North** (Barreteau) pas *moment, heure* 9.8.3) **Mofu North** (Barreteau) pas *soleil* 9.9) **Mofu-Gudur** (Hollingsworth) pas day, sun *soleil* 9.9.1) **Mofu-Gudur** (Hollingsworth) pas *jour, lumière* 9.9.2) **Mofu-Gudur** (Hollingsworth) pas *moment, heure* 9.9.3) **Mofu-Gudur** (Hollingsworth) papas *jour*
- 10) **Proto-Maroua** *pas sun *soleil* 10.1) **Giziga Marva** (Hamidou) pas sun *soleil* 10.2) **Mbazla** (Tourneux) pas *soleil* 10.2.1) **Mbazla** (SILSurvey) pās sun *soleil*
- 11) **Proto-Lamang** *fiti sun *soleil* 11.1) **Lamang** (Wolff) fití sun 11.1.1) **Lamang** (Wolff) vítá day 11.2) **Hdi** (Bramlett) fitik day, sun *le jour, le soleil*
- 12) **Proto-Higi** *vitsi sun *soleil* 12.1) **Kamwe-Nkafa** (Harley) vetʃi sun 12.2) **Kamwe-Futu** (Harley) vitʃi sun 12.3) **Kirya** (Blench) vətʃí sun 12.4) **Psikye** (Angelo) vətʃi day 12.5) **Bana** (Lienhard) v(ə)tʃí *soleil, jour* 12.5.1) **Bana** (Lienhard) ftʃà *jour*
- 13) **Proto-Kotoko South** *fatsa sun *soleil* 13.1) **Zina** (Odden) ávətʃá sun *soleil* 13.2) **Mazera** (Allison) fatʃa sun *soleil*
- 14) **Proto-Musgum** *futij sun *soleil* 14.1) **Vulum** (Tourneux) futii *soleil* 14.2) **Mulwi** (Tourneux) futii *soleil* 14.3) **Mbara** (Tourneux) futaj sun 14.4) **Muskum** (Tourneux) fasa *soleil*

pidak^{w y} nm. razor *rasoir* (9 groups, 13 languages) A *cf.* **beli**.

It is not possible to determine whether this root was present in Proto-Central Chadic, or whether it was an early technological innovation that spread through the languages at a later point. The regularity of the root is consistent with an early origin. *d has the regular reflex /r/ in Bura, Kirya and Bana.

- 1) **Proto-Bata** *pidik^{w a y} razor *rasoir* 1.1) **Gude** (Hoskinson) píðək^{w á} type of razor with triangular shaped iron blade
- 2) **Proto-Daba** *pidak^{w y} razor *rasoir* 2.1) **Buwal** (Viljoen) pədek^w razor *rasoir* 2.2) **Mbudum** (Ndokobai) pjded razor *rasoir* 2.3) **Daba** (Lienhard) píðək *le rasoir indigène*
- 3) **Proto-Mafa** *pidak^{w y} razor *rasoir* 3.1) **Cuvok** (Gravina) pədek^w razor *rasoir*

- 4) **Proto-Sukur** *pidak^{w y} razor *rasoir* 4.1) **Sukur** (David) pidoek' razor 4.2) **Sukur** (Thomas) pidik'u razor
- 5) **Proto-Hurza** *pidak^{w y} razor *rasoir* 5.1) **Mbuko** (Gravina) pædøk razor *rasoir*
- 6) **Proto-Margi** *park^{wi y} razor *rasoir* 6.1) **Bura** (Blench) pjerku Razor blade 6.1.1) **Bura** (Blench) perku Razor blade
- 7) **Proto-Mandara** *pidak^{w y} razor *rasoir* 7.1) **Matal** (Branger) p^àd^ék^w razor *rasoir*
- 8) **Proto-Mofu** *pidak^{w y} razor *rasoir* 8.1) **Mofu-Gudur** (Hollingsworth) pædek^w *rasoir* (*pointe effilée en fer*)
- 9) **Proto-Higi** *pidik^w razor *rasoir* 9.1) **Kamwe-Futu** (Harley) pæfi razor 9.2) **Kirya** (Blench) pìrúkú razor 9.3) **Bana** (Lienhard) pìrè *rasoir, lame*

pin v. itch *démanger* (4 groups, 11 languages) A

The basic meaning is to scratch an itch. The change *n to *r in the Mofu group is regular. This change is also found in Cuvok, but is a borrowing from Mofu-Gudur. (Apart from the Cuvok borrowing, the root is not found in languages of the South sub-branch.) There is reduplication in several languages, which can indicate that an initial consonant, such as *h, has been lost. Proto-Central Chadic *p has the reflex *f in all groups, which is not expected in this position.

- 1) **Proto-Mafa** *fafir itch *démanger* 1.1) **Cuvok** (Gravina) mefefrej itch (the itch) *démangeaison*
- 2) **Proto-Hurza** *fifin itch *démanger* 2.1) **Mbuko** (Gravina) fəfan scratch; itch *gratter; démanger* 2.2) **Vame** (Kinnaird) fəfəná itch ; scratch_oneself *gratter_se*
- 3) **Proto-Mofu** *fir itch *démanger* 3.1) **Mada** (Nkoumou) móffor *démanger* (*causer des démangeaisons*) 3.2) **Moloko** (Friesen) far scratch *gratter* 3.3) **Gemzek** (Sabatai) fər scrape (v) *gratter, racler* 3.4) **Merey** (Gravina) fəfar *gratter* 3.5) **Dugwor** (Jubumna) məferej ba itch (the itch) *démangeaison* 3.6) **Mofu-Gudur** (Hollingsworth) fáfər (*se*) *gratter, frotter*
- 4) **Proto-Maroua** *fun itch *démanger* 4.1) **Giziga Moutourwa** (Michielan) fun vú *se gratter le corps, démanger* 4.2) **Giziga Marva** (Hamidou) funa vo itch (the itch) *démangeaison*

pira v. to untie *dénouer* (15 groups, 32 languages) A

Proto-Central Chadic *p has the irregular reflex *f in Proto-Kotoko Island and Proto-Kotoko North, and *v as an irregular development of *f in Proto-Kotoko Centre. *r has the reflex *l in the languages of the North sub-branch and in Proto-Daba due to a regular change.

- 1) **Proto-Bata** *piri untie *délier* 1.1) **Bata** (Boyd) pír melt; untie 1.2) **Gude** (Hoskinson) pərə untie, unfold, unwrap 1.2.1) **Gude** (Hoskinson) pərə 1.3) **Jimi** (Djibi) pərən *Détacher* ;
- 2) **Proto-Daba** *pìl untie *délier* 2.1) **Buwal** (Viljoen) pəl láchàrçàk untie *dénouer* 2.2) **Gavar** (Viljoen) pəl untie *dénouer* 2.2.1) **Gavar** (Viljoen) pəl loosen *desserrer* 2.2.2) **Gavar** (Viljoen) pəl release *relâcher* 2.3) **Daba** (Lienhard) pəl *détacher, déplier*
- 3) **Proto-Mafa** *pir untie *délier* 3.1) **Mafa** (Barreteau) pír *délier* 3.2) **Cuvok** (Ndokobaï) mepəlej *délier*
- 4) **Proto-Tera** *piri untie *délier* 4.1) **Tera** (Newman) pəri untie

- 5) **Proto-Sukur** *p̄ir untie *détacher* 5.1) **Sukur** (Thomas) p̄er untie
- 6) **Proto-Hurza** *para untie *déliér* 6.1) **Vame** (Kinnaird) p̄arā 1 untie ; let loose *détacher* 6.1.1) **Vame** (Kinnaird) p̄arā 2 untie *déliér*
- 7) **Proto-Margi** *p̄ili untie *déliér* 7.1) **Bura** (Blench) mp̄ili To loose, untie 7.2) **Kilba** (Schuh) p̄əlija/a untie
- 8) **Proto-Mandara** *p̄ila untie *déliér* 8.1) **Matal** (Branger) m̄ap̄^ɹl èwdá untie *déliér* 8.2) **Podoko** (Swackhammer) p̄əla *détacher, relâcher* 8.3) **Mandara** (Fluckiger) p̄alé *détacher, libérer, détacher en parlant d'une corde ou d'une ficelle, défaire, dénouer - voir *pele* 8.3.1) **Mandara** (Fluckiger) p̄élé *détacher - v. int. = p̄alé* 8.4) **Malgwa** (Löhr) p̄əla untie, loosen, eg. goat 8.5) **Glavda** (Nghagyiva) p̄ilga untie
- 9) **Proto-Mofu** *p̄il untie *déliér* 9.1) **Ouldeme** (Kinnaird) p̄əl se *détacher* 9.1.1) **Ouldeme** (Kinnaird) p̄ələŋ detach ; untie *détacher ; dénouer* 9.1.2) **Ouldeme** (Kinnaird) m̄əp̄ələŋ *détacher ; aplanir* 9.1.3) **Ouldeme** (Kinnaird) m̄əp̄ələj se *détacher* 9.1.4) **Ouldeme** (Kinnaird) p̄ələŋ *détacher un objet* 9.2) **Zulgo** (Haller) p̄əl se *détacher, se lâcher* 9.3) **Gemzek** (Sabatai) m̄əp̄əla di *detach* 9.4) **Merey** (Gravina) p̄əla untie *dénouer, déliér*
- 10) **Proto-Lamang** *p̄il untie *déliér* 10.1) **Lamang** (Wolff) p̄əl untie 10.2) **Hdi** (Bramlett) p̄əla j to untie *détacher*
- 11) **Proto-Higi** *p̄il untie *déliér* 11.1) **Kamwe-Futu** (Harley) p̄ələntə untie 11.2) **Kirya** (Blench) mp̄əl to untie, loose 11.3) **Bana** (Lienhard) p̄(ə)lí *déplier, détacher, suspendre, étaler, débiller*
- 12) **Proto-Kotoko Island** *felu untie *dénouer* 12.1) **Buduma** (McKone) felu untie *dénouer*
- 13) **Proto-Kotoko North** *fal untie *déliér* 13.1) **Mpade** (Allison) f̄əl jo untie *dénouer* 13.2) **Malgbe** (Allison) fal ja untie *dénouer*
- 14) **Proto-Kotoko Centre** *vil untie *déliér* 14.1) **Lagwan** (Allison) vilun he (vil) untie *dénouer* 14.2) **Mser** (Allison) val jo untie *dénouer*
- 15) **Proto-Gidar** *ipp̄ila untie *détacher* 15.1) **Gidar** (Schuh) əpp̄əla *détacher* 15.2) **Gidar** (Hungerford) əp̄ila *déliér, détacher, dénouer*

p̄iri n. butterfly *papillon* (11 groups, 17 languages)

In many cases, this root is reduplicated, and in some cases there is a prefix, which implies that there may have been more material at the start of this root, or else that the word was a nominalisation of a root with a different meaning. *r has the reflex *l in the groups of the North sub-branch and in Proto-Daba as part of a regular change. The final *i is reconstructed from its presence in the three Consonant Prosody groups, Proto-Bata, Proto-Margi and Proto-Higi.

- 1) **Proto-Bata** *p̄iri butterfly *papillon* 1.1) **Gude** (Hoskinson) p̄əríp̄əríŋə butterfly, moth
- 2) **Proto-Daba** *p̄ula butterfly *papillon* 2.1) **Mbudum** (Ndokobai) m̄əp̄ulp̄ula butterfly *papillon*
- 3) **Proto-Tera** *p̄ir butterfly *papillon* 3.1) **Nyimatli** (Harley) p̄urmap̄ur butterfly

- 4) **Proto-Sukur** *pir butterfly *papillon* 4.1) **Sukur** (David) muḷḷəpərpər butterfly 4.2) **Sukur** (Thomas) məḷḷəpərpər butterfly; a fling insect with a long thin body and four large, usually brightly coloured and wings.
- 5) **Proto-Hurza** *pala^y, pira butterfly *papillon* 5.1) **Mbuko** (Gravina) mapərok *papillon* 5.2) **Vame** (Kinnaird) pélpélē butterfly *papillon*
- 6) **Proto-Margi** *pir butterfly *papillon* 6.1) **Bura** (Blench) pirpir Butterfly or moth 6.2) **Kilba** (Schuh) pərpər butterfly
- 7) **Proto-Mandara** *pala butterfly *papillon* 7.1) **Malgwa** (Löhr) napalapala butterfly gen. 7.1.1) **Malgwa** (Löhr) maləm madza^mbala butterfly gen. 7.1.2) **Malgwa** (Löhr) malampalapala butterfly 7.2) **Glavda** (Nghagyiva) àpàlàpàjàzìgla butterfly
- 8) **Proto-Mofu** *pila butterfly *papillon* 8.1) **Mofu-Gudur** (Hollingsworth) mapəla-pəla *papillon* (*nom gén.*)
- 9) **Proto-Maroua** *pila butterfly *papillon* 9.1) **Giziga Moutourwa** (Michielan) mapalapala *papillon* 9.1.1) **Giziga Moutourwa** (Michielan) miplapla (Mt) mapalapala *papillon* 9.2) **Giziga Marva** (Hamidou) muplapla butterfly *papillon*
- 10) **Proto-Higi** *pili butterfly *papillon* 10.1) **Kamwe-Nkafa** (Harley) k^wápàlpà Butterfly. 10.2) **Kamwe-Futu** (Harley) paləpa butterfly 10.3) **Bana** (Lienhard) pəlpəli *papillon*
- 11) **Proto-Gidar** *pala^w butterfly *papillon* 11.1) **Gidar** (Hungerford) motopolo-polo *papillon*

piris^y n. horse *cheval* (10 groups, 32 languages) A **syn:** tak^w, bisk^wan.

This root is a borrowing from the Arabic 'FRS', denoting a mare. The Arabic /f/ appears as a Proto-Central Chadic *p, since there was no *p/*f contrast in the early stages of Central Chadic, and [p] was the word-initial allophone. Likewise, the *r has the regular reflex *l in the languages of the North sub-branch and Proto-Daba. However, it is also realised as *l in Proto-Mafa and Proto-Hurza, where *r is expected. The palatalisation prosody is present in all groups where it is expected, except for Gidar.

- 1) **Proto-Daba** *pilis^y horse *cheval* 1.1) **Daba** (Lienhard) pìlís *le cheval*
- 2) **Proto-Mafa** *pilas^y horse *cheval* 2.1) **Mafa** (Barreteau) pílélj *cheval* 2.2) **Cuvok** (Gravina) pəlez horse *cheval*
- 3) **Proto-Tera** *pīrsi, pirja horse *cheval* 3.1) **Tera** (Newman) pərsi horse 3.2) **Nyimatli** (Harley) pūrsi horse 3.2.1) **Nyimatli** (Harley) pūrsa^g horse-the 3.3) **Ga'anda** (Gwaji) pirja horse
- 4) **Proto-Hurza** *pilas^y horse *cheval* 4.1) **Mbuko** (Gravina) pəles horse *cheval* 4.2) **Vame** (Kinnaird) pəlélj horse *cheval*
- 5) **Proto-Mandara** *pīlisa^y horse *cheval* 5.1) **Matal** (Branger) pəlis, pəlif horse *cheval* 5.2) **Podoko** (Swackhammer) pīrəfé,-e *cheval* 5.3) **Mandara** (Fluckiger) bélsá *cheval* (*m*) 5.4) **Malgwa** (Löhr) bəlsa horse 5.5) **Glavda** (Owens) pəls horse 5.5.1) **Glavda** (Nghagyiva) pìl:ja horse

- 6) **Proto-Mofu** *pilis^y horse *cheval* 6.1) **Ouldeme** (Kinnaird) pèlis horse *cheval* 6.2) **Moloko** (Friesen) pæles horse *cheval* 6.3) **Zulgo** (Haller) pírís *cheval m.* 6.4) **Gemzek** (Sabatai) pæles horse *cheval* 6.5) **Merey** (Gravina) pæles horse *cheval* 6.6) **Dugwor** (Jubumna) pæles horse *cheval* 6.7) **Mofu North** (Barreteau) pélés *cheval* 6.8) **Mofu-Gudur** (Hollingsworth) pæles *cheval*
- 7) **Proto-Maroua** *pilis^y horse *cheval* 7.1) **Giziga Moutourwa** (Michielan) pilis(i) Mt:plis ffd: putʃu *cheval* 7.2) **Giziga Marva** (Hamidou) piles horse *cheval* 7.3) **Mbazla** (Tourneux) piliʃ *cheval*
- 8) **Proto-Lamang** *pilis horse *cheval* 8.1) **Lamang** (Wolff) pálís horse 8.1.1) **Lamang** (Wolff) pəlísí horse 8.1.2) **Lamang** (Wolff) plís horse 8.2) **Hdi** (Bramlett) pəlis horse *le cheval*
- 9) **Proto-Musgum** *pilis^y horse *cheval* 9.1) **Mulwi** (Tourneux) aplis *cheval* 9.2) **Vulum** (Tourneux) aplis *cheval* 9.3) **Mbara** (Tourneux) pilis horse 9.4) **Muskum** (Tourneux) pleseke *cheval*
- 10) **Proto-Gidar** *pilsa horse *cheval* 10.1) **Gidar** (Schuh) pəlsa *cheval* 10.2) **Gidar** (Hungerford) pīlsa *cheval*

pitsid n. ash *endres* (7 groups, 17 languages) B

The *p has the reflex *f in several groups, even though *p is expected. In Proto-Mofu this has become *v, which is an irregular change. The subsequent change *v→b in Zulgo and Dugwor is regular. *ts has the reflex *t in Proto-Bata and Proto-Mofu, which is a regular process, and the *t has developed into /d/ in Buduma, which is an unestablished process. The Mofu North form may be a borrowing. There is no clear explanation for the presence of *u in Proto-Margi and Proto-Mandara. The *d has been lost in several groups, which is a common sporadic process.

- 1) **Proto-Bata** *fitid ash *endres* 1.1) **Bata** (Boyd) fíté ash; I rubbed ash on my face; salt 1.2) **Bachama** (Skinner) fitœdije ashes
- 2) **Proto-Tera** *p̄isid ash *endres* 2.1) **Tera** (Newman) pədʒit ashes 2.2) **Nyimatli** (Harley) puʒit ashes 2.3) **Hwana** (Harley) fíʃè ashes
- 3) **Proto-Margi** *pitsidu ash *endres* 3.1) **Kilba** (Schuh) pətsədu ashes
- 4) **Proto-Mandara** *fitsud ash *endres* 4.1) **Glavda** (Owens) áft ashes 4.1.1) **Glavda** (Nghagyiva) àftsa ashes 4.2) **Dghwede** (Frick) ftsut'e ash
- 5) **Proto-Mofu** *vita^y ash *endres* 5.1) **Muyang** (Smith) viti ashes (powdery and cold) *endres poudreuses et froides* 5.2) **Moloko** (Friesen) vəte ashes *ceindre* 5.3) **Zulgo** (Haller) bîté *endre (f.) dans laquelle on conserve des haricots etc.* 5.4) **Dugwor** (Jubumna) bəta ashes *endres* 5.5) **Mofu North** (Barreteau) pətsáw *fumée, endre*
- 6) **Proto-Maroua** *p̄itsi^w ash *endres* 6.1) **Giziga Moutourwa** (Michielan) fútʃú *endre* 6.2) **Giziga Marva** (Hamidou) aftʃo ashes *endres* 6.3) **Mbazla** (Tourneux) futʃu *endre* 6.3.1) **Mbazla** (SILSurvey) pútʃú' ash *endre*
- 7) **Proto-Kotoko Island** *fidin ashes *endres* 7.1) **Buduma** (McKone) fədən *endres*.

ra v. dig *creuser* (12 groups, 34 languages) A

The basic meaning of this verb is 'to dig'. In many languages the meaning extends to burying dead people and digging up peanuts, amongst other things. There was a regular change *r→l in the groups of the North sub-branch. This change is also expected in Proto-Daba, but two of the three sub-groups retain *r.

- 1) **Proto-Bata** *ra dig *creuser* 1.1) **Bata** (Boyd) rá dig (hole, using iron instrument); dig_{up} (yams) 1.2) **Gude** (Hoskinson) ra dig 1.3) **Jimi** (Djibi) ran *Creuser* ;
- 2) **Proto-Daba** *ra dig *creuser* 2.1) **Buwal** (Viljoen) ra dig *creuser* 2.2) **Gavar** (Viljoen) ra dig *creuser* 2.2.1) **Gavar** (Viljoen) ra harvest, dig up (yams) *récolter, déterrer (ignames)* 2.3) **Mbudum** (Ndokobai) kəra dig *creuser* 2.3.1) **Mbudum** (Ndokobai) kəra hollow out (log) *creuser, évider (rondin)* 2.4) **Daba** (Lienhard) là *creuser, s'installer, habiter, récolter, castrer* 2.5) **MazagwayHidi** (Noussi) la *creuser*
- 3) **Proto-Tera** *ra dig *creuser* 3.1) **Tera** (Newman) ra dig 3.1.1) **Tera** (Newman) ra plait 3.2) **Nyimatli** (Harley) ra dig
- 4) **Proto-Sukur** *ri dig *creuser* 4.1) **Sukur** (David) rə dig, harvest by digging, to 4.2) **Sukur** (Thomas) rə harvesting; is the general term for harvesting of crops that grow under the soil for example groundnut, potato, cassava etc.
- 5) **Proto-Hurza** *ra dig *creuser* 5.1) **Mbuko** (Gravina) la dig *creuser* 5.1.1) **Mbuko** (Gravina) la dig up *déterrer (les arachides)* 5.2) **Vame** (Kinnaird) ráwā dig *creuser* 5.2.1) **Vame** (Kinnaird) rā mātskā bury *enterrer*
- 6) **Proto-Margi** *la dig *creuser* 6.1) **Bura** (Blench) la To dig 6.2) **Margi** (Hoffman) la dig 6.3) **Kilba** (Schuh) la/a dig
- 7) **Proto-Mandara** *la dig *creuser* 7.1) **Matal** (Branger) malaj dig *creuser* 7.2) **Podoko** (Swackhammer) lahá *creuser*
- 8) **Proto-Mofu** *la dig *creuser* 8.1) **Ouldeme** (Kinnaird) li dig *creuser, enterrement* 8.1.1) **Ouldeme** (Kinnaird) li *enterrer* 8.2) **Muyang** (Smith) li dig deeply *creuser profondement* 8.3) **Mada** (Nkoumou) méle *creuser (récolter les choses en terre)* 8.3.1) **Mada** (Nkoumou) mele *creuser* 8.4) **Moloko** (Friesen) laj dig *creuser* 8.5) **Zulgo** (Haller) le *creuser* 8.6) **Gemzek** (Sabatai) mele hollow out (log) *creuser, évider (rondin)* 8.6.1) **Gemzek** (Sabatai) mele dig *creuser* 8.6.2) **Gemzek** (Sabatai) mele ^mburo *enterrer* 8.7) **Merey** (Gravina) la dig *creuser, évider (rondin)* 8.8) **Dugwor** (Jubumna) malij abed dig *creuser* 8.8.1) **Dugwor** (Jubumna) malij abed hollow out (log) *creuser, évider (rondin)* 8.8.2) **Dugwor** (Jubumna) mala haj abed bury *enterrer, ensevelir*
- 9) **Proto-Maroua** *li dig *creuser* 9.1) **Giziga Marva** (Hamidou) li g^waf dig *creuser*
- 10) **Proto-Lamang** *la dig *creuser* 10.1) **Lamang** (Wolff) la dig

- 11) **Proto-Higi** *la dig *creuser* 11.1) **Kamwe-Nkafa** (Harley) lá dig 11.2) **Kamwe-Futu** (Harley) lake dig (hole) 11.3) **Kirya** (Blench) lá to dig 11.4) **Psikye** (Angelo) lá dig 11.5) **Bana** (Lienhard) lá *creuser, déterrer, enlever l'intérieur d'un carquois, etc. qqch. our on ne voit pas l'intérieur*
- 12) **Proto-Kotoko Island** *la dig *creuser* 12.1) **Buduma** (McKone) la *creuser*.

raj n. field *champ* (5 groups, 12 languages) B **syn:** g^wivih, sika, y^wir.

This is one of several roots found within Central Chadic for 'field'. The Kotoko North languages are distant from the other languages where this root is found, so the forms found there might just be chance similarities. There were regular changes *r→l in the groups of the North sub-branch (here Mofu and Kotoko North), in Proto-Daba and in Cuvok.

- 1) **Proto-Bata** *ri field *champ* 1.1) **Gude** (Hoskinson) rá -ə field, farm plot 1.2) **Sharwa** (Gravina) rə *Champ* 1.3) **Tsuvan** (Johnston) əle *le champs*
- 2) **Proto-Daba** *laj field *champ* 2.1) **Buwal** (Viljoen) la field *champ* 2.2) **Gavar** (Viljoen) la field *champ* 2.3) **Mbudum** (Ndokobaï) laj fields *champs* 2.4) **Daba** (Lienhard) làj bíz *le champs*
- 3) **Proto-Mafa** *raj^y field *champ* 3.1) **Cuvok** (Gravina) lej fields *champs*
- 4) **Proto-Mofu** *laj^y field *champ* 4.1) **Mofu North** (Barreteau) lēj *champ* 4.1.1) **Mofu North** (Barreteau) lēj *brousse* 4.1.2) **Mofu North** (Barreteau) lēj *sauv"age (eus?)* 4.2) **Mofu-Gudur** (Hollingsworth) lej field *champ*, «*brousse*» (*fr. d'Afrique*) ; *sauvage (en locution)*
- 5) **Proto-Kotoko North** *lala field *champ* 5.1) **Afade** (Allison) lala the bush, fields *brousse, champs* 5.2) **Mpade** (Allison) làlà the bush, fields *brousse, champs*

ra^ɲgaɬ^y nm. brain *cerveau* (6 groups, 12 languages) D

The forms given here can be divided between those that include a prenasalised consonant and those that don't. Those that don't could be reflexes of a form such as *daraɬ^y. The *d is lost in Matal, Zulgo Gemzek and Giziga Marva, and has combined with *ɬ in Afade, Maltam and Mser. These are common sporadic processes. The change *ɬ→s in Mser is regular. It is harder to show relatedness for the forms with a prenasalised consonant. It is also not possible to say that all these forms are cognate.

- 1) **Proto-Hurza** *mikila^ɲgaɬ^y brain *cerveau* 1.1) **Mbuko** (Gravina) məkəli^ɲgeɬ brain *cerveau*
- 2) **Proto-Mandara** *ariɬ brain *cerveau* 2.1) **Matal** (Branger) ariɬ brain *cerveau*
- 3) **Proto-Mofu** *a^ɲdiɬ^y, araɬ^y, da^ɲgaɬ^y brain *cerveau* 3.1) **Ouldeme** (Kinnaird) ā^ɲdéɬ brains *cerveaux* 3.2) **Muyang** (Smith) e^ɲdiɬ brain *cerveau* 3.3) **Zulgo** (Haller) areɬ *cerveau m.* 3.4) **Gemzek** (Sabatai) areɬ brain *cerveau* 3.5) **Merey** (Gravina) də^ɲgeɬ brain *cerveau* 3.6) **Dugwor** (Jubumna) ale^ɲgeɬ brain *cerveau*
- 4) **Proto-Maroua** *alaɬ^y brain *cerveau* 4.1) **Giziga Marva** (Hamidou) aleɬ brain *cerveau*
- 5) **Proto-Kotoko North** *erɬ'i brain *cerveau* 5.1) **Afade** (Allison) erɬ'i brain *cerveau* 5.2) **Maltam** (Allison) eriɬ'i brain *cerveau*
- 6) **Proto-Kotoko Centre** *meres'i brain *cerveau* 6.1) **Mser** (Allison) meres'i brain *cerveau*

rigi n. crocodile *crocodile* (4 groups, 7 languages) B **syn:** **kidim**.

This root is only found within the Kotoko languages. ***kidim** is the Proto-Chadic root.

- 1) **Proto-Kotoko Island** ***ligi** crocodile *crocodile* 1.1) **Buduma** (McKone) **ligə** crocodile *crocodile*
- 2) **Proto-Kotoko North** ***ligi** crocodile *crocodile* 2.1) **Afade** (Allison) **ligo** crocodile *crocodile* 2.2) **Mpade** (Allison) **ligi** crocodile *crocodile* 2.3) **Malgbe** (Allison) **ligi** crocodile *crocodile*
- 3) **Proto-Kotoko Centre** ***mirige** crocodile *crocodile* 3.1) **Lagwan** (Allison) **midige** crocodile *crocodile* 3.2) **Mser** (Allison) **mirge** crocodile *crocodile*
- 4) **Proto-Kotoko South** ***liye** crocodile *crocodile* 4.1) **Mazera** (Allison) **liye** crocodile *crocodile*

rigid^y nm. bow *arc* (12 groups, 36 languages) A

This word denotes the bow used for hunting or warfare. There was a regular change ***r**→**l** in the groups of the North sub-branch and Cuvok. Here we also find /**l**/ in Mafa where /**r**/ is expected. The ***g** has the reflex ***k** in Proto-Mafa, Proto-Mandara and Proto-Maroua. It has the reflex ***ɣ** in Proto-Lamang, and has been lost in Proto-Tera and Proto-Sukur, possibly following an earlier ***g**→**ɣ**. These are unestablished changes. ***d** has been lost in most groups. This may be due to interaction with the palatalisation prosody, i.e. ***d^y**→**j**, with ***j** being lost or reanalysed in some groups. This is a common sporadic process.

- 1) **Proto-Bata** ***ragi** bow *arc* 1.1) **Bata** (Boyd) **ràgé** bow 1.2) **Gude** (Hoskinson) **ràgá -ə** bow 1.3) **Jimi** (Djibi) **ragən** *Arc*
- 2) **Proto-Mafa** ***lakad^y**, **lalaŋ** bow *arc* 2.1) **Mafa** (Barrethead) **leked** *arc* 2.2) **Cuvok** (Gravina) **lalaŋ** bow (hunting) *arc (de chasse)*
- 3) **Proto-Tera** ***ri** bow *arc* 3.1) **Tera** (Newman) **ri** bow 3.2) **Nyimatli** (Harley) **ri** bow (hunting)
- 4) **Proto-Sukur** ***raj** bow *arc* 4.1) **Sukur** (David) **raj** bow 4.2) **Sukur** (Thomas) **rai** bow: is to used with arrow for shooting things of people.
- 5) **Proto-Hurza** ***liga^y** bow *arc* 5.1) **Mbuko** (Gravina) **li^oge** bow *arc* 5.2) **Vame** (Kinnaird) **láká** bow ; *arch arc*
- 6) **Proto-Margi** ***laga** bow *arc* 6.1) **Bura** (Blench) **làli** Bow (weapon) 6.2) **Margi** (Hoffman) **laga** bow 6.3) **Margi South** (Harley) **lagga** bow 6.4) **Kilba** (Schuh) **laga** bow
- 7) **Proto-Mandara** ***lika** bow *arc* 7.1) **Matal** (Branger) **ālāk** bow *arc* 7.2) **Podoko** (Swackhammer) **liká,-a** *arc* 7.3) **Mandara** (Fluckiger) **elke** *arc (m)* 7.4) **Malgwa** (Löhr) **əlke** bow 7.5) **Glavda** (Nghagyiva) **là::ɣa** bow (hunting)
- 8) **Proto-Mofu** ***hiligid^y** bow *arc* 8.1) **Ouldeme** (Kinnaird) **àlāk** bow *arc* 8.2) **Mada** (Nkoumou) **eleked/eleged** *arc* 8.3) **Moloko** (Friesen) **me^ogelek** bow *arc* 8.4) **Zulgo** (Haller) **likíd** *arc m.* 8.5) **Gemzek** (Sabatai) **halaŋ** bow (hunting) *arc (de chasse)* 8.6) **Merey** (Gravina) **lalaŋ** *arc* 8.7) **Dugwor** (Jubumna) **həlek** bow (hunting) *arc (de chasse)* 8.8) **Mofu North** (Barrethead) **lálàŋ** *arc* 8.9) **Mofu-Gudur** (Hollingsworth) **leléŋ** *arc* 8.9.1) **Mofu-Gudur** (Hollingsworth) **leléŋ** *humidité (après la pluie)*
- 9) **Proto-Maroua** ***halak^y** bow *arc* 9.1) **Giziga Marva** (Hamidou) **helek** bow (hunting) *arc (de chasse)* 9.2) **Mbazla** (Tourneux) **helek** *arc*

- 10) **Proto-Lamang** *liyəd bow *arc* 10.1) **Lamang** (Wolff) leye bow 10.2) **Hdi** (Bramlett) ləyəd bow
l'arc
- 11) **Proto-Higi** *ligij bow *arc* 11.1) **Kamwe-Nkafa** (Harley) ligjí Bow 11.1.1) **Kamwe-Nkafa** (Harley)
 ligji bow 11.2) **Kamwe-Futu** (Harley) regi bow (for hunting) 11.3) **Bana** (Lienhard) rəgì *arc (pour
 chasser)*
- 12) **Proto-Musgum** *giⁿdiliŋ^y bow *arc* 12.1) **Mbara** (Tourneux) giⁿdiliŋ bow

riwits^y nm. hearth *foyer* (11 groups, 30 languages) A

This word refers to the fireplace with three stones that is used for cooking. There was a regular change *r→l in the North sub-branch, in Proto-Daba and in Cuvok (separately). There was a regular change *ts→t in Proto-Bata and Proto-Lamang. The same change in Proto-Mofu and Proto-Higi is irregular. It is expected that *ts would have the reflex /s/ in Sukur, but this is not the case. *w has been reanalysed as a vowel in Sukur, and has been lost in several groups, which is a common sporadic process. The palatalisation prosody is found in all groups where it exists, except for Sukur. The front vowels in Proto-Lamang are reflexes of the palatalisation prosody.

- 1) **Proto-Bata** *riti^y hearth *foyer* 1.1) **Sharwa** (Gravina) rjəti *foyer*
- 2) **Proto-Daba** *liwits^y hearth *foyer* 2.1) **Buwal** (Viljoen) ləwetʃ fireplace *foyer* 2.2) **Mbudum**
 (Ndokobai) luwitʃ fireplace *foyer*
- 3) **Proto-Mafa** *riwats^y hearth *foyer* 3.1) **Mafa** (Ndokobai) ruwetʃ *foyer à marmite* 3.2) **Cuvok**
 (Gravina) luwetʃ cooking stone *pierre à cuire* 3.2.1) **Cuvok** (Gravina) luwetʃ fireplace *foyer*
- 4) **Proto-Sukur** *ruts hearth *foyer* 4.1) **Sukur** (Thomas) ruts fireplace
- 5) **Proto-Hurza** *riwats^y hearth *foyer* 5.1) **Mbuko** (Gravina) ruwetʃ fire *foyer*
- 6) **Proto-Mandara** *liwtsi^y hearth *foyer* 6.1) **Matal** (Branger) ləts fireplace *foyer* 6.2) **Podoko**
 (Swackhammer) lutʃe,-ə *foyer* 6.3) **Mandara** (Fluckiger) eltʃa *foyer (m)* 6.4) **Malgwa** (Löhr) əltʃa
 stove, fireplace, hearth 6.5) **Glavda** (Nghagyiva) ɪltsa fireplace
- 7) **Proto-Mofu** *liwit^y hearth *foyer* 7.1) **Ouldeme** (Kinnaird) liwīt hearth *foyer* 7.2) **Muyang** (Smith)
 ləwit hearth *foyer* 7.3) **Moloko** (Friesen) ləwte hearth, fireplace *lieu pour cuire la nourriture* 7.4)
Zulgo (Haller) líwít *foyer m.* 7.5) **Gemzek** (Sabatai) luwet fireplace *foyer* 7.6) **Merey** (Gravina)
 luwets *feu de la cuisine* 7.7) **Dugwor** (Jubumna) Luwet cooking stone *pierre à cuire* 7.7.1) **Dugwor**
 (Jubumna) luwet fireplace *foyer* 7.8) **Mofu North** (Barreteau) ləwètʃ *foyer* 7.9) **Mofu-Gudur**
 (Hollingsworth) ləwetʃ *foyer*
- 8) **Proto-Maroua** *liwits^y hearth *foyer* 8.1) **Giziga Moutourwa** (Michielan) liwis(i) *âtre, foyer* 8.1.1)
Giziga Moutourwa (Michielan) liwis(i) *pierre du foyer* 8.2) **Giziga Marva** (Hamidou) liwes cooking
 stone *pierre à cuire* 8.2.1) **Giziga Marva** (Hamidou) liwes fireplace *foyer* 8.3) **Mbazla** (Tourneux)
 lutʃi *foyer*
- 9) **Proto-Lamang** *liti hearth *foyer* 9.1) **Lamang** (Wolff) liti fireplace 9.2) **Hdi** (Bramlett) litik 3-stone
 cooking area *le foyer à 3 pierres*

- 10) **Proto-Higi** *litwi hearth *foyer* 10.1) **Kamwe-Nkafa** (Harley) rèt^{wé} Fireplace. 10.2) **Bana** (Lienhard) lèt(ə) *foyer à cuire*
- 11) **Proto-Musgum** *liwit^y hearth *foyer* 11.1) **Mbara** (Tourneux) liwit fire-place, hearth 11.2) **Muskum** (Tourneux) wit *foyer*

sa v. to drink *boire* (18 groups, 48 languages) A

This is one of the most widely-attested roots in Central Chadic. It is found in all eighteen groups, and in almost all of the languages where there is data available. In the West Tera subgroup *s→z and in Kotoko Island *s→h. Both are regular changes.

- 1) **Proto-Bata** *sa drink *boire* 1.1) **Gude** (Hoskinson) sa drink 1.2) **Jimi** (Djibi) san *Boire* ; 1.3) **Sharwa** (Gravina) sa *Boire*
- 2) **Proto-Daba** *sa drink *boire* 2.1) **Buwal** (Viljoen) sa drink *boire* 2.2) **Gavar** (Viljoen) sa drink *boire* 2.3) **Mbudum** (Ndokobai) laj sa drink *boire* 2.4) **Daba** (Lienhard) sa *boire*
- 3) **Proto-Mafa** *si drink *boire* 3.1) **Mafa** (Ndokobai) sə drink *boire* 3.2) **Cuvok** (Gravina) sa drink *boire*
- 4) **Proto-Tera** *za drink *boire* 4.1) **Tera** (Newman) za drink 4.2) **Nyimatli** (Harley) za drink
- 5) **Proto-Sukur** *si drink *boire* 5.1) **Sukur** (David) sə drink, to 5.2) **Sukur** (Thomas) sə drinking
- 6) **Proto-Hurza** *sa drink *boire* 6.1) **Mbuk** (Gravina) sa to drink *boire* 6.2) **Vame** (Kinnaird) sawā drink *boire*
- 7) **Proto-Margi** *sa drink *boire* 7.1) **Margi** (Hoffman) sa to drink 7.2) **Kilba** (Schuh) sa/a drink 7.3) **Bura** (Blench) sa To drink
- 8) **Proto-Mandara** *sa drink *boire* 8.1) **Matal** (Branger) masaj drink *boire* 8.2) **Podoko** (Swackhammer) sá 1 *boire* 8.2.1) **Podoko** (Swackhammer) sá 2 *absorber* 8.3) **Malgwa** (Löhr) ja drink
- 9) **Proto-Mofu** *sa drink *boire* 9.1) **Ouldeme** (Kinnaird) si drink *boire une boisson* 9.2) **Mada** (Nkoumou) meʃe *boire* 9.3) **Moloko** (Friesen) se drink *boire* 9.4) **Zulgo** (Haller) sa *boire* 9.5) **Gemzek** (Sabatai) mese drink *boire* 9.6) **Merey** (Gravina) sa *boire* 9.7) **Dugwor** (Jubumna) masaj drink *boire* 9.8) **Mofu North** (Barreteau) mésēj *boire* 9.9) **Mofu-Gudur** (Hollingsworth) s' *boire, téter*
- 10) **Proto-Maroua** *si drink *boire* 10.1) **Giziga Marva** (Hamidou) si goɗ drink *boire* 10.2) **Mbazla** (Tourneux) ʃi *boire* 10.2.1) **Mbazla** (SILSurvey) si' drink *boire*
- 11) **Proto-Lamang** *sa drink *boire* 11.1) **Lamang** (Wolff) sa drink 11.2) **Hdi** (Bramlett) saj drink, smoke *boire, fumer*
- 12) **Proto-Higi** *sa drink *boire* 12.1) **Kamwe-Nkafa** (Harley) sá drink 12.2) **Kamwe-Futu** (Harley) sa drink 12.3) **Kirya** (Blench) sá drink 12.4) **Bana** (Lienhard) sá *boire*
- 13) **Proto-Kotoko Island** *hi drink *boire* 13.1) **Buduma** (McKone) xiə drink *boire* 13.2) **Buduma** (McKone) xii *boire*.
- 14) **Proto-Kotoko North** *se drink *boire* 14.1) **Afade** (Allison) se; saun; sel drink *boire* 14.2) **Mpade** (Allison) sè drink *boire* 14.3) **Malgbe** (Allison) jawun drink *boire*
- 15) **Proto-Kotoko Centre** *sa drink *boire* 15.1) **Lagwan** (Allison) sawun drink *boire* 15.2) **Mser** (Allison) se drink *boire*
- 16) **Proto-Kotoko South** *sja drink 16.1) **Zina** (Odden) sjà drink *boire*

17) **Proto-Musgum** *si drink *boire* 17.1) **Vulum** (Tourneux) si *boire* 17.2) **Mulwi** (Tourneux) si *boire* 17.3) **Mbara** (Tourneux) sii drink

18) **Proto-Gidar** *isa drink *boire* 18.1) **Gidar** (Schuh) wusa *boire* 18.2) **Gidar** (Hungerford) əsa *boire*

sid̥ik v. to swallow *avaler* (5 groups, 11 languages) **syn:** ⁿda.

This root is less widespread than ⁿda. The *k has the unestablished reflex *h in Podoko, but otherwise the root is stable.

1) **Proto-Mafa** *sid̥ik swallow *avaler* 1.1) **Mafa** (Barreteau) sədək- *avaler* 1.2) **Cuvok** (Gravina) sədaka swallow *avaler*

2) **Proto-Hurza** *sid̥ak swallow *avaler* 2.1) **Mbuko** (Gravina) sədak swallow *avaler*

3) **Proto-Mandara** *tsid̥ihi swallow *avaler* 3.1) **Podoko** (Swackhammer) tsədəhə *avaler*

4) **Proto-Mofu** *sid̥ik swallow *avaler* 4.1) **Moloko** (Friesen) sədək movement of swallowing *le mouvement d'avaler* 4.2) **Gemzek** (Sabatai) sədak swallow *avaler* 4.2.1) **Gemzek** (Sabatai) mesədke *avaler* 4.2.2) **Gemzek** (Sabatai) a sədak *avaler* 4.3) **Merey** (Gravina) sədaka swallow *avaler* 4.4) **Dugwor** (Jubumna) məsədəkej swallow *avaler* 4.5) **Mofu North** (Barreteau) sədák *avaler sans manger* 4.6) **Mofu-Gudur** (Hollingsworth) səd̥k^w *pénétrer* 4.6.1) **Mofu-Gudur** (Hollingsworth) səd̥k^w *plonger sous l'eau* 4.6.2) **Mofu-Gudur** (Hollingsworth) səd̥k^w *avaler sans mâcher*

5) **Proto-Gidar** *isd̥ika swallow *avaler* 5.1) **Gidar** (Hungerford) əsdəka *avaler*

sih^wani^y n. dream *rêve* (15 groups, 37 languages) B

The *s has the reflex *z in West Tera as part of a regular change. The change *n→r in Proto-Kotoko North and Mser is a common sporadic change. *h^w is realised as /h^w/ only in Podoko. The reflex is *w in several groups, and the consonant has been completely lost in other groups. This is a common sporadic process. In Proto-Margi it has the irregular reflex *ʔ^w. The palatalisation prosody is easily reconstructed, with evidence from all groups. *i can also be reconstructed based on the evidence from the Bata, Margi, Mandara and Lamang groups.

1) **Proto-Bata** *sini^y dream *rêve* 1.1) **Bata** (Boyd) ʃiri dream 1.2) **Gude** (Hoskinson) səni dream 1.3) **Jimi** (Djibi) sinin *Rêver* ; 1.4) **Sharwa** (Gravina) ʃinə'ə *songe, rêve*

2) **Proto-Daba** *sini^y dream *rêve* 2.1) **Buwal** (Viljoen) seŋseŋ dream (n) *rêve* 2.2) **Gavar** (Viljoen) ʃiŋʃiŋ dream (n) *rêve* 2.3) **Mbudum** (Ndokobai) səsin dream (n) *rêve* 2.4) **Daba** (Lienhard) sini *rêver, le rêve*

3) **Proto-Mafa** *siwina^y dream *rêve* 3.1) **Mafa** (Barreteau) níjuwine *rêve* 3.2) **Cuvok** (Gravina) suwana dream (n) *rêve*

4) **Proto-Tera** *zine dream *rêve* 4.1) **Tera** (Newman) zine dream 4.2) **Nyimatli** (Harley) zine dream (n)

5) **Proto-Hurza** *siwna^y dream *rêve* 5.1) **Mbuko** (Gravina) sune dream *rêve*

6) **Proto-Margi** *siʔ^wini^y dream *rêve* 6.1) **Bura** (Blench) suni Dream 6.2) **Kilba** (Schuh) ʃi'uni dream

- 7) **Proto-Mandara** *sih^wani^y dream *rêve* 7.1) **Matal** (Branger) masasiŋaj, maŋasiŋaj, maŋaŋaj masasiŋaj // masesiŋaj // maŋaŋaj dream *rêver* 7.2) **Podoko** (Swackhammer) səh^wana,-i *rêve* 7.3) **Mandara** (Fluckiger) ŋene *rêve (m)* 7.4) **Malgwa** (Löhr) ŋine dream 7.5) **Glavda** (Nghagyiva) sɪŋga dream (n)
- 8) **Proto-Mofu** *siwna^y dream *rêve* 8.1) **Zulgo** (Haller) súná *songe m., rêve m.* 8.2) **Gemzek** (Sabatai) sune dream (n) *rêve* 8.3) **Merey** (Gravina) məsune dream (n) *rêve* 8.4) **Dugwor** (Jubumna) məsne dream (n) *rêve* 8.5) **Mofu North** (Barreteau) mesánéj *rêve*
- 9) **Proto-Maroua** *misin^y dream *rêve* 9.1) **Giziga Marva** (Hamidou) məsin dream (n) *rêve*
- 10) **Proto-Lamang** *siwani dream *rêve* 10.1) **Lamang** (Wolff) suwaŋa dream 10.2) **Hdi** (Bramlett) suni dream *le rêve*
- 11) **Proto-Higi** *siwin^y dream *rêve* 11.1) **Kamwe-Futu** (Harley) səwo dream 11.2) **Kirya** (Blench) ʃín dream, vision 11.2.1) **Kirya** (Blench) ʃiwù to dream 11.3) **Bana** (Lienhard) ʃiw *songer, rêver*
- 12) **Proto-Kotoko North** *saware dream *rêve* 12.1) **Mpade** (Allison) sware dream (n) *rêve* 12.2) **Malgbe** (Allison) jaware dream (n) *rêve*
- 13) **Proto-Kotoko Centre** *siwane dream *rêve* 13.1) **Lagwan** (Allison) swane dream (n) *rêve* 13.2) **Mser** (Allison) sware dream (n) *rêve*
- 14) **Proto-Musgum** *hijni^y dream *rêve* 14.1) **Mulwi** (Tourneux) hiini *être songeur*
- 15) **Proto-Gidar** *issina^y dream *rêve* 15.1) **Gidar** (Hungerford) issine *songe, rêve* 15.2) **Gidar** (Schuh) issine/e *rêve*

sik^y n. leg *jambe* (3 groups, 15 languages) B **syn:** ʃi, siraj.

This root is only found in three adjacent groups. In Mafa, this root has the meaning 'foot', whilst the reflex of the root *siraj has the meaning 'leg'. In some languages of the Mandara group *k→g, which is an unestablished change.

- 1) **Proto-Mafa** *sak^y leg *jambe* 1.1) **Mafa** (Ndokobai) sak *pied* 1.2) **Cuvok** (Gravina) sek foot *pied*
- 2) **Proto-Mandara** *siki^y leg *jambe* 2.1) **Matal** (Branger) asik, aʃik leg *jambe* 2.2) **Podoko** (Swackhammer) ʃigé,-ə 1 *pied, jambe* 2.3) **Glavda** (Nghagyiva) ʃíga leg 2.4) **Dghwede** (Frick) səge leg, foot
- 3) **Proto-Mofu** *sik^y leg *jambe* 3.1) **Ouldeme** (Kinnaird) sèk foot *pied ; jambe* 3.2) **Muyang** (Smith) asak leg ; foot ; time ; foundation ; tyre *pied; jambe; fondation; pneu* 3.3) **Mada** (Nkoumou) ʃek *jambe* 3.4) **Moloko** (Friesen) asak foot; leg *pied; jambe* 3.5) **Zulgo** (Haller) sík *jambe f., pied m.* 3.6) **Gemzek** (Sabatai) sek leg *jambe* 3.7) **Merey** (Gravina) sik leg *jambe, pied* 3.8) **Dugwor** (Jubumna) sek leg *jambe* 3.8.1) **Dugwor** (Jubumna) sek foot *pied* 3.9) **Mofu North** (Barreteau) sék *jambe* 3.9.1) **Mofu North** (Barreteau) sék *measure* 3.9.2) **Mofu North** (Barreteau) sék *fois-un, deux.*

sika n. field *champ* (3 groups, 5 languages) C **syn:** g^wivih, raj, ɣ^wir.

This is the least widespread of four Central Chadic roots for 'field'. The great distance between the Bata group languages and the Kotoko languages makes it most probable that the forms presented here are not cognate.

- 1) **Proto-Bata** *sika field *champ* 1.1) **Jimi** (Djibi) səkiirən *Champ* 1.2) **Sharwa** (Gravina) sika *champ* 1.2.1) **Sharwa** səkha *champ*
- 2) **Proto-Kotoko North** *sko field *champ* 2.1) **Mpade** (Allison) skó fields *champs* 2.2) **Malgbe** (Allison) sko fields *champs*
- 3) **Proto-Kotoko Centre** *sxe field *champ* 3.1) **Lagwan** (Allison) sxe fields *champs* 3.1.1) **Lagwan** (Allison) sxe farm (n) *ferme*

si^mbiti ^y nf. hair *cheveux* (5 groups, 8 languages) D **syn:** ɠ^wits ^y.

This root is found in the south-west of the Central Chadic area. The *^mb has reflexes including /ɓ^w/, /w/ and zero, none of which are known to be regular. The root is difficult to reconstruct with confidence.

- 1) **Proto-Bata** *si^bwiti ^y hair *cheveux* 1.1) **Bata** (Boyd) ʃewto hair of head, pubic hair 1.2) **Sharwa** (Gravina) ʃəɓ^wəti *Cheveu(x)* 1.3) **Tsuvan** (Johnston) subte *les cheveux*
- 2) **Proto-Sukur** *su^mbut ^y hair *cheveux* 2.1) **Sukur** (David) ʃu^mbut hair
- 3) **Proto-Mofu** *si^mbatak^w ^y hair *cheveux* 3.1) **Moloko** (Friesen) sə^mbetewk hair *cheveux; poils*
- 4) **Proto-Lamang** *siwidi hair *cheveux* 4.1) **Hdi** (Bramlett) swidi hair *les cheveux* 4.1.1) **Hdi** (Bramlett) səwidi hair *le poil, les cheveux*
- 5) **Proto-Higi** *sitsi hair *cheveux* 5.1) **Kamwe-Nkafa** (Harley) ʃintji hair 5.2) **Bana** (Lienhard) sətì *un cheveu, un poil, une plume* 5.2.1) **Bana** (Lienhard) ʃtì *cheveux*

simit ^y nm. broom *balai* (9 groups, 16 languages) D **syn:** kilid, sirik^w.

This is one of three common roots for 'broom'. There is a high degree of inconsistency between the forms that are attested, which may be partly due to the fact that this root has only been found in one language in several groups.

- 1) **Proto-Bata** *simti ^y broom *balai* 1.1) **Gude** (Hoskinson) ʃintá -ə broom 1.2) **Sharwa** (Gravina) ʃimtə *balai*
- 2) **Proto-Mafa** *sa^mbak broom *balai* 2.1) **Cuvok** (Gravina) sa^mbak broom *balai*
- 3) **Proto-Tera** *siseeti broom *balai* 3.1) **Nyimatli** (Harley) ʃiʃieeti broom
- 4) **Proto-Sukur** *si^bik broom *balai* 4.1) **Sukur** (David) səbək broom
- 5) **Proto-Margi** *simtu ^y broom *balai* 5.1) **Bura** (Blench) ʃimtù Broom made from this grass
- 6) **Proto-Mandara** *samati broom *balai* 6.1) **Podoko** (Swackhammer) samata,-ə *balai*
- 7) **Proto-Lamang** *si^wit broom *balai* 7.1) **Lamang** (Wolff) siwit broom 7.2) **Hdi** (Bramlett) su'it indigenous broom *le balai indigène*

- 8) **Proto-Higi** *s̥imi broom *balai* 8.1) **Kamwe-Nkafa** (Harley) ʃimí broom 8.2) **Kamwe-Futu** (Harley) ʃime broom 8.3) **Kirya** (Blench) ʃímé broom 8.4) **Psikye** (Angelo) ʃimú broom 8.5) **Bana** (Lienhard) ʃém *balai*
- 9) **Proto-Kotoko Centre** *msisi broom *balai* 9.1) **Lagwan** (Allison) mɪʃiʃi broom *balai* 9.2) **Mser** (Allison) mʃiʃi broom *balai*

sin v. to know *savoir* (17 groups, 41 languages) A

This is an extremely well-attested root, and is found in all groups except for the Musgum group. *s has the regular reflexes *z in the West Tera subgroup and *h in Kotoko Island. There was a regular word-final change *n→r in the Margi-Mandara-Mofu major group, though here Proto-Margi has retained *n. *n has been lost in Sukur, which is an irregular process.

- 1) **Proto-Bata** *sina know *savoir* 1.1) **Gude** (Hoskinson) ʃii know 1.2) **Sharwa** (Gravina) sinan *Connaître* 1.3) **Tsuvan** (Johnston) a sənakən *reconnaître, savoir*
- 2) **Proto-Daba** *sin know *savoir* 2.1) **Buwal** (Viljoen) san know *connaître, savoir* 2.1.1) **Buwal** (Viljoen) san remember *se souvenir* 2.2) **Gavar** (Viljoen) sən know (something or someone) *connaître, savoir* 2.3) **Mbudum** (Ndokobaï) səŋ know (something or someone) *connaître, savoir* 2.3.1) **Mbudum** (Ndokobaï) səŋ know how to *savoir (être capable de)* 2.4) **Daba** (Lienhard) sən *savoir, connaître*
- 3) **Proto-Mafa** *sina know *savoir* 3.1) **Mafa** (Barreteau) sən *connaître* 3.2) **Cuvok** (Gravina) səna know (something or someone) *connaître, savoir*
- 4) **Proto-Tera** *zini know *savoir* 4.1) **Tera** (Newman) zəni know (*connaître*)
- 5) **Proto-Sukur** *si know *savoir* 5.1) **Sukur** (David) sə know, understand, to 5.2) **Sukur** (Thomas) sə know; to have information in your mind as a result of experience or because you learned or been told it.
- 6) **Proto-Hurza** *sina know *savoir* 6.1) **Mbuko** (Gravina) san understand *connaître* 6.2) **Vame** (Kinnaird) sənā 1 know ; be acquainted with *connaître* 6.2.1) **Vame** (Kinnaird) sənā 2 know *savoir*
- 7) **Proto-Margi** *sin know *savoir* 7.1) **Margi South** (Harley) sini know 7.2) **Kilba** (Schuh) zəⁿdi/ə know 7.3) **Bura** (Blench) siⁿda To know
- 8) **Proto-Mandara** *sir know *savoir* 8.1) **Matal** (Branger) masəlaʃ know *savoir* 8.2) **Glavda** (Nghagyiva) sírga know (something or someone)
- 9) **Proto-Mofu** *sir know *savoir* 9.1) **Ouldeme** (Kinnaird) sər know *savoir; savoir ou connaître* 9.2) **Muyang** (Smith) sər get to know, know *être en train de connaître, savoir* 9.3) **Mada** (Nkoumou) masəla *connaître, savoir* 9.3.1) **Mada** (Nkoumou) masəla *savoir (être capable de)* 9.4) **Moloko** (Friesen) sar know *savoir* 9.5) **Gemzek** (Sabatai) mesəre know (something or someone) *connaître, savoir* 9.6) **Merey** (Gravina) sər *connaître* 9.7) **Dugwor** (Jubumna) məsərej know (something or someone) *connaître, savoir* 9.8) **Mofu North** (Barreteau) məsəréj *savoir* 9.8.1) **Mofu North** (Barreteau) məsəréj *connaître* 9.8.2) **Mofu North** (Barreteau) məsəréj *reconnaître* 9.9) **Mofu-Gudur** (Hollingsworth) sər *savoir, connaître, reconnaître*

- 10) **Proto-Maroua** *sin know *savoir* 10.1) **Giziga Marva** (Hamidou) sən g^waf know (something or someone) *connaître, savoir* 10.2) **Mbazla** (Tourneux) fiŋ *savoir*
- 11) **Proto-Lamang** *sina know *savoir* 11.1) **Lamang** (Wolff) sənaa know
- 12) **Proto-Higi** *sina know *savoir* 12.1) **Kamwe-Nkafa** (Harley) sənàtá Know 12.2) **Kamwe-Futu** (Harley) sinəgə know (something or someone) 12.3) **Bana** (Lienhard) səná *savoir, connaître*
- 13) **Proto-Kotoko Island** *hin know *savoir* 13.1) **Buduma** (McKone) hən know (sth. or s.o.) *connaître, savoir* 13.2) **Buduma** (McKone) hən *savoir, connaître*.
- 14) **Proto-Kotoko North** *sin, surun know *savoir* 14.1) **Afade** (Allison) surun know (sth. or s.o.) *connaître, savoir* 14.2) **Mpade** (Allison) sín know (sth. or s.o.) *connaître, savoir*
- 15) **Proto-Kotoko Centre** *sin know *savoir* 15.1) **Lagwan** (Allison) sinwun (sin) know (sth. or s.o.) *connaître, savoir* 15.2) **Mser** (Allison) sín know (sth. or s.o.) *connaître, savoir*
- 16) **Proto-Kotoko South** *siŋ know *savoir* 16.1) **Zina** (Odden) sè (hà) know (sth. or s.o.) *connaître, savoir* 16.2) **Mazera** (Allison) si^ŋga know (sth. or s.o.) *connaître, savoir*
- 17) **Proto-Gidar** *isina know *savoir* 17.1) **Gidar** (Hungerford) əsina *savoir, connaître* 17.2) **Gidar** (Schuh) əsəna *savoir*

siraj nf. leg *jambe* (12 groups, 26 languages) B *syn:* **ʃi, sik** ^v.

This root is the most widespread of the roots for 'leg'. In Proto-Tera, *z is expected from a regular *s→z change, but *s is present. There is a regular change *r→l in the North sub-branch, the Daba group and in Cuvok. However, in the Mandara, Maroua and Higi groups we have /r/, and in Mafa we have /l/. In the Bata group *r has the unestablished reflex /d/. *j has been reanalysed as *i in Proto-Margi and Proto-Kotoko North, a common sporadic process.

- 1) **Proto-Bata** *sidī leg *jambe* 1.1) **Gude** (Hoskinson) səďá -ə (inher. poss., body part) foot, leg 1.2) **Jimi** (Djibi) səďən *Pied* 1.2.1) **Jimi** (Djibi) ʃəranjən *Jambe, partie qui se trouve en-dessous des genoux*. 1.3) **Sharwa** (Gravina) ʃidə *jambe* 1.4) **Tsuvan** (Johnston) səde *la jambe*
- 2) **Proto-Daba** *sasalaj leg *jambe* 2.1) **Buwal** (Viljoen) sasalaj leg *jambe*
- 3) **Proto-Mafa** *sasalaj leg *jambe* 3.1) **Mafa** (Barreteau) ʃəʃelaj *jambe* 3.2) **Cuvok** (Gravina) sasalaj leg *jambe*
- 4) **Proto-Tera** *sara leg *jambe* 4.1) **Tera** (Newman) sara leg 4.2) **Nyimatli** (Harley) sara foot 4.2.1) **Nyimatli** (Harley) sara leg
- 5) **Proto-Hurza** *siraj leg *jambe* 5.1) **Mbuko** (Gravina) saraj leg, foot *jambe, pied* 5.2) **Vame** (Kinnaird) səláj leg *jambe*
- 6) **Proto-Margi** *sil leg *jambe* 6.1) **Bura** (Blench) sil Foot
- 7) **Proto-Mandara** *sira leg *jambe* 7.1) **Mandara** (Fluckiger) sérá *pied (m), patte (f), roue (f)* 7.2) **Malgwa** (Löhr) səra foot, leg
- 8) **Proto-Mofu** *salaj leg *jambe* 8.1) **Mofu-Gudur** (Hollingsworth) sálaj leg, foot *jambe, pied, patte* 8.1.1) **Mofu-Gudur** (Hollingsworth) sálaj *fois (une -, deux -, etc.)*

- 9) **Proto-Maroua** *sir, sar leg *jambe* 9.1) **Giziga Moutourwa** (Michielan) sasala kiⁿdaŋ *jambe, tibia*
 9.1.1) **Giziga Moutourwa** (Michielan) sasala siⁿdaŋ *jambe, tibia* 9.2) **Giziga Marva** (Hamidou) sar
 foot *pied* 9.2.1) **Giziga Marva** (Hamidou) sar leg *jambe* 9.3) **Mbazla** (Tourneux) sir *pied*
- 10) **Proto-Lamang** *sila leg *jambe* 10.1) **Lamang** (Wolff) s^rá leg 10.2) **Hdi** (Bramlett) s^əla leg *la jambe*
- 11) **Proto-Higi** *sira leg *jambe* 11.1) **Kamwe-Nkafa** (Harley) s^əra leg 11.2) **Kamwe-Futu** (Harley) sira
 foot 11.3) **Kirya** (Blench) s^əlá leg 11.4) **Psikye** (Angelo) s^ədá foot 11.5) **Bana** (Lienhard) s^ədá *pied, jambe, patte*
- 12) **Proto-Kotoko North** *sali leg *jambe* 12.1) **Mpade** (Allison) s^álió leg *jambe*

sirik ^y n. jealousy *jalousie* (11 groups, 25 languages) B

This root, along with 'shame', is one of only two roots relating to emotional states that have been reconstructed. There is a regular change *s→z in Proto-Tera, and *r→l in the North sub-branch. *l is also expected in Proto-Daba, though *r is found. Support for the palatalisation prosody is not complete, but is present in most groups where it is a feature. The final *k has the reflex *h in some groups, and has been lost in others. This is an unestablished process. *n is found in its place in Proto-Maroua, which is also an unestablished change.

- 1) **Proto-Bata** *sirihⁱ jealousy *jalousie* 1.1) **Gude** (Hoskinson) s^ərəha be jealous 1.2) **Jimi** (Djibi) s^ərəhən *Etre jaloux* ;
- 2) **Proto-Daba** *sirah^y jealousy *jalousie* 2.1) **Buwal** (Viljoen) s^ərah jealousy *jalousie* 2.2) **Gavar** (Viljoen) s^ərah (be) jealous (lit. do jealousy) (*être jaloux*) 2.3) **Mbudum** (Ndokobaï) s^ərah (be) jealous (*être jaloux*) 2.4) **Daba** (Lienhard) s^ərəh *s'enorgueillir, être jaloux, envier*
- 3) **Proto-Mafa** *sirak^y jealousy *jalousie* 3.1) **Mafa** (Barreteau) s^ərák *jalousie* 3.2) **Cuvok** (Gravina) s^əlek (be) jealous (*être jaloux*) 3.2.1) **Cuvok** (Gravina) s^əlek *jalousie*
- 4) **Proto-Tera** *ziri jealous *jaloux* 4.1) **Nyimatli** (Harley) ziri (be) jealous
- 5) **Proto-Sukur** *sirihⁱ jealousy *jalousie* 5.1) **Sukur** (Thomas) s^ərəh jealousy
- 6) **Proto-Hurza** *sirak jealousy *jalousie* 6.1) **Mbuko** (Gravina) s^ərak jealousy *jalousie*
- 7) **Proto-Margi** *silka jealousy *jalousie* 7.1) **Bura** (Blench) silka To envy, be jealous 7.1.1) **Bura** (Blench) silka Envy, jealousy
- 8) **Proto-Mandara** *sili jealousy *jalousie* 8.1) **Podoko** (Swackhammer) jirá,-ə *jalousie* 8.2) **Malgwa** (Löhr) jələŋa jealousy, rivalry 8.3) **Glavda** (Nghagyiva) sılga (be) jealous 8.3.1) **Glavda** (Owens) səl jealousy
- 9) **Proto-Mofu** *silik^y jealousy *jalousie* 9.1) **Ouldeme** (Kinnaird) silík jealousy *jalousie* ; *querelle* 9.2) **Muyang** (Smith) zirej *être jaloux de* 9.3) **Moloko** (Friesen) s^əlek jealousy *jalousie* 9.4) **Gemzek** (Sabatai) solo *jalousie* 9.4.1) **Gemzek** (Sabatai) s^əlak *jalousie* 9.5) **Merey** (Gravina) s^əlak jealous *jaloux, jalousie* 9.6) **Dugwor** (Jubumna) s^əlek araj (be) jealous (*être jaloux*) 9.7) **Mofu North** (Barreteau) s^əlénj *jalousie* 9.8) **Mofu-Gudur** (Hollingsworth) s^əlenj *jalousie, envie, jaloux (Gudur)*

10) **Proto-Maroua** *silan^w jealousy *jaloux* 10.1) **Giziga Marva** (Hamidou) sulon (be) jealous (*être jaloux*)

11) **Proto-Higi** *silki jealousy *jaloux* 11.1) **Kirya** (Blench) sèlká to be envious, jealous

sirik^w n. broom *balai* (5 groups, 13 languages) A **syn:** **kilid**, **simit^y**.

This root is found primarily in the Mofu group. There was a regular change *r→l in the North sub-branch, though Vulum has /r/. The labialisation from *k^w has been reanalysed as the labialisation prosody in three groups and as a vowel in Giziga Marva. These are common sporadic processes. The change *k→h in Gidar is unestablished.

1) **Proto-Hurza** *sirak^w broom *balai* 1.1) **Mbuko** (Gravina) sərok broom *balaie*

2) **Proto-Mofu** *silak^w broom *balai* 2.1) **Ouldeme** (Kinnaird) səlāk^w broom *balai* 2.2) **Mada**

(Nkoumou) səlāk^w *balai* 2.3) **Moloko** (Friesen) səlewkw broom *balai* 2.3.1) **Moloko** (Friesen) səlewkw

2.4) **Zulgo** (Haller) súlúk^w *balai m.* 2.5) **Gemzek** (Sabatai) sulok broom *balai* 2.6) **Merey** (Gravina)

sulok broom *balai* 2.7) **Dugwor** (Jubumna) səleuk broom *balai* 2.8) **Mofu North** (Barreteau) səlāk^w

balai 2.9) **Mofu-Gudur** (Hollingsworth) salák^w *type d'herbe* 2.9.1) **Mofu-Gudur** (Hollingsworth)

salák^w *balai, balayette*

3) **Proto-Maroua** *sulek broom *balai* 3.1) **Giziga Marva** (Hamidou) sulek broom *balai*

4) **Proto-Musgum** *sirik^w broom *balai* 4.1) **Vulum** (Tourneux) suruk *balai*

5) **Proto-Gidar** *silha^w broom *balai* 5.1) **Gidar** (Schuh) səlho, o *balai* 5.2) **Gidar** (Hungerford) sulhõ *balai*

6) **Kanuri** fəratəram /// sùⁿdòk broom *balai*

siwiḅ^y v. to suck *sucer* (15 groups, 35 languages) A

This well-attested root has a complex history. *w has been lost in many cases. Where it is present, it has been reanalysed as a vowel, or else as the labialisation prosody, which is a common sporadic process. This process has led to the loss of a syllable, and in several languages the first syllable of the root has been reduplicated to compensate for the lost material, which is also a common sporadic process. In the Kotoko groups, the *ḅ has transferred its glottal component to the *s, resulting in *ts or *s'. There is good evidence in support of the palatalisation prosody, and *i is found in those groups where it is expected.

1) **Proto-Bata** *siḅ^y suck *sucer* 1.1) **Gude** (Hoskinson) jibə suck (on candy or food, not to nurse) 1.2) **Sharwa** (Gravina) ʃəḅ *sucer*

2) **Proto-Daba** *saḅ^y suck *sucer* 2.1) **Buwal** (Viljoen) seseḅ suck *sucer* 2.2) **Gavar** (Viljoen) jeḅ suck *sucer* 2.3) **Mbudum** (Ndokobaï) səseḅ suck *sucer* 2.4) **Daba** (Lienhard) sēḅ *sucer*

3) **Proto-Mafa** *sasiḅ^w suck *sucer* 3.1) **Mafa** (Barreteau) sosuḅ- *sucer* 3.2) **Cuvok** (Gravina) sasḅa suck *sucer*

4) **Proto-Hurza** *susaḅ^y suck *sucer* 4.1) **Mbuko** (Gravina) susəḅ to suck *sucer*

5) **Proto-Margi** *siḅi^y suck *sucer* 5.1) **Kilba** (Schuh) jiba/ə suck

- 6) **Proto-Mandara** *ɓusa ^y suck *sucer* 6.1) **Podoko** (Swackhammer) ɓiʃé *sucer* 6.2) **Dghwede** (Frick) p'utsa suck
- 7) **Proto-Mofu** *siwiɓ suck *sucer* 7.1) **Ouldeme** (Kinnaird) s̄ābāj suck *sucer* 7.2) **Moloko** (Friesen) sob suck *sucer* 7.3) **Zulgo** (Haller) sàsufá *sucer dans la bouche* 7.4) **Gemzek** (Sabatai) suɓ suck *sucer* 7.5) **Merey** (Gravina) susuɓ suck *sucer* 7.6) **Dugwor** (Jubumna) məsoɓej suck *sucer* 7.7) **Mofu North** (Barreteau) məsèsə̀bèj *sucer* 7.8) **Mofu-Gudur** (Hollingsworth) sàsə̀b *sucer* 7.8.1) **Mofu-Gudur** (Hollingsworth) sàsə̀b *souffrir de la maladie*
- 8) **Proto-Maroua** *subi suck *sucer* 8.1) **Giziga Marva** (Hamidou) suba goɗ suck *sucer* 8.2) **Mbazla** (Tourneux) susuɓi *sucer* 8.2.1) **Mbazla** (SILSurvey) súsúbi' suck *sucer*
- 9) **Proto-Lamang** *ɓisaj suck *sucer* 9.1) **Hdi** (Bramlett) ɓisaj to suck *sucer*
- 10) **Proto-Higi** *ɓisi, s'ibi suck *sucer* 10.1) **Kamwe-Nkafa** (Harley) ɓísí suck 10.2) **Kamwe-Futu** (Harley) ɓisiwo suckle (baby); nurse; suck the breast 10.2.1) **Kamwe-Futu** (Harley) ɓisi suck 10.3) **Psikye** (Angelo) mɓisə suck 10.4) **Bana** (Lienhard) ɓésə *extraire beaucoup de liquide, presser, filter, sucer* 10.4.1) **Bana** (Lienhard) ɓ(ə)sə *extraire un liquide, presser, filter, sucer* 10.4.2) **Bana** (Lienhard) ʃíɓə *sucer* 10.4.3) **Bana** (Lienhard) ʃiʃə̀bə *sucer*
- 11) **Proto-Kotoko Island** *tsetsabu suck *sucer* 11.1) **Buduma** (McKone) tʃetʃabu *sucer*.
- 12) **Proto-Kotoko North** *s'afu suck *sucer* 12.1) **Afade** (Allison) s'ufu; s'efel wa suck *sucer* 12.2) **Mpade** (Allison) s'áfú suck *sucer* 12.2.1) **Mpade** (Allison) s'áfí gà suck *sucer* 12.3) **Malgbe** (Allison) s'afi suck *sucer*
- 13) **Proto-Kotoko Centre** *s'afi suck *sucer* 13.1) **Lagwan** (Allison) s'ifuwun suck *sucer* 13.2) **Mser** (Allison) s'afi; ns'afi suck *sucer*
- 14) **Proto-Musgum** *susubi ^y suck *sucer* 14.1) **Vulum** (Tourneux) s̄usubi *sucer*
- 15) **Proto-Gidar** *issiɓa ^w suck *sucer* 15.1) **Gidar** (Schuh) əssuɓo *sucer* 15.2) **Gidar** (Hungerford) i ssubo *sucer*

siwra₂ v. to fry *frire* (15 groups, 35 languages) A **cf:** d, **tisaw**.

This is one of two very common cooking verbs, with the other being the generic *d. There was a regular change *r→l in the North sub-branch and in Cuvok. This change should also have affected the Daba group, but this is not the case here. There was a regular change *s→z in Proto-West Tera. *w has been lost in many groups, and reanalysed as a vowel in some other groups, which is a common sporadic process.

- 1) **Proto-Bata** *siri fry *frire* 1.1) **Gude** (Hoskinson) sərə roast over open fire 1.1.1) **Gude** (Hoskinson) sərə fry (dry or with oil)
- 2) **Proto-Daba** *sar fry *frire* 2.1) **Buwal** (Viljoen) msar fry *frire* 2.2) **Gavar** (Viljoen) msar fry *frire* 2.3) **Mbudum** (Ndokobai) məsar fry *frire*
- 3) **Proto-Mafa** *sara fry *frire* 3.1) **Cuvok** (Gravina) sala fry *frire* 3.1.1) **Cuvok** (Gravina) sala cook (v) (*faire cuire, cuisiner*)
- 4) **Proto-Tera** *zur fry *frire* 4.1) **Nyimatli** (Harley) zur fry

- 5) **Proto-Sukur** *siwra fry *frire* 5.1) **Sukur** (David) sura cook, to 5.2) **Sukur** (Thomas) sura fry; to cook something in hot fat or oil; to be burn by the sun.
- 6) **Proto-Hurza** *siwla fry *frire* 6.1) **Mbuko** (Gravina) suwle to fry *frire* 6.2) **Vame** (Kinnaird) sálā fry *frire*
- 7) **Proto-Margi** *sula fry *frire* 7.1) **Bura** (Blench) sulta To fry 7.1.1) **Bura** (Blench) sula To fry 7.2) **Margi** (Hoffman) səl to fry 7.3) **Kilba** (Schuh) səla// fry
- 8) **Proto-Mandara** *sula fry *frire* 8.1) **Podoko** (Swackhammer) sulá *griller, rôtir (dans un récipient)* 8.2) **Mandara** (Fluckiger) séla *frire* 8.3) **Malgwa** (Löhr) səla fry 8.4) **Glavda** (Nghagyiva) sílga fry
- 9) **Proto-Mofu** *sawla fry *frire* 9.1) **Ouldeme** (Kinnaird) səlāj cook (in oil) ; fry *cuire (dans l'huile)* ; *frire* 9.2) **Muyang** (Smith) sawalāj fry *frire* 9.3) **Mada** (Nkoumou) moeʃloere *frire* 9.4) **Moloko** (Friesen) sol cook on fire 9.4.1) **Moloko** (Friesen) sol *frier* 9.4.2) **Moloko** (Friesen) sol *poêler* 9.4.3) **Moloko** (Friesen) sol *griller* 9.5) **Gemzek** (Sabatai) sawla roast *rôtir* 9.5.1) **Gemzek** (Sabatai) mesewle fry *frire* 9.6) **Merey** (Gravina) sola fry *frire* 9.7) **Dugwor** (Jubumna) məsulejna fry *frire* 9.8) **Mofu-Gudur** (Hollingsworth) səl (*faire*) *griller dans un récipient* 9.8.1) **Mofu-Gudur** (Hollingsworth) səl *frire* 9.8.2) **Mofu-Gudur** (Hollingsworth) sər *faire cuire (oeuf, lait)*
- 10) **Proto-Maroua** *sula fry *frire* 10.1) **Giziga Moutourwa** (Michielan) susul *sécher, rotir, griller, frire lentement jusqu'à devenir sec* 10.2) **Giziga Marva** (Hamidou) sula fry *frire*
- 11) **Proto-Lamang** *sula fry *frire* 11.1) **Lamang** (Wolff) sula roast, fry 11.2) **Hdi** (Bramlett) sulaj to fry, to roast *frire, rôtir*
- 12) **Proto-Higi** *sili fry *frire* 12.1) **Kamwe-Nkafa** (Harley) selə fry 12.1.1) **Kamwe-Nkafa** (Harley) sələ Fry 12.2) **Kamwe-Futu** (Harley) siro fry 12.3) **Kirya** (Blench) səl to fry 12.4) **Bana** (Lienhard) s(ə)lí *frire (dans un casserole ou recipient, avec ou sans un peu d'huile)*
- 13) **Proto-Kotoko North** *sil fry *frire* 13.1) **Mpade** (Allison) síljà ho fry *frire*
- 14) **Proto-Kotoko South** *tsihʲa fry *frire* 14.1) **Zina** (Odden) tʃihʲa fry *frire*
- 15) **Proto-Musgum** *sisal fry *frire* 15.1) **Mbara** (Tourneux) sisal roast *rôtir* 15.1.1) **Mbara** (Tourneux) sisal fry

siwra₁ num. two *deux* (7 groups, 12 languages) A *syn*: **ḡiwak, tsijiw, kasi**.

This root is not well-attested in Central Chadic, but evidence from other branches indicates that this was probably the Proto-Chadic root. *w has been reanalysed as a vowel or the labialisation prosody, or has been lost. These are common sporadic processes. There was a regular change *r→l in the North sub-branch, though *r is present in Proto-Mandara, and /d/ is present in Bura.

- 1) **Proto-Daba** *siraj two *deux* 1.1) **Daba** (Lienhard) sərāj *deux*
- 2) **Proto-Tera** *sirri two *deux* 2.1) **Ga'anda** (Gwaji) sərri two
- 3) **Proto-Margi** *suda two *deux* 3.1) **Bura** (Blench) suda Two
- 4) **Proto-Mandara** *sira two *deux* 4.1) **Matal** (Branger) s̄lā two *deux* 4.2) **Podoko** (Swackhammer) sərá,-a *deux*

5) **Proto-Mofu** *siwla two *deux* 5.1) **Mada** (Nkoumou) səlá *deux* 5.2) **Zulgo** (Haller) súla *deux* 5.3) **Gemzek** (Sabatai) sulo two *deux* 5.4) **Merey** (Gravina) sulo two (2) *deux* (2) 5.5) **Dugwor** (Jubumna) səla two (2) *deux* (2)

6) **Proto-Musgum** *sili^w two *deux* 6.1) **Vulum** (Tourneux) sulu *deux*

7) **Proto-Gidar** *siwla two *deux* 7.1) **Gidar** (Hungerford) sula *deux* 7.2) **Gidar** (Schuh) suula, a *deux* 7.3) **Gidar** (Hungerford) sula *deux*

ʃi n. foot *ped* (4 groups, 8 languages) E **syn:** **sik** ^y, **siraj**.

There are two far more widely attested roots for 'leg' or 'foot'. The forms presented here may come from different sources, with the Kotoko forms being more likely to come from *tsi. It is possible that these are borrowed from the Kanuri 'ʃi'.

- 1) **Proto-Margi** *hi leg *jambe* 1.1) **Margi** (Hoffman) hji leg, foot 1.2) **Margi South** (Harley) hi leg 1.3) **Kilba** (Schuh) hji leg
- 2) **Proto-Kotoko Island** *tsu foot *ped* 2.1) **Buduma** (McKone) tʃu foot *ped*
- 3) **Proto-Kotoko North** *entsi foot *ped* 3.1) **Afade** (Allison) entsi foot *ped* 3.2) **Mpade** (Allison) ènsí foot *ped*
- 4) **Proto-Kotoko Centre** *s'i foot *ped* 4.1) **Lagwan** (Allison) asi foot *ped* 4.2) **Mser** (Allison) ms'iki ti halbo foot *ped*
- 5) **Kanuri** ʃî foot *ped*

tak^w n. horse *cheval* (5 groups, 10 languages) B **syn:** **piris^y**, **bisk^wan**.

This is one of three main roots for 'horse' in Central Chadic. There is an irregular change *t→d in Proto-Daba and Sukur, and the sporadic change *k^w→h^w in Proto-Bata.

- 1) **Proto-Bata** *tɪh^wi horse *cheval* 1.1) **Gude** (Hoskinson) tɪh^wá -ə horse
- 2) **Proto-Daba** *dak^w horse *cheval* 2.1) **Buwal** (Viljoen) dak^w horse *cheval* 2.2) **Gavar** (Viljoen) dak^w horse *cheval* 2.3) **Mbudum** (Ndokobai) dok horse *cheval*
- 3) **Proto-Sukur** *dik^w horse *cheval* 3.1) **Sukur** (David) duk horse 3.2) **Sukur** (Thomas) dək'u horse:- is a large domestic animals mostly used for king.
- 4) **Proto-Margi** *tak^w horse *cheval* 4.1) **Bura** (Blench) taku Horse 4.2) **Margi** (Hoffman) tagu horse 4.3) **Margi South** (Harley) tagu horse 4.4) **Kilba** (Schuh) taku horse
- 5) **Proto-Higi** *tik^w horse *cheval* 5.1) **Kirya** (Blench) təkú horse

taɫ v. to be cold *être froid* (8 groups, 12 languages) A **cf:** **himid^y**.

This word probably had a verbal sense 'to be cold', which gave rise to nominal forms, many of which are cited here. The root *himid^y 'wind' is also used for the concept 'cold' in many languages. *ɫ should have the reflex *ɟ in Proto-Mafa, but *ɫ is found.

- 1) **Proto-Mafa** *mitaɫ cold *froid* 1.1) **Mafa** (Barreteau) mətáɫ *froid* 1.2) **Cuvok** (Gravina) mataɫa (be) cold (objects) (*être*) *froid*
- 2) **Proto-Margi** *mitaɫ cold *froid* 2.1) **Bura** (Blench) mtaɫi To cool; become cold 2.1.1) **Bura** (Blench) mtaɫaku Cold; cool
- 3) **Proto-Mandara** *mitaɫi cold *froid* 3.1) **Podoko** (Swackhammer) mətáɫa,-ə *froid* 3.2) **Dghwede** (Frick) ⁿdaɫa cold
- 4) **Proto-Mofu** *taɫ cold *froid* 4.1) **Moloko** (Friesen) ⁿdaɫaj make cold *faire froid* 4.2) **Gemzek** (Sabatai) mətáɫ cold *froid* 4.3) **Merey** (Gravina) taɫa (be) cold (objects) (*être*) *froid* 4.3.1) **Merey** (Gravina) mətáɫ *froid*
- 5) **Proto-Maroua** *mutɛɫaŋ cold *froid* 5.1) **Giziga Marva** (Hamidou) mutɛɫaŋ (be) cold (objects) (*être*) *froid*
- 6) **Proto-Lamang** *mitaɫ cold *froid* 6.1) **Hdi** (Bramlett) mətáɫ cold *le froid*
- 7) **Proto-Higi** *taɫi cold *froid* 7.1) **Bana** (Lienhard) tətáɫ *froid* (*temps*)
- 8) **Proto-Kotoko Centre** *taɫi cold *froid* 8.1) **Lagwan** (Allison) taɫi (be) cold (objects) (*être*) *froid*

tasirad num. seven *sept* (3 groups, 12 languages) A **syn: midfip**.

This root is less well-attested than *midfifin. It is found on or around the Mandara Mountains. There is a regular change *r→l in the North sub-branch, of which the Mofu group is part, and in Cuvok. The same change took place in the Daba group, but that is not evident in the limited data here. The final *d has been lost in the Mofu group, which is a common sporadic change.

- 1) **Proto-Daba** *tsasarad^y seven *sept* 1.1) **Daba** (Lienhard) tʃèsèrēd^y *sept*
- 2) **Proto-Mafa** *tsarad seven *sept* 2.1) **Mafa** (Barreteau) tsarad^y *sept* 2.2) **Cuvok** (Gravina) tasla seven *sept* (7)
- 3) **Proto-Mofu** *tasila seven *sept* 3.1) **Ouldeme** (Kinnaird) səsəlà seven *sept* 3.2) **Muyang** (Smith) adəskəla seven *sept* 3.3) **Moloko** (Friesen) səsəre seven *sept* 3.4) **Zulgo** (Haller) təsələ *sept* 3.5) **Gemzek** (Sabatai) təsəla seven *sept* 3.6) **Merey** (Gravina) tāsəla seven (7) *sept* (7) 3.7) **Dugwor** (Jubumna) tsəla seven (7) *sept* (7) 3.8) **Mofu North** (Barreteau) tsəlā *sept* (num.) 3.9) **Mofu-Gudur** (Hollingsworth) maasala seven *sept*

tip v. to spit *cracher* (14 groups, 31 languages) A

This common root is almost certainly onomatopoeic in origin. A similar word is found in both Hausa and Kanuri. It is significant though that *i is present in almost all the groups where this vowel is part of the phonemic inventory. This implies that the word may have been adopted as a word rather than as a sound at an early period in the history of Central Chadic. *p was realised as [f] word-finally in Proto-Central Chadic, so the presence of the final *f in all groups does not contradict the early origin of the word.

- 1) **Proto-Bata** *tif spit *cracher* 1.1) **Bata** (Boyd) təf I spit saliva 1.2) **Gude** (Hoskinson) tifi spit. 1.3) **Jimi** (Djibi) tef^wən 1 - *Cracher* ;; 2 - *Depiècer un animal*; 3 - *Cinquième*
- 2) **Proto-Daba** *tif^y spit *cracher* 2.1) **Buwal** (Viljoen) ŋtef spit *cracher* 2.2) **Gavar** (Viljoen) ŋtif spit *cracher* 2.3) **Daba** (Lienhard) tif *cracher* ; *bénir*
- 3) **Proto-Mafa** *ⁿdzif^y spit *cracher* 3.1) **Mafa** (Barreteau) ⁿdzif *cracher*
- 4) **Proto-Sukur** *tifa spit *cracher* 4.1) **Sukur** (Thomas) tifa to spit on somebody or something
- 5) **Proto-Hurza** *tifa spit *cracher* 5.1) **Mbuko** (Gravina) təfe spit *cracher* 5.2) **Vame** (Kinnaird) tífā spit *cracher*
- 6) **Proto-Margi** *tifa spit *cracher* 6.1) **Bura** (Blench) tifu, tifa To spit 6.2) **Kilba** (Schuh) təfa/a spit
- 7) **Proto-Mandara** *tifa spit *cracher* 7.1) **Matal** (Branger) mətəflá spit *cracher* 7.2) **Podoko** (Swackhammer) təfa *cracher*
- 8) **Proto-Mofu** *tif spit *cracher* 8.1) **Moloko** (Friesen) taf spit *cracher* 8.2) **Gemzek** (Sabatai) metefe tɛʒe spit *cracher* 8.3) **Merey** (Gravina) təf *cracher* 8.4) **Dugwor** (Jubumna) mətəfej tɛtɛb spit *cracher* 8.5) **Mofu North** (Barreteau) métəfèj *cracher* 8.6) **Mofu-Gudur** (Hollingsworth) təf *cracher*
- 9) **Proto-Maroua** *tif^w spit *cracher* 9.1) **Mbazla** (Tourneux) tuf *cracher*
- 10) **Proto-Lamang** *tif spit *cracher* 10.1) **Lamang** (Wolff) təf spit 10.2) **Hdi** (Bramlett) təfaj to spit *cracher*

- 11) **Proto-Higi** *tifi spit *cracher* 11.1) **Kamwe-Nkafa** (Harley) ntíví spit 11.2) **Kamwe-Futu** (Harley) ntjivi spit 11.3) **Kirya** (Blench) ntáfé to spit 11.4) **Bana** (Lienhard) tfé *cracher, bénir*
- 12) **Proto-Kotoko North** *tafi spit *cracher* 12.1) **Mpade** (Allison) táfi s'è spit sth out of the mouth *cracher qqch de la bouche*
- 13) **Proto-Kotoko Centre** *tif spit *cracher* 13.1) **Lagwan** (Allison) tifiwun (tifu) spit sth out of the mouth *cracher qqch de la bouche* 13.1.1) **Lagwan** (Allison) tifel nahe spit *cracher* 13.2) **Mser** (Allison) tafí yrej spit *cracher*
- 14) **Proto-Musgum** *tif^w spit *cracher* 14.1) **Mbara** (Tourneux) tuf spit *cracher*
- 15) **Hausa** tóofèe spit sth out of the mouth *cracher qqch de la bouche*
- 16) **Kanuri** táfá^ggin, táfádzin // táfá^ggin, táfádzin spit sth out of the mouth *cracher qqch de la bouche*

tira nm. moon *lune* (10 groups, 31 languages) A **syn:** **kija**.

This root is the original Proto-Central Chadic root, and goes back at least as far as Proto-Chadic. There is a regular change *r→l in the North sub-branch, though here Proto-Higi has *r, and Proto-Kotoko North and Proto-Kotoko Centre have *d. It is expected that Sukur has /r/, but this is not the case. Evidence for *i comes from the three groups where *i exists as a phoneme, i.e. the Mandara, Lamang and Higi groups. In Glavda, *i has been reanalysed as the palatalisation of *t. There is a regular process in Glavda where palatalised alveolar consonants become palatalised velar consonants, and this explains the presence of /k^l/. The change *t→k in Musgum is regular.

- 1) **Proto-Daba** *tira moon *lune* 1.1) **Buwal** (Viljoen) ntəra moon *lune* 1.1.1) **Buwal** (Viljoen) ntəra month *mois* 1.2) **Gavar** (Viljoen) ntəra moon *lune* 1.2.1) **Gavar** (Viljoen) ntəra month 1.3) **Mbudum** (Ndokobai) ntəra month *mois* 1.3.1) **Mbudum** (Ndokobai) ntra moon *lune* 1.4) **Daba** (Lienhard) tərà *la lune, le mois* 1.5) **MzagwayHidi** (Noussi) təra *lune*
- 2) **Proto-Tera** *tera moon *lune* 2.1) **Tera** (Newman) tera moon 2.1.1) **Tera** (Newman) tera month 2.2) **Nyimatli** (Harley) tʃere month 2.2.1) **Nyimatli** (Harley) tʃera moon 2.3) **Hwana** (Harley) ⁿdré moon/month
- 3) **Proto-Sukur** *tja moon *lune* 3.1) **Sukur** (David) teja moon, month (lunar) 3.2) **Sukur** (David) teja month (lunar), moon 3.3) **Sukur** (Thomas) tja moon; the round object that moves around the earth once 271/2 days and shines at night by light reflect from the sun.
- 4) **Proto-Mandara** *tila moon *lune* 4.1) **Matal** (Branger) təla moon *lune* 4.2) **Podoko** (Swackhammer) tərá,-a 1 *lune* 4.2.1) **Podoko** (Swackhammer) tərá,-a 2 *mois* 4.3) **Mandara** (Fluckiger) téré *lune (f), mois (m)* 4.4) **Malgwa** (Löhr) tere moon 4.4.1) **Malgwa** (Löhr) tere month 4.5) **Glavda** (Owens) kjí moon 4.5.1) **Glavda** (Owens) kji month, moon 4.5.2) **Glavda** (Nghagyiva) k^lla month 4.5.3) **Glavda** (Nghagyiva) k^lla moon 4.6) **Dghwede** (Frick) tile moon
- 5) **Proto-Lamang** *tila moon *lune* 5.1) **Lamang** (Wolff) téré moon 5.1.1) **Lamang** (Wolff) tré moon 5.1.2) **Lamang** (Wolff) tər moon, month 5.2) **Hdi** (Bramlett) tili moon *la lune*

- 6) **Proto-Higi** *tiri moon *lune* 6.1) **Kamwe-Nkafa** (Harley) tərǝ moon 6.2) **Kamwe-Futu** (Harley) tərǝ month 6.2.1) **Kamwe-Futu** (Harley) tərǝ moon 6.2.2) **Kamwe-Futu** (Harley) tərǝ full moon 6.3) **Kirya** (Blench) tǝrí moon, month 6.4) **Psikye** (Angelo) tré moon 6.5) **Bana** (Lienhard) tír *lune, mois*
- 7) **Proto-Kotoko North** *tedĩ moon *lune* 7.1) **Afade** (Allison) dedĩ moon *lune* 7.2) **Mpade** (Allison) tédĩ moon *lune* 7.2.1) **Mpade** (Allison) tédĩ month *mois* 7.3) **Malgbe** (Allison) tedĩ moon *lune* 7.3.1) **Malgbe** (Allison) tedĩ month *mois*
- 8) **Proto-Kotoko Centre** *tedĩ moon *lune* 8.1) **Lagwan** (Allison) tedĩ moon *lune* 8.1.1) **Lagwan** (Allison) tedĩ month *mois* 8.2) **Mser** (Allison) tedĩ (tid) moon *lune* 8.2.1) **Mser** (Allison) tedĩ month *mois*
- 9) **Proto-Musgum** *tɪla^y moon *lune* 9.1) **Vulum** (Tourneux) tle *lune* 9.2) **Mbara** (Tourneux) tile moon *lune* 9.3) **Muskum** (Tourneux) kile *lune*
- 10) **Proto-Gidar** *tɪla moon *lune* 10.1) **Gidar** (Hungerford) tɪla *lune, mois* 10.2) **Gidar** (Schuh) tɛla/a *lune* 10.3) **Gidar** (Hungerford) tɪla *lune, mois*

tiyis num. eight *eight* (4 groups, 11 languages) B

It is unlikely that Proto-Central Chadic had a root for 'eight', This is the most widely attested root, and it is only present in four groups. These groups are not genetically related at a close level, so the root may be a comparatively recent coinage that has spread.

- 1) **Proto-Bata** *tiyis eight *huit* 1.1) **Gude** (Hoskinson) tǝyǝsǝ eight 1.2) **Jimi** (Djibi) tǝyis *Huit* 1.2.1) **Jimi** (Djibi) tǝyis 8
- 2) **Proto-Sukur** *tikiz eight *huit* 2.1) **Sukur** (David) tǝkǝz eight
- 3) **Proto-Mandara** *tiyis eight *huit* 3.1) **Matal** (Branger) mtǝgis, mtǝgiʃ eight *huit* 3.2) **Mandara** (Fluckiger) tise *huit* 3.3) **Glavda** (Nghagyiva) tǝsa eight (8)
- 4) **Proto-Higi** *tiyisi eight *huit* 4.1) **Kamwe-Nkafa** (Harley) tǝkǝsé Eight 4.2) **Kamwe-Futu** (Harley) dǝyoso eight 4.3) **Kirya** (Blench) tǝyǝs eight 4.4) **Psikye** (Angelo) dǝgǝsǝ eight 4.5) **Bana** (Lienhard) d(ǝ)yǝsǝ *huit*

tima nm. sheep *mouton* (11 groups, 34 languages) B

Sheep farming probably did not take place amongst the Proto-Central Chadic speaking people. The word entered Central Chadic at a later point. Many languages have either /-ŋ/ or /-k/ suffixed to the root. These could be historic gender suffixes which have become fossilised. The change *m→w took place in the Mandara group as a regular change in word-final position, but it is not expected in intervocalic position. In the Lamang group *m→w was a sporadic change. In several languages there has been a sporadic change *m→^{mb}. The /b/ found in Proto-Tera and in the Mofu languages is probably a development *^{mb}→b. In Mandara and Malgwa the *i has palatalised the *t. There is a regular process whereby palatalised alveolars become palatalised velars in these languages, giving /kʲ/ in these languages.

- 1) **Proto-Daba** *timik sheep *mouton* 1.1) **Buwal** (Viljoen) ηtəmek sheep *mouton* 1.2) **Gavar** (Viljoen) ηtʃimek sheep *mouton* 1.3) **Mbudum** (Ndokobai) ntek sheep *mouton* 1.4) **Daba** (Lienhard) tùmük *le mouton*
- 2) **Proto-Mafa** *tamak sheep *mouton* 2.1) **Mafa** (Ndokobai) ta^mbak sheep *mouton* 2.2) **Cuvok** (Gravina) təmak ewe *brebis* 2.2.1) **Cuvok** (Gravina) təmak sheep *mouton*
- 3) **Proto-Tera** *ⁿdɪbaŋ sheep *mouton* 3.1) **Tera** (Newman) ⁿdəbaŋ sheep 3.2) **Nyimatli** (Harley) ⁿdu^ɪba^ɪg sheep
- 4) **Proto-Hurza** *tima sheep *mouton* 4.1) **Mbuko** (Gravina) təman sheep *brebis* 4.2) **Vame** (Kinnaird) tē^mbák sheep *mouton*
- 5) **Proto-Mandara** *tiwa sheep *mouton* 5.1) **Matal** (Branger) t^ūwāŋ sheep *mouton* 5.2) **Podoko** (Swackhammer) tag^wá,-i *mouton* 5.3) **Mandara** (Fluckiger) kjáwe *mouton (m)* 5.4) **Malgwa** (Löhr) kjewe sheep gen. 5.5) **Glavda** (Owens) tuu sheep 5.5.1) **Glavda** (Nghagyiva) tũ^wa sheep 5.6) **Dghwede** (Frick) tuwige sheep
- 6) **Proto-Mofu** *tima sheep *mouton* 6.1) **Ouldeme** (Kinnaird) tē^mbàk sheep *mouton* 6.2) **Moloko** (Friesen) təmak sheep *mouton* 6.3) **Gemzek** (Sabatai) təmaŋ sheep *mouton* 6.4) **Merey** (Gravina) təbaŋ sheep *mouton* 6.4.1) **Merey** (Gravina) təbaŋ *mouton* 6.5) **Dugwor** (Jubumna) Təmak sheep *mouton* 6.5.1) **Dugwor** (Jubumna) Təmak ewe *brebis* 6.6) **Mofu North** (Barreteau) tēbāŋ *mouton* 6.7) **Mofu-Gudur** (Hollingsworth) təbāŋ *mouton* 6.7.1) **Mofu-Gudur** (Hollingsworth) təbāŋ (*fig.*) *sot, bête*
- 7) **Proto-Maroua** *tima sheep *mouton* 7.1) **Giziga Marva** (Hamidou) tumon ewe *brebis* 7.1.1) **Giziga Marva** (Hamidou) tumon sheep *mouton* 7.2) **Mbazla** (Tourneux) təmak *mouton*
- 8) **Proto-Lamang** *tiwak sheep *mouton* 8.1) **Lamang** (Wolff) tuwaka sheep 8.2) **Hdi** (Bramlett) tuwak sheep *le mouton*
- 9) **Proto-Higi** *timi sheep *mouton* 9.1) **Kirya** (Blench) tē^mbáké sheep 9.2) **Psikye** (Angelo) tǎmu sheep 9.3) **Bana** (Lienhard) tǎ^mbək(ǎ) *mouton, brebis*,
- 10) **Proto-Musgum** *tima sheep *mouton* 10.1) **Vulum** (Tourneux) adme *mouton* 10.2) **Mbara** (Tourneux) dima sheep 10.3) **Muskum** (Tourneux) tima *mouton*
- 11) **Proto-Gidar** *tima ^v sheep *mouton* 11.1) **Gidar** (Schuh) time/e *mouton*

tisaw v. to roast *rôtir* (5 groups, 10 languages) A **cf:** **d**, **siwra**₂.

The basic meaning of this word is to cook food in a fire. It contrasts with *siwra 'to fry'. *d is a generic term for cooking. The *w has resulting in the creation of the vowel /u/ in Muyang, Gemzek and Giziga Marva, creating exceptions to the general rule of vowel harmony.

- 1) **Proto-Bata** *itsa cook *préparer* 1.1) **Gude** (Hoskinson) ətsa burn up 1.1.1) **Gude** (Hoskinson) ətsa roast over open fire
- 2) **Proto-Margi** *tasa cook *cuire* 2.1) **Kilba** (Schuh) tas/a roast

- 3) Proto-Mofu** *tisaw cook *cuire* 3.1) **Muyang** (Smith) tusqj smoke over a fire, roast without flame *cuire au feu; rôtir (sans flamme)* 3.2) **Gemzek** (Sabatai) ⁿdusa bake (in ashes) *cuire (dans les cendres)* 3.2.1) **Gemzek** (Sabatai) ⁿdusa roast *rôtir* 3.3) **Dugwor** (Jubumna) mətəsew bake (in ashes) *cuire (dans les cendres)* 3.4) **Mofu-Gudur** (Hollingsworth) təs *faire sécher au feu (viande, boule de mil), faire cuire*
- 4) Proto-Maroua** *tusa cook *préparer* 4.1) **Giziga Marva** (Hamidou) tusa g^wat bake (in ashes) *cuire (dans les cendres)*
- 5) Proto-Higi** *tswa cook *préparer* 5.1) **Kamwe-Nkafa** (Harley) tswå roast 5.2) **Kamwe-Futu** (Harley) tswa roast 5.2.1) **Kamwe-Futu** (Harley) tswa bake (in fire, e.g., bread) 5.3) **Kirya** (Blench) tswá to roast

tsaɬ^y v. hatch *éclore* (6 groups, 11 languages) A **cf:** **diɪ**^y.

This root is easily reconstructed, with very little change in the segments. The palatalisation prosody is present in five of the groups, and as expected it has been vocalised in the Lamang group. Reduplication in the Gude, Zulgo and Merey forms may indicate that a consonant has been lost at the start of the root.

- 1) **Proto-Bata** *tsatsaɬi^y hatch *éclore* 1.1) **Gude** (Hoskinson) tʃatʃalhə hatch eggs
- 2) **Proto-Sukur** *tsiɬ^y hatch *éclore* 2.1) **Sukur** (Thomas) tʃiɬ hatch;- a young birth, chicken, insect, fish to come out from egg.
- 3) **Proto-Hurza** tsaɬ^y hatch *éclore* 3.1) **Vame** (Kinnaird) tʃaɬja *éclore* (*Afem*)
- 4) **Proto-Mandara** *tsiɬa^y hatch *éclore* 4.1) **Podoko** (Swackhammer) tʃiɬa *enlever en petits morceaux, éclore* 4.2) **Mandara** (Fluckiger) tʃáɬé *éclore, éclater* 4.3) **Glavda** (Nghagyiva) tʃáɬ^ɔga hatch
- 5) **Proto-Mofu** *tsaɬ^y hatch *éclore* 5.1) **Ouldeme** (Kinnaird) tsàɬ found *bâtir; commencer; débiter; éclore* 5.1.1) **Ouldeme** (Kinnaird) tsàɬ hatch eggs *éclore* 5.2) **Zulgo** (Haller) tsetsiɬ *éclore, sortir de l'oeuf* 5.3) **Gemzek** (Sabatai) metseɬe dɛɬe hatch *éclore* 5.4) **Merey** (Gravina) tsətsaɬ hatch *éclore*
- 6) **Proto-Lamang** *tsiɬ hatch *éclore* 6.1) **Hdi** (Bramlett) tsiɬaj to hatch *éclore*

tsi^y nm. eye *œil* (8 groups, 20 languages) B **syn:** **hadaj**.

This root is less common than *hadaj, which has also been reconstructed for Proto-Chadic. However, it is still extremely widely attested. The *ts has become voiced in Proto-Bata and Proto-Daba, which is an irregular process, and has the regular reflex *s in Sukur and Proto-Kotoko Centre, along with several of the Kotoko North languages. The evidence for the palatalisation prosody is consistent.

- 1) **Proto-Bata** *dzi^y eye *œil* 1.1) **Jimi** (Djibi) dʒən *Oeil*
- 2) **Proto-Daba** *ndza^y eye *œil* 2.1) **Buwal** (Viljoen) ndʒe eye *œil* 2.2) **Gavar** (Viljoen) ndʒa eye *œil* 2.3) **Mbudum** (Ndokobai) mbu ndʒe eye *œil* 2.3.1) **Mbudum** (Ndokobai) ndʒe face *visage*
- 3) **Proto-Sukur** *is eye *œil* 3.1) **Sukur** (David) is eye 3.2) **Sukur** (Thomas) 'is eye; the two organs on the face that you see with.
- 4) **Proto-Margi** *ntsa^y eye *œil* 4.1) **Bura** (Blench) ntʃa Eye
- 5) **Proto-Mandara** *jitsa^y eye *œil* 5.1) **Mandara** (Fluckiger) itʃa *œil* (*m*) 5.2) **Malgwa** (Löhr) iitʃe eye 5.3) **Glavda** (Owens) dʒ eye 5.3.1) **Glavda** (Owens) dʒ eye
- 6) **Proto-Higi** *nts'i eye *œil* 6.1) **Kamwe-Nkafa** (Harley) ntsə eye 6.2) **Kamwe-Futu** (Harley) ntsi eye 6.3) **Kirya** (Blench) ntʃi eye 6.4) **Psikye** (Angelo) nʃi eyes 6.4.1) **Psikye** (Angelo) hsú eyes 6.5) **Bana** (Lienhard) m(ə)tsə *œil*
- 7) **Proto-Kotoko North** *tsi eye *œil* 7.1) **Afade** (Allison) tsi eye *œil* 7.2) **Mpade** (Allison) sí eye *œil* 7.3) **Malgbe** (Allison) si eye *œil* 7.4) **Maltam** (Allison) si eye *œil*
- 8) **Proto-Kotoko Centre** *si eye *œil* 8.1) **Lagwan** (Allison) si eye *œil* 8.2) **Mser** (Allison) si eye *œil*

tsih^wid^y n. porcupine *porc-épic* (4 groups, 16 languages) C **cf:** **dzimik^w** ^y.

This root is an innovation in the Margi-Mandara-Mofu major group, and has spread into the Hurza group. There has been much sporadic simplification, with two groups losing the palatalisation prosody, and widespread loss of the labialisation component of *h^w. The *d has been lost in all languages, except for some members of the Mofu group. This loss of material has been compensated for by the addition of a m- prefix in the Hurza and Margi groups, a v- prefix in Glavda, and reduplication in Mandara and Malgwa. There is also sporadic prenasalisation of the *ts in many languages, particularly in the Mofu group, where this has led to the voicing of *ts to /dz/.

- 1) **Proto-Hurza** *mitsah porcupine *porc-épic* 1.1) **Mbuk** (Gravina) mət̥sah porcupine *porc-épic* 1.2) **Vame** (Kinnaird) ānzáh porcupine *porc-épic*
- 2) **Proto-Margi** *mitsa porcupine *porc-épic* 2.1) **Bura** (Blench) mantsina Porcupine *porc-épic* 2.2) **Margi South** (Harley) mət̥sa porcupine *porc-épic*
- 3) **Proto-Mandara** *tsitsih^wa^y porcupine *porc-épic* 3.1) **Matal** (Branger) æt̥ʃhì porcupine *porc-épic* 3.2) **Mandara** (Fluckiger) t̥ʃet̥ʃeh^we *porc-épic* (m) 3.3) **Malgwa** (Löhr) t̥ʃit̥ʃiha porcupine *porc-épic* 3.4) **Glavda** (Nghagyiva) ávānd̥za porcupine *porc-épic*
- 4) **Proto-Mofu** *tsihad^y porcupine *porc-épic* 4.1) **Ouldeme** (Kinnaird) āts̥h^wī *porc-épic* 4.2) **Muyang** (Smith) et̥ʃihi porcupine *porc-épic* 4.3) **Moloko** (Friesen) eⁿdzehed porcupine *porc-épic* 4.4) **Zulgo** (Haller) tsèhé *porc-épic* m. 4.5) **Gemzek** (Sabatai) ⁿdzəhed porcupine *porc-épic* 4.6) **Merey** (Gravina) ⁿdzəhed porcupine *porc-épic* 4.7) **Dugwor** (Jubumna) ⁿdzehed porcupine *porc-épic* 4.8) **Mofu North** (Barreteau) ⁿdzəhed, ⁿdʒəhéd *porc-épic*

tsijiw num. two *deux* (5 groups, 13 languages) B **syn:** **biwak**, **siwra**₁, **kasi**.

This root is one of several roots for 'two' found in Central Chadic. It is found on and to the east of the Northern Mandara Mountains. Zina is quite distant from the other languages, but shares several cognates with the languages of the Mandara Mountains, indicating a time of contact in the past. The *j has been reanalysed as a prosody in most of the languages. The *w has been reanalysed as /u/ in Muyang and Zina. These are common sporadic processes. In Muyang, the /u/ is affected by the palatalisation prosody.

- 1) **Proto-Mafa** *atsaw^y two *deux* 1.1) **Mafa** (Barreteau) t̥ʃew *deux* 1.1.1) **Mafa** (Barreteau) t̥ʃet̥ʃew *deux* 1.2) **Cuvok** (Gravina) at̥ʃew two (2) *deux* (2)
- 2) **Proto-Hurza** *tsaw^y two *deux* 2.1) **Mbuk** (Gravina) t̥ʃew two *deux* 2.2) **Vame** (Kinnaird) t̥ʃāw two *deux*
- 3) **Proto-Mofu** *tsijiw two *deux* 3.1) **Ouldeme** (Kinnaird) ts̥jò two *deux* 3.2) **Muyang** (Smith) t̥ʃit̥ʃu two *deux* 3.2.1) **Muyang** (Smith) t̥ʃit̥ʃu two *deux* 3.2.2) **Muyang** (Smith) t̥ʃu two *deux* 3.3) **Moloko** (Friesen) t̥ʃew two *deux* 3.4) **Mofu North** (Barreteau) t̥ʃéw *deux* 3.5) **Mofu-Gudur** (Hollingsworth) t̥ʃew two *deux*

- 4) **Proto-Maroua** *tsiw^y two *deux* 4.1) **Giziga Moutourwa** (Michielan) tʃuw *deux* 4.1.1) **Giziga Moutourwa** (Michielan) tʃuw *le deuxième* 4.2) **Giziga Marva** (Hamidou) tʃuw two (2) *deux* (2) 4.3) **Mbazla** (Tourneux) tʃew *deux* 4.3.1) **Mbazla** (SILSurvey) tíáw two *deux*
- 5) **Proto-Kotoko South** *tsu two *deux* 5.1) **Zina** (Odden) tʃu two (2) *deux* (2)

tsik^wir n. chicken *poulet* (9 groups, 18 languages) D

Chicken farming is probably a comparatively recent activity amongst Central Chadic peoples. Proto-Central Chadic *r→l in the North sub-branch, but that change is not apparent in the data, indicating that the word entered Central Chadic after the time of the sound change, but at a time when /r/ had re-entered the phonemic inventory of the North languages from another mechanism. There is considerable variation in the forms that are attested, making it difficult to reconstruct the history of this word.

- 1) **Proto-Mafa** *watsak chicken *poulet* 1.1) **Mafa** (Ndokobai) watʃak chicken *poulet*
- 2) **Proto-Sukur** *tak^wir chicken *poulet* 2.1) **Sukur** (David) takur chicken 2.2) **Sukur** (Thomas) takur chicken
- 3) **Proto-Hurza** *ⁿdzik^wir chicken *poulet* 3.1) **Mbuko** (Gravina) nzəkər chicken *poulet* 3.2) **Vame** (Kinnaird) nzùgùràk chicken *poulet*
- 4) **Proto-Mandara** *g^witsiki chicken *poulet* 4.1) **Matal** (Branger) g^watsak chicken *poulet* 4.2) **Podoko** (Swackhammer) utsəka,-ə *poule*
- 5) **Proto-Mofu** *witsikar^y, maⁿdzik^wir^y chicken *poulet* 5.1) **Ouldeme** (Kinnaird) wùtskər chicken *poulet* 5.2) **Moloko** (Friesen) aⁿdʒakar chicken, hen *poule* 5.3) **Zulgo** (Haller) meⁿdzik^wir *poule f., poulet m.* 5.4) **Gemzek** (Sabatai) meⁿdzek^wer hen *poule* 5.5) **Merey** (Gravina) maⁿdzek^wer chicken *poulet* 5.6) **Dugwor** (Jubumna) wutʃəkər chicken *poulet*
- 6) **Proto-Maroua** *tsik^war chicken *poulet* 6.1) **Giziga Marva** (Hamidou) kətʃikər chicken *poulet* 6.2) **Mbazla** (Tourneux) mutʃukor *poulet*
- 7) **Proto-Lamang** *ɣatak^wala chicken *poulet* 7.1) **Lamang** (Wolff) ɣatak^wala chicken
- 8) **Proto-Kotoko South** *tsakar chicken *poulet* 8.1) **Zina** (Odden) tʃákárá chicken *poulet* 8.2) **Mazera** (Allison) tʃakar hen *poule* 8.2.1) **Mazera** (Allison) tʃikre chicken *poulet*
- 9) **Proto-Musgum** *miskir chicken *poulet* 9.1) **Muskum** (Tourneux) miskir *poulet*

tsivid^y n. path *chemin* (13 groups, 30 languages) B

There was a word-initial change *ts→t in several groups, which was a regular change in Proto-Bata, Proto-Lamang, Proto-Musgum and Proto-Gidar, but irregular in Proto-Mandara and part of Proto-Mofu. There are also several instances of *ts→dz, which is a sporadic change. There was also a regular change *v→f in Proto-Musgum, and the same change (irregular) took place here in Proto-Daba, where metathesis and deletion of *d have placed *ts in word-final position. *d has been deleted in most groups. In Proto-Lamang and Proto-Musgum it has been palatalised to become *j, developing into *i in Proto-Mandara. These are common sporadic changes. There is evidence for the palatalisation prosody from most groups, but not the Bata or Daba groups where it would be expected.

- 1) **Proto-Bata** *t_iv_i path *chemin* 1.1) **Jimi** (Djibi) təvən *Route* 1.2) **Sharwa** (Gravina) t_ivə *Chemin* 1.3) **Tsuvan** (Johnston) təve *la route*
- 2) **Proto-Daba** *t_if path *chemin* 2.1) **Buwal** (Viljoen) taf path, road *chemin, route* 2.2) **Gavar** (Viljoen) təf path, road *chemin, route* 2.3) **Mbudum** (Ndokobaï) kataf path, road *chemin, route* 2.4) **Daba** (Lienhard) kàtəf ' *le chemin*
- 3) **Proto-Mafa** *ts_ivad^y path *chemin* 3.1) **Mafa** (Barreteau) tʃívéð *chemin* 3.2) **Cuvok** (Gravina) tʃəvej path, road *chemin, route*
- 4) **Proto-Tera** *ⁿdz_iva path *chemin* 4.1) **Tera** (Newman) ⁿdəva path 4.1.1) **Tera** (Newman) ⁿdəva road 4.2) **Nyimatli** (Harley) ^gn^dz_iva path, road
- 5) **Proto-Sukur** *ts_iv_i ^y path *chemin* 5.1) **Sukur** (Thomas) tʃ_iv_i way; ia the general term for way; it is either footpath, motorcycle, railway etc.
- 6) **Proto-Hurza** *ts_ivad^y path *chemin* 6.1) **Mbuko** (Gravina) tʃəvéð road, path *route (f), sentier*
- 7) **Proto-Mandara** *t_iv_i path *chemin* 7.1) **Matal** (Branger) tèt^lv(i) path *chemin* 7.2) **Podoko** (Swackhammer) t_ivé,-ə *chemin*
- 8) **Proto-Mofu** *t_iv_i ^y path *chemin* 8.1) **Ouldeme** (Kinnaird) t_iv_i road *chemin* 8.1.1) **Ouldeme** (Kinnaird) t_iv_i *façon; ce n'est pas possible* 8.2) **Muyang** (Smith) divi path ; permission *route; piste; chemin*
- 9) **Proto-Mofu** *ts_ivad^y path *chemin* 9.1) **Moloko** (Friesen) tʃəvéð track *piste* 9.2) **Merey** (Gravina) tsəvéð path, road *chemin, route* 9.3) **Dugwor** (Jubumna) tʃəvéð path, road *chemin, route* 9.4) **Mofu North** (Barreteau) tʃəvèð *chemin* 9.5) **Mofu-Gudur** (Hollingsworth) tʃəvéð path *chemin, route*
- 10) **Proto-Maroua** *dz_ivid^y path *chemin* 10.1) **Giziga Marva** (Hamidou) dz_ivèð path, road *chemin, route* 10.2) **Mbazla** (Tourneux) divi, dz_iv_i *chemin* 10.2.1) **Mbazla** (SILSurvey) d_iv_i' path *chemin*
- 11) **Proto-Lamang** *t_iv_ij path *chemin* 11.1) **Lamang** (Wolff) tóvè road, path, way 11.1.1) **Lamang** (Wolff) wátóvè path, road 11.2) **Hdi** (Bramlett) təv_i road *le chemin, la route*
- 12) **Proto-Musgum** *t_if_ij path *chemin* 12.1) **Vulum** (Tourneux) futii *route* 12.2) **Mulwi** (Tourneux) futii *route* 12.3) **Mbara** (Tourneux) tifaj road, path *route, chemin*
- 13) **Proto-Gidar** *t_iva ^y path *chemin* 13.1) **Gidar** (Hungerford) t_ive *route, sentier, chemin* 13.2) **Gidar** (Schuh) t_ive/e *route*

tsiwi v. to cry *pleurer* (11 groups, 34 languages) B

The initial *ts has the reflex *t in several groups. In Proto-Bata, Proto-Lamang, Proto-Mofu and Proto-Musgum this is part of a regular process, but in other groups it is a sporadic change. The change *ts→s in Proto-Kotoko Centre is regular. In Mandara and Malgwa, the palatalisation prosody has developed, which has caused the palatalisation of *t. There is a regular process whereby palatalised alveolars are realised as palatalised velars, which here gives *tⁱ→kⁱ.

- 1) **Proto-Bata** *t_iw_i cry *pleurer* 1.1) **Bata** (Boyd) túú cry 1.2) **Gude** (Hoskinson) tuu cry, weep 1.2.1) **Gude** (Hoskinson) tuu howl (of animal) 1.3) **Sharwa** (Gravina) tuwə *pleurer*

- 2) **Proto-Margi** *tiwi, tiwa cry *pleurer* 2.1) **Bura** (Blench) tua, tuwa Funeral (crying) 2.1.1) **Bura** (Blench) tua, tuwa To cry (in general) 2.1.2) **Bura** (Blench) tua, tuwa To mourn, weep 2.2) **Margi** (Hoffman) ti to cry 2.3) **Margi South** (Hoffman) tiwi to cry 2.4) **Kilba** (Schuh) tiwi cry, crying 2.4.1) **Kilba** (Hoffman) tiwi to cry
- 3) **Proto-Mandara** *tiwa^y cry *pleurer* 3.1) **Matal** (Branger) matəwaj // matuwaj matəwaj, matuwaj cry *pleurer* 3.2) **Podoko** (Swackhammer) tawa 1 *pleurer* 3.2.1) **Podoko** (Swackhammer) tawa 3 *faire un bruit (animal ou moteur)* 3.3) **Mandara** (Fluckiger) kjua *pleurer* 3.4) **Malgwa** (Löhr) kjuwa cry 3.5) **Glavda** (Nghagyiva) tú:ga cry, weep
- 4) **Proto-Mofu** *tiwi cry *pleurer* 4.1) **Ouldeme** (Kinnaird) tūwō weep *pleurer* 4.2) **Muyang** (Smith) tūwi weep ; cry *pleurer* 4.3) **Moloko** (Friesen) təwe cry *pleurer* 4.4) **Zulgo** (Haller) túwá *pleurer, répandre des larmes* 4.4.1) **Zulgo** (Haller) túwá (^ugát) *pleurer qn., s'affliger pour qn.* 4.5) **Gemzek** (Sabatai) metuwe wail, ululate (at funeral) (v) *pleurer, gémir, ululer* 4.5.1) **Gemzek** (Sabatai) metuwe cry, weep *pleurer* 4.6) **Merey** (Gravina) tuwa cry, weep *pleurer* 4.7) **Dugwor** (Jubumna) mətuwaj cry, weep *pleurer* 4.7.1) **Dugwor** (Jubumna) mətuwaj mdumej wail, ululate (at funeral) (v) *pleurer, gémir, ululer* 4.8) **Mofu-Gudur** (Hollingsworth) təw *pleurer, crier ; chanter (oiseau) ; résonner (instrument de musique)* 4.8.1) **Mofu-Gudur** (Hollingsworth) təw *couler (sève), suinter* 4.8.2) **Mofu-Gudur** (Hollingsworth) təw *produire abondamment (huile)*
- 5) **Proto-Maroua** *tiwa cry *pleurer* 5.1) **Giziga Moutourwa** (Michielan) tuwuj *pleurer* 5.1.1) **Giziga Moutourwa** (Michielan) tuwuj zuŋ *pleurer* 5.2) **Giziga Marva** (Hamidou) tuwaj cry, weep *pleurer* 5.2.1) **Giziga Marva** (Hamidou) tuwa vo wail, ululate (at funeral) (v) *pleurer, gémir, ululer* 5.3) **Mbazla** (Tourneux) tuwaj *pleurer*
- 6) **Proto-Lamang** *tawa cry *pleurer* 6.1) **Lamang** (Wolff) tawa cry, weep, mourn 6.2) **Hdi** (Bramlett) taw cry *le pleur* 6.2.1) **Hdi** (Bramlett) tawaj to cry *pleurer*
- 7) **Proto-Kotoko Island** *tsuj cry *pleurer* 7.1) **Buduma** (McKone) tʃuj *pleurer*.
- 8) **Proto-Kotoko North** *tsiwe cry *pleurer* 8.1) **Afade** (Allison) tsiwe cry, weep *pleurer* 8.2) **Mpade** (Allison) swè wail, ululate (at funeral) (v); cry, weep *pleurer, gémir, ululer; pleurer* 8.3) **Malgbe** (Allison) suwe; kidi gba suwe; sue wail, ululate (at funeral) (v); cry, weep *pleurer, gémir, ululer; pleurer*
- 9) **Proto-Kotoko Centre** *siwe cry *pleurer* 9.1) **Lagwan** (Allison) siwe; ⁿdisiwun siwe wail, ululate (at funeral) (v); cry, weep *pleurer, gémir, ululer; pleurer* 9.2) **Mser** (Allison) swe wail, ululate (at funeral) (v); cry, weep *pleurer, gémir, ululer; pleurer*
- 10) **Proto-Kotoko South** *tsiwja cry *pleurer* 10.1) **Zina** (Odden) tʃùwjà cry, weep *pleurer*
- 11) **Proto-Musgum** *tiwa cry *pleurer* 11.1) **Mulwi** (Tourneux) tuwi *pleurer, crier (pour des animaux)* 11.2) **Mbara** (Tourneux) tuwa weep

v₁ v. to give *donner* (7 groups, 17 languages) A **syn:** **vir**₁.

This root is possibly cognate with the longer *vir, though there is no known regular process for deleting a final *r. The change *v→f in Proto-Kotoko North is regular.

- 1) **Proto-Bata** *vi give *donner* 1.1) **Gude** (Hoskinson) və give 1.2) **Jimi** (Djibi) vən *Donner* ; 1.3) **Sharwa** (Gravina) vi *donner* 1.4) **Tsuvan** (Johnston) a vekən *donner*
- 2) **Proto-Mafa** *va give *donner* 2.1) **Mafa** (Barrreteau) va *donner* 2.2) **Cuvok** (Gravina) va give *donner*
- 3) **Proto-Mandara** *va give *donner* 3.1) **Matal** (Branger) mavaj give *donner* 3.2) **Podoko** (Swackhammer) va *donner* 3.3) **Mandara** (Fluckiger) vá *donner* 3.4) **Malgwa** (Löhr) va give
- 4) **Proto-Higi** *vi give *donner* 4.1) **Psikye** (Angelo) və give
- 5) **Proto-Kotoko North** *fi give *donner* 5.1) **Afade** (Allison) fi give *donner* 5.2) **Mpade** (Allison) fi give *donner* 5.3) **Malgbe** (Allison) fidi; fi give *donner*
- 6) **Proto-Kotoko Centre** *vaw give *donner* 6.1) **Lagwan** (Allison) vawun (va) give *donner* 6.2) **Mser** (Allison) vo (ri) give *donner*
- 7) **Proto-Gidar** *ivaja give *donner* 7.1) **Gidar** (Schuh) əvaja *donner*

v₂ v. blow *souffler* (8 groups, 18 languages) B **cf:** **vats**, **viɓ**, **pik^w/pik^w y**.

The basic sense is 'blowing with the mouth'. The root is not attested in any languages of the South sub-branch. The change *v→f is regular in Proto-Margi and Proto-Kotoko Island, but not in the other groups.

- 1) **Proto-Hurza** *fi blow *souffler* 1.1) **Vame** (Kinnaird) fəfú whistle *siffler* 1.1.1) **Vame** (Kinnaird) fúwā blow *souffler* (du vent)
- 2) **Proto-Margi** *fi blow *souffler* 2.1) **Bura** (Blench) fjâ To blow Also fi 2.1.1) **Bura** (Blench) fi To blow Also fyâ
- 3) **Proto-Mofu** *v blow *souffler* 3.1) **Ouldeme** (Kinnaird) vî *siffler* 3.2) **Muyang** (Smith) vu blowing *soufflant* 3.3) **Mada** (Nkoumou) mevea *souffler* 3.4) **Moloko** (Friesen) fe blow in an instrument *siffler_un_instrument* 3.4.1) **Moloko** (Friesen) fe play an instrument *jouer un instrument* 3.5) **Dugwor** (Jubumna) mafaj whistle (v) *siffler* 3.5.1) **Dugwor** (Jubumna) mafaj hiss *siffler* (serpent) 3.5.2) **Dugwor** (Jubumna) ma faj blow (horn) *souffler dans (un cor)* 3.6) **Mofu-Gudur** (Hollingsworth) f' blow, play a wind instrument *souffler, siffler, jouer (d'un instrument à vent)*
- 4) **Proto-Maroua** *fi blow *souffler* 4.1) **Giziga Moutourwa** (Michielan) fi *souffler (avec un instrument)* 4.1.1) **Giziga Moutourwa** (Michielan) fi *prendre de l'air, liberté, repos* 4.1.2) **Giziga Moutourwa** (Michielan) fi *annoncer la chasse* 4.2) **Giziga Marva** (Hamidou) fi g^waf blow (horn) *souffler dans (un cor)* 4.3) **Mbazla** (Tourneux) fuwi *souffler*

- 5) **Proto-Lamang** *vi blow *souffler* 5.1) **Lamang** (Wolff) vija blow 5.1.1) **Lamang** (Wolff) vuxa blow 5.1.2) **Lamang** (Wolff) va blow (bellows) 5.2) **Hdi** (Bramlett) vihaj to whistle *siffler*
- 6) **Proto-Higi** *vi blow *souffler* 6.1) **Kamwe-Futu** (Harley) vi blow (of wind) 6.2) **Kirya** (Blench) vi to blow as a flute 6.3) **Bana** (Lienhard) vij *souffler, siffler*
- 7) **Proto-Kotoko Island** *fa blow *souffler* 7.1) **Buduma** (McKone) fa *souffler, allumer*.
- 8) **Proto-Musgum** *vuvuwi blow *souffler* 8.1) **Mulwi** (Tourneux) vuvuwi *souffler (avec un soufflet)*

vats v. to blow *souffler* (6 groups, 12 languages) B cf: **viḷ**, **v₂**, **pik^w/pik^w y**.

The basic sense of this root is 'to blow' or 'to breathe' with a human agent. There was a regular change *v→f in Proto-Kotoko North. There is a change *ts→s in Sukur, Proto-Kotoko North and Proto-Kotoko Centre. In Sukur this change is regular.

- 1) **Proto-Bata** *vats blow *souffler* 1.1) **Tsuvan** (Johnston) a vatskən *souffler*
- 2) **Proto-Sukur** *vus blow *souffler* 2.1) **Sukur** (Thomas) vus blow;- blowing either flute or fire wood
- 3) **Proto-Mofu** *vats blow *souffler* 3.1) **Ouldeme** (Kinnaird) vatsàj at the forge *souffler; activer le feu de la fonderie* 3.2) **Gemzek** (Sabatai) mevətse blow (of wind) (v) *souffler (vent)*
- 4) **Proto-Higi** *visi blow *souffler* 4.1) **Kamwe-Nkafa** (Harley) vəsá blow 4.2) **Kamwe-Futu** (Harley) visi blow (with mouth)
- 5) **Proto-Kotoko North** *fas blow *souffler* 5.1) **Afade** (Allison) ɬe fti; ɬel fti; ɬ'e fti ? breathe *respirer* 5.2) **Mpade** (Allison) ʃá fàsí blow *souffler* 5.2.1) **Mpade** (Allison) là fàsí breathe *respirer* 5.3) **Malgbe** (Allison) ledi fasi breathe *respirer* 5.3.1) **Malgbe** (Allison) kidi fasi blow *souffler*
- 6) **Proto-Kotoko Centre** *vas blow *souffler* 6.1) **Lagwan** (Allison) ɬel viʃi (ɬe) blow *souffler* 6.1.1) **Lagwan** (Allison) xɬel viʃi (xɬe) breathe *respirer* 6.2) **Mser** (Allison) sali vas blow *souffler* 6.2.1) **Mser** (Allison) se vas breathe *respirer*
- 7) **Shoa Arabic** fasa; fasi; fasu blow *souffler* 7.1) **Shoa Arabic** fasa; fasi; fasu breathe *respirer*

vida nf. hare *lièvre* (6 groups, 16 languages) C **syn: h^waⁿdav**.

This is one of two possibly related roots for 'hare', the other being *h^waⁿdav. There was a regular intervocalic change *d→r in the North sub-branch, and there were subsequent regular changes *r→l in various languages. However, these changes do not account for all the surface forms. In particular, the Margi form appears cognate but does not conform with established rules. There is no known rule that would predict the presence of *p as the initial consonant. There is good evidence for *i from all groups, though in Sukur /i/ would be expected rather than the palatalisation prosody.

- 1) **Proto-Bata** *vidi hare *lièvre* 1.1) **Gude** (Hoskinson) pítjá rabbit, hare *lièvre* 1.2) **Jimi** (Djibi) vidən *Lapin* 1.3) **Tsuvan** (Johnston) vitikən *le lapin*
- 2) **Proto-Sukur** *vila hare *lièvre* 2.1) **Sukur** (David) vəlja hare *lièvre* 2.2) **Sukur** (Thomas) vilja hare
- 3) **Proto-Margi** *pita hare *lièvre* 3.1) **Bura** (Blench) pti Hare or rabbit *lièvre* 3.2) **Margi** (Hoffman) pita rabbit *lièvre* 3.3) **Margi South** (Harley) pitu rabbit *lièvre* 3.4) **Kilba** (Schuh) pita hare

- 4) **Proto-Mandara** *vida hare *lièvre* 4.1) **Podoko** (Swackhammer) víra,-a *lapin* 4.2) **Mandara** (Fluckiger) navíré *lapin (m), lièvre (m)* 4.3) **Malgwa** (Löhr) naviira ŋa hare *lièvre* 4.3.1) **Malgwa** (Löhr) naviire hare, wild *lièvre* 4.4) **Glavda** (Owens) vii hare *lièvre* 4.4.1) **Glavda** (Nghagyiva) vì:da hare *lièvre*
- 5) **Proto-Lamang** *vila hare *lièvre* 5.1) **Hdi** (Bramlett) vilak^w hare, rabbit *le lièvre, le lapin*
- 6) **Proto-Higi** *vira hare *lièvre* 6.1) **Kamwe-Futu** (Harley) vira hare *lièvre* 6.2) **Kirya** (Blench) pítə hare, rabbit *lièvre* 6.3) **Bana** (Lienhard) v(ə)lè *lapin*

vid nf. night *nuit* (17 groups, 45 languages) B

This root is attested in all groups except for Kotoko Island. *v is realised as *f in Proto-Kotoko North as a regular reflex, and in Proto-Gidar where *b is expected. *f is also expected in Proto-Musgum, but *v is present. *d is unusually stable. In Mbuko and Zina we find /n/ where we would expect a reflex of *d. Many languages have an initial consonant on the root, which can be /l/, /h/, /s/, /t/, /r/ or /d/. Often an initial consonant is appended when an original consonant was lost. This may have been *h^w, with the labialisation accounting for the forms in Proto-Daba, Proto-Hurza, Proto-Margi and Proto-Maroua. However, each language has a particular consonant that is used to compensate for lost material, and the consonants found here don't match the compensatory consonants. Until a good explanation is available, we will assume that the original root had no initial consonant.

- 1) **Proto-Bata** *vidí night *nuit* 1.1) **Gude** (Hoskinson) vèdá -ə night 1.2) **Jimi** (Djibi) vəðən *La nuit* 1.3) **Sharwa** (Gravina) vidə *nuit*
- 2) **Proto-Daba** *vidí? ^w night *nuit* 2.1) **Daba** (Lienhard) vùdū' *la nuit*
- 3) **Proto-Mafa** *vad, livəŋ night *nuit* 3.1) **Mafa** (Ndokobai) vad night *nuit* 3.2) **Cuvok** (Gravina) vad night *nuit* 3.2.1) **Cuvok** (Gravina) ləvəŋ night *nuit*
- 4) **Proto-Tera** *vidki night *nuit* 4.1) **Tera** (Newman) vidki night 4.2) **Nyimatli** (Harley) virkiri night 4.3) **Hwana** (Harley) fɪdɪŋá night
- 5) **Proto-Sukur** *vid night *nuit* 5.1) **Sukur** (David) vəd night 5.2) **Sukur** (David) vaj night 5.3) **Sukur** (Thomas) vəd night; the time between one day and next when it is dark, when people usually sleep.
- 6) **Proto-Hurza** *luvəd night *nuit* 6.1) **Mbuko** (Gravina) luvon night, dark *nuit* 6.2) **Vame** (Kinnaird) lùvəd night *nuit*
- 7) **Proto-Margi** *v^widí night *nuit* 7.1) **Margi** (Hoffman) vi'i night 7.2) **Margi South** (Harley) v^wi'i night 7.3) **Kilba** (Schuh) vu'i night 7.4) **Bura** (Blench) viri Night 7.4.1) **Bura** (Blench) vir Day (24 hours)
- 8) **Proto-Mandara** *vidí night *nuit* 8.1) **Matal** (Branger) vəd night *nuit* 8.2) **Podoko** (Swackhammer) vèdá,-ə *nuit* 8.3) **Mandara** (Fluckiger) vajíá *nuit (f)* 8.4) **Glavda** (Nghagyiva) àv^oda night 8.4.1) **Glavda** (Owens) ávd night 8.4.2) **Glavda** (Owens) avəd', k-avəd'-áana night, this night 8.5) **Dghwede** (Frick) vit'e night 8.5.1) **Dghwede** (Frick) vit'e night

- 9) **Proto-Mofu** *hivɪd night *nuit* 9.1) **Ouldeme** (Kinnaird) lāvəd night *nuit* 9.2) **Muyang** (Smith) vad the period of a day *la journée, y compris la nuit ; la nuit* 9.3) **Zulgo** (Haller) hənəd *nuit f.* 9.4) **Gemzek** (Sabatai) həvad night *nuit* 9.5) **Mofu North** (Barreteau) sévəd *la nuit* 9.6) **Mofu-Gudur** (Hollingsworth) tavád *nuit*
- 10) **Proto-Maroua** *avid^w night *nuit* 10.1) **Mbazla** (Tourneux) avud *nuit* 10.1.1) **Mbazla** (SILSurvey) āvūt night *nuit*
- 11) **Proto-Lamang** *rividi night *nuit* 11.1) **Lamang** (Wolff) rvidi night 11.1.1) **Lamang** (Wolff) rvidi night 11.2) **Hdi** (Bramlett) ravidik night *la nuit*
- 12) **Proto-Higi** *vid night *nuit* 12.1) **Kamwe-Nkafa** (Harley) vərə night 12.1.1) **Kamwe-Nkafa** (Harley) vərə night 12.2) **Kamwe-Futu** (Harley) vidi night 12.3) **Kirya** (Blench) vələ night 12.4) **Psikye** (Angelo) vidi night
- 13) **Proto-Kotoko North** *fade night *nuit* 13.1) **Afade** (Allison) fade night *nuit* 13.2) **Mpade** (Allison) fādè night *nuit* 13.3) **Malgbe** (Allison) fade night *nuit*
- 14) **Proto-Kotoko Centre** *nvade night *nuit* 14.1) **Lagwan** (Allison) nvade; mvade night *nuit* 14.2) **Mser** (Allison) nvade night *nuit*
- 15) **Proto-Kotoko South** *livin night *nuit* 15.1) **Zina** (Odden) ləvìn night *nuit*
- 16) **Proto-Musgum** *divid^y night *nuit* 16.1) **Mulwi** (Tourneux) divik *nuit* 16.2) **Vulum** (Tourneux) divik *nuit* 16.3) **Mbara** (Tourneux) divi'daj night 16.4) **Muskum** (Tourneux) arvil *nuit*
- 17) **Proto-Gidar** *difdi night *nuit* 17.1) **Gidar** (Hungerford) dəfda *nuit* 17.2) **Gidar** (Schuh) dəfda/0 *nuit*

viɮ v. to blow *souffler* (6 groups, 11 languages) B cf: **vats**, **v₂**, **pik^w/pik^w y**.

This root is found in a diverse collection of languages. The change *v→f in Proto-Kotoko North is regular, as is the change *ɮ→l in Bata. The other changes affecting *ɮ are not known to be regular, but data is limited.

- 1) **Proto-Bata** *fil blow *souffler* 1.1) **Bata** (Boyd) fil whistle
- 2) **Proto-Hurza** *viɮa^y blow *souffler* 2.1) **Mbuko** (Gravina) vəɮe breathe *souffler, respirer*
- 3) **Proto-Mofu** *viɮ blow *souffler* 3.1) **Zulgo** (Haller) viɮ *souffler* 3.1.1) **Zulgo** (Haller) viɮ(-ér) *souffler, donner un coup d'air pour enlever, éloigner, éteindre etc.* 3.2) **Gemzek** (Sabatai) mevəɮe *souffler* 3.2.1) **Gemzek** (Sabatai) mevəɮe a duk blow (horn) *souffler dans (un cor)* 3.3) **Merey** (Gravina) vəɮ blow (horn) *souffler dans (un cor)* 3.3.1) **Merey** (Gravina) vəɮ blow *souffler* 3.4) **Dugwor** (Jubumna) məvəɮej blow (of wind) (v) *souffler (vent)* 3.4.1) **Dugwor** (Jubumna) məvəɮej blow *souffler*
- 4) **Proto-Lamang** *vuɮ blow *souffler* 4.1) **Hdi** (Bramlett) vuɮaj to blow *souffler*
- 5) **Proto-Kotoko North** *fil blow *souffler* 5.1) **Mpade** (Allison) fil blow away *s'envoler* 5.2) **Malgbe** (Allison) file blow away *s'envoler*
- 6) **Proto-Kotoko Centre** *vil blow *souffler* 6.1) **Lagwan** (Allison) vilwun blow away *s'envoler* 6.2) **Mser** (Allison) vil blow away *s'envoler*

vidij nm. monkey *singe* (5 groups, 16 languages) C

There are three species of monkey indigenous to the Central Chadic region, the patas, the vervet and the baboon. This term was probably generic. The changes *v→f in Proto-Kotoko North and *v→b in Gidar are both regular. The quality of the medial consonant is unclear. There was a general regular change *r→l in the North sub-branch (which encompasses all groups represented here except for Tera) and also a medial change *d→r. The data is most consistent with *d as the medial consonant, even though *d is only present in one language. There are possible cognates of the form [vidze] in the Lamang and Hurza groups.

- 1) **Proto-Tera** *vidi monkey *singe* 1.1) **Tera** (Newman) vidi monkey (general term and esp. red patas) 1.2) **Nyimatli** (Harley) viti monkey
- 2) **Proto-Mandara** *viri monkey *singe* 2.1) **Matal** (Branger) vɔdaj monkey *singe* 2.2) **Mandara** (Fluckiger) véré *singe (m)* 2.3) **Malgwa** (Löhr) vɔre monkey gen., ape 2.4) **Glavda** (Owens) bíri monkey
- 3) **Proto-Mofu** *virij monkey *singe* 3.1) **Ouldeme** (Kinnaird) vɔrɔj *singe* 3.2) **Muyang** (Smith) viri Patas monkey *singe rouge* 3.3) **Zulgo** (Haller) bìrè *cynocéphale m.* 3.4) **Gemzek** (Sabatai) bɔre monkey *singe* 3.5) **Merey** (Gravina) bɔre monkey *singe* 3.6) **Dugwor** (Jubumna) bɔre monkey *singe*
- 4) **Proto-Kotoko North** *fili monkey *singe* 4.1) **Afade** (Allison) fili monkey *singe* 4.2) **Mpade** (Allison) flì monkey *singe* 4.3) **Malgbe** (Allison) fli monkey *singe*
- 5) **Proto-Gidar** *birija monkey *singe* 5.1) **Gidar** (Schuh) bɔrja/a *singe* 5.2) **Gidar** (Hungerford) brija *singe* 5.3) **Gidar** (Hungerford) brija *babouin*

vigid^y n. hole *trou* (6 groups, 20 languages) C **syn: gi^w**.

There was a regular change *v→b in the Meri subgroup of the Mofu group. The medial *g has been lost in all groups except for Proto-Mandara and Proto-Maroua, probably via an intermediate change to *ɣ, both of which are unestablished changes. (The Mofu-Gudur form may be borrowed from Giziga Marva.) In Proto-Mafa and Gidar the loss of *g has been compensated for by the reduplication of the first syllable, which is a common sporadic process. The labialisation prosody in Gidar and the /u/ in Sukur may indicate that *g^w should be reconstructed instead of *g. The final *d has been lost in Proto-Mandara and Proto-Gidar. Within the Mofu group, several languages have /j/ as a result of the palatalisation prosody causing *d^l→j. These are common sporadic processes.

- 1) **Proto-Mafa** *vavad^y hole *trou* 1.1) **Mafa** (Ndokobai) veved *trou*
- 2) **Proto-Sukur** *vudf hole *trou* 2.1) **Sukur** (David) vudf hole 2.2) **Sukur** (Thomas) vudf Hole: is a hollow space in a something solid or in the surface of something.
- 3) **Proto-Mandara** *vigi^y hole *trou* 3.1) **Matal** (Branger) afik hole *trou* 3.2) **Podoko** (Swackhammer) víge *trou* 3.3) **Mandara** (Fluckiger) évege *trou (m)* 3.4) **Malgwa** (Löhr) əvəge hole 3.5) **Glavda** (Owens) aaf hole 3.5.1) **Glavda** (Nghagyiva) àfka hole 3.6) **Dghwede** (Frick) fke hole

- 4) **Proto-Mofu** *vid^y hole *trou* 4.1) **Ouldeme** (Kinnaird) āvì hole *trou* 4.2) **Mada** (Barreteau) vvèd *trou* 4.3) **Moloko** (Friesen) pæde hole *trou* 4.4) **Zulgo** (Haller) bīje *trou m.* 4.5) **Gemzek** (Sabatai) bije hole *trou* 4.6) **Merey** (Gravina) bæd hole *trou* 4.7) **Dugwor** (Jubumna) abed hole; pit *trou; fosse* 4.8) **Mofu-Gudur** (Hollingsworth) v̄æged *trou, orifice ; tombe*
- 5) **Proto-Maroua** *vigid^y hole *trou* 5.1) **Giziga Moutourwa** (Michielan) vigid(i) *trou, tombe* 5.2) **Giziga Marva** (Hamidou) vigeð hole *trou* 5.3) **Mbazla** (Tourneux) veð *trou*
- 6) **Proto-Gidar** *viva^w hole *trou* 6.1) **Gidar** (Hungerford) vovu *trou* 6.2) **Gidar** (Schuh) vomvu *trou*

vih^w n. beer *bière* (4 groups, 12 languages) D **syn:** γ^wizim, mbaḷa.

This is one of several roots for beer. It is not certain that the Hurza roots presented here are cognate. The labialisation has transferred from *h^w to *v^w in Proto-Bata. *h^w has the reflex *h in Proto-Mandara and *w in Proto-Daba. All these are common sporadic processes.

- 1) **Proto-Bata** *v^wih beer *bière* 1.1) **Bata** (Boyd) v^we beer 1.2) **Gude** (Hoskinson) ənv^wá beer 1.3) **Jimi** (Djibi) ^hgəvun *Vin* 1.4) **Sharwa** (Gravina) v^wəh *Bière* 1.4.1) **Sharwa** (Gravina) v^wəh *Vin* 1.5) **Tsuvan** (Johnston) əv^we *le vin, la bière*
- 2) **Proto-Daba** *maviw beer *bière* 2.1) **Buwal** (Viljoen) mavaw beer (traditional) *bière (traditionnelle)* 2.2) **Gavar** (Viljoen) mavə beer (traditional) *bière (traditionnelle)* 2.3) **Mbudum** (Ndokobaï) mavu millet beer *bière de mil* 2.3.1) **Mbudum** (Ndokobaï) mavu beer *bière* 2.4) **Daba** (Lienhard) mòvū *le vin filtré, la bière claire*
- 3) **Proto-Hurza** *mihaj beer *bière* 3.1) **Mbuko** (Gravina) mahaj millet beer *bière de mil* 3.2) **Vame** (Kinnaird) māháj beer (made from millet) *bière de mil*
- 4) **Proto-Mandara** *pihi beer *bière* 4.1) **Podoko** (Swackhammer) pihe,-i *bière de mil*

vija nf. rainy season *saison pluvieuse* (12 groups, 38 languages) A

This word denotes the time of year when rain falls and crops can be grown, now roughly May to October. There is no widespread term for 'dry season'. The word can also be used as a measure of years. The change *v→p in Proto-Musgum and the Mofu languages is not regular. In Bata the *j has been reanalysed as the palatalisation prosody, which is a common sporadic process.

- 1) **Proto-Bata** *va^y rainy season *saison pluvieuse* 1.1) **Gude** (Hoskinson) vjánə rainy season 1.2) **Jimi** (Djibi) vjan *Saison pluvieuse* 1.3) **Sharwa** (Gravina) vja *saison pluvieuse*
- 2) **Proto-Daba** *vija rainy season *saison pluvieuse* 2.1) **Buwal** (Viljoen) vəja rainy season *saison de pluies* 2.2) **Gavar** (Viljoen) vija rainy season *saison de pluies* 2.3) **Mbudum** (Ndokobaï) vija rainy season *saison de pluies* 2.4) **Daba** (Lienhard) vjà *la saison de pluie, l'année*
- 3) **Proto-Mafa** *vija rainy season *saison pluvieuse* 3.1) **Mafa** (Barreteau) vija *saison des pluies* 3.2) **Cuvok** (Gravina) vija rainy season *saison de pluies*
- 4) **Proto-Sukur** *vi rainy season *saison pluvieuse* 4.1) **Sukur** (David) vi season, rainy 4.2) **Sukur** (Thomas) vi rainy season; the season of heavy continuous rain.

- 5) **Proto-Hurza** *vija rainy season *saison pluvieuse* 5.1) **Mbuko** (Gravina) vija rainy season *saison pluvieuse* 5.1.1) **Mbuko** (Gravina) vija *saison pluvieuse*
- 6) **Proto-Margi** *vija rainy season *saison pluvieuse* 6.1) **Bura** (Blench) vija Rainy season 6.1.1) **Bura** (Blench) avija In the rainy season 6.2) **Margi** (Hoffman) vija rainy season 6.3) **Margi South** (Harley) v^wvija rainy season 6.3.1) **Margi South** (Harley) vuja rainy season 6.4) **Kilba** (Schuh) uvuja rainy season
- 7) **Proto-Mandara** *vija rainy season *saison pluvieuse* 7.1) **Matal** (Branger) v̄jā rainy season *saison pluvieuse* 7.2) **Podoko** (Swackhammer) v̄ja,-ə *saison pluvieuse* 7.3) **Mandara** (Fluckiger) v̄á *saison de pluies (f), moule (f)* 7.4) **Malgwa** (Löhr) vija season, rainy 7.5) **Glavda** (Owens) viak Rainy season 7.5.1) **Glavda** (Nghagyiva) v̄jàksa rainy season
- 8) **Proto-Mofu** *vija rainy season *saison pluvieuse* 8.1) **Ouldeme** (Kinnaird) wālām lōv̄jò rainy season *saison de pluie* 8.2) **Muyang** (Smith) milevi rainy season *saison de pluies* 8.3) **Moloko** (Friesen) v̄ja rainy season *saison de pluie* 8.4) **Zulgo** (Haller) vije *saison (f.) des pluies* 8.5) **Gemzek** (Sabatai) vije rainy season *saison de pluies* 8.6) **Dugwor** (Jubumna) vija rainy season *saison de pluies* 8.7) **Mofu North** (Barreteau) pija *saison des pluies* 8.8) **Mofu-Gudur** (Hollingsworth) pijá *saison des pluies* 8.8.1) **Mofu-Gudur** (Hollingsworth) pijá *maladie de peau, provoqué par la pluie*
- 9) **Proto-Maroua** *vija rainy season *saison pluvieuse* 9.1) **Giziga Moutourwa** (Michielan) vija *saison des pluies (mai, juin, juillet, août, septembre)* 9.1.1) **Giziga Moutourwa** (Michielan) vija *pleine saison de pluies juillet, août* 9.2) **Giziga Marva** (Hamidou) vija rainy season *saison de pluies* 9.3) **Mbazla** (Tourneux) vija *saison des pluies*
- 10) **Proto-Lamang** *vija rainy season *saison pluvieuse* 10.1) **Lamang** (Wolff) vija rainy season 10.2) **Hdi** (Bramlett) vija rainy season *la saison des pluies*
- 11) **Proto-Higi** *vija rainy season *saison pluvieuse* 11.1) **Kamwe-Futu** (Harley) vija rainy season 11.2) **Kirya** (Blench) v̄jā rainy season between April and September 11.3) **Bana** (Lienhard) v̄jā *saison de pluies*
- 12) **Proto-Musgum** *pija rainy season *saison pluvieuse* 12.1) **Vulum** (Tourneux) apija *saison des pluies* 12.2) **Mbara** (Tourneux) pija rainy season

vijaw n. millet *mil* (4 groups, 6 languages) A **syn:** **hiji, daw.**

The change *v to *f in Kotoko North and Island is regular. The final /o/ in several languages is the reflex of the sequence *aw, which is a common sporadic process.

- 1) **Proto-Hurza** *vijaw millet *mil* 1.1) **Vame** (Kinnaird) v̄jāv millet *mil*
- 2) **Proto-Kotoko Island** *fijow millet *mil* 2.1) **Buduma** (McKone) fijow millet (rainy season) *mil (saison de pluies)* 2.2) **Buduma** (McKone) fijow sorghum (rainy season) *sorgho (saison des pluies)*
- 3) **Proto-Kotoko North** *fijo millet *mil* 3.1) **Afade** (Allison) fejo millet (rainy season) *mil (saison de pluies)* 3.2) **Mpade** (Allison) fiò sorghum (rainy season) *sorgho (saison des pluies)* 3.2.1) **Mpade** (Allison) mfò millet (rainy season) *mil (saison de pluies)* 3.3) **Malgbe** (Allison) fijo guinea corn *millet de Guinée, petit mil*

4) **Proto-Kotoko Centre** *vio millet *mil* 4.1) **Lagwan** (Allison) vio guinea corn *millet de Guinée, petit mil*

vin nm. rain *pluie* (9 groups, 25 languages) B

This root is widespread within Central Chadic, and is found elsewhere in Chadic. Surprisingly many languages do not have a term for 'rain' and use the term for 'water' instead. There was a regular change *v→b in Gidar. The change *v→p in Proto-Margi is not established. There was a regular change *n→r word-finally in the Margi-Mandara-Mofu major group. There is evidence of labialisation in Proto-Bata, Giziga Marva and Gidar, which may imply that there was *w in the original root, or possible a lost initial *h^w, though there is insufficient evidence to include this in the reconstruction.

- 1) **Proto-Bata** *v^wini rain *pluie* 1.1) **Gude** (Hoskinson) vèná -ə rain *pluie* 1.2) **Jimi** (Djibi) vuunən *Pluie* 1.3) **Sharwa** (Gravina) v^wənə *pluie* 1.4) **Tsuvan** (Johnston) v^wene *la pluie*
- 2) **Proto-Daba** *van rain *pluie* 2.1) **Buwal** (Viljoen) van rain *pluie* 2.2) **Gavar** (Viljoen) manavan rain *pluie* 2.3) **Mbudum** (Ndokobai) vaŋ rain *pluie* 2.4) **Daba** (Lienhard) vən *la pluie*
- 3) **Proto-Hurza** *avan^y rain *pluie* 3.1) **Mbuko** (Gravina) iven rain *pluie* 3.2) **Vame** (Kinnaird) àvèŋ 1 rain *pluie*
- 4) **Proto-Margi** *par rain *pluie* 4.1) **Margi** (Hoffman) pačə rain *pluie* 4.2) **Kilba** (Schuh) par rain *pluie*
- 5) **Proto-Mofu** *avir rain *pluie* 5.1) **Ouldeme** (Kinnaird) āvèr rain *pluie* 5.2) **Muyang** (Smith) avər rain *pluie* 5.3) **Moloko** (Friesen) vār rain *pluie* 5.4) **Mofu-Gudur** (Hollingsworth) vār rain *pluie, nuage*
- 6) **Proto-Maroua** *van^w rain *pluie* 6.1) **Giziga Marva** (Hamidou) von rain *pluie*
- 7) **Proto-Higi** *van rain *pluie* 7.1) **Kamwe-Nkafa** (Harley) va 1.year.2.rain 7.2) **Kamwe-Futu** (Harley) va rain *pluie* 7.3) **Kirya** (Blench) vən rain *pluie* 7.4) **Psikye** (Angelo) vá rain *pluie* 7.5) **Bana** (Lienhard) vən *pluie*
- 8) **Proto-Musgum** *faŋ rain *pluie* 8.1) **Mulwi** (Tourneux) faŋ *pluie* 8.2) **Vulum** (Tourneux) faŋ *pluie*
- 9) **Proto-Gidar** *buna rain *pluie* 9.1) **Gidar** (Hungerford) buna *pluie*

vin^y nf. hut *case* (14 groups, 29 languages) B *rel. to:* **ɣaj**.

This root refers to an individual building for living in, rather than the compound as a whole. There was a regular change *v→b in Gidar and in the Meri subgroup of the Mofu group. *b is also found in Proto-Daba and in the Mandara subgroup of the Mandara group, but here the change is irregular. The change *v→f in Proto-Kotoko North and Proto-Musgum is also regular. There was a regular word-final change *n→r in the Margi-Mandara-Mofu major group. The evidence for the palatalisation prosody is limited, but favours including the prosody in the reconstruction.

- 1) **Proto-Bata** *vini hut *case* 1.1) **Bata** (Boyd) vène room 1.2) **Sharwa** (Gravina) vira *maison*
- 2) **Proto-Daba** *biŋ hut *case* 2.1) **Mbudum** (Ndokobai) bəŋ hut *case* 2.1.1) **Mbudum** (Ndokobai) bəŋ room *pièce (de maison)*
- 3) **Proto-Mafa** *van^y hut *case* 3.1) **Cuvok** (Gravina) veŋ room *pièce (de maison)* 3.1.1) **Cuvok** (Gravina) veŋ hut *case* 3.1.2) **Cuvok** (Gravina) veŋ bedroom *chambre (à dormir)*

- 4) **Proto-Sukur** *va hut case 4.1) **Sukur** (Thomas) va home; the house that you live, especially with your family.
- 5) **Proto-Margi** *vi hut case 5.1) **Kilba** (Schuh) vi hut
- 6) **Proto-Mandara** *biri, vij hut case 6.1) **Mandara** (Fluckiger) bere *maison, chambre (f)* 6.2) **Malgwa** (Löhr) bære room, hut 6.3) **Glavda** (Owens) və house, area, quarter of a town (cf. Å,al) 6.3.1) **Glavda** (Owens) v house
- 7) **Proto-Mofu** *vir^y hut case 7.1) **Ouldeme** (Kinnaird) vər woman's bedroom *chambre d'une femme* 7.2) **Moloko** (Friesen) ver bedroom *chambre* 7.3) **Zulgo** (Haller) bir *chambre (f.) du fils* 7.4) **Gemzek** (Sabatai) bir *chambre* 7.4.1) **Gemzek** (Sabatai) bæra house *chez* 7.5) **Merey** (Gravina) ber hut case, *chambre à coucher, pièce*
- 8) **Proto-Maroua** *vin^y hut case 8.1) **Giziga Marva** (Hamidou) veŋ room *pièce (de maison)* 8.1.1) **Giziga Marva** (Hamidou) veŋ hut case 8.1.2) **Giziga Marva** (Hamidou) veŋ house *maison* 8.1.3) **Giziga Marva** (Hamidou) veŋ bedroom *chambre (à dormir)* 8.2) **Mbazla** (Tourneux) viŋ *maison*
- 9) **Proto-Lamang** *iviŋ hut case 9.1) **Lamang** (Wolff) ívèŋ hut 9.1.1) **Lamang** (Wolff) ívèŋì hut 9.2) **Hdi** (Bramlett) viŋ boy's room *la chambre du garçon*
- 10) **Proto-Higi** *vi hut case 10.1) **Kamwe-Nkafa** (Harley) vjì sleeping room. 10.2) **Kamwe-Futu** (Harley) vi bedroom
- 11) **Proto-Kotoko North** *fin hut case 11.1) **Afade** (Allison) fin hut case 11.2) **Mpade** (Allison) fin hut case 11.3) **Malgbe** (Allison) fin hut case
- 12) **Proto-Kotoko Centre** *vini hut case 12.1) **Lagwan** (Allison) vini; guamaha hut case 12.1.1) **Lagwan** (Allison) vini e misane bedroom *chambre (à dormir)* 12.2) **Mser** (Allison) vrio hut case 12.2.1) **Mser** (Allison) vir a havin bedroom *chambre (à dormir)*
- 13) **Proto-Musgum** *funij hut case 13.1) **Vulum** (Tourneux) funii *maison* 13.2) **Mulwi** (Tourneux) funii *maison* 13.2.1) **Mulwi** (Tourneux) funii *petite poterie à sauce* 13.3) **Mbara** (Tourneux) fiŋaj house *maison*
- 14) **Proto-Gidar** *biina hut case 14.1) **Gidar** (Hungerford) biina case, *maison*

vinah v. to vomit *vomir* (13 groups, 32 languages) A

There was a regular change *v→f in Proto-Musgum. There was also a regular change *n→r word-medially in Proto-Mandara. The final *h has been lost in several groups, which is a common sporadic process.

- 1) **Proto-Bata** *vina vomit *vomir* 1.1) **Gude** (Hoskinson) vaana vomit 1.2) **Jimi** (Djibi) vənan 1 - *Vomir* ;; 2 - *Vomissement*
- 2) **Proto-Daba** *vina vomit *vomir* 2.1) **Buwal** (Viljoen) vəna vomit (v) *vomir* 2.2) **Gavar** (Viljoen) vəna vomit (v) *vomir* 2.3) **Mbudum** (Ndokobai) vən vomit (v) *vomir* 2.4) **Daba** (Lienhard) vənà *vomir* ; *déteindre*
- 3) **Proto-Mafa** *vinaha^y vomit *vomir* 3.1) **Mafa** (Ndokobai) n vənehe *vomir* 3.1.1) **Mafa** (Barreteau) vínéh- *vomir* 3.2) **Cuvok** (Gravina) vənaha vomit (v) *vomir*

- 4) **Proto-Tera** *v₁nah vomit *vomir* 4.1) **Nyimatli** (Harley) v₁nakh vomit (v)
- 5) **Proto-Sukur** *v₁nah vomit *vomir* 5.1) **Sukur** (Thomas) v₁nah vomit; to bring food from the stomach back out through the mouth.
- 6) **Proto-Hurza** *v₁nah^y vomit *vomir* 6.1) **Mbuko** (Gravina) v₁ne vomit *vomir* 6.2) **Vame** (Kinnaird) v₁nàhà vomit *vomir*
- 7) **Proto-Mandara** *v₁raha vomit *vomir* 7.1) **Matal** (Branger) màvlàhàj vomit *vomir* 7.2) **Podoko** (Swackhammer) v₁raha 1 *vomir* 7.2.1) **Podoko** (Swackhammer) v₁raha 2 *se fondre (teinte)* 7.3) **Glavda** (Nghagyiva) vrēige vomit (v) 7.4) **Dghwede** (Frick) vraxa vomit
- 8) **Proto-Mofu** *v₁naha vomit *vomir* 8.1) **Ouldeme** (Kinnaird) v₁nàhàj vomit *vomir* 8.2) **Mada** (Nkoumou) mavnaha *vomir* 8.3) **Moloko** (Friesen) v₁nah vomit *vomir* 8.4) **Zulgo** (Haller) v₁nahá *vomir* 8.5) **Gemzek** (Sabatai) mev₁nehe *vomir* 8.6) **Merey** (Gravina) v₁naha vomit (v) *vomir* 8.7) **Dugwor** (Jubumna) māv₁nehej vomit (v) *vomir* 8.8) **Mofu North** (Barreteau) mév₁nèhèj *vomir*
- 9) **Proto-Lamang** *v₁nah vomit *vomir* 9.1) **Lamang** (Wolff) vanaah^wa vomit 9.2) **Hdi** (Bramlett) v₁nihaj to vomit *vomir* 9.2.1) **Hdi** (Bramlett) v₁nih vomit *le vomissement*
- 10) **Proto-Higi** *v₁nih^wi vomit *vomir* 10.1) **Kamwe-Futu** (Harley) vineyo to vomit; puke 10.2) **Kirya** (Blench) v₁nàhú to vomit 10.3) **Bana** (Lienhard) v₁nàx^wè *vomir, spitting image of*
- 11) **Proto-Kotoko Centre** *v₁nahi vomit *vomir* 11.1) **Lagwan** (Allison) v₁nahiwun (v₁nahi) vomit (v) *vomir*
- 12) **Proto-Kotoko South** *v₁naha vomit *vomir* 12.1) **Zina** (Odden) v₁nàhà vomit (v) *vomir*
- 13) **Proto-Musgum** *fina^y vomit *vomir* 13.1) **Mbara** (Tourneux) fine vomit *vomir*

v₁r₂ v. to fly *voler* (7 groups, 12 languages) A

This word has the basic meaning of 'to fly', but can also mean 'to jump' in some languages. There was a regular change *v→f in Proto-Kotoko North, and the same change has taken place in Gude, where it was irregular, and in Proto-Margi, where the change is found elsewhere but is unestablished. There was a regular change *r→l in the North sub-branch, though in this case we find /r/ in Zina.

- 1) **Proto-Bata** *f₁r fly *voler* 1.1) **Gude** (Hoskinson) f₁r flying away (of bird). *voler*
- 2) **Proto-Sukur** *v₁war jump *sauter* 2.1) **Sukur** (Thomas) v₁war jump:- to move quickly off the ground or away from a surface by pushing your s your legs and feet.
- 3) **Proto-Margi** *f₁l fly *voler* 3.1) **Bura** (Blench) f₁la To jump; to fly *voler* 3.2) **Margi** (Hoffman) v₁l to jump, fly *voler* 3.3) **Kilba** (Schuh) f₁la// fly (v) *voler* 3.3.1) **Kilba** (Schuh) f₁la// jump
- 4) **Proto-Mandara** *val to fly *voler* 4.1) **Matal** (Branger) mavalaj jump *sauter*
- 5) **Proto-Kotoko North** *f₁l fly *voler* 5.1) **Afade** (Allison) f₁l; filun fly (v) *voler* 5.2) **Mpade** (Allison) f₁l fly (v) *voler* 5.3) **Malgbe** (Allison) filwun fly (v) *voler*
- 6) **Proto-Kotoko Centre** *v₁l fly *voler* 6.1) **Lagwan** (Allison) v₁lwun (v₁l) fly (v) *voler* 6.2) **Mser** (Allison) v₁l fly (v) *voler*
- 7) **Proto-Kotoko South** *vera fly *voler* 7.1) **Zina** (Odden) v₁rè fly (v) *voler*
- 8) **Kanuri** f₁f₁n^gîn, f₁f₁t₁în fly (v) *voler*

v₁r v. to give *donner* (8 groups, 19 languages) A *syn*: v₁.

There is a regular change *r→l in the North sub-branch and in Proto-Daba. In all other respects this root is stable in these groups.

- 1) **Proto-Daba** *v₁l give *donner* 1.1) **Buwal** (Viljoen) v₁l give *donner* 1.1.1) **Buwal** (Viljoen) v₁l offer *offrir* 1.2) **Gavar** (Viljoen) v₁l give *donner* 1.2.1) **Gavar** (Viljoen) v₁l offer *offrir* 1.2.2) **Gavar** (Viljoen) v₁l return *rendre, renvoyer* 1.3) **Mbudum** (Ndokobäi) v₁l give *donner* 1.4) **Daba** (Lienhard) v₁l *donner*
- 2) **Proto-Tera** *v₁r give *donner* 2.1) **Tera** (Newman) v₁r_i give 2.2) **Nyimatli** (Harley) v₁r give
- 3) **Proto-Hurza** *v₁r give *donner* 3.1) **Mbuko** (Gravina) v₁r to give *donner* 3.2) **Vame** (Kinnaird) v₁r_a give *donner*
- 4) **Proto-Mandara** *v₁l give *donner* 4.1) **Malgwa** (Löhr) v₁l_a give 4.2) **Glavda** (Nghagyiva) v₁l_a give
- 5) **Proto-Mofu** *v₁l give *donner* 5.1) **Ouldeme** (Kinnaird) v₁l_ar give *donner* 5.2) **Moloko** (Friesen) v₁l give *donner* 5.2.1) **Moloko** (Friesen) v₁r *donner* 5.3) **Zulgo** (Haller) v₁l *donner, faire don* 5.4) **Gemzek** (Sabatai) v₁l_a give *donner* 5.5) **Dugwor** (Jubumna) m_a v₁l_ej give *donner*
- 6) **Proto-Maroua** *v₁l give *donner* 6.1) **Giziga Marva** (Hamidou) v₁l give *donner* 6.2) **Mbazla** (Tourneux) v₁l_i *donner* 6.2.1) **Mbazla** (SILSurvey) v₁l_i give *donner*
- 7) **Proto-Lamang** *v₁l_a give *donner* 7.1) **Lamang** (Wolff) v₁l_a give
- 8) **Proto-Kotoko South** *v₁l_a give *donner* 8.1) **Zina** (Odden) v₁l_a give *donner*

wahaj v. to give birth *naître* (16 groups, 43 languages) C *syn:* ^m**biw**.

This is the most widely attested root for 'to give birth'. All three consonants in the root are prone to sporadic deletion or reanalysis, and only in a few cases are all three consonants preserved in the reflexes of individual languages.

- 1) **Proto-Mafa** *haja give birth *naître* 1.1) **Mafa** (Barreteau) ja *accoucher* 1.2) **Cuvok** (Gravina) haja bear (child), give birth *accoucher, donner naissance* 1.2.1) **Cuvok** (Gravina) haja (be) born *naître*
- 2) **Proto-Tera** *xa give birth *naitre* 2.1) **Tera** (Newman) xa give birth 2.2) **Nyimatli** (Harley) xa (be) born 2.2.1) **Nyimatli** (Harley) kha bear (child), give birth
- 3) **Proto-Sukur** *ji give birth *naitre* 3.1) **Sukur** (David) jiiha give birth, to 3.2) **Sukur** (Thomas) ji to give birth;
- 4) **Proto-Hurza** *wah give birth *naître* 4.1) **Mbuko** (Gravina) wahaj give birth *donner naissance* 4.2) **Vame** (Kinnaird) wáhā 1 give birth ; deliver *accoucher* 4.2.1) **Vame** (Kinnaird) wáhā 2 give birth *naître* 4.2.2) **Vame** (Kinnaird) wáh kīné produce *naître*
- 5) **Proto-Margi** *ja give birth *naître* 5.1) **Bura** (Blench) ìjà To give birth 5.2) **Bura** (Blench) jia To give birth 5.3) **Margi** (Hoffman) ja to give birth 5.4) **Margi South** (Harley) ja to give birth 5.5) **Kilba** (Schuh) ja/a (give) birth
- 6) **Proto-Mandara** *haji give birth *naitre* 6.1) **Podoko** (Swackhammer) ha 1 *produire des fruits* 6.1.1) **Podoko** (Swackhammer) ha 2 *naître, accoucher* 6.2) **Malgwa** (Löhr) ja deliver, give birth 6.3) **Glavda** (Nghagyiva) jìga bear (child), give birth 6.3.1) **Glavda** (Nghagyiva) jàjàna (be) born 6.4) **Dghwede** (Frick) jige to give birth
- 7) **Proto-Mofu** *waj give birth *naître* 7.1) **Ouldeme** (Kinnaird) wì bear many children *donner naissance; enfanter* 7.2) **Moloko** (Friesen) we give birth, be born *accoucher; naître* 7.2.1) **Moloko** (Friesen) we *engendrer* 7.3) **Zulgo** (Haller) wa *accoucher, enfanter, engendrer, produire* 7.4) **Gemzek** (Sabatai) mewe (be) born *naître* 7.4.1) **Gemzek** (Sabatai) mawa kəla bear (child), give birth *accoucher, donner naissance* 7.5) **Merey** (Gravina) wa (be) born *naître* 7.5.1) **Merey** (Gravina) wa wawa bear (child), give birth *accoucher, donner naissance* 7.6) **Dugwor** (Jubumna) mawaj (be) born *naître* 7.6.1) **Dugwor** (Jubumna) mawaj bear (child), give birth *accoucher, donner naissance* 7.7) **Mofu North** (Barreteau) méjèj *accoucher* 7.7.1) **Mofu North** (Barreteau) májàwá *accouchement* 7.7.2) **Mofu North** (Barreteau) májàwá *naissance* 7.8) **Mofu-Gudur** (Hollingsworth) j be born *accoucher, naître, mettre bas, pondre, donner des fruits ; se multiplier* 7.8.1) **Mofu-Gudur** (Hollingsworth) majawa *accouchement, naissance*
- 8) **Proto-Maroua** *ji give birth *naître* 8.1) **Giziga Marva** (Hamidou) ji zuŋ bear (child), give birth *accoucher, donner naissance* 8.2) **Giziga Marva** (Hamidou) je (be) born *naître* 8.3) **Mbazla** (Tourneux) ji *mettre au monde, donner naissance* 8.3.1) **Mbazla** (SILSurvey) jéji' give birth *engendrer*

- 9) **Proto-Lamang** *ja give birth *naître* 9.1) **Lamang** (Wolff) ja beget, give birth 9.2) **Hdi** (Bramlett) jaj to give birth *donner naissance*
- 10) **Proto-Higi** *ji give birth *naître* 10.1) **Kamwe-Nkafa** (Harley) jə give birth/deliver 10.2) **Kamwe-Futu** (Harley) jekə bear (child); give birth 10.2.1) **Kamwe-Futu** (Harley) jekəg^wo be born 10.3) **Kirya** (Blench) jā to give birth (born), bear 10.4) **Bana** (Lienhard) já *accoucher, naître, naissance*
- 11) **Proto-Kotoko Island** *wij give birth *naitre* 11.1) **Buduma** (McKone) wuj *engendrer, accoucher*. 11.2) **Buduma** (McKone) wuəj bear (child) *accoucher (enfant)*
- 12) **Proto-Kotoko North** *wa give birth *naître* 12.1) **Afade** (Allison) we si (be) born *naître* 12.1.1) **Afade** (Allison) wan; we bear (child), give birth *accoucher, donner naissance* 12.2) **Mpade** (Allison) wè bear (child) *accoucher (enfant)* 12.2.1) **Mpade** (Allison) wè sɪ (be) born *naître* 12.3) **Malgbe** (Allison) wawun (wa, we) (be) born *naître* 12.3.1) **Malgbe** (Allison) wawun bear (child), give birth *accoucher, donner naissance*
- 13) **Proto-Kotoko Centre** *wa give birth *naître* 13.1) **Lagwan** (Allison) wel zi (be) born *naître* 13.1.1) **Lagwan** (Allison) wawun (wa) bear (child), give birth *accoucher, donner naissance* 13.2) **Mser** (Allison) we zi (be) born *naître* 13.2.1) **Mser** (Allison) we bear (child), give birth *accoucher, donner naissance*
- 14) **Proto-Kotoko South** *wija give birth *naître* 14.1) **Zina** (Odden) wɪjà bear (child), give birth *accoucher, donner naissance*
- 15) **Proto-Musgum** *wi give birth *naître* 15.1) **Mulwi** (Tourneux) wi *mettre, naître, mettre au monde* 15.2) **Mbara** (Tourneux) wii give birth, bring forth *donner naissance, mettre au monde*
- 16) **Proto-Gidar** *iwa give birth *naitre* 16.1) **Gidar** (Hungerford) uuwa *accoucher* 16.2) **Gidar** (Hungerford) uuwa *naître, (donner) naissance, accoucher* 16.3) **Gidar** (Schuh) uwa *naitre* 16.4) **Gidar** (Hungerford) wiina *donner naissance*

wipad num. four *quatre* (15 groups, 47 languages) B

This is a widespread root, and has also been reconstructed for Proto-Chadic. Proto-Central Chadic *p had the allophone [p] in medial position, and we would expect this to be reflected by the presence of *p in the group proto-languages. However *p has the reflex *f in all groups except for Gidar and Musgum, which is not expected. One of the features of this root is the widespread occurrence of *u, labialisation or the labialisation prosody. In order to account for this, *w has been reconstructed as the initial consonant. In the consonant prosody groups (Bata, Margi and Higi), *w has usually merged with *f to give *f^w. In some of the vowel prosody groups (here Daba, Musgum and Gidar), *w has been reanalysed as the labialisation prosody. These are both common sporadic processes.

- 1) **Proto-Bata** *f^wad four *quatre* 1.1) **Gude** (Hoskinson) ənf^wáda four 1.2) **Jimi** (Djibi) f^wad *Quatre 4*
- 2) **Proto-Daba** *wifad four *quatre* 2.1) **Buwal** (Viljoen) ŋfad four (4) *quatre (4)s* 2.2) **Gavar** (Viljoen) ŋfad four (4) *quatre (4)s* 2.3) **Mbudum** (Ndokobäi) ŋfad four (4) *quatre (4)s* 2.4) **Daba** (Lienhard) fōd *quatre*

- 3) **Proto-Mafa** *fad four *quatre* 3.1) **Mafa** (Barreteau) fád *quatre* 3.2) **Cuvok** (Gravina) fad four (4) *quatre (4)s*
- 4) **Proto-Tera** *foda four *quatre* 4.1) **Tera** (Newman) vat four 4.2) **Nyimatli** (Harley) vat four (4) 4.3) **Ga'anda** (Gwaji) foda four
- 5) **Proto-Sukur** *fwad four *quatre* 5.1) **Sukur** (David) fwad four 5.2) **Sukur** (Thomas) fwad four
- 6) **Proto-Hurza** *fudaw four *quatre* 6.1) **Mbuko** (Gravina) fudo four *quatre* 6.2) **Vame** (Kinnaird) fúdfāw four *quatre*
- 7) **Proto-Margi** *f^wadu four *quatre* 7.1) **Margi** (Hoffman) fodə four 7.2) **Margi South** (Harley) f^wadu four 7.2.1) **Margi South** (Harley) fodu four 7.3) **Kilba** (Schuh) f^wadu/ə four 7.4) **Bura** (Blench) nf^war Four
- 8) **Proto-Mandara** *ufadī four *quatre* 8.1) **Matal** (Branger) ufad four *quatre* 8.2) **Podoko** (Swackhammer) ufada,-ə *quatre* 8.3) **Malgwa** (Löhr) ufade four 8.4) **Glavda** (Nghagyiva) ùfàda four (4) 8.5) **Dghwede** (Frick) fit'e four
- 9) **Proto-Mofu** *wifad four *quatre* 9.1) **Ouldeme** (Kinnaird) mēfád four *quatre* 9.2) **Muyang** (Smith) fad four *quatre* 9.3) **Moloko** (Friesen) wəfad four *quatre* 9.4) **Zulgo** (Haller) əfád *quatre* 9.5) **Gemzek** (Sabatai) əfad four *quatre* 9.5.1) **Gemzek** (Sabatai) fad four *quatre* 9.6) **Merey** (Gravina) fad four (4) *quatre (4)s* 9.7) **Dugwor** (Jubumna) məfad four (4) *quatre (4)s* 9.8) **Mofu North** (Barreteau) fād *quatre* 9.9) **Mofu-Gudur** (Hollingsworth) məfad four *quatre ; chiffre pair (dans la divination)*
- 10) **Proto-Maroua** *mufad four *quatre* 10.1) **Giziga Moutourwa** (Michielan) mufad *quatre, radical faë commun à presque tout le groupe Mandara.* 10.2) **Giziga Marva** (Hamidou) mufad four (4) *quatre (4)s* 10.3) **Mbazla** (SILSurvey) mòfót four *quatre*
- 11) **Proto-Lamang** *wifad four *quatre* 11.1) **Lamang** (Wolff) ùfádá four 11.2) **Hdi** (Bramlett) fwad four *quatre*
- 12) **Proto-Higi** *wifadī four *quatre* 12.1) **Kamwe-Nkafa** (Harley) f^warə four 12.1.1) **Kamwe-Nkafa** (Harley) f^wàré Four 12.2) **Kamwe-Futu** (Harley) f^wado four 12.3) **Kirya** (Blench) f^wàr four 12.3.1) **Kirya** (Blench) f^wàdè four 12.4) **Psikye** (Angelo) wufádé four 12.4.1) **Psikye** (Angelo) wufá' four 12.5) **Bana** (Lienhard) fád(ə) *quatre*
- 13) **Proto-Kotoko South** *fodī four *quatre* 13.1) **Zina** (Odden) fódí four (4) *quatre (4)*
- 14) **Proto-Musgum** *pidī^w four *quatre* 14.1) **Vulum** (Tourneux) puđu *quatre* 14.2) **Mbara** (Tourneux) pu'du four *quatre* 14.3) **Muskum** (Tourneux) fuudi *quatre*
- 15) **Proto-Gidar** *padá^w four *quatre* 15.1) **Gidar** (Schuh) podó *quatre* 15.2) **Gidar** (Hungerford) podo *quatre, 4*

wiraj nm. neck *cou* (12 groups, 29 languages) A *syn*: **yiwaj**.

This is a widespread root with a complex history. The final *j has been lost in a number of groups, and in the Margi, Higi and Musgum groups it has been reanalysed as palatalisation. These are common sporadic processes. The *r has the regular reflex *l in the groups of the North sub-branch, and also the Daba group. However there was an irregular change *r to *d in Proto-Mafa, which spread to Proto-Maroua, Proto-Mofu and Proto-Sukur. There was then a further change to *ʔ in Proto-Sukur and Proto-Maroua, and to /d/ in Mafa, which are unestablished changes. The initial *w has been lost in several groups, and in Sukur has fused with the /ʔ/. These are common sporadic processes.

- 1) **Proto-Bata** *wira neck *cou* 1.1) **Gude** (Hoskinson) ùurá (inher. poss., body part); neck, throat
1.1.1) **Gude** (Hoskinson) ùurá voice, language (reg. poss.) 1.2) **Jimi** (Djibi) wuran 1 - *Cou*; 2 - *Langue parlée*; 3 - *Gorge* 1.3) **Sharwa** (Gravina) wura *Cou* 1.4) **Tsuvan** (Johnston) wula *le cou*
- 2) **Proto-Daba** *wila neck *cou* 2.1) **Buwal** (Viljoen) ula neck *cou* 2.1.1) **Buwal** (Viljoen) ula voice *voix*
2.1.2) **Buwal** (Viljoen) ula cry *cri* 2.2) **Gavar** (Viljoen) wəla neck *cou* 2.2.1) **Gavar** (Viljoen) wəla voice *voix* 2.2.2) **Gavar** (Viljoen) wəla cry *cri* 2.3) **Mbudum** (Ndokobai) wula neck *cou* 2.4) **Daba** (Lienhard) wə̀là *le cou* ; *appeler*
- 3) **Proto-Mafa** *daja neck *cou* 3.1) **Mafa** (Barreteau) dájá *cou*
- 4) **Proto-Sukur** *ʔwaj neck *cou* 4.1) **Sukur** (David) 'oj neck
- 5) **Proto-Margi** *wila ^y neck *cou* 5.1) **Bura** (Blench) wulja Neck (general term) Neck of a musical instrument such as gulum or yakandi 5.2) **Margi South** (Harley) gjulija neck 5.3) **Kilba** (Schuh) wulja neck
- 6) **Proto-Mofu** *daj neck *cou* 6.1) **Zulgo** (Haller) da *cou m.* 6.2) **Gemzek** (Sabatai) bijda *le cou* 6.2.1) **Gemzek** (Sabatai) bijda voice *voix* 6.3) **Merrey** (Gravina) daj *cou* 6.3.1) **Merrey** (Gravina) daj neck *cou*, *voix* 6.4) **Dugwor** (Jubumna) daj voice *voix* 6.4.1) **Dugwor** (Jubumna) daj throat *gorge* 6.4.2) **Dugwor** (Jubumna) daj neck *cou* 6.5) **Mofu-Gudur** (Hollingsworth) daj neck *cou* 6.5.1) **Mofu-Gudur** (Hollingsworth) daj *voix*
- 7) **Proto-Maroua** *ʔaj neck *cou* 7.1) **Giziga Marva** (Hamidou) aj neck *cou* 7.2) **Mbazla** (Tourneux) 'aj *cou* 7.2.1) **Mbazla** (SILSurvey) ājī' neck (front & back) *cou (nuque et gorge)*
- 8) **Proto-Lamang** *ulek neck *cou* 8.1) **Lamang** (Wolff) ulek neck
- 9) **Proto-Higi** *wilij neck *cou* 9.1) **Kamwe-Nkafa** (Harley) wuljə neck 9.2) **Kamwe-Futu** (Harley) wulji neck 9.3) **Kirya** (Blench) wúrí neck, voice 9.4) **Bana** (Lienhard) wárí *cou*, *voix*
- 10) **Proto-Kotoko South** *y^wire neck *cou* 10.1) **Zina** (Odden) wùni neck *cou* 10.2) **Mazera** (Allison) yule neck *cou*
- 11) **Proto-Musgum** *wila ^y neck *cou* 11.1) **Mulwi** (Tourneux) wile *cou*
- 12) **Proto-Gidar** *wila neck *cou* 12.1) **Gidar** (Schuh) wula, a *cou* 12.2) **Gidar** (Hungerford) wəla' *cou*

wirid^y nf. *pus pus* (13 groups, 39 languages) A

This root is extremely complex to reconstruct, with many phonological processes taking place. There is a regular change *r→l in the North sub-branch, Proto-Daba and Cuvok, which is consistently realised here. Metathesis of root consonants has taken place in Proto-Bata, Sukur and Proto-Mofu, and in Proto-Hurza the three consonants appear in reverse order. *d has been lost in several languages. The loss has been compensated for in Sukur by the addition of a prefix /m-/, and in Mafa by the prefix /v-/. Elsewhere the loss of *d has been compensated for by the reduplication of a syllable, as in Cuvok, several Mofu group languages and the Giziga languages. In several cases *d and *w have fused, creating either /ʔ^w/ or /b/. In some languages *w has been reanalysed as the labialisation prosody. In Gemzek and Merey, this has combined with the palatalisation prosody to produce front-rounded vowels. All of these are common sporadic processes.

- 1) **Proto-Bata** *riwid^y *pus pus* 1.1) **Bata** (Boyd) rèèto *pus* 1.2) **Gude** (Hoskinson) rǝ'únǝ *puss* 1.3) **Jimi** (Djibi) ru'un *Pus* 1.4) **Sharwa** (Gravina) rǝb^wǝk *pus*
- 2) **Proto-Daba** *wilad^y *pus pus* 2.1) **Buwal** (Viljoen) uled^f *pus pus* 2.2) **Gavar** (Viljoen) wǝled^f *pus pus* 2.3) **Mbudum** (Ndokobai) wiliβ *pus pus* 2.4) **Daba** (Lienhard) wilēd^f *le pus*
- 3) **Proto-Mafa** *wirid^y *pus pus* 3.1) **Mafa** (Barreteau) vorob *pus* 3.2) **Cuvok** (Gravina) leleb *pus pus*
- 4) **Proto-Tera** *ra *pus pus* 4.1) **Nyimatli** (Harley) ra *pus*
- 5) **Proto-Sukur** *miru *pus pus* 5.1) **Sukur** (David) mǝru *pus* 5.2) **Sukur** (Thomas) mǝrǝu *pus*: - is a thick yellowish or greenish liquid that is produced in an effected wound.
- 6) **Proto-Hurza** *diriw^y *pus pus* 6.1) **Mbuko** (Gravina) dǝrew *pus pus* 6.2) **Pelasla** (Kinnarid) diraw *pus* 6.3) **Vame** (Kinnaird) dirū *pus pus*
- 7) **Proto-Margi** *liʔ^wi *pus pus* 7.1) **Bura** (Blench) lu *Pus* 7.2) **Margi** (Hoffman) lu'u *pus* 7.3) **Kilba** (Schuh) lu'u/u *pus*
- 8) **Proto-Mandara** *liwid^f *pus pus* 8.1) **Matal** (Branger) àlàw mík *pus pus* 8.2) **Podoko** (Swackhammer) lǝba,-ǝ *pus* 8.3) **Mandara** (Fluckiger) lua *pus (m)* 8.4) **Malgwa** (Löhr) luwa, əluwe *pus* 8.5) **Glavda** (Nghagyiva) lùwa *pus* 8.5.1) **Glavda** (Owens) lu clay, mud, *pus*
- 9) **Proto-Mofu** *walid^y *pus pus* 9.1) **Ouldeme** (Kinnaird) ālāl *pus pus* ; *glaires* 9.2) **Muyang** (Smith) alu *pus pus* 9.3) **Mada** (Nkoumou) óllò *pus* 9.4) **Moloko** (Friesen) oroh *pus pus* 9.5) **Gemzek** (Sabatai) alǝb, alǝβ *pus pus*; *le pus* 9.6) **Merey** (Gravina) lolob, lelǝb *pus pus* 9.7) **Dugwor** (Jubumna) lolob *pus pus* 9.8) **Mofu North** (Barreteau) lálàw *pus* 9.9) **Mofu-Gudur** (Hollingsworth) laláb *pus*
- 10) **Proto-Maroua** *lilib^w *pus pus* 10.1) **Giziga Moutourwa** (Michielan) lulu *pus* 10.1.1) **Giziga Moutourwa** (Michielan) lulu *toponyme* 10.2) **Giziga Marva** (Hamidou) lulob *pus pus*
- 11) **Proto-Higi** *liʔ^wi *pus pus* 11.1) **Kamwe-Nkafa** (Harley) lǝ'uwǝ *Pus* (in a wound) 11.1.1) **Kamwe-Nkafa** (Harley) lǝgwǝ *pus* 11.2) **Kamwe-Futu** (Harley) lǝuo *pus* 11.3) **Bana** (Lienhard) lǝ'wǝ *pus*, *sève*
- 12) **Proto-Musgum** *alu *pus pus* 12.1) **Mulwi** (Tourneux) alu *pus*
- 13) **Proto-Gidar** *wili^y *pus pus* 13.1) **Gidar** (Hungerford) wili *pus*

wivɪn n. grinding stone *meule* (14 groups, 30 languages) B

This root denotes the large stone with a flat top upon which food ingredients are ground. The changes *v→f in Musgum and *v→b in Gidar and the Meri subgroup of the Mofu group are regular, but the other instances of *b are not. There was a regular word-final change *n→r in the Margi-Mandara-Mofu major group. There is evidence for *w in the Margi, Mandara, Maroua, Lamang, Kotoko South and Musgum groups, in the form either of the vowel /u/ or the labialisation prosody.

- 1) **Proto-Daba** *ɲvɪn grinding stone *meule* 1.1) **Buwal** (Viljoen) ɲvan grinding stone *Pierre moudre*
1.1.1) **Buwal** (Viljoen) m̄ān ɲv̄ān upper grinding stone *meule supérieure* 1.2) **Gavar** (Viljoen) ɲv̄ən
tasad grinding stone *Pierre à moudre*
- 2) **Proto-Tera** *vɪna grinding stone *meule* 2.1) **Nyimatli** (Harley) v̄una grinding stone 2.1.1) **Nyimatli**
(Harley) v̄una upper grinding stone 2.1.2) **Nyimatli** (Harley) v̄unar grinding stone
- 3) **Proto-Sukur** *ban grinding stone *meule* 3.1) **Sukur** (David) ban grinding table 3.2) **Sukur** (Thomas)
ban grinding stone; the stone that is used to grind the guineacorn, maize, etc.
- 4) **Proto-Hurza** *van grinding stone *meule* 4.1) **Mbuko** (Gravina) van stone upon which food is
ground *meule, Pierre sur laquelle on écrase* 4.2) **Vame** (Kinnaird) v̄an millstone *Pierre à écraser, meule
pour moudre les graines du mil, haricot etc. sous forme de la farine. Il est placé typiquement dans la cuisine*
- 5) **Proto-Margi** *bura grinding stone *meule* 5.1) **Bura** (Blench) bur, bura Lower grinding stone 5.2)
Kilba (Schuh) b̄əra/a grinding quern
- 6) **Proto-Mandara** *uvɪra grinding stone *meule* 6.1) **Matal** (Branger) v̄əl grinding stone *meule* 6.2)
Podoko (Swackhammer) mav̄ára,-ə *meule* 6.3) **Mandara** (Fluckiger) uv̄erá *Pierre plate qui servait
autrefois à écraser le mil (f), Pierre à écraser (f)* 6.4) **Malgwa** (Löhr) uḡv̄əra grinding stone, lower part
6.5) **Glavda** (Owens) v̄áa grinding stone 6.5.1) **Glavda** (Nghagyiva) v̄à:ra lower grinding stone
6.5.2) **Glavda** (Nghagyiva) v̄à:ra grinding stone 6.6) **Dghwede** (Frick) v̄əra grinding stone
- 7) **Proto-Mofu** *var^y grinding stone *meule* 7.1) **Ouldeme** (Kinnaird) āv̄ár *Pierre pour écraser le mil* 7.2)
Muyang (Smith) avar lower grinding stone *meule, Pierre sur laquelle on écrase la farine* 7.3) **Moloko**
(Friesen) ver *Pierre taillé à écraser dessus* 7.4) **Gemzek** (Sabatai) bor grinding stone *Pierre à moudre***
7.4.1) **Gemzek** (Sabatai) ber grinding stone *Pierre à moudre*** 7.5) **Merey** (Gravina) ber grinding
stone *Pierre à moudre* 7.5.1) **Merey** (Gravina) ber upper grinding stone *meule supérieure*
- 8) **Proto-Maroua** *van grinding stone *meule* 8.1) **Giziga Marva** (Hamidou) ɲgurvoŋ grinding stone
Pierre à moudre 8.2) **Mbazla** (Tourneux) vaŋ *meule*
- 9) **Proto-Lamang** *buna grinding stone *meule* 9.1) **Lamang** (Wolff) b̄unà grinding stone 9.2) **Hdi**
(Bramlett) buna mortar stone *la meule*
- 10) **Proto-Higi** *vɪna grinding stone *meule* 10.1) **Kamwe-Nkafa** (Harley) v̄ènà Grindingstone-lower.
10.2) **Kamwe-Futu** (Harley) v̄əna millstone; grinding stone 10.3) **Kirya** (Blench) v̄ènà millstone
- 11) **Proto-Kotoko Centre** *vɪn grinding stone *meule* 11.1) **Lagwan** (Allison) v̄in grinding stone *Pierre à
moudre* 11.1.1) **Lagwan** (Allison) v̄in upper grinding stone *meule supérieure*
- 12) **Proto-Kotoko South** *vuna grinding stone *meule* 12.1) **Mazera** (Allison) vuna grinding stone
Pierre à moudre

13) **Proto-Musgum** *funaj grinding stone *meule* 13.1) **Mbara** (Tourneux) funaj millstone *meule*

14) **Proto-Gidar** *bwin grinding stone *meule* 14.1) **Gidar** (Hungerford) buèn nawsəra *meule, pierre, (à) écraser, moudre*

wizim nm. ram *bélier* (6 groups, 12 languages) C

This root for 'ram' is far less widespread than the root for 'sheep'. There is a regular word-final change *m→w in Proto-Mandara, which may be behind the Matal form, if it is truly cognate. There was a regular change *z→s in Proto-Kotoko North, and a regular subsequent change *s→j in Malgbe.

1) **Proto-Mafa** *zam^y ram *bélier* 1.1) **Cuvok** (Gravina) zem ram *bélier*

2) **Proto-Mandara** *magadzaw ram *bélier* 2.1) **Matal** (Branger) māgādzàw ram *bélier*

3) **Proto-Mofu** *azam^y ram *bélier* 3.1) **Dugwor** (Jubumna) Azem ram *bélier* 3.2) **Mofu North** (Barreteau) zèm-təbāŋ *bélier* 3.3) **Mofu-Gudur** (Hollingsworth) ézem *bélier*

4) **Proto-Maroua** *izim^y ram *bélier* 4.1) **Giziga Marva** (Hamidou) izim ram *bélier* 4.2) **Mbazla** (Tourneux) 'ezem, 'azem *bélier*

5) **Proto-Kotoko North** *wis'am ram *bélier* 5.1) **Afade** (Allison) s'im ram *bélier* 5.2) **Mpade** (Allison) sàm ram *bélier* 5.3) **Malgbe** (Allison) wijam ram *bélier*

6) **Proto-Kotoko Centre** *wizimi ram *bélier* 6.1) **Lagwan** (Allison) uzimi ram *bélier* 6.2) **Mser** (Allison) uzam ram *bélier*

Z

z v. to smell bad *sentir mauvais* (5 groups, 16 languages) A

The root sense of this verb is 'to smell rotten'. The change *z→ⁿdz in Proto-Daba is irregular.

- 1) **Proto-Daba** *ⁿdzi^v smell *sentir* 1.1) **Gavar** (Viljoen) ⁿdzi smell (v) *sentir* 1.1.1) **Gavar** (Viljoen) ⁿdzi stink, smell (bad) *puer, sentir mauvais* 1.2) **Daba** (Lienhard) ⁿdzi *sentir, répandre une odeur, puer*
- 2) **Proto-Tera** *zi smell *sentir* 2.1) **Tera** (Newman) zi smell 2.1.1) **Tera** (Newman) zi say 2.1.2) **Tera** (Newman) zi tell 2.1.3) **Tera** (Newman) zi answer 2.1.4) **Tera** (Newman) zi pour (in) 2.2) **Nyimatli** (Harley) zi stink, smell (bad) 2.2.1) **Nyimatli** (Harley) zi smell (v)
- 3) **Proto-Mandara** *z^v smell *sentir* 3.1) **Matal** (Branger) màzⁿàj smell *sentir mal*
- 4) **Proto-Mofu** *z smell *sentir* 4.1) **Ouldeme** (Kinnaird) zì smell *sentir, odeur, désaccord* 4.1.1) **Ouldeme** (Kinnaird) zì rotten *pourrir* 4.2) **Muyang** (Smith) zi rot, stink, give off a smell (good or bad), of fruit, meat, etc. *pourrir, sentir (soit bon, soit mauvais)* 4.2.1) **Muyang** (Smith) zɛ to smell something *sentir quelque chose* 4.3) **Mada** (Nkoumou) mezzeŋa *sentir* 4.4) **Moloko** (Friesen) ze smell *sentir* 4.4.1) **Moloko** (Friesen) ze stink *puer* 4.5) **Zulgo** (Haller) zé *sentir, exhaler une odeur* 4.6) **Gemzek** (Sabatai) meze suwekeke stink, smell (bad) *puer, sentir mauvais* 4.7) **Merey** (Gravina) ze stink, smell (bad) *puer, sentir mauvais* 4.8) **Dugwor** (Jubumna) mazaj smell (v) *sentir* 4.9) **Mofu North** (Barreteau) mézèj *sentir* 4.9.1) **Mofu North** (Barreteau) mézèj *pourri* 4.10) **Mofu-Gudur** (Hollingsworth) z *sentir, pourrir*
- 5) **Proto-Lamang** *ziju smell *sentir* 5.1) **Lamang** (Wolff) zəju smell

zaj n. faeces *selles* (5 groups, 18 languages) A **syn:** ɣ^wi^vi, ɳ^gwⁱ.

This root is largely stable, except for the loss of *j in a few languages. It is found in the languages around the Northern Mandara mountains.

- 1) **Proto-Mafa** *zaj faeces *selles* 1.1) **Mafa** (Barreteau) zaj *excrément* 1.2) **Cuvok** (Gravina) zaj urine *urine*
- 2) **Proto-Hurza** *azaj faeces *selles* 2.1) **Mbukò** (Gravina) azaj excrement *selles* 2.2) **Vame** (Kinnaird) àzàj excrement ; faeces *excrément ; défécation ; déchet d'un être humain ou d'un animal*
- 3) **Proto-Mandara** *zaj faeces *excrément* 3.1) **Matal** (Branger) zaj faeces *excrément*

- 4) **Proto-Mofu** *zaj faeces selles 4.1) **Ouldeme** (Kinnaird) zàj excrement *excrément* 4.2) **Muyang** (Smith) azaj excrement, solid part left when liquid is removed *excrément, partie solide qui reste quand un liquide a été enlevé* 4.3) **Mada** (Nkoumou) za *crotte, kaka, selles* 4.3.1) **Mada** (Nkoumou) aza excrement 4.4) **Moloko** (Friesen) azaj faeces (feces) *excrément; selles* 4.5) **Zulgo** (Haller) za *excrément m.* 4.6) **Gemzek** (Sabatai) za excrement *excrément* 4.7) **Merey** (Gravina) zaj excrement *excrément* 4.8) **Dugwor** (Jubumna) zaj excrement *excrément* 4.9) **Mofu North** (Barreteau) zāj *éxcrément, selles, crotte, bouse* 4.9.1) **Mofu North** (Barreteau) zāj *d;-echet* 4.10) **Mofu-Gudur** (Hollingsworth) zāj *excrément, selles, crotte, bouse* 4.10.1) **Mofu-Gudur** (Hollingsworth) zāj *déchet*
- 5) **Proto-Maroua** *zaj faeces selles 5.1) **Giziga Moutourwa** (Michielan) zaj *excrément, faute, déchet etc... résidu* 5.2) **Giziga Marva** (Hamidou) zaj excrement *excrément* 5.3) **Mbazla** (Tourneux) zaj *excrément*

zi^ɔg^wa n. donkey *âne* (8 groups, 22 languages) B **syn:** koro, ^mburi.

This is one of three common roots for 'donkey'. It is found in the languages of the Mandara Mountains. It is one of the few roots reconstructed with *^ɔg^w.

- 1) **Proto-Daba** *za^ɔg^wa donkey *âne* 1.1) **Mbudum** (Ndokobai) zoŋgo donkey *âne*
- 2) **Proto-Mafa** *za^ɔg^wa donkey *âne* 2.1) **Cuvok** (Gravina) zaŋg^wa donkey *âne*
- 3) **Proto-Sukur** *zi^ɔg^wa donkey *âne* 3.1) **Sukur** (David) zung^wa donkey 3.2) **Sukur** (Thomas) zəg^wa donkey; an animal of the horse family, with short legs and long ears people ride donkeys, or used them to carry heavy loads.
- 4) **Proto-Hurza** *zi^ɔg^wa donkey *âne* 4.1) **Mbuko** (Gravina) zu^ɔgo donkey *âne* 4.2) **Vame** (Kinnaird) ázìŋ^wà donkey *âne*
- 5) **Proto-Mandara** *zi^ɔg^wa donkey *âne* 5.1) **Matal** (Branger) zəŋ^wəw, zəŋəw, zəŋu, zəŋu, zəŋəw donkey *âne* 5.2) **Podoko** (Swackhammer) zəŋ^wá,-a *âne* 5.3) **Mandara** (Fluckiger) ézeŋ^wa *âne (m)* 5.4) **Malgwa** (Löhr) əzuŋ^wa donkey, ass 5.5) **Glavda** (Owens) əyiŋ donkey 5.5.1) **Glavda** (Nghagyiva) àjùŋ^wa donkey 5.6) **Dghwede** (Frick) zuŋg^we donkey
- 6) **Proto-Mofu** *azi^ɔg^wa donkey *âne* 6.1) **Ouldeme** (Kinnaird) ázìŋ^wà donkey *âne* 6.2) **Muyang** (Smith) azoŋgu donkey *âne* 6.3) **Moloko** (Friesen) ozə^ɔgo donkey, ass *âne* 6.4) **Zulgo** (Haller) hézwèŋè *âne m.* 6.5) **Gemzek** (Sabatai) zu^ɔgo donkey *âne* 6.6) **Merey** (Gravina) zə^ɔgaw donkey *âne* 6.7) **Dugwor** (Jubumna) zu^ɔgo donkey *âne* 6.8) **Mofu North** (Barreteau) zá^ɔgáw *âne* 6.9) **Mofu-Gudur** (Hollingsworth) zəŋg^wáw *âne*
- 7) **Proto-Maroua** *zi^ɔgⁱ ^w donkey *âne* 7.1) **Giziga Moutourwa** (Michielan) zu^ɔgu *âne* 7.2) **Giziga Marva** (Hamidou) zu^ɔgo donkey *âne*
- 8) **Proto-Lamang** *zuŋa donkey *âne* 8.1) **Lamang** (Wolff) zuŋa donkey

zid̥ir^y nm. man, husband *homme mâle, mari* (6 groups, 21 languages) B cf: ⁿdiw.

The basic sense of this root is a male human, and is extended to include the concept 'husband'. The change *z→s in Proto-Margi is regular. There was no *l in Proto-Central Chadic, but there was a regular change *r→l in the North sub-branch. All the languages where this root is found are from the North sub-branch, so the Proto-Central Chadic root is reconstructed with *r, even though /r/ is not present in the group-level reconstructions. *d̥ has been lost, or has been palatalised to become /j/, except in the Lamang group. These are common sporadic processes.

- 1) **Proto-Margi** *sal man *homme* 1.1) **Margi** (Hoffman) sal man, husband 1.2) **Margi South** (Harley) sal man 1.3) **Kilba** (Schuh) sal hero 1.3.1) **Kilba** (Schuh) sal husband, man, male 1.3.2) **Kilba** (Schuh) sal male, man
- 2) **Proto-Mandara** *zal^y man *homme* 2.1) **Matal** (Branger) z̥il man *homme* 2.2) **Mandara** (Fluckiger) zele *homme (m)* 2.2.1) **Mandara** (Fluckiger) zala *hommes (m. pl.)* 2.3) **Malgwa** (Löhr) ziile husband, man
- 3) **Proto-Mofu** *zal^y man *homme* 3.1) **Muyang** (Smith) zal man ; husband ; male *homme; mari; mâle* 3.2) **Mada** (Nkoumou) zala *homme* 3.3) **Moloko** (Friesen) zar man 3.3.1) **Moloko** (Friesen) zar *mâle_humain* 3.3.2) **Moloko** (Friesen) zar *mari* 3.4) **Gemzek** (Sabatai) zal husband *mari, époux* 3.5) **Merey** (Gravina) zal husband *mari, époux* 3.6) **Dugwor** (Jubumna) zel husband *mari, époux* 3.7) **Mofu-Gudur** (Hollingsworth) zel husband *mari, mâle; homme capable de faire et de décider qqch.*
- 4) **Proto-Maroua** *zil^y man *homme* 4.1) **Giziga Moutourwa** (Michielan) miḻi *les hommes, les gens, on* 4.2) **Giziga Marva** (Hamidou) zil man (male) *homme (mâle)* 4.3) **Mbazla** (Tourneux) zil *homme* 4.3.1) **Mbazla** (Tourneux) zil *mari, homme* 4.3.2) **Mbazla** (SILSurvey) z̥l man (male) *homme (mâle)*
- 5) **Proto-Lamang** *zid̥al man *homme* 5.1) **Lamang** (Wolff) zd̥al husband, man 5.1.1) **Lamang** (Wolff) zd̥alà man 5.1.2) **Lamang** (Wolff) zèd̥al man
- 6) **Proto-Higi** *zal man *homme* 6.1) **Kamwe-Nkafa** (Harley) za man, husband 6.2) **Kirya** (Blench) zàl man 6.3) **Psikye** (Angelo) za man 6.4) **Bana** (Lienhard) zàl *homme, mari, mâle*

zig^win n. child *enfant* (6 groups, 17 languages) C

This root is difficult to reconstruct. The initial *z is stable, though it metathesises with *g^w in Proto-Mandara and Proto-Lamang, which is an unusual process for these consonants. There was a regular word-final change *n→r in the Margi-Mandara-Mofu major group, though this is not evident in Ouldeme. The final consonant has been lost in Proto-Higi, which is a common sporadic process. The *g^w has the reflex /g/ in Jimi and Malgwa, and /w/ in Podoko, Proto-Maroua and Proto-Lamang. In many cases it is reanalysed as either /u/ or the labialisation prosody. These are common sporadic processes. The Kirya and Psikye forms are hard to analyse. It appears that the labialisation has separated from the /g/ component of *g^w, but this process is not noted elsewhere in Central Chadic. There are several roots in other languages which look similar and may be cognate, e.g. Bura /bzər/ and Mbuko /wan/.

- 1) **Proto-Bata** *zigin child *enfant* 1.1) **Jimi** (Djibi) zegən *Enfant*

- 2) **Proto-Mandara** *g^wizir child *enfant* 2.1) **Podoko** (Swackhammer) udzəra,-ə 1 *enfant* 2.1.1) **Podoko** (Swackhammer) udzəra,-ə 2 *fruit* 2.2) **Malgwa** (Löhr) əgza child 2.3) **Glavda** (Nghagyiva) zra child 2.3.1) **Glavda** (Owens) zə child 2.4) **Dghwede** (Frick) vdzire child
- 3) **Proto-Mofu** *zazaŋ^y child *enfant* 3.1) **Ouldeme** (Kinnaird) zèzénj baby *bébé*
- 4) **Proto-Maroua** *zin^w child *enfant* 4.1) **Giziga Moutourwa** (Michielan) zuŋ, plr - ziri 1) *enfant, petit enfant des deux sexes, 2) fille, fillette* 4.1.1) **Giziga Moutourwa** (Michielan) ziri, ziraj, zir *enfants* 4.2) **Giziga Marva** (Hamidou) zun child *enfant* 4.3) **Mbazla** (Tourneux) ziŋ *enfant* 4.3.1) **Mbazla** (SILSurvey) nzíl child *enfant*
- 5) **Proto-Lamang** *wizaŋ child *enfant* 5.1) **Lamang** (Wolff) úzàŋà son, child, boy 5.2) **Hdi** (Bramlett) zwaŋ child *l'enfant*
- 6) **Proto-Higi** *zig^wi child *enfant* 6.1) **Kamwe-Nkafa** (Harley) zəg^wi child 6.2) **Kamwe-Futu** (Harley) zəg^wi child 6.3) **Kirya** (Blench) zwəgà child 6.4) **Psikye** (Angelo) wuzəgá child 6.5) **Bana** (Lienhard) z(ə)γ^wè *enfant*

zijil n. lion *lion* (4 groups, 6 languages) B **syn:** **livari, mabor.**

This is one of several roots for 'lion'. *l is reconstructed even though *l did not exist in Proto-Central Chadic. The word must be a comparatively recent coinage. *j has been reanalysed as /i/ in Mafa and as the palatalisation prosody in Gemzek and Zulgo. This is a common sporadic process.

- 1) **Proto-Mafa** *zala^y lion *lion* 1.1) **Mafa** (Barreteau) marij-zélé *lion*
- 2) **Proto-Hurza** *zijal^y lion *lion* 2.1) **Mbuko** (Gravina) zijel lion *lion*
- 3) **Proto-Mofu** *zal^y lion *lion* 3.1) **Zulgo** (Haller) azíl *lion m.* 3.2) **Gemzek** (Sabatai) zel lion *lion* 3.3) **Merey** (Gravina) zil lion *lion*
- 4) **Proto-Higi** *zil lion *lion* 4.1) **Bana** (Lienhard) zìl *lion*

zim v. to eat *manger* (15 groups, 38 languages) B **cf:** **h^wipid.**

This is the generic verb for eating. There is a regular change *z→s in Proto-Margi, and separately in the North Kotoko-Musgum major group (consisting of the Kotoko Island, Kotoko North and Musgum groups). There was a subsequent change *s→h in Kotoko Island. The Zina form is not the result of a regular change. There was also a regular word-final change *m→w in Proto-Mandara. This change may also have taken place as a sporadic change in Proto-Lamang. There is weak evidence from Bata, Mbudum and Mbara for the existence of *w in the root, but it is not included until more evidence becomes available.

- 1) **Proto-Bata** *zim eat *manger* 1.1) **Bata** (Boyd) sùm eat 1.2) **Jimi** (Djibi) zəmən *Manger* ;
- 2) **Proto-Daba** *zim eat *manger* 2.1) **Buwal** (Viljoen) zam eat *manger* 2.2) **Gavar** (Viljoen) zəm eat *manger* 2.2.1) **Gavar** (Viljoen) zəm conquer, defeat *vaincre* 2.3) **Mbudum** (Ndokobai) zum eat *manger*
- 3) **Proto-Tera** *zim eat *manger* 3.1) **Tera** (Newman) zəmi eat (e.g. cooked grain) 3.2) **Nyimatli** (Harley) zūmi eat 3.2.1) **Nyimatli** (Harley) zūm eat 3.3) **Ga'anda** (Gwaji) səmⁿda to eat

- 4) **Proto-Margi** *sim eat *manger* 4.1) **Bura** (Blench) sim To eat (general term) 4.2) **Margi** (Hoffman) sɛm to eat 4.3) **Kilba** (Schuh) sɛma// eat (food in general) 4.3.1) **Kilba** (Schuh) sɛma// be sharp (blade)
- 5) **Proto-Mandara** *ziwa eat *manger* 5.1) **Matal** (Branger) mazɔwaj, mazuwaj eat *manger* 5.2) **Mandara** (Fluckiger) za *manger* 5.3) **Malgwa** (Löhr) za eat 5.4) **Glavda** (Nghagyiva) z³ga eat 5.5) **Dghwede** (Frick) wuza to eat
- 6) **Proto-Mofu** *zim eat *manger* 6.1) **Mada** (Nkoumou) mazma *manger* 6.2) **Moloko** (Friesen) zom eat *foods like boule, not nuts or meat.; nourriture comme la boule, pas des noix ni de la viande* 6.3) **Zulgo** (Haller) zɛm *manger* 6.3.1) **Zulgo** (Haller) zɛm ɛtre *tranchant, e* 6.4) **Gemzek** (Sabatai) mezɛme *manger* 6.5) **Mofu North** (Barreteau) mɛzɛmɛj *manger (boule de mil)* 6.5.1) **Mofu North** (Barreteau) mɛzɛmɛj *se détruire (pour les grains)* 6.5.2) **Mofu North** (Barreteau) mɛzɛmɛj ɛtre *tranchant (couteau-rasoir)* 6.5.3) **Mofu North** (Barreteau) mɛzɛmɛj *hériter* 6.6) **Mofu-Gudur** (Hollingsworth) zam *manger* 6.6.1) **Mofu-Gudur** (Hollingsworth) zɛm *manger (boule de mil)* 6.6.2) **Mofu-Gudur** (Hollingsworth) zɛm ɛtre *tranchant (couteau, rasoir)* 6.6.3) **Mofu-Gudur** (Hollingsworth) zɛm *hériter* 6.6.4) **Mofu-Gudur** (Hollingsworth) zɛm *manger par sorcellerie ; faire un éclair (assimilé à un sorcier qui mange les gens)* 6.6.5) **Mofu-Gudur** (Hollingsworth) zɛm *ronger, bouffer, grignoter (souris, termites, etc.)* 6.6.6) **Mofu-Gudur** (Hollingsworth) zɛm *brûler (feu)* 6.6.7) **Mofu-Gudur** (Hollingsworth) zɛm *faire un bon marché (achat)*
- 7) **Proto-Maroua** *zuma, zimi eat *manger* 7.1) **Giziga Marva** (Hamidou) zuma godf eat *manger* 7.2) **Mbazla** (Tourneux) zimi *manger* 7.2.1) **Mbazla** (SILSurvey) zimi^ɲ eat *manger*
- 8) **Proto-Lamang** *za eat *manger* 8.1) **Lamang** (Wolff) za eat 8.2) **Hdi** (Bramlett) zaj to eat *manger*
- 9) **Proto-Higi** *zimi eat *manger* 9.1) **Kamwe-Nkafa** (Harley) zɛmɔ 1.eat.2.twin 9.2) **Kamwe-Futu** (Harley) zimo eat 9.3) **Psikye** (Angelo) zɛmɔ eat 9.4) **Bana** (Lienhard) zɛmɔ *manger*
- 10) **Proto-Kotoko Island** *him eat *manger* 10.1) **Buduma** (McKone) hɛm *manger*.
- 11) **Proto-Kotoko North** *sim eat *manger* 11.1) **Afade** (Allison) sim; simun eat *manger* 11.2) **Mpade** (Allison) sim eat *manger*
- 12) **Proto-Kotoko Centre** *zim eat *manger* 12.1) **Lagwan** (Allison) zimun a chew *mâcher* 12.1.1) **Lagwan** (Allison) zimwun (zimi, zim) eat *manger* 12.2) **Mser** (Allison) dzim mate chew *mâcher* 12.2.1) **Mser** (Allison) dzim eat *manger*
- 13) **Proto-Kotoko South** *h^wima eat *manger* 13.1) **Zina** (Odden) hùmà + afá chew *mâcher*
- 14) **Proto-Musgum** *simi, zum eat *manger* 14.1) **Mulwi** (Tourneux) simi *manger* 14.2) **Mbara** (Tourneux) zum eat *manger*
- 15) **Proto-Gidar** *izima eat *manger* 15.1) **Gidar** (Hungerford) wɛzɛma *manger* 15.2) **Gidar** (Schuh) ɛzɛma *manger (général)*

zi^mb^wid^f nm. navel *nombri* (8 groups, 23 languages) B

This root is attested in a wide distribution of languages. In most respects, this root behaves in a regular fashion. The changes *z→s in Proto-Margi and Proto-Kotoko North are regular. *d is lost in many cases (a common sporadic process), and has the regular reflex *r in part of the Higi group. A similar change, followed by an irregular change *r→l would account for the forms in Mafa, Ouldeme and Muyang. The difficulty lies in accounting for the presence of back vowels and labialisation in the Bata, Margi, Higi and Kotoko North groups, since there were no labialised labial phonemes in Proto-Central Chadic. The phoneme *^mb^w was created in the Bata, Margi and Higi groups by the reanalysis of *w as labialisation, or the transfer of the labialisation component from a labialised velar. It is possible that this root is a compound such as *zi^mbi-h^wid^f, with *h^wid^f being the Proto-Central Chadic root for 'belly' and *zi^mbi being a root of unknown meaning. This would also account for the variation between the presence of the palatalisation prosody and *i in the group-level reconstructions.

- 1) **Proto-Bata** *zi^mb^wid^fi^y navel *nombri* 1.1) **Bata** (Boyd) sù^mbud^e navel 1.2) **Jimi** (Djibi) zəmb^wəɗən *Nombil* 1.3) **Sharwa** (Gravina) zi^mbudə *nombri*
- 2) **Proto-Mafa** *zimal^y navel *nombri* 2.1) **Mafa** (Ndokobai) zimel *nombri*
- 3) **Proto-Margi** *si^mb^wid^fi^w^y navel *nombri* 3.1) **Margi South** (Harley) ʃəmbud^u navel 3.2) **Kilba** (Schuh) ʃi^mbud^u navel
- 4) **Proto-Mandara** *zi^mbi^y navel *nombri* 4.1) **Podoko** (Swackhammer) ʒi^mba,-ə *nombri* 4.2) **Mandara** (Fluckiger) ʒa^mba *nombri* (m) 4.3) **Malgwa** (Löhr) ʒa^mba navel 4.4) **Glavda** (Nghagyiva) ʒàmba navel 4.5) **Dghwede** (Frick) ʒi^mbe navel
- 5) **Proto-Mofu** *zi^mbal^y navel *nombri* 5.1) **Ouldeme** (Kinnaird) zì^mbèl navel *nombri* 5.2) **Muyang** (Smith) zì^mbèl navel *nombri* 5.2.1) **Muyang** (Smith) mezimezim navel *nombri*
- 6) **Proto-Lamang** *zi^mbid^f navel *nombri* 6.1) **Lamang** (Wolff) za^mbə navel 6.2) **Hdi** (Bramlett) zi^mbid^f navel *le nombri*
- 7) **Proto-Higi** *zi^mb^wid^f navel *nombri* 7.1) **Kamwe-Nkafa** (Harley) ʒìmb^wí Navel 7.2) **Kamwe-Futu** (Harley) zemb^wi navel 7.3) **Kirya** (Blench) ʒìmbúr navel 7.4) **Bana** (Lienhard) ʒìmbér *nombri*
- 8) **Proto-Kotoko North** *sa^mbu navel *nombri* 8.1) **Afade** (Allison) tsimtsim navel *nombri* 8.2) **Mpade** (Allison) sà^mbù belly button *nombri* 8.2.1) **Mpade** (Allison) símsìm navel *nombri* 8.3) **Malgbe** (Allison) símsìm navel *nombri* 8.4) **Maltam** (Allison) símsìm navel *nombri*

zirwa^y n. shame *honte* (6 groups, 10 languages) B **syn:** h^waraj.

This is one of two widespread roots for 'shame'. It is found primarily in languages of the North sub-branch. The changes *z→s in Proto-Margi and Proto-Musgum are regular, but the Sukur /s/ is not. There was a regular change *r→l in the North sub-branch, so *l is expected, except in Sukur, which is part of the South sub-branch. The data does not match this expectation. The root may therefore have entered the North sub-branch after this change took place, but at a time when *r had re-entered the phonemic inventory, and before the later *r→l change in Proto-Margi. The Sukur word must be a borrowing from the Margi group.

- 1) **Proto-Sukur** *silij shame *honte* 1.1) **Sukur** (Thomas) sələi shy;- shame
- 2) **Proto-Margi** *sili shame *honte* 2.1) **Bura** (Blench) sili Shame, embarrassment sili ali I am ashamed sili akwa nci I am ashamed hara sili aka To shame kili silir mda To humiliate vu mda alwa sili To put to shame
- 3) **Proto-Mandara** *zirīwi^y shame *honte* 3.1) **Matal** (Branger) zìrùwì shame *honte* 3.2) **Podoko** (Swackhammer) zírəwa,-ə 1 *honte* 3.2.1) **Podoko** (Swackhammer) zírəwa,-ə 2 *respect* 3.3) **Mandara** (Fluckiger) zéréwé *autruche (f) - honte (f), respect (f)* 3.4) **Malgwa** (Löhr) zirwe shame 3.5) **Glavda** (Nghagyiva) zìrwa shame (n) 3.5.1) **Glavda** (Owens) žir ostrich, shame, shyness
- 4) **Proto-Mofu** *zirwi^y shame *honte* 4.1) **Muyang** (Smith) zirwi shame ; respect ; benefit *honte, respect, bienfait* 4.1.1) **Muyang** (Smith) zirwi *honte, respect, bienfait*
- 5) **Proto-Lamang** *ziru shame *honte* 5.1) **Lamang** (Wolff) zórù feeling of shame
- 6) **Proto-Musgum** *sijar^y shame *honte* 6.1) **Vulum** (Tourneux) sija *honte*

ziwid^y n. string *corde* (12 groups, 30 languages) A

The basic meaning of this root is string or rope made from the bark of a sapling or another natural substance. There were regular changes *z→s in Proto-Margi and in the North Kotoko-Musgum major group (here, the Kotoko North group). The same change took place in Proto-Kotoko Centre but this was irregular here. The *d has been lost in several languages, or been realised as /j/ due to palatalisation. In other languages it has merged with *w, forming *ʔ^w in Proto-Bata, Proto-Lamang and Proto-Higi, and /b/ in Sukur. These are all common sporadic processes.

- 1) **Proto-Bata** *zaʔ^{wi} string *fil* 1.1) **Gude** (Hoskinson) zà'wá -ə rope 1.2) **Sharwa** (Gravina) zə'ə *Corde*
- 2) **Proto-Tera** *zoo string *fil* 2.1) **Tera** (Newman) zo rope 2.2) **Nyimatli** (Harley) zoo rope 2.2.1) **Nyimatli** (Harley) zoo string (n)
- 3) **Proto-Sukur** *ziḃi^y string *corde* 3.1) **Sukur** (David) zìḃi string 3.2) **Sukur** (Thomas) zìḃi rope: very strong thick string made by twisting thinner strings together.
- 4) **Proto-Hurza** *zawaj string *fil* 4.1) **Mbuko** (Gravina) zawaj thread from a tree, used for repairing calabashes *fil (m) d'un arbre, pour réparer des calebasses* 4.2) **Vame** (Kinnaird) ázəwáj rope ; string ?? *simple fil en coton ou encore avec quelques plantes.*
- 5) **Proto-Margi** *siwid string *fil* 5.1) **Bura** (Blench) suwa Rope 5.1.1) **Bura** (Blench) sua Rope 5.2) **Kilba** (Schuh) si'i rope
- 6) **Proto-Mandara** *zawad string *fil* 6.1) **Mandara** (Fluckiger) zawa *corde (f)* 6.2) **Malgwa** (Löhr) zawa rope 6.3) **Glavda** (Nghagyiva) zàwa rope 6.3.1) **Glavda** (Owens) zaw rope 6.4) **Dghwede** (Frick) zap'a rope
- 7) **Proto-Mofu** *ziwad^y string *fil* 7.1) **Moloko** (Friesen) ezewed rope *corde* 7.2) **Merey** (Gravina) zuwed string (n) *ficelle* 7.2.1) **Merey** (Gravina) zuwed wire *fil, ligne de pêche* 7.3) **Dugwor** (Jubumna) azewed rope; wire; string (n) *corde; fil; ficelle* 7.4) **Mofu North** (Barreteau) zəwèd *corde en fibre végétale machée, ficelle* 7.5) **Mofu-Gudur** (Hollingsworth) zewéd *fil en fibre végétale mâchée, ficelle*

- 8) Proto-Maroua** *ziwid^y string *fil* 8.1) **Giziga Marva** (Hamidou) azewed rope *corde* 8.1.1) **Giziga Marva** (Hamidou) azewed string (n) *ficelle* 8.2) **Mbazla** (Tourneux) ziwij *corde* 8.2.1) **Mbazla** (SILSurvey) zwiwij rope *corde*
- 9) Proto-Lamang** *zi^wi string *fil* 9.1) **Lamang** (Wolff) zəwì rope 9.2) **Hdi** (Bramlett) zu'i thread *le fil*
- 10) Proto-Higi** *zi^wi string *fil* 10.1) **Kamwe-Nkafa** (Harley) zəwə rope 10.1.1) **Kamwe-Nkafa** (Harley) zəwə Rope 10.2) **Kamwe-Futu** (Harley) ziwə thread 10.2.1) **Kamwe-Futu** (Harley) ziwe rope 10.3) **Kirya** (Blench) zəw rope 10.4) **Psikye** (Angelo) zəwə rope 10.5) **Bana** (Lienhard) zə'wə *corde*
- 11) Proto-Kotoko North** *sire string *fil* 11.1) **Mpade** (Allison) sàrè thread (n) *fil* 11.2) **Malgbe** (Allison) se string (n) *ficelle* 11.2.1) **Malgbe** (Allison) jire thread (n) *fil*
- 12) Proto-Kotoko Centre** *sadi string *fil* 12.1) **Mser** (Allison) sadi wire *fil* 12.1.1) **Mser** (Allison) sadi string (n) *ficelle* 12.1.2) **Mser** (Allison) sadi thread (n) *fil*