

The *Baakaa puzzle: language shift where and when?

Tom Güldemann and Benedikt Winkhart (Humboldt University Berlin)

1 Introduction

1.1 The *Baakaa complex: two distinct yet close pygmy traditions

+ two neighboring Pygmy forager groups speak languages which are strongly distinct and unique to them: Baka [bkc] and Yaka~Aka [axk]¹

- belong to genealogically distant, for present purposes unrelated language groups:

Baka: Western branch of Mundu-Baka (aka Ngbaka or Gbanziri): see §2.3

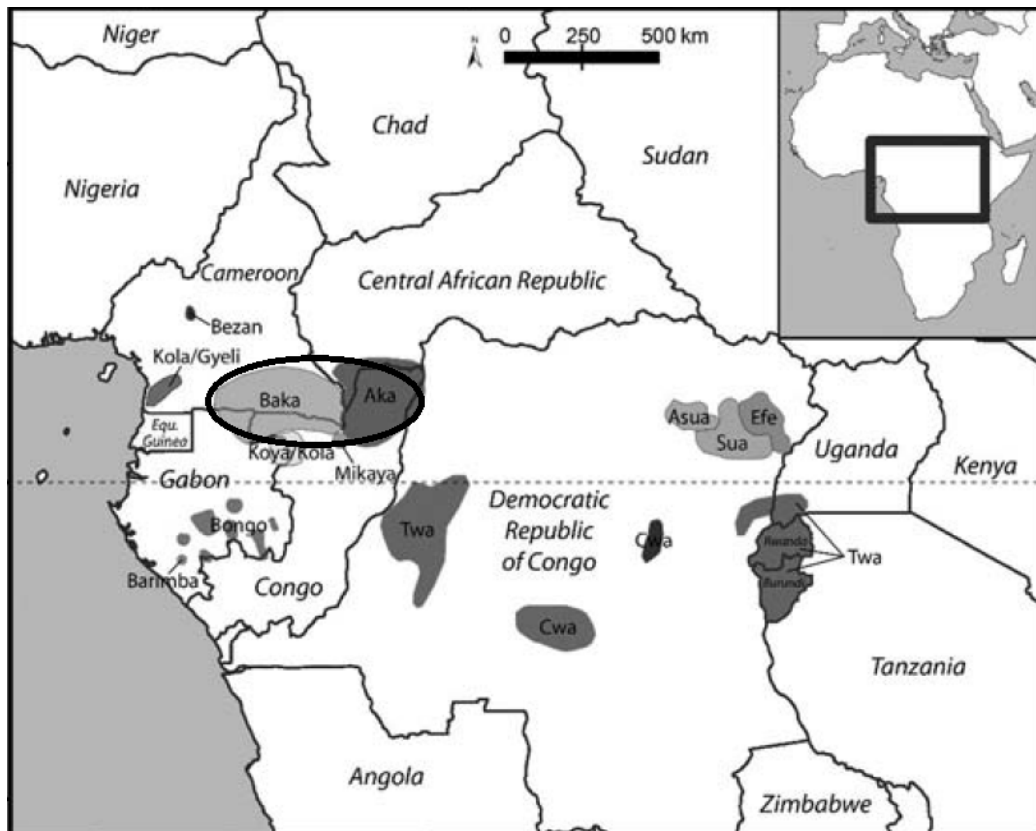
Yaka: Bantu C10 group of Narrow Bantu: see §2.2

- despite widely agreed assumption that modern pygmy languages result from shift to farmer languages, *Baakaa are largely in contact with farmers other than closest linguistic relatives

Baka: Bantu A80/90 and C10; Gbayic: see §2.1

Yaka: Ngbaka Ma'bo, Monzombo of Mundu-Baka West; Bantu C10: see §2.1

- despite distinction and little interaction today, evidence that the two were one ethno-linguistic *Baakaa entity in the past: Thomas (1979), Bahuchet (1992, 1993a, 1995)



Map 1: The *Baakaa (= Baka + (Y)aka) in the Pygmy spectrum (Bahuchet 2012: 24)

¹ See Kutsch Lojenga (1998, 2003) for a linguistically based justification of the present language name Yaka rather than Aka used in most of the previous literature.

1.2 The received historical wisdom: Bouquiaux and Thomas (1980)

- + Bouquiaux and Thomas (1980), building on Arom and Thomas (1974) and Thomas (1979), reconstruct ethno-linguistic population history of central Africa north of the rain forest and its northern parts focusing on Ubangi > Map 2 below
- difficult research circumstances: only oral history accounts prior to colonization of Africa, written documents since 18th century
- > reliance on linguistics, oral tradition, ethnology

+ four major phases from Proto-Ubangi to spatial separation of Baka and Ngbaka Ma'bo

(1) 2000 BP (Bouquiaux and Thomas 1980: Map I)

- west > east movement of Proto-Ubangi towards Bahr-el-Ghazal without forest penetration
- Ngbaka-Sere-Ngbandi (among others) settle south of Bahr-el-Ghazal and west of White Nile

(2) after 1000 BP (Bouquiaux and Thomas 1980: Map II)

- Nilotic population pressure on Ubangi from the east
- Ngbaka-Sere-Ngbandi split up: Sere stay, Ngbaka and Ngbandi move southwards
- Gbanzili move to Uele and split into eastern and western branch
- contact of Western Gbanzili with Ituri Pygmies who enter with former a client relationship

(3) 17/18th century (Bouquiaux and Thomas 1980: Map III)

- Western Gbanzili together with Pygmies pushed further along the Ubangi River by population pressure from other Ubangi in the east
- split of Gbanzili vs. Ngbaka-Monzombo, latter move down the Congo River up to Tumba/May-Ndombe lakes region

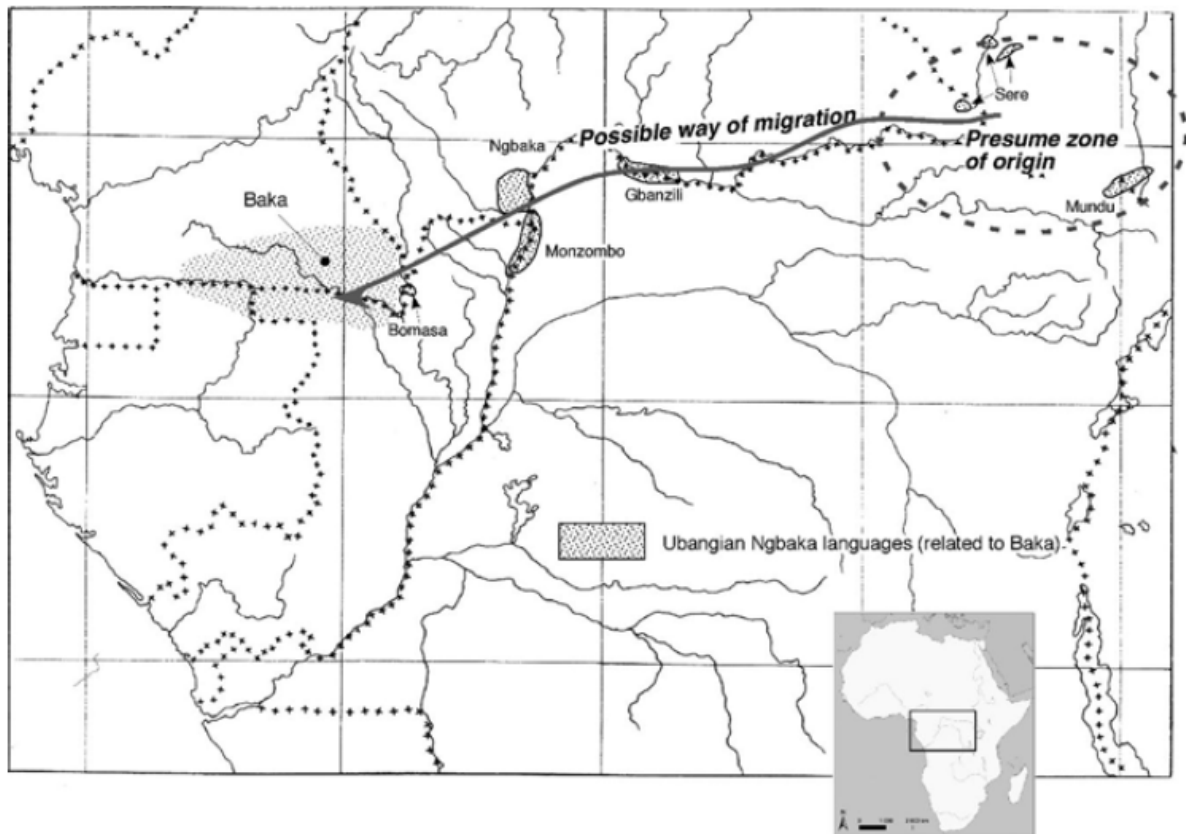
(4) 18/19th century (Bouquiaux and Thomas 1980: Map IV)

- Ngbaka-Monzombo together with Pygmies pushed back north by population pressure from Bantu area in the south
- split of Ngbaka-Monzombo who stay on the Ubangi River vs. Baka-Gundi (containing all pygmies) who enter Sanga River area in the west, westward spread of Baka pygmies
- Ngbaka-Monzombo come into contact with Yaka pygmies (Bantu C10) who are also in close contact with Bantu C10 farmers

+ hypothesis has been repeated and become the canonical view (cf. Bahuchet and Thomas 1986, Bahuchet 2012: 23-5) in spite of:

- restricted and/or largely unavailable empirical substantiation:
 - Ngbaka Ma'bo as shift source of Baka but virtually no linguistic data
 - ethnographic modeling largely generalized from single Ngbaka Ma'bo case

- various generally questionable but poorly substantiated assumptions, e.g.:
 - linguistically unproven genealogical Ubangi classifications (cf. Appendix 1)
 - bias towards Baka instead of entire linguistic and cultural context
 - high and long-distance forager mobility caused by client relationship as opposed to their usually high adaptation and attachment to territories (???precedents)
 - forager-farmer co-migration over generations and huge geographical distances (???precedents) as opposed to later abrupt and unmotivated separation
 - “blank” linguistic history of the modern extensive Baka-speaking area before their assumed immigration a couple of centuries ago
 - almost universal assumption that Bantu preceded all other non-Bantu farmers in the northern rainforest (cf. also Vansina 1990: 65-8, in spite of rejecting the scenario by Bouquiaux and Thomas 1980)



Map 2: Assumed Baka migration history (Bahuchet 2012: 24)

2 The linguistic environment of *Baakaa

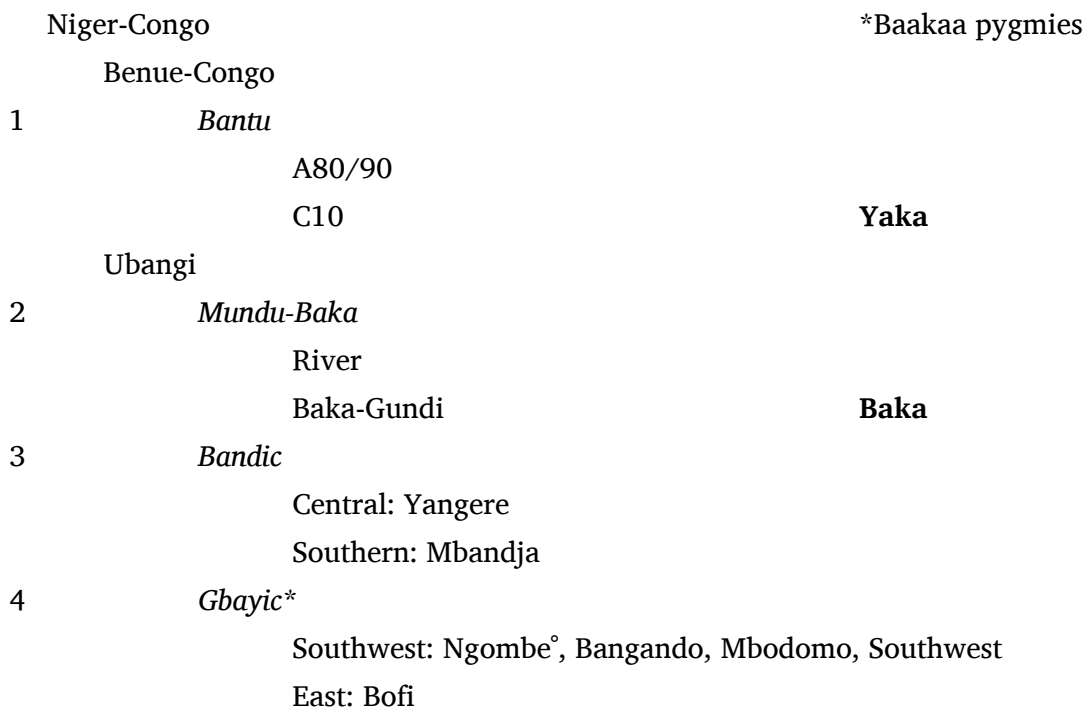
2.1 Contact languages

- + different groups with different subsistence foci and movement ranges
- > cf. Giles-Vernick (2002: 124) for Upper Sanga region > Table 1

Environment	Main subsistence	Ethnolinguistic groups
Forest interior	hunting, trade	Yaka (Bantu C10), Ngombe (Baka-Mundu)
Forest interior	hunting, agriculture	Mpiemo (Bantu A80)
River	fishing, agriculture	Pande (Bantu C12), Gundi (Baka-Mundu)
River	hunting, fishing, agriculture	Pomo (Bantu A92b)

Table 1: Distinct environmental and economic profiles of rain forest groups

- + Baka and Yaka foragers in contact with groups speaking both genealogically related and unrelated languages > four genealogical groups that are not immediately related to each other but only on a higher (irrelevant) historical level: Bantu, Mundu-Baka, Bandic, Gbayic



Note: ° listed until recently under Baka-Gundi!; * not Ubangi according to Moñino (1988)

Figure 1: Genealogical classification of linguistic lineages in the *Baakaa area

- + Gbayic and Bandic languages only relevant in the northern periphery reflecting the most recent expansions > irrelevant for deeper historical assessment and not discussed further

+ Bantu A80/90 with far wider importance as contact groups, particularly for Baka in the west as well as for Yaka in the vicinity of the Sangha River > Appendix 2
 - also viewed as relatively recent arrivals in the forest pushed into the area from the west, north and northeast, i.a. by the Fulbe migration and slave raiding in the northwest, the Fang expansion in the west, and the Banda expansion in the northeast (e.g., Giles-Vernick 2002: 21-8 on Mpiemo, Copet-Rougier 1998, Bahuchet 1985, etc.)

	Forager term	Origin	used for Baka by:	used for Yaka by:
1	<i>Baka</i>	?	Baka themselves M-B, Baka-Gundi: Limassa Bantu A: Mpiemo	M-B, River: Monzombo, Gbanziri Bantu A: Mpiemo, Kako- Ekenga Bantu C: Bonjo-(Enyele)
2	<i>Ba.yaka</i>	?	Bantu C: Ngundi	Yaka themselves Bantu C: Ngundi, Pande, Ngando, Bomitaba, Bongili, Bondongo Bantu A: Kako
3	<i>(Ba).ngombe</i>	Bantu ?'forest (people)', see §2.3	Yaka pygmies Bantu A: Mpiemo	-
4	<i>Ba.(m)bEnga</i>	Baka-Gundi! 'spear (people)'	?	M-B, Baka-G.: Limassa M-B, River: Ngbaka Ma'bo ?Bantu C, A
5	<i>Ba.(m)benZeLe</i>	?	-	Bantu A: Pomo
6	<i>Yande.nga</i>	Baka-Gundi! 'our children'	-	M-B, River: Monzombo
7	<i>Ganzi</i>	forager exonym in Gbaya	Gbaya Bantu A: Kako	-

Notes: **bold** = **pygmy usage**; M-B = Mundu-Baka; Sources: Bahuchet (1979a: 23), Bruel (1911: 111) Burnham, Copet-Rougier and Noss (1986: 123) Giles-Vernick (2002), Lalouel (1949: 11-2), Ouzilleau (1911), Regnault (1911: 262), Sénéchal (1979: 36)

Table 2: Forager ethnonyms according to users and *Baakaa group referred to

+ interesting naming patterns for *Baakaa pygmy foragers > Table 2
 - majority of exonyms vs. two autonyms which are independent of language affiliation!
 Baka = Mundu-Baka term, Yaka = Bantu term; may be ultimately cognate
 - global exonyms (Ngombe, (M)benga) vs. local exonyms ((M)benzele, Yandenga, Ganzi)
 - two exonyms used by Mundu-Baka speakers have transparent meanings only in Baka-Gundi (see Table 8) but are also used by River groups > secondary adoption in River!?

2.2 Yaka and its closest linguistic relatives

- + Bantu C10 with more than a dozen languages mostly spoken between the Ubangi and Sangha Rivers, not necessarily a genealogical language group > Appendix 3
- still very restricted linguistic knowledge on the whole group
- complex and partly dynamic linguistic and ethnic identities – cf. §2.3 on (N)gundi
- no conclusive historical comparative assessment of C10 group available
- > Klieman (1997): lexicostatistical classification of western Bantu languages, but no exhaustive C10 survey > Figure 2
- > Yaka is in a relatively isolated genealogical position
- > other pygmy Bantu varieties in Congo-Br. seem to be closer to Yaka's contact languages

Babenzele-Bobangi

Babenzele-Bambenga [= Yaka C104]

Babenzele*

Bambenga*

Mikaya-Bambomba

Mikaya*

Bambengangale*

Baluma*

Bongili (C15)

Inyele (C141)

Bambomba (C14)

Bobangi (C32)

Note: * pygmy varieties

Figure 2: Yaka within the Babenzele-Bobangi group (Klieman 1997)

+ Yaka not particularly close to its modern C10 neighbors, its closest linguistic relative still unclear > so far no established former source of language shift by these pygmies

+ overall territorial history:

- relatively old presence of some southern groups like Bomitaba (C14) and Bongili (C15) according to Demesse (1978: 45)
- many other Bantu C10 groups in contact with Yaka settled in the area only from the middle of the 19th century from the south(east) and east of the Ubangi River: Köhler (1964: 44, 49) on Bongili (C15), Bahuchet (1979b) on Ngando (C102)
- > in line with generally close relation of Bantu C10 to languages across the Ubangi River
- some C10 languages called “Semi-Bantu” are strongly restructured by contact with non-Bantu speakers > shift-induced substrate effect

2.3 Baka and the Mundu-Baka family

2.3.1 Ethnologue and Glottolog

- Baka (and closely related varieties) as the westernmost part of a geographically very widely spread family mostly along the northern edge of the rainforest > Map 3
 - variously called after some major language(s), viz. Gbanzili (Bouquiaux and Thomas 1980), Mundu-Ngbaka (Tucker and Bryan 1956), Ngbaka (Boyd 1989) etc.

> here henceforth **Mundu-Baka**

- based on work by Thomas (e.g., Bouquiaux and Thomas 1980) rather than Saxon (1982): common genealogical division into a western and an eastern Mundu-Baka branch (eastern branch not relevant in present context and not discussed further), but without any published justification > Table 3

Subgroup	Language name	ISO	Country
Baka-Gundi	Baka (“pygmies”)	bkc	Cameroon
	Ganzi (“pygmies”)	gnz	Central African Republic
	Gundi (“pygmies”)	gdi	Central African Republic
	Limassa	bme	Central African Republic
	Ngombe	nmj	Central African Republic
Bwaka	Gilima	gix	Congo (Kinshasa)
	Ngbaka Ma’bo	nbm	Central African Republic
Gbanzili	Buraka	bkg	Central African Republic
	Gbanziri	gbg	Central African Republic
Monzombo	Kpala	kpl	Congo (Kinshasa)
	Monzombo	moj	Congo (Brazzaville)
	Yango	yng	Congo (Kinshasa)

Table 3: Baka and closest relatives in Western Mundu-Baka according to Ethnologue

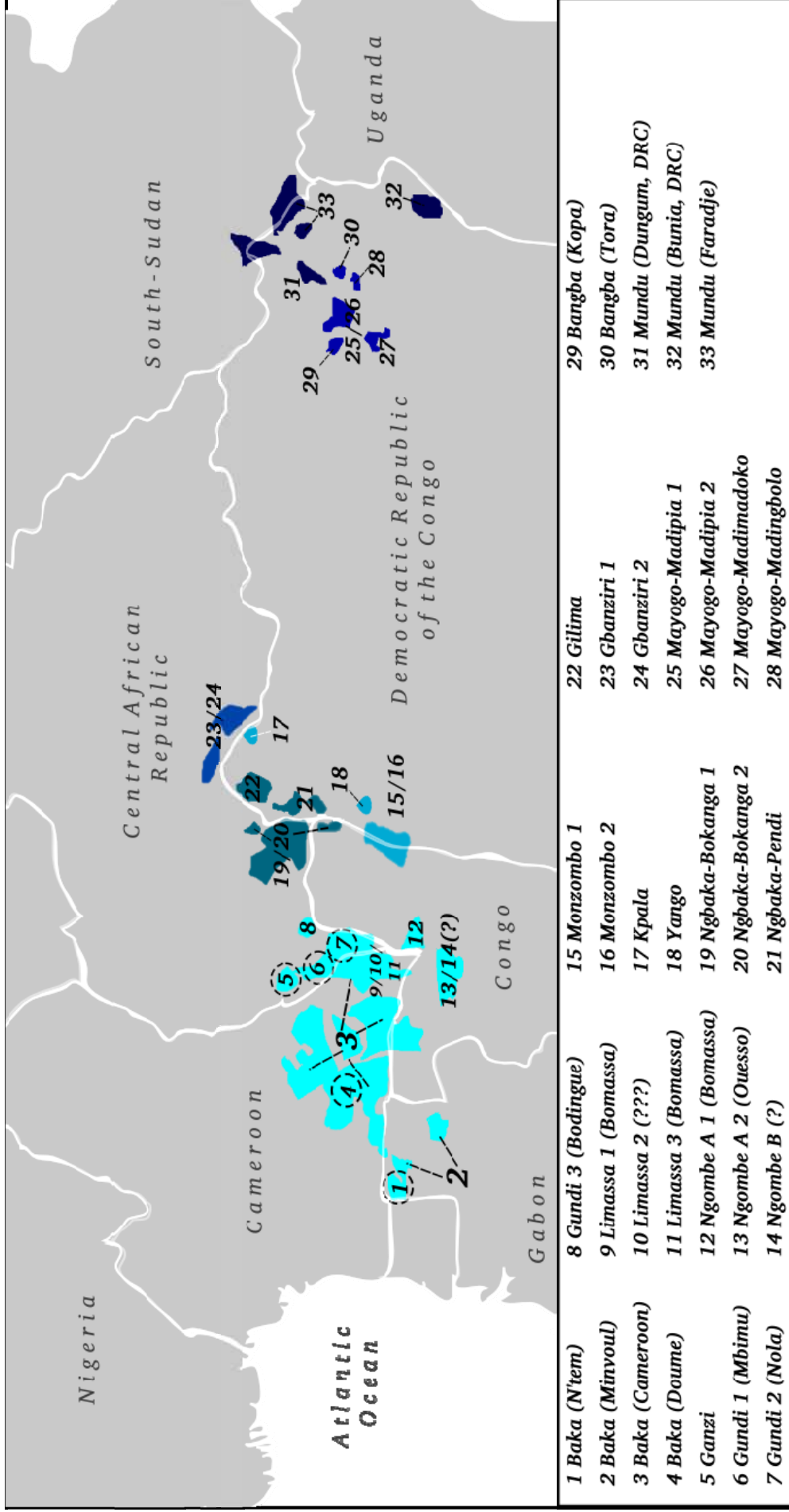
- Glottolog with essentially identical inventory and subclassification, except for the removal of Ngombe [nmj] for which see below

- crucial subgroup in geographical and presumably genealogical terms: **Baka-Gundi**

> all language varieties other than Baka virtually unknown > Table 4

> controversial with respect to:

- very existence: Gundi, Ngombe
- naming: Gundi, Ngombe, Ganzi
- forager vs. farmer subsistence: Gundi, Ngombe
- dialect vs. language status: all



Map 3: The Baka-Mundu family and lexical doculects

Name	ISO	Alternate names	Population	Location	Language status	Dialects	Language use	Comments
Ganzi	gnz	-	1,400 (1996)	CAR, Border region, Gribingui and Kemo-Gribingui prefectures, scattered throughout	6a (Vigorous)	Ganzi, Yaka. May be intelligible with Baka [bkc]	-	Pygmies
Gundi	gdi	Ngundi, Ngundi	9,000 (1988 census)	CAR, Sangha Prefecture, Nola subprefecture, south and east of Nola; Haute-Sangha Prefecture, Gamboula subprefecture	6a (Vigorous)	None known. May be intelligible with Baka [bkc]	-	Pygmies, not contacted by census takers. Distinct from Ngundi [ndn] of Congo and Central African Republic, which is Bantu
Limassa	bme	Bamassa, Bomas(s)a	Few in Ngundi [ndn] villages	CAR, Possibly in far southwestern corner, Sangha Prefecture, along Republic of the Congo border	6a (Vigorous)	-	Most have shifted to Ngundi [ndn]	-

Note: Ngombe [nmj] was listed as a Baka-Gundi language until recently but is now subsumed under Southwest Gbaya

Table 4: Opaque Baka-Gundi languages/varieties according to the Ethnologue

2.3.2 Sources on opaque Baka-Gundi lects

- inventory and profile of Baka-Gundi subgroup hardly known by linguistic data
- strong bias towards Baka and best-researched River relatives, in particular Ngbaka Ma'bo
- > necessity of comprehensive and detailed study of all available relevant sources

(1) older ethnographic and demographic sources: Ouzilleau (1911), Jacquot and Richardson (1956: 36-7), Tucker and Bryan (1956: 25)

Limassa

- geographically confined to narrow Bomassa area on middle Sangha
- demographically restricted, partial shift to Ngundi Bantu
- unambiguous non-forager status (pace Tucker and Bryan 1956: 25)
- a few exclusively lexical doculects (see Table 5) > Mundu-Baka

Gundi

- also spelled recurrently Ngundi
- academic and even local confusion on the meaning of this ethnic term (Jacquot and Richardson 1956: 36-7)
- > refers to at least two distinct languages and ethnic groups who are, however, geographically and apparently also culturally affiliated:
 - a) Bantu C10 language: Ngundi C11 [ndn] spoken along the Sangha between Nola and Bayanga and possibly further south, providing the name for entire C10 group
 - linguistic doculects, e.g., by Ouzilleau (1911), Périquet (1915), Jacquot and R. (1956)
 - b) Mundu-Baka language: Gundi [gdi] reported to live in a few villages on the upper Bodingué River, group reported to be bilingual in Pande C12 and culturally affiliated with this Bantu group, language reported to be generally mixed and associated among others with Monzombo (cf. also Hauser (1954: 22) on a Gundi group on the Motaba!)
 - demographically restricted and possibly shifting to Bantu
 - unambiguous non-forager status (see Ouzilleau 1911, pace Ethnologue)
 - so far only one early, exclusively lexical doculect (see Table 5) > Mundu-Baka

Ganzi

- located in Cameroon and CAR west of the lower Kadeï River, possibly also around Bayanga (cf. Bouquiaux and Thomas 1980: 815, Tucker and Bryan 1956: 25)
- > *ngandi* = forager exonym by local Gbaya and Kako (Bantu A93) (Burnham, Copet-Rougier and Noss 1986: 123)
- > presumably identical with foragers called by the Mpiemo (Bantu A86c) (*M*)*Baka* in the same area (cf. Ouzilleau 1911, Tucker and Bryan 1956: 25)
- only one early, exclusively lexical doculect (see Table 5) > Mundu-Baka, dialect-language status vis-à-vis Baka unclear

Ngombe

- Ngombe [nmj] of Ethnologue formerly assigned to Baka-Gundi but now subsumed under Southwest Gbaya, but recurrent reference of the term to Pygmies in the Sangha region
- *(ba)ngombe* = recurrent and widely dispersed ethnic term for Bantu and non-Bantu groups in the northern rainforest range, sometimes with transparent meaning of “(people of the) forest” as opposed to people along river (e.g. Bantu C41) (Motingea Mangulu 2014: 15-23)
- > possibly wider exonym for any group, Pygmy or non-Pygmy, in the forest interior
- all, exclusively lexical doculects in the relevant area refer consistently to non-Bantu foragers in their southeasternmost area around Ouessou (see Table 5) > Mundu-Baka (cf. Sato (1992) and Klieman (1997: 276-80) for more discussion), status vis-à-vis Baka unclear
- term also used for western *Baakaa pygmies further north:
 - Yaka call Baka beyond Sangha Ngombe (Bahuchet 1979a: 23)
 - Mpiemo distinguish Yaka vs. Ngombe pygmies (Giles-Vernick 2002: 24, 124, 167-8)
- > exonym for western *Baakaa pygmies by Bantu or even specifically Yaka speakers?

(1) doculets with **linguistic** data for historical reconstruction > Tables 5-6

No.	Source	Fieldwork	Country	Ethnologue	ISO	Subgroup
1	Ouzilleau (1911: 82-3, II)	Ouzilleau	CAR	Ganzi	gnz	Baka-Gundi
2	Ouzilleau (1911: 80-2, I)	Ouzilleau	CAR	?	-	
3	Ouzilleau (1911: 83-4, III)	Ouzilleau	CAR			
4	Ouzilleau (1911: 89, VII)	Ouzilleau	CAR			
5	Bertaut (1943)	?	Cameroon	Baka	bkc	
6	Brisson (2010), Moniño (1988)	Brisson	Cameroon			
7	Poutrin (1911)	Gravot	Gabon			
8	Paulin (2010)	Paulin	Gabon			
9	Klieman (1993 f.n.)	Klieman	Congo Br.			
10	Verhille (1948-9)	Verhille	Congo Br.	?	-	
11	Pepper (1955)	Pepper	Congo Br.			
12	Boyeldieu & C. (1986)	Boyi	Congo Br.?			
13	Klieman (1993 f.n.)	Klieman	Congo Br.			
14	Bruel (1911: 124-5)	Bruel	Congo Br.	Limassa	bme	Monzombo
15	Ouzilleau (1911: 90, VIII)	Ouzilleau	Congo Br.			
16	Klieman (1993 f.n.)	Klieman	Congo Br.			
17	Calloc'h (1911)	Calloc'h	DRC	Monzombo	moj	
18	Moniño (1988), Boyeldieu & C. (1986)	Thomas/Bouqu.	DRC			
19	Mortier (1941: 4, 6)	?	DRC	Kpala	kpl	Bwaka
20	Boyeldieu & C. (1986)	Thomas	DRC			
21	Donzo (2007)	Donzo	DRC	Yango	yng	
22	Calloc'h (1911)	Calloc'h	CAR	Ngbaka-Ma'bo	nbn	Bwaka
23	Maes (1959)	?	CAR			
24	Boyeldieu & C. (1986)	Thomas	CAR			
25	Moniño (1988), Boyeldieu & C. (1986)	Thomas	CAR			
26	Boyeldieu & C. (1986)	Thomas	DRC	Gilima	gix	Gbanzili
27	Calloc'h (1911)	Calloc'h	CAR	Gbanziri	gbg	
28	Moniño (1988), Boyeldieu & C. (1986)	Thomas/Bouqu.	CAR			

Table 5: Overview of accessible Mundu-Baka doculects with lexical information

No.	Source(s)	Ethnologue	ISO	Subgroup
1	Kilian-Hatz (1994), Djoupee (2002, 2005)	Baka	bkc	Baka-Gundi
2	Paulin (2010)			
3	Thomas (1971), Boyi (1977, 1983)	Monzombo	moj	Monzombo
4	Ebanda (1991)	Kpala	kpl	
5	Thomas (1963)	Ngbaka-Ma'bo	nbm	Bwaka
6	Rombi & Thomas (2006)	Gbanziri	gbg	Gbanzili

Table 6: Overview of accessible Mundu-Baka doculects with grammatical information

2.3.3 Historical-comparative linguistic evaluation of Baka-Gundi

+ genealogical distinction between Baka-Gundi and River within Western Mundu-Baka

Western	Languages
Baka-Gundi	Baka complex (Baka, Ganzi, Ngombe, ...)
	Gundi
	Limassa
River	
Monzombo	Monzombo, Kpala, Yango
Bwaka	Ngbaka Ma'bo, Gilima
Gbanzili	Gbanziri, Buraka
Eastern	
Mayogo-Bangba	Mayogo, Bangba
Mundu	Mundu

Figure 3: Linguistically based Mundu-Baka classification (Winkhart in prep.)

+ classification based on grammatical, phonological and lexical evidence

- suffix *-bo* (derived from 'person') attaching to inalienable human body part lexemes in isolation throughout Baka-Gundi branch as opposed to ??? in River

- infinitive prefix *na-* in Baka-Gundi vs. verb root reduplication in River:

- (1) *wó à tongòà na-bébé* Baka
 3P IPFV begin.PRS INF-dance
 they begin to dance (Kilian-Hatz 1995: 306)
- (2) *ngó gbo-tʃ-tʃ̀* Monzombo
 water PROG-RED-cook
 l'eau est en train de bouillir [the water is boiling] (Thomas 1971: 114)
- (3) *ʔé té hò-ho yée* Ngbaka-Bokanga
 3S with RED-eat 3P
 il est en train de le manger [he is eating it] (Thomas 1981: 218)

Lexeme	to hear	ear	good	to drink	head	blood
Proto Baka-Gundi	*dze/je	*dze/je	*dzoko/joko	*ndzo	*ndzo/jo	*ndzε/njε
Proto River	*ze	*ze	*zoko	*nzo	*nzo	*nze

Table 7: Spirantisation /-(n)dz/~-(n)j/ > /-(n)z/

Lexeme	to say	star	mountain	tree/wood	lance
Proto Baka-Gundi	*ngoma	*ngelem(u)	*kenga	*lo	*mbenga
Proto River	*di	*palame	*ta	*naa	*do
Lexeme	nose	body	bone	child	
Proto Baka-Gundi	*banga	*ngo-	*beke	*yande	
Proto River	*hu	*te	*kua	*lε	

Table 8: Lexical differences between Baka-Gundi and River

+ language-dialect distinction within Baka-Gundi cannot yet be determined due to insufficient data on non-Pygmy varieties Limassa and Gundi as well as north- and south-easternmost Pygmy varieties like Ganzi and Ngombe

2.3.4 Mundu-Baka and Baka-Gundi in the wider areal context

+ Mundu-Baka family geographically extended and highly fragmented (cf. Map 3)
 > appears to display a remnant distribution not resulting from multiple group migrations but rather from the fragmentation of an earlier more compact area under population pressure from other later colonizing lineages like Zandic, Bandic, and Gbayic from the north and Bantu from the south

+ all Baka-Gundi languages other than the Baka pygmy complex are demographically and geographically marginalized, in particular in the area east of the Sangha River, which is inhabited today by speakers of Bantu C10, including Yaka pygmies

+ some lexical Baka-Gundi interference in Bantu C10 varieties recorded by early researchers, sometimes without obvious close donors > Table 9 on lower numerals

- 3 and 4 in some Yaka dialects
- complete set 1-5 in Pande-Bogongo (C12b)

Lineage	Language	Location	One	two	three	four	five	ten	Source
Bantu A	Mpiemo		wo-ro	(mi)-ba	(mi)-lali	na	tano	kamo	O I.F
Bantu A	Kako		wa-tto	bé-ba	bi-lali	bi-na	bi-tani		O V.F
Bantu C	Lingala		mo-ko	mi-balé	mi-ssato	mi-nei	mi-tano		L
Bantu C	Ngundi		é-mo-ti	i-baé	i-lalo	i-nnai	i-tano	é-bofé	O III.F
Bantu C	Pande		Mo	balé	ato	ne	tano	buopé	O IVbis.F
Bantu C	Pande-Bogongo	North and east of Nola	gbé	leissi ?	bata	bana	vué	bopé	O IV.F
Bantu C	Yaka pygmies	Mbaere-Lobaye confluence	mo-ti	ma-bay	ma-ssatu	ma-nay	ba-bano		O VI.P
Bantu C	Yaka pygmies	northeast of Nola	mo-ti	bi-baye	bi-nato	bana	vué	bopé	O IV.P
Bantu C	Yaka pygmies	Upper Sangha Niumba/Salo	mo-ti	i-bay	mi-sato	bana	vué		O V.P
Bantu C	Yaka pygmies	between Lobaye and Ibenga	mo-ti	mé-ba	mi-sato	bana	voué	djoukoua	D
Bantu C	Yaka pygmies	between Nola and Bania	mo-ti	ba-bai	wa-zato	bana	pouhi	bopé	B
Baka-Gundi	?Baka pygmies	Bidjuki on Kadai	pote	bide	bata	bana	wue	-	O I.P
Baka-Gundi	Ganzi pygmies	Bayanga	bode	bide	bata	bana	pwe	pabo	O II.P
Baka-Gundi	?Baka pygmies	Upper Sangha south of Nola	bode	bide	bata	bana	we	pabo	O III.P
Baka-Gundi	Gundi		pode	bide	baïde	bana	bué		O VII.F
Baka-Gundi	Limassa		bode	bide	baïde	bana	vué		O VIII.F
River	Monzombo		cpoi	bissi	bala	bana	vué		O IX.F
River	Bondjo-Monzombo		mo-ko	bissi	bala	bana	voué	djoukoua	D
River	Ngbaka-Mab'o		gpaa	bissi	bata	biana	wé		O VI.F
River	Gbanziri		boca	bissi	bota	bona	vué		O X.F

Note: B = Bruel (1911: 124), D = Douet (1914: 31); L = Lalouel (1950: 207-9); O = Ouzilleau (1911, F = farmers, P = pygmies)

Table 9: Lower numerals in selected farmer and pygmy varieties in the eastern *Baakaa domain

3 Discussion

3.1 Baka-Gundi as key for explaining the *Baakaa complex

+ assumed recent immigration of Baka pygmy language complex in their entire area:

Compte tenu de la presence dans cette zone géograhique des *mêmes ethnies* depuis plusieurs siècles (puisque leurs déplacements ont eu lieu à l'intérieur de cette forêt), compte tenu aussi de la presence d'autres peuples de Pygmées, on peut en déduire que *les Baka sont les derniers venus dans cette région.* (Bahuchet 1989: 599)

+ their genealogically closest farmer languages are not Ngbaka Ma'bo and Monzombo on the Ubangi River but the geographically close Limassa and Gundi on the Sangha River (in line with earlier records, though not "absolument identique" (Regnault 1911: 263-4))

> language shift by Baka pygmies towards farmer language possibly closer than previously thought to area where they are found today, namely near the Sangha River; quite recent or even current contact with Limassa just across the Sangha possible (pace Bahuchet 2012: 23)

+ Baka-Gundi farmer languages socio-linguistically marginal and replaced by Bantu C10

> likely remnants of a larger spread that predated the local Bantu expansion

3.2 The importance of genetics and paleoclimatology

+ seminal multidisciplinary approach by Bahuchet (1993b) to early population history in the rainforest, particularly relating to pygmies, by incorporating crucial information from genetics and paleoclimatology

> more details available today warranting a considerable revision of historical scenarios

+ genetic differentiation (Patin et al. 2009, Verdu et al. 2009)

- 55 kya between Pygmies and non-Pygmies arguably tied to the differentiation between foragers in vs. outside the rainforest

- 20 kya between eastern Pygmies (= Mbuti) and western Pygmies (= *Baakaa, Kola etc.)

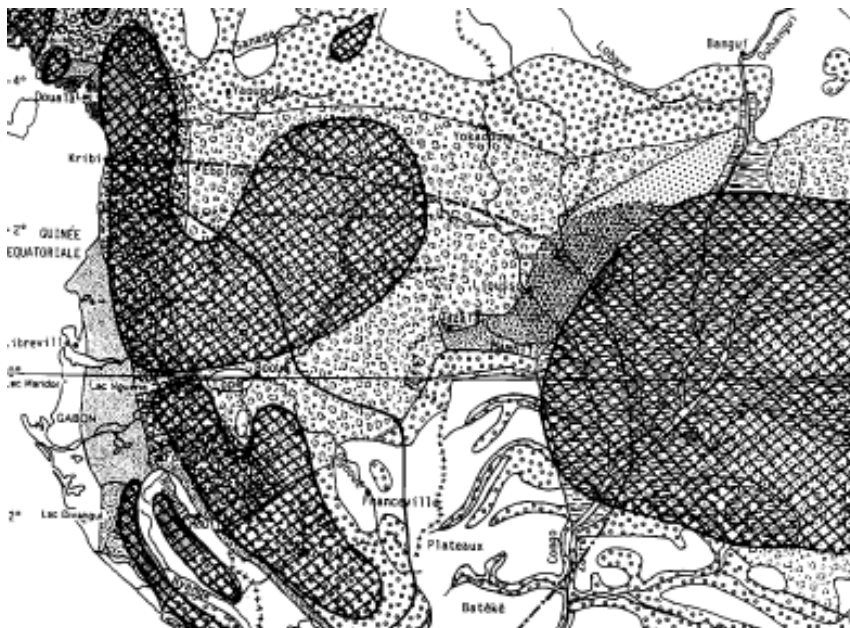
- 2,5 kya between *Baakaa Pygmies and other western Pygmies

+ paleoclimatic changes dramatically changed the expansion of the rainforest so that pygmies once emerged also retracted and expanded their geographical range repeatedly

- ca. 18 kya maximal dryness with only a handful of small separate pockets of rainforest (cf. discussion by Bahuchet 1993b)

- ca. 4 kya savannah corridor along Atlantic coast (Vincens et al. 1994, 1998; Ngomanda et al. 2009)

- 2,5-2 kya wide savannah corridor during the "Sangha River interval" precisely in the area of the *Baakaa pygmy complex!!! (Maley 2001, Maley and Willis 2010) > Map 4



Map 4: Forest destruction of Sangha River interval ca. 2,5-2 kya (Maley 2001: 782)

- + genetic differentiation seems to correlate with paleoclimatic events
- 55 kya between Pygmies and non-Pygmies
- 20 kya between eastern (= Mbuti) and western Pygmies
- 18 kya maximal dryness
- 2,5 kya between *Baakaa and non-*Baakaa in western Pygmies
- 2,5 kya Sangha R. interv.

3.3 Towards a new historical synthesis of the *Baakaa complex

Farmer history

- two linguistically distinct farmer populations, Mundu-Baka and Bantu, both originally oriented towards open woodland~savannah environments but found today in the rainforest
 - > likely Mundu-Baka staging point at Ubangi bend in the northeast as opposed to likely Bantu C10 staging point in the south and east coming up the Congo R. and its tributaries
 - > savannah corridor of Sangha River interval as one likely conduit of farmer immigration
 - > increasingly restricted to areas along the rivers with gradual reforestation
- in (at least parts of) modern area of Bantu-speaking Yaka, Baka-Gundi languages (Mundu-Baka) likely to have preceded Bantu C10 languages but later been supplanted by them

***Baakaa pygmy history**

- still unitary *Baakaa population in the rainforest pocket EAST of the Sangha R. interval
 - > in likely contact with Mundu-Baka farmers suggesting that first language shift to a Baka-Gundi language took place along the savannah corridor-forest frontier west of the Ubangi R.
- expansion as Baka-Gundi speakers into modern area around Sangha R. during reforestation
- new contact with Bantu C10 expanding east of the Sangha resulting in second shift to Yaka

Forager history cannot be understood without associated food-producer history.

Foragers may be subject to a language shift “cascade” in prehistory.

References

- Arom, Simha and Jacqueline M. C. Thomas. 1974. Les mimbo: génies du piégeage et le monde surnaturel des Ngbaka-Ma'bo (République Centrafricaine). Bibliothèque de la SELAF 44/45. Paris: SELAF.
- Bahuchet, Serge (ed.). 1979a. Introduction. In Bahuchet, Serge (ed.), Pygmées de Centrafrique: études ethnologiques, historiques et linguistiques sur les Pygmées "Ba.Mbenga" (aka/baka) du Nord-Ouest du Bassin Congolais. Bibliothèque de la SELAF 73/74. Leuven/ Paris: Peeters, 13-31.
- Bahuchet, Serge (ed.). 1979b. Notes pour l'histoire de la région de Bagandou. In Bahuchet, Serge (ed.), Pygmées de Centrafrique: études ethnologiques, historiques et linguistiques sur les Pygmées "Ba.Mbenga" (aka/baka) du Nord-Ouest du Bassin Congolais. Bibliothèque de la SELAF 73/74. Leuven/ Paris: Peeters, 51-76.
- Bahuchet, Serge. 1992. Histoire d'une civilisation forestière I: dans la forêt d'Afrique centrale; les pygmées aka et baka. Bibliothèque de la SELAF 322. Ethnoscience 8. Leuven/ Paris: Peeters.
- Bahuchet, Serge. 1993a. Histoire d'une civilisation forestière II: la rencontre des agriculteurs - les pygmées parmi les peuples d'Afrique centrale. Bibliothèque de la SELAF 344. Ethnoscience 9. Leuven/ Paris: Peeters.
- Bahuchet, Serge. 1993b. History of the inhabitants of the Central African rain forest: perspectives from comparative linguistics. In Hladik, C. M. et al. (eds.), Tropical forests, people and food: biocultural interactions and applications to development. Man and the Biosphere 13. Paris: UNESCO and Parthenon, 37-54.
- Bahuchet, Serge. 1995. Changements culturels et changements linguistiques dans la forêt d'Afrique centrale. In Grenand, Françoise (ed.), Les mécanismes du changement culturel et linguistique. Revue d'Ethnolinguistique 7. Paris: LACITO, 43-69.
- Bahuchet, Serge and Jacqueline M. C. Thomas. 1986. Linguistique et histoire des pygmées de l'Ouest du Bassin Congolais. In Rottland, Franz and Rainer Voßen (eds.), Tagungsberichte des Internationalen Symposions "Afrikanische Wildbeuter", Sankt Augustin, Januar 3-5, 1985. Sprache und Geschichte in Afrika 7,2: 73-103.
- Bastin, Yvonne, André Coupez and B. de Halleux. 1983. Classification lexicostatistique des langues bantoues (214 relevés). Meded. Zitt. K. Acad. Overzeese Wet. 27,2: 173-199.
- Bouquiaux, Luc and Jacqueline M. C. Thomas. 1980. Le peuplement oubanguien: hypothèse de reconstruction des mouvements migratoires dans la région oubanguienne d'après des données linguistiques, ethno-linguistiques et de tradition orale. In Bouquiaux, Luc (ed.), L'expansion bantoue, Actes du Colloque International du CNRS, Viviers, 4-16 avril, 1977, 3 vols, part 2: l'expansion bantoue. Paris: SELAF, vol. 3: 807-822.
- Bruel, Georges. 1910. Les populations de la Moyenne Sanga: les Pomo et les Boumali. Revue d'Ethnographie et Sociologie 1: 3-32.
- Bruel, Georges. 1911. Les populations de la moyenne Sanga: les Babinga. Revue d'Ethnographie et de Sociologie 2: 111-125.
- Burnham, Philip, Elisabeth Copet-Rougier and Philip Noss. 1986. Gbaya et Mkako: contribution ethno-linguistique à l'histoire de l'Est-Cameroun. Paideuma 32: 87-128.

- Copet-Rougier, Elisabeth. 1998. Resource use in the tri-national Sangha River region of equatorial Africa: histories, knowledge forms, and institutions. In Eves, Heather E., Rebecca Hardin and Stephanie Rupp (eds.), *Resource use in the trinational Sangha River region of equatorial Africa*. *Bulletin of the Yale School of Forestry and Environmental Studies* 102: 41-84.
- Douet, M. L. 1914. Les Babingas ou Yadingas: peuple nain de la Forêt Équatoriale (Région du Moyen Congo). *L'Éthnographie*, new series 2: 15-32.
- Dupré, Wilhelm. 1962. Die Babinga-Pygmäen. *Annali del Pontificio Museo Missionario Etnologico gia lateranensi* 26: 9-172.
- Giles-Vernick, Tamara. 2002. *Cutting the vines of the past: environmental histories of the Central African rain forest*. Charlottesville/ Londo: University Press of Virginia.
- Hauser, A. 1952. Les Babinga. *Zaire* 7,2: 147-179.
- Hauser, A. 1954. La frontière linguistique bantoue-oubangienne entre le bas Oubangui e ses affluents de droite. *Zaire* 8,1: 21-26.
- Jacquot, André and Irvine Richardson. 1956. Report of the western team: Atlantic coast to Oubangui. In Guthrie, Malcolm and Archibald N. Tucker (eds.), *Linguistic survey of the northern Bantu borderland*, vol. 1. London: Oxford University Press, 9-62.
- Köhler, Harry. 1964. Mode de capture chez les différentes tribus de chasse et de pêche au bord de la Rivière Sangha. In ??? *Varia* 1. *Studia Ethnographica Upsaliensia* 20. Uppsala: Almqvist and Wiksell, 43-93.
- Kutsch Lojenga, Constance. 1998. Depressor consonants and rising tones in Yaka (C10). Paper presented at the 28th Conference of African Linguistics, Leiden, 30 August-2 September 1998.
- Kutsch Lojenga, Constance. 2003. The noun-class system of Yaka (C.10). Paper presented at the 4th World Congress of African Linguistics, New Brunswick 2003.
- Kuhn, Philalethes. 1914. Über die Pygmäen am Sanga. *Zeitschrift für Ethnologie* 46: 116-136.
- Lalouel J. 1949. Répartition et démographie des Ba-Binga du Bas-Oubangui. *Bulletins et Mémoires de la Société d'Anthropologie de Paris* 9: 3-22.
- Lalouel J. 1950. Les Babinga du Bas-Oubangui: contribution a l'étude ethnographique des négrières baka et bayaka. *Bulletins et Mémoires de la Société d'Anthropologie de Paris* 10: 175-211.
- Maho, Jouni. 2009. The online version of the New Updated Guthrie List, a referential classification of the Bantu languages. <http://goto.glocalnet.net/mahopapers/nuglonline.pdf>
- Maley, Jean. 2001. La destruction catastrophique des forêts d'Afrique centrale survenue il y a environ 2500 ans exerce encore une influence majeure sur la répartition actuelle des formations végétales. *Systematics and Geography of Plants* 71: 777-796.
- Maley, Jean and Katherine J. Willis. 2010. Did a savanna corridor open up across the Central African forests 2500 years ago? *Letter CoForChange* 2.
- Moñino, Yves. 1988. Introduction: cousines ou voisines? In Moñino, Yves (ed.), *Lexique comparatif des langues oubangiennes*. Paris: Paul Geuthner, 10-22.
- Motingea Mangulu, André. 2014. Les nom individuel chez les Ngombè de l'Equateur congolais: etude ethnolinguistique et sociohistorique. *Language Monograph Series* 7. Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

- Ngomanda, A. et al. 2009. Western equatorial African forest-savanna mosaics: a legacy of late Holocene climatic change. *Climate of the Past* 5,4: 647-659.
- Patin, Etienne et al. 2009. Inferring the demographic history of African farmers and pygmy hunter-gatherers using a multilocus resequencing data set. *PLOS Genetics* 5,4: e1000448.
- Périquet, L. 1915. Rapport général sur la mission de délimitation Afrique Equatoriale Français - Cameroun (1912-1913-1914), vol. 3: vocabulaires. Paris: Chapelot.
- Regnault, M. 1911. Les Babenga (négrilles de la Sanga). *L'Anthropologie* 22: 261-288.
- Sato, Hiroaki. 1992. Notes on the distribution and settlement pattern of hunter-gatherers in northwestern Congo. *African Study Monographs* 13,4: 203-216.
- Saxon, Douglas E. 1982. Linguistic evidence for the spread of the Ubangians. In Ehret, Christopher and Merrick Posnansky (eds.), *The archeological and linguistic reconstruction of African history*. Berkeley: University of California Press, 66-77.
- Sénéchal, Claude. 1979. L'identité linguistique des pygmées aka de Bagandou. In Bahuchet (ed.), 33-50.
- Thomas, Jacqueline M. C. 1979. Emprunt ou parenté? a propos des parlers des populations forestières de Centrafrique. In Bahuchet, Serge (ed.), *Pygmées de Centrafrique: etudes ethnologiques, historiques et linguistiques sur les Pygmées "Ba.Mbenga" (aka/baka) du Nord-Ouest du Bassin Congolais*. Bibliothèque de la SELAF 73/74. Leuven/ Paris: Peeters, 141-169.
- Tucker, Archibald N. and Margaret A. Bryan. 1956. *The Non-Bantu languages of north-eastern Africa, with a supplement on the Non-Bantu languages of southern Africa by Ernst O. J. Westphal*. London: Oxford University Press.
- Vansina, Jan. 1990. *Paths in the rainforests: toward a history of political tradition in equatorial Africa*. London: James Currey.
- Verdu, Paul. 2009. Origins and genetic diversity of pygmy hunter-gatherers from western central Africa. *Current Biology* 19: 312-318.
- Vincens, Annie. et al. 1994. Changement majeur de la végétation du lac Sinnda (vallée du Niari, Sud-Congo) consécutif à l'assèchement climatique holocène supérieur: apport de la palynologie. *Comptes Rendus à l'Académie des Sciences de Paris* 318: 1521-1526.
- Vincens, Annie. et al. 1998. Late Holocene climatic changes in western equatorial Africa inferred from pollen from Lake Sinnda, southern Congo. *Quaternary Research* 50,1: 34-45.

Appendix 1: Genealogical classifications of Ubangi

Zande		Zandic
Banda		Bandic
Gbaya-Ngbandi-Gbanzili		
Gbaya		Gbayic
Ngbandi		Ngbandic
Ngbaka-Gbanzili-Sere		
Sere		
North:	Feroge, Indri	Raga
South:	Ndogo, Sere, Tagbu	Ndogoic
	Bai, Bviri	Ndogoic
	Togoyo, Mangaya	Raga
Gbanzili		Mundu-Baka
East:	Mundu	
	Mayogo, Bangba	
West:	Gbanzili-Boraka	
	Ngbaka-ma'bo	
	Monzombo	
	Baka, Bomasa, Bayanga, Ngombe, Ngundi	

Figure A1: Ubangi classification according to Bouquiaux and Thomas (1980: 815)

Western		Gbayic
Eastern		
Zandean-Ngbandi		
Zandean		
Zande		Zandic
Amadi		Mbaic
Ngbandi		Ngbandic
Mbomu-Uele		
Mundu-Ndogo		
Ndogo		
Core		Ndogoic
Indri		Raga
Mundu-Feroge/Mangaya-Togoyo		
Feroge/Mangaya		Raga
Togoyo		Raga
Mundu		Mundu-Baka East
Banda-Ngbaka Mabo		
Banda		Bandic
Ngbaka Mabo		Mundu-Baka West
Baka etc.		

Figure A2: Ubangi classification according to Saxon (1982: 67)

Gbaya		Gbayic
Zande		Zandic
“Core” Ubangi		
Banda		Bandic
Ngbandi		Ngbandic
Sere-Ngbaka-Mba		
Sere		
Feroge, Mangaya		Raga
Indri, Togoyo		Raga
Sere-Bviri		Ndogoic
Ngbaka-Mba		
Mba		Mbaic
Ngbaka		Mundu-Baka
East:	Mundu	
	Mayogo, Bangba	
West:	Gbanzili-Boraka	
	Ngbaka-ma’bo	
	Monzombo	
	Baka , Bomasa, Ngombe, Ngundi	

Figure A3: Ubangi classification according to Boyd (1989: 192-6)

Appendix 2: Bantu A80/90 in contact with *Baakaa

Maho (2009: 15-6)		Ethnologue		Country
Ref.-no.	Name	Name	ISO	
A801	Gyele, Bagyeli, Bakola	Gyeli	Gyi	Cameroon
A802	Ukwedjo	Ukhwejo	Ukh	Central African Republic
A803	Shiwe etc.	(not listed)	-	Gabon
A81	Mvumbo etc.	Kwasio	Nmg	Cameroon
A82	So	Swo	Sox	Cameroon
A83	Makaa, South	Makaa	Mcp	Cameroon
A83A	Bebend	(not listed)	-	Cameroon
A83B	Mbwaanz	(not listed)	-	Cameroon
A83C	Shikunda	(not listed)	-	Cameroon
A831	Makaa, North	Byep	mkk	Cameroon
A832	Bekol	Kol	biw	Cameroon
A84	Njem, Zimu	Njyem	Njy	Cameroon
A841	Bajue, Badwee	(not listed)	-	Cameroon
A842	Koonzime	Koonzime	ozm	Cameroon
A85a	Nkonabeeb, Konabem	(not listed)	-	Cameroon
A85b	Bekwel	Bekwel	Bkw	Congo (Brazzaville)
A86a	Mezime	(not listed)	.	Cameroon
A86b	Mpompon, Bombo	Mpumpong	Mgg	Cameroon
A86c	Mpiemo	Mpiemo	Mcx	Central African Republic
A87	Bomwali (Sanghasa.)	Bomwali	Bmw	Congo (Brazzaville)
A91	Kwakum, Bakum	Kwakum	Kwu	Cameroon
A92a	Pol	Pol	Pmm	Cameroon
A92b	Pomo	(not listed)	-	Central African Republic
A92C	Kweso	(not listed)	-	Central African Republic, Congo (B.)
A93	Kako, Kaka	Kako	Kkj	Cameroon

Table A1: Languages within Bantu A80 and A90

Appendix 3: Bantu C10 related to/in contact with *Baakaa

Maho (2009: 25)		Ethnologue		Country
Ref.-no.	Name	Name	ISO	
C101	Babole	Dibole	bvx	Congo (Brazzaville)
C102	Ngando	Ngando	ngd	Central African Republic
C103	(Di)kota			
C104	Yaka	Yaka (“pygmies”)	axk	all three countries
C105	Mbenga	(not listed)		Congo (Brazzaville)
C11	Ngondi~Ngundi	Ngundi	ndn	Congo (Brazzaville)
C12a	Pande	Pande	Bkj	Central African Republic
C12b	(Bo)gongo			
C13	Mbati	Mbati	Mdn	Central African Republic
C14	(M)bomitaba	Bomitaba	Zmx	Congo (Brazzaville)
C141	Enyele~Inyele	(not listed)	-	Congo (Brazzaville)
C142	Bondongo	(not listed)	-	Congo (Brazzaville)
C143	Mbonzo, Impfondo	Bonjo	Bok	Congo (Brazzaville)
C15	Bongili~Bongiri	Bongili	Bui	Congo (Brazzaville)
C16	Lobala (includes Likoka, Iboko)	Lobala	Loq	Congo (Kinshasa)
		Boko	Bkp	Congo (Kinshasa)
C161	Bomboli, Bombongo	Bomboli	Bml	Congo (Kinshasa)
C162	Bozaba	Bozaba	Bzo	Congo (Kinshasa)

Table A2: Languages within Bantu C10