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Reconstructing West-Coastal Bantu Vocabulary as Evidence for Early Banana Cultivation in Central Africa

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Lexical data has been key in attempts to reconstruct the early history of the banana (*Musa* spp.) in Africa. Previous language-based approaches to the introduction and dispersal of this staple crop of Asian origin in humid sub-Saharan Africa have suffered from the absence of well-established genealogical classifications and inadequate historical-linguistic analysis. To overcome these hurdles, we focus in this article on West-Coastal Bantu (WCB), one specific branch within the Bantu family whose genealogy and diachronic phonology are well established. We reconstruct three distinct banana terms to Proto-West-Coastal Bantu (PWCB), i.e. **dì-ŋkòndò*/**mà-ŋkòndò* 'plantain', **dì-ŋkò*/**mà-ŋkò* 'plantain' and **kì-túká*/**bì-túká* 'bunch of bananas'. From this new historical-linguistic evidence we infer that AAB Plantains, one of Africa's two major cultivar subgroups, already played a key role in the subsistence economy of the first Bantu speakers who assumedly migrated south of the rainforest around 2500 years ago. Furthermore, we analyze four innovations that emerged after WCB started to spread from its interior homeland in the Kasai-Kamtsha region of present-day Democratic Republic of the Congo (DRC) towards the Atlantic coast, i.e. *dì-kòndè* 'plantain', *kì-tébè* 'starchy banana', *banga* 'False Horn plantain', and *dì-tòtò* 'sweet banana'. Finally, we assess the historical implications of these lexical retentions and innovations both within and beyond WCB and sketch some perspectives for future lexicon-based research on the history of the banana.

Keywords: West-Coastal Bantu, historical linguistics, Comparative Method, sub-Saharan Africa, banana (*Musa* spp.), AAB plantains

1. Introduction

The banana (*Musa* spp.) has a deep history in the African continent despite its Asian origins. It has been a key staple crop in the diet of different African communities since many centuries. Along with the introduction of other Southeast Asian crops such as taro, greater yam and sugar cane, the advent of bananas in Africa is one of the most appealing instances of ancient cross-continental exchange in human food history (cf. De Langhe *et al.* 2009; Perrier *et al.* 2011; Power *et al.* 2019). The introduction of bananas is much older than the Columbian exchange that started in the 15th century CE and led to the importation of American crops such as maize and cassava to Africa (cf. Crosby & Von Mering 1973). Because Africans adopted the banana in prehistoric times, its pathways of introduction cannot be retrieved from chronicles. Different disciplines are therefore needed to reconstruct its early African history from disparate strands of evidence (De Langhe *et al.* 2009).

Thanks to botanical and genetic research (cf. De Langhe *et al.* 2009; Perrier *et al.* 2011; Perrier *et al.* 2019), we know that edible bananas, which are seedless and contain more fruit pulp than their wild relatives, were cultivated in Africa long before the arrival of Europeans. The banana plant is an herbaceous monocotyledon belonging to the family of Musaceae, which consists of three genera: East Asian *Musa*, which includes all edible bananas, Asian *Musella*, and Asian and African

Ensete. Worldwide, *Musa* varieties display considerable morphological and genetic diversity; their number has been estimated at more than 600. Two Southeast Asian wild varieties are thought to be the ancestors of almost all edible bananas today, i.e. *Musa acuminata* (providing the A genome) and *Musa balbisiana* (providing the B genome). The domestication process of edible bananas was complex and involved multiple hybridizations between varieties. Bananas are therefore subdivided in different groups of diploids, such as AA, triploids, such as AAA and AAB, and even tetraploids, such as AABB etc. Each of these diploid, triploid and tetraploid hybrids underwent further somatic mutations leading to the present-day subgroups of banana cultivars, two of which occur in Africa: AAB Plantains and AAA East-African Highland Bananas (EAHB).

The AAB Plantain subgroup invariably produces starchy fruits that need cooking or roasting before consumption, and is highly diverse in Central Africa, in sharp contrast with its very low diversity in Asia and the Pacific. Given that the number of cultivars correlates with time and intensity of cultivation, this subgroup must have a long history in Africa. Within the AAB Plantain subgroup three types are distinguished according to the form and structure of the fruit bunch, namely French, False Horn and Horn. Because they require a constant humid and warm climate to grow, they thrive in the rainforest. Although Simmonds (1959) restricted the use of plantain to exclusively designate the AAB Plantain subgroup on purely botanical grounds, the colonial tradition of applying the term to any banana that needs cooking persists until today. "Plantain" can therefore be found as a misnomer for other bananas that need cooking before consumption, especially in non-botanical sources. In the present contribution, "plantain" is exclusively used for AAB Plantain, as there are no other traditional starchy bananas in Central Africa. Terminology in English secondary academic literature on bananas in East Africa is also problematic in that the term "banana" is used there to refer to what is called "plantain" or "starchy banana" elsewhere in Africa. For an extensive discussion of such terminological issues, which is beyond the scope of the current study, we refer the reader to De Langhe *et al.* (2009). In the present article, we use "banana" to refer to all *Musa* species, while "dessert banana" or "sweet banana" refers specifically to those which can be eaten without cooking.

Bananas of the AAA EAHB subgroup are one of the types that are often mistakenly called plantains as they also produce starchy fruits that need cooking, though with a different pulp composition and texture. In many of its cultivars, the pulp, after fermentation, is the source of the popular local banana beer. EAHB prospers on the high altitudes of the Great Lakes region. Other AAA, AAB or ABB cultivars in Africa, producing either sweet bananas, such as AAA Cavendish, AAA Gros-Michel, or bananas for cooking or beer like the ABB Bluggoe subgroup, are grown marginally, mostly for the market and exportation, and their presence appears to be due to Arabian, Portuguese and other colonial influences. A remarkable exception is the traditional diploid AA Mlali subgroup on the highlands of East Africa outside the Great Lakes region, mostly in Kenya and Tanzania, and on nearby Indian Ocean islands. Its introduction would be of remote date, as is the case for AAB Plantain and EAHB (Perrier *et al.* 2019).

Although the available botanical data suggest that the introduction of edible bananas from Asia into Africa is ancient, they cannot be used to determine when or where exactly. This is why archaeology can play an important role, especially because banana plants can only be propagated vegetatively and therefore entirely depend on humans for their dispersal (Rossel 1998; De Langhe *et al.* 2009; Perrier *et al.* 2011; Adheka Giria & De Langhe 2018; Perrier *et al.* 2019; Power *et al.* 2019). On the other hand, the fact that edible bananas are seedless makes them very hard to detect in archeological sites. They can only be retrieved through phytoliths or silica bodies, which infill

the cell walls and lumina of certain cells in plant tissues and whose remains break down easily (Hodson *et al.* 2005). Finding ancient banana phytoliths thus requires systematic archaeobotanical sampling with little chance of success. As a consequence, archaeobotanical data for bananas in Africa are only few and far between, i.e. one find from Cameroon dated between 2,750 and 2,350 BP (Mbida Mindzié *et al.* 2000) and one from Uganda dated back to the 6th millennium BP (Lejju *et al.* 2005; Lejju *et al.* 2006). Moreover, these findings are controversial and especially the early date of the second one is widely rejected (Vansina 2003; Mbida Mindzié *et al.* 2005; Neumann & Hildebrand 2009; Perrier *et al.* 2011; Power *et al.* 2019).

Because of the many challenges faced by archaeology, several scholars have turned to African languages – most often Bantu languages – as a data source for reconstructing the chronology and pathways of banana dispersal in Africa (De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995; Rossel 1998; Blench 2009). However, as Power *et al.* (2019:364-367) discuss, relying on linguistic data for reconstructing the history of bananas and other imported Asian food crops is also challenging. Besides the difficulties related to the sheer size of the African continent, its high linguistic diversity, and the deficient documentation and analysis of many of its languages, conclusively established genealogical classifications are lacking for several language families involved and the population dynamics underlying their spread are poorly known. As Power *et al.* (2019:367) point out, none of the aforementioned language-based studies provides a sufficiently representative and adequate historical-linguistic analysis of the language data considered.

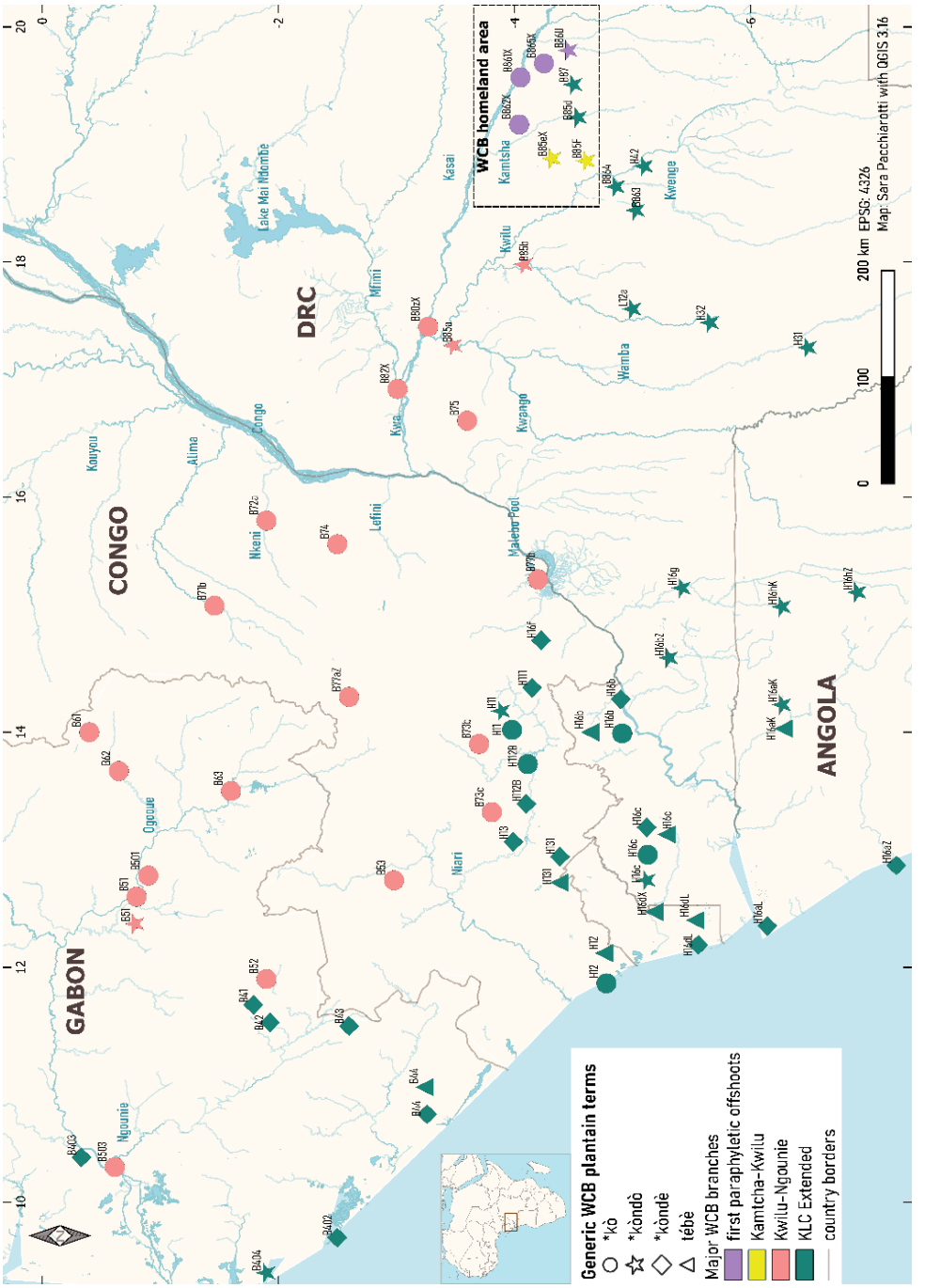
This is exactly why this study focuses on one specific branch within the Bantu family, i.e. West-Coastal Bantu (WCB), also known as West-Western Bantu. Not only is the genealogical unity and internal structure of this branch well-established (Vansina 1995; Bastin *et al.* 1999; de Schryver *et al.* 2015; Grollemund *et al.* 2015; Pacchiarotti *et al.* 2019; Pacchiarotti & Bostoen 2020), but we also have a fairly good knowledge of the diachronic sound changes it underwent (Daeleman 1977; Rottland 1977; Hombert 1986; Koni Muluwa 2010; Koni Muluwa & Bostoen 2012; Bostoen & Koni Muluwa 2014; Bostoen & Goes 2019; Goes & Bostoen 2019; Pacchiarotti & Bostoen 2020; Pacchiarotti & Bostoen 2021a-b). Additionally, we have a hypothesis on the population dynamics underlying the spread of WCB. We assume that their most recent common ancestor, i.e. Proto-West-Coastal Bantu (PWCB), was spoken by the first Bantu speakers south of the rainforest. After their migration through the Congo rainforest, possibly facilitated by a climate-induced forest crisis around 2,500 years ago, they started to spread from their inland homeland between the Kamtsha and Kasai Rivers in the present-day Kwilu Province of the DRC towards the Atlantic coast (Bostoen *et al.* 2015; Grollemund *et al.* 2015; Pacchiarotti *et al.* 2019). Seidensticker *et al.* (2021) have recently claimed that due to a widespread population collapse between 400 and 600 CE followed by major resettlement centuries later, i.e. around 1000 CE, present-day Bantu languages in the Congo rainforest may descend from languages that were (re)introduced during the second migration wave and could thus be up to 1000 years younger than previously thought. Given that the wider WCB homeland area is covered by only 9 radiocarbon dates in the study of Seidensticker *et al.* (2021), i.e. their region H (Southern Congo), we do not see a reason for the time being to no longer consider present-day WCB languages as descending from the language of the first Bantu speakers south of the rainforest about 2,500 years ago.

So, even if Power *et al.* (2019:368-369) reproach previous linguistic approaches to the history of bananas in Africa an overemphasis on Bantu, we purposefully zoom in on a specific Bantu branch, i.e. WCB, because it provides us with the right conditions to successfully apply the Comparative Method: wealth of data, a good knowledge of diachronic phonology, and a decent understanding of its internal classification. Because previous language-based historical banana

studies were deprived of such conditions (e.g. Rossel 1998), it is unclear at present whether and in which cases common Bantu banana terms spread through inheritance versus borrowing and to which ancestral stage they can be reconstructed. Roots such as **kòndò* and **kòndè* are oft-cited but have never been subjected to a systematic historical-comparative linguistic analysis (cf. Vansina 1990:62-64; De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995; Rossel 1998; Blench 2009; Perrier *et al.* 2011, 2019; Bostoen & Koni Muluwa 2017). Without good knowledge of diachronic sound change and basic understanding of genealogical classification, previous language-based approaches to the history of bananas were preliminary and necessarily speculative. Narrowing down the study scope to a well-known subset of Bantu languages, as we do here, is an urgently needed intermediate step from a methodological point of view. It is only on the basis of solid, low-level linguistic reconstruction that the scope can be widened to Bantu more generally, and from there possibly to other African language families.

In §2, we present data and methodology. In §3, we analyze the three banana-related terms that can be reconstructed to PWCB, the most recent common ancestor of WCB: **dì-ŋkòndò* 'plantain', **dì-ŋkò* 'plantain' and **kì-túká* 'bunch of bananas'. In §4, we discuss four banana terms that only emerged after WCB had (started to) spread to the Atlantic coast: *kòndè* 'plantain', *tébè* 'plantain', *banga* 'False Horn plantain', and **dì-tòtò* 'sweet banana'. While the last term can possibly be reconstructed to some deep ancestral node within WCB, the first three are probably relatively recent contact-induced introductions into WCB and that is why they are not preceded by an asterisk. Figure 1 shows the nearly complementary distribution of the four generic 'plantain' terms within WCB regardless of their time depth. Discussion and conclusions follow in §5.

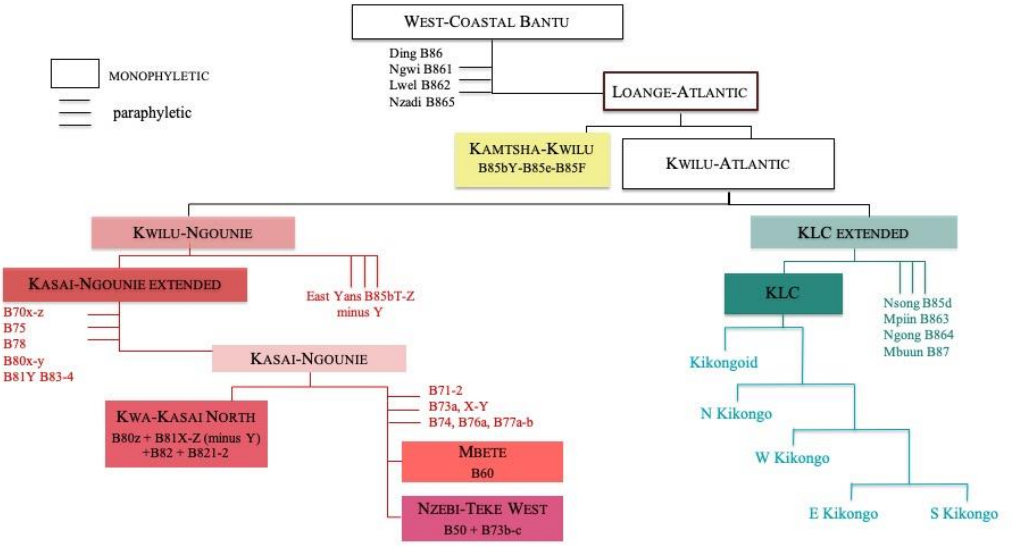
Figure 1: Distribution map of the generic plantain terms in WCB



2. Data and Methodology

Our sample consists of 62 languages belonging to what is known as the West-Coastal Bantu (WCB) branch of the Bantu language family. WCB languages span across Gabon, the Republic of the Congo, the DRC and northern Angola. Major WCB subgroups according to the most recent lexicon-based phylogenetic classifications are in Figure 2 (de Schryver *et al.* 2015; Bostoen & de Schryver 2018a, b; Pacchiarotti *et al.* 2019).

Figure 2: Internal lexicon-based phylogenetic classification of WCB (de Schryver *et al.* 2015; Bostoen & de Schryver 2018a, b; Pacchiarotti *et al.* 2019)[1]



In the Appendix, we list all varieties included in this study with their corresponding alphanumeric code, the lowest phylogenetic subgroup to which they belong (see Figure 2) and the sources from which data were obtained. As discussed in Pacchiarotti *et al.* (2019:160), lowercase x, y, z after a code ending in 0, as in B80z, mean that the variety is not inventoried in either Guthrie (1971) or Maho (2009). Uppercase Q-Z mean that we have data on varieties inventoried in Guthrie (1971) and/or Maho (2009) from more than one geographical location and we consider them to be regiolectal varieties of the same language. Codes for the languages from the Kongo Language Cluster (KLC) are the same as those found in Maho (2009), unless they end in a capital ranging between V and Z. In this case, the variety is not mentioned in Maho (2009), but we use the alphanumeric Guthrie/Maho code of the variety/ies to which they are most closely related according to the phylogenetic classification in Bostoen & de Schryver (2018a), e.g. H16bZ Ndibu is closely related to the existing H16b Manyanga (see Maho 2009: 52). Capitals ranging between K and N are meant to distinguish between varieties that are lumped together in Maho (2009) but should be distinguished.

We tried to collect as much banana terminology as possible in different WCB languages. This led to a dataset of 1912 banana-related terms in the 62 languages of our sample. The sources

[1] Central Kongo (KLC), to which we do refer further on, is missing in the genealogical tree, because it results from intensive language contact rather than being a true phylogenetic subgroup (cf. de Schryver *et al.* 2015).

consulted are diverse and include grammars, dictionaries, theses, stories, fieldwork data, etc. Synchronic banana terms have then been linked, whenever possible, to existing Bantu lexical reconstructions of which they could be the reflex. To achieve this, we relied on the online database Bantu Lexical Reconstructions (BLR) 2/3 by Bastin *et al.* (2002) which contains nearly 10,000 Bantu protoforms with different time depths. Reconstructions cited in this article are followed or preceded by the unique BLR code they have in this database, e.g. BLR 1939 **kòndò* 'banana: Musaceae'.

Only banana-related BLR reconstructions for which we found reflexes in WCB are discussed in this article. However, we also discuss three widespread WCB banana terms that are not reconstructed in BLR3. Finally, we chose to discuss only attestations found in more than one WCB subbranch or attestations that are relevant for the reconstruction of the banana history in the wider region.

3. Proto-WCB banana terms

3.1 **kòndò* 'plantain'. When it comes to widespread Bantu terms for banana, **kòndò* 'banana: Musaceae' (BLR 1939) (Bastin *et al.* 2002) is no doubt one of the most cited roots (cf. Guthrie 1971:131; Vansina 1990:62-64; De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995; Rossel 1998; Blench 2009; Perrier *et al.* 2011; Perrier *et al.* 2019). The root **kòndò* is mainly attested in the western part of the Bantu domain, i.e. Guthrie's zones A, B, C, H and K (Bastin *et al.* 2002)[2]. As Philippson & Bahuchet (1994-1995) point out, not all attestations of this root necessarily constitute a cognate set, i.e. a set of phonologically regular forms inherited from a common ancestor language. Because several languages have a *kòndò*-like banana term that does not tie in with regular diachronic sound changes, some attestations could also be loanwords that spread through contact. As we discuss below, this does not seem to be the case within WCB, where attestations of **kòndò* are not only widespread, but also phonologically regular.

3.1.1 Distribution within WCB. Dealing specifically with WCB, Ricquier (2016:125-126) reports **kòndò* as one of the common banana terms in the KLC, already documented in a 17th century South Kongo dictionary where it features in the noun phrase *ndongúela a rincondo* 'bunch of bananas' (Van Gheel 1652:88). Bostoen & Koni Muluwa (2017:243) report attestations of **kòndò* in WCB languages outside of the KLC, but confuse them with those of another common banana term, i.e. **kò* (§3.2).

The attestations of **kòndò* which we could retrieve in present-day WCB languages are listed in (1). They are grouped following the main subdivisions within the phylogenetic classification of WCB (cf. Pacchiarotti *et al.* 2019) (see Figure 2). In (1), the names of the major branches are underlined; WCB stands for the paraphyletic languages at the top of the WCB family tree considered to be the first offshoots but not forming a phylogenetic unity (see Figure 2). Names of subbranches are indented, in italics and not underlined Subgroups within those subbranches are in plain font. KLC subgroups are abbreviated as N(orth), S(outh), W(est), E(east), C(entral), and K(ongoid), see Figure 2. For individual language varieties within specific (sub)branches, we only give a unique referential code. For correspondences between these codes and full language names

[2] Several sources report *kikondo* 'banana' in the Zanzibar variety of Swahili G42d (Guthrie 1970; Nurse & Hinnebusch 1993:633; Philippson & Bahuchet 2008), but this is possibly a relatively late borrowing that happened as part of the 19th-century trade contacts between the eastern fringes of the rainforest and the Indian Ocean.

and sources, see Appendix. Translations of terms are given only when they are not translated as 'banana', '(sweet) banana' or '*Musa* spp.' in the original source. Similarly, the meaning of reflexes of those reconstructions not referring to banana are given only if they differ from the meaning posited for the protoform.

(1) WCB attestations of **kòndò* (BLR 1939)

WCB	B86W *i-kɔɔn/ma-kɔɔn, i-ŋkɔɔn/ma-ŋkɔɔn*;
Kamtsha-Kwilu	B85e *kɔ́n*; B85F *é-kwáán/má-kwáán*
Kwilu-Ngounie	B85a *kwon* 'banana plant'; B85b *kwàn`*; B85b *ɪ-kon/mu-kon* '*Musa parasidiaca L.* pig banana (*likemba*); *Musa sapientum L.* table banana (=gros michel, *etabe*)'
Kasai-Ngounie	
Nzebi-Teke W	B51 *ma-kondo* 'banana plants'
KLC extended	B85d *kwóón/má-kwóón*; B863 *kó:n* '*Musa* spp., banana plant'; B864 *kɔ́:n* '*Musa* spp., banana plant'; B87 *ɪ-kôn*
KLC - K	H31 *di-khóndó/ma-khóndó*; H31X *di-khondo/ ma-khondo*; H32 *di-nkondu*; H42 *lù-khón/mà-khón*; L12a *khôndu*
N	H11 *kóndò/mà-kóndò*
S	H16aK *dì-nkóndò/mà-nkóndò*; H16hK *di-nkhondó*; H16hZ *lì-khó:nlò/mà-khó:nlò*
C	H16b *dí-kóndó*; H16bZ *di-nkondo*
E	H16g *di-nkŏndo*; H16gX *ma-khóndo*; H16gY *di-khóndo* 'plantain'; H16hL *di-khóndo*
W	B404 *dǔ-kô:ndò/tsí-kô:ndò* 'plantain'; H16c *di-k'ondo/ma-k'ondo*

As shown in (1), **kòndò* is well distributed across WCB branches. Its reflexes are found in all major WCB branches as well as in some of the languages considered to be the first paraphyletic WCB offshoots (see Figure 2). Within the KLC, it is also attested in all subgroups distinguished by de Schryver *et al.* (2015), including in Kongoid (K) and North Kongo, although Ricquier (2016:125-126) does not report these.

*3.1.2 Noun stem***.** Formally speaking, all reflexes of **kòndò* in (1) are in line with the regular diachronic sound changes underwent by their respective languages.

The first consonant (C1) of the root /*k*/ is preserved everywhere. This is the regular retention of PB **k* in C1 across WCB (Pacchiarotti & Bostoen 2020). The aspiration of /*k*/, noted as <*kh*> and seen in several reflexes of **kòndò* in (1), is a common Bantu sound change triggered by a preceding nasal prefix (§3.1.3), which is either maintained or dropped (cf. Kerremans 1980).

The second consonant (C2) of the root **nd* is regularly retained in the KLC and Nzebi-Teke West only. Everywhere else in WCB, the nasal plus consonant cluster **nd* undergoes regular reduction to a simple nasal, i.e. /*n*/, as the reflexes of **kòndò* in (1) illustrate. The regularity of **nd* retention and/or simplification in individual languages can be seen in the reflexes of additional reconstructions with **nd* in C2 in (2), (3) and (4) .

(2) BLR 1326 **gàndó* 'crocodile' > B85b *ngwɛn*, B85d *ngwên*, B85e *ŋáán*, B85F *ngwên*, B863 *ngwên*, B864 *ngwɔ̂n*, B86W *ŋɣwɛn*, B87 *ngwên*, H16b *ngandu*, H16g *ngaandú*, H31 *ngáándu la*, H32 *ngându*, H42 *ngând*, L12a *ngándu*

(3) BLR 1628 **jòndò* 'hammer; anvil; axe; iron' > B85b *nzuun*, B85d *nzú:n*, B85e *nzûn*, B85F *nzwɔn*, B863 *nzú:n*, B864 *nzú:n*, B86W *ndzu:n*, B87 *nzú:n*, H16a *nzundu*, H16g *nzuundu*, H31 *ndzúúndú*, H32 *nzúundu*, H42 *nsú:n*

(4) BLR 1324 **gàndá* 'house; village; chief's enclosure' > B85b *ngaan* 'hut', B85d *ngaan* 'hut', B85F *ngân* 'fence, enclosure', B863 *múngân* 'sister-in-law', B864 *ngaan* 'hut', H16a *nganda* 'chamber, palace', H16b *nganda* 'family', H16c *dikáándá* 'matrilineal family, clan, lineage', H16g *ngaandá* 'village', H31 *ngáánda* 'chef's enclosure, palace', H32 *ngándú* 'hut', H42 *múngân* 'brother-in-law', L12a *ngăndu* 'hut'

As for the first vowel (V1) of the root, **o* (phonetically [ɔ]) is most often retained as /ɔ/, orthographically represented as <*o*>. The only V1 innovation observed among **kòndò* reflexes in (1) is the diphthongization of **o* to /*wo*/ or /*wa*/ in varieties such as West/East Yans B85a/B85bV, East Nsong B85d and Nsambaan B85F, where this sound change is common in root-initial position and is not triggered by a conditioning environment (Koni Muluwa & Bostoen 2012). Another common sound shift affecting the first root vowel in B85-87 languages is umlaut (cf. Bostoen & Koni Muluwa 2014). Unlike diphthongization, umlaut is triggered by a specific conditioning environment, namely the presence of a front vowel in the following syllable. One possible outcome of umlaut is the fronting of a back vowel in V1 position, as illustrated in (5)-(7).

(5) BLR 1104 **dògì* 'witch' > B87 *ulwéts*
(6) BLR 1098 **dòòdí* 'dream' > B85F *ndés*
(7) BLR 2212 **mòtí* 'one' > B863 *kímbwés*

It is important to note that none of the forms in (1) manifests such an umlaut effect, not even those which lost their final vowel, i.e. *e-kwóón* (B85F), *kɔ́:n* (B863), *é-kɔ́:n* (B85d), *i-kɔɔn* (B86), *kɔ́:n* (B864), *ɪ-kɔ̂n* (B87), *kwon* (B85a) and *kɔɔn* (B85b). As umlaut is prolific in B85-87 languages, we can rule out that these forms are reflexes of **kòndè* (BLR 1935), a common Bantu banana term also attested in WCB (§4.1). If the forms that lost their final vowels had been reflexes of **kòndè*, we would expect the lost front vowel **e* to cause umlaut effects in V1 position at least in some B85-87 languages.

As for the second vowel (V2) of the root, it is regularly lost in reflexes of **kòndò* in (1) outside of the KLC or Nzebi-Teke West. Final vowel loss is a common sound change in the languages of the Lower Kasai region (Pacchiarotti & Bostoen 2021b). It also irregularly occurs in two of the easternmost KLC languages, i.e. Hungan H42 and Samba L12a (cf. Bostoen & Koni Muluwa 2011; Van Acker & Bostoen 2020). While the Hungan H42 reflex of **kòndò* in (1) manifests the sound change, the Samba L12a reflex does not.

In most languages of the KLC and in Nzebi-Teke West, V2 **o* (phonetically [ɔ]) is retained as /ɔ/, commonly written as <*o*>. In two KLC languages, i.e. Suku H32 and Samba L12a, the final

vowel of **kòndò* is heightened to /u/. This is a regular sound change in both languages, as shown in (8) and (9) (see also Van Acker & Bostoen 2020).[3]

(8) BLR 258 **bògó* 'buffalo' > H32 *kibókú* 'hippo', L12a *kíboku* 'hippo'
(9) BLR 260 **bókò* 'arm; hand; front paw' > H32 *kooku*, L12a *kóku*

A final formal feature to be discussed is tone. As can be seen in (1), not all WCB reflexes of **kòndò* have a tone notation. If tone is noted, it is not always obvious to tell how reliable it is. Tone notation may vary across publications on one and the same language, e.g. Mbuun B87 *íkóón* (Mundeke 1977), *ikoon* (Mundeke 2011), *íkɔ́:n* (Koni Muluwa 2014), *ɪ-kɔ̂n* (Koni Muluwa & Bostoen 2015). It is hard to say whether the variation is regiolectal, due to a different system of transcription, or simply a matter of inconsistency. Even when tone transcription appears to be consistent, a historical-comparative analysis is often impossible because the overall tone system of the language is not sufficiently described. However, the few WCB languages which do allow for a diachronic tonal approach confirm the two low tones with which **kòndò* was reconstructed. One of them is the tonally conservative East Yans B85bV, where Proto-Bantu (PB) "tones of noun stems have been generally maintained" (Rottland 1977:380). The LL tone pattern of *kwàn`* is thus simply a retention from **kòndò*. The two other languages with reflexes of **kòndò* whose diachronic tone changes are relatively well known are Ntandu H16g and Ngubi B404. Both belong to distinct subgroups of the KLC, i.e. East and West Kongo respectively. They are tonally less conservative than East Yans B85bV in that their nouns underwent a complex set of tone shifts. The tone pattern of nouns also varies according to their position in the phrase or clause. However, nouns can still be subdivided into tone groups or classes manifesting a high rate of correspondence with nominal tone patterns reconstructed for PB. In Ntandu H16g, words like *di-n-kŏndo* having a rising tone on the penultimate syllable when cited in isolation belong to "tone group (a)" which has 88,1% correspondence to disyllabic *LL noun stems such as **kòndò* (Daeleman 1983:363; Meeussen & Daeleman 1983:145). In Ngubi B404, PB nouns reconstructed with *LL appear in citation form with a high tone on the prefix and a falling tone on the penultimate syllable, as in *dű-kô:ndò* (Puech 1988:253). In other words, three different languages with reliable tone data and belonging to distinct branches and subgroups of the WCB family tree confirm the reconstructed *LL tone pattern of **kòndò*.

3.1.3 Noun class. Most nouns in (1) belong to noun class 5 in the singular and 6 in the plural. When given, the plural prefix of class 6 is *ma-*. The singular prefix of class 5 is either *di-*, *ri-*, *li-*, *e-*, *i-* or zero. Given that this noun class pairing is distributed across the different WCB major branches, it seems safe to reconstruct it to Proto-WCB (PWCB). The same pairing is also common with **kòndò* outside of WCB (Bastin *et al.* 2002). The few deviations from the 5/6 noun class pairing are easily accounted for as later innovations. In Hungan H42, for instance, Kasuku-Kongini (1984) reports *lù-khón/mà-khón* (cl. 11/6), while Takizala (1974) gives *di-khon/ma-khon* (cl. 5/6). As one can see, singular classes 11 *lù-* and 5 *dì-* share the same plural class 6. Very likely, singular class 5 got replaced by singular class 11, which often incorporates nouns for long things (Maho 1999:51; Katamba 2003:115). Once the singular has become part of class 11, the plural can also be reanalyzed,

[3] Van Acker (2018) reports *kóndo/ma-kóndo* for Samba L12a, which is the only phonologically irregular reflex of ****kòndò*** we found in WCB. Van Acker & Bostoen (2020) identify it as a loanword, along with a number of other roots not undergoing final vowel heightening, probably from vehicular Kongo.

i.e. as part of class 10, the other common plural class associated with singular class 11 in Bantu (Maho 1999:53). This is what happened in Ngubi B404: *dǔ-kô:ndò/tsí-kô:ndò* (cl. 11/10).

One specific feature which is possibly not an innovation is the presence of a nasal between the noun class prefix of classes 5/6 and the root. Such a nasal is mainly attested in languages of the KLC, either on the surface, e.g. H16a *dì-n-kóndò*, or underlyingly as evidenced by the aspiration of the root-initial consonant (§3.1.3), e.g. H16gY *di-khóndo*. This non-syllabic nasal preceding the root suggests the presence of a Bantu class 9 nasal prefix (cf. Van de Velde 2019:239), which was reanalyzed as part of the root. Even if traces of such a nasal mainly occur in the KLC, this is likely to be an archaism rather than an innovation. This is supported by the fact that a nasal between the prefix of class 5 and the root is also attested in West Ding B86W, one of the paraphyletic languages at the top of the WCB tree, where *i-ŋ-kɔɔn/ma-ŋ-kɔɔn* and *i-kɔɔn/ma-kɔɔn* co-exist (Mertens 1939:26, 29). In other words, the sporadic presence of a root-initial nasal seems to match the principle of "archaic heterogeneity", according to which "formal heterogeneity normally reflects the more archaic system, unless conditions for an innovation can be given" (Dimmendaal 2011:96). Because such conditions do not seem to exist in this case, we posit that the reanalysis of the nasal as part of the root and the reintegration of *ŋkòndò* into classes 5/6 happened at the PWCB stage. Therefore, this PWCB noun should be reconstructed as **dì-ŋkòndò/*mà-ŋkòndò*. In some languages, the root-initial nasal was retained. In others, it got lost, whether or not as the outcome of a regular sound change, such as **ŋk >k* or k^h (cf. Kerremans 1980). In support of this reconstruction, Guthrie (1970:298) observed the same recurrent integration of a nasal into the noun stem especially in languages of zones C and H. This led him to propose a supplementary comparative series **ŋkòndò* (CS 1146a) along with **kòndò* (CS 1146) (cf. Janssens 1991:167).

3.1.4 Meaning. In individual WCB languages, reflexes of PWCB **dì-ŋkòndò* mostly receive a generic translation, such as 'banana', '*Musa* spp.', or less frequently 'banana plant'. In most sources no distinction is made between (AAB) plantains and dessert/sweet bananas. Rather, a generic and often ambiguous translation is given, see e.g. '(sweet) banana' in Koni Muluwa & Bostoen (2015). Nonetheless, in the few sources that do distinguish between the two types of bananas, the translation is 'plantain'. This is actually also the proper translation of the comparative data in Koni Muluwa & Bostoen (2015), as they follow the glossary of Vansina (1991:341-372) featuring 'banana (AAB Plantain)'.

The assumption that in sources where no distinction is made between plantains and dessert/sweet bananas present-day reflexes of PWCB **dì-ŋkòndò* serve as a generic term for plantain is corroborated by the fact that they are accompanied by a modifier when they refer to a specific variety of plantain or to a related plant such as the indigenous African *Ensete*. For instance, in Ntandu H16g *dinkŏndó díkoongo*, literally meaning 'plantain of the Kongo', is used to designate a specific but unspecified starchy banana variety. Several other Ntandu compounds having *dinkŏndó* as head noun refer to *Ensete*, i.e. *dinkŏndó díkízeke, dinkŏndó díbánkita, dinkŏndó díbáńkúya, dinkŏndó dímátébo* (Daeleman & Pauwels 1983:203-204). This is also the case in Manyanga H16b and West Yans B85a, where *ma-nkòndo mankita* '(lit.) bananas of the (nature) spirits' (Laman 1936:497) and *kwon a musit* or *kwon esit* '(lit.) banana tree of the forest' (Swartenbroeckx 1948:51) respectively also refer to the *Ensete* a.k.a. 'false banana'. The *Ensete* does not produce edible fruits, but Africans long exploited it for its starchy stems and roots, and for its leaf fibers used for tool making. Such compounds indicate that in folk taxonomies *Ensete* is seen as a wild or uncultivated kind of banana. This could be taken as evidence against the hypothesis of Blench (2009) that **kòndò* initially referred to *Ensete* and only later on to banana, i.e. upon its introduction to Africa. It is well-

known that foreign plants imported to Africa, such as maize or sweet potatoes, were originally often designated with compound terms. In such compounds, the head noun tends to be the term for an indigenous African plant morphologically or functionally related to the import, while the modifier refers to the place from where it was introduced, e.g. in Kongo *masa ma mputu* 'millet from Portugal/Europe' for maize (Bontinck 1972:82) or *nkua kia mputu* 'yam from Portugal/Europe' for sweet potato (Gossweiler 1953:44). When the foreign plant starts to prevail in usage over the indigenous plant, the compound term may be shortened to feature only the head noun for reasons of frequency. The referent of the head noun then shifts from the indigenous crop to the foreign crop, e.g. *masa* meaning 'maize' instead of 'millet' or *nkua* 'sweet potato' instead of 'yam'. However, in this scenario, comparative research usually leads to the discovery of traces of the original meaning, for example *nkua* designating sweet potatoes in some languages but still yam in others (Maniacky 2005). This is never true for present-day reflexes of PWCB **dì-ŋkòndò*, which never refer to *Ensete* without being followed by a modifier. As a consequence, it seems safe to reconstruct the meaning 'plantain (*Musa* AAB)' and not '*Ensete*' for PWCB **dì-ŋkòndò*. Through semantic generalization, this noun is also used today to designate dessert/sweet bananas in certain languages.

In §5, we touch upon a possible deverbative etymology for **kòndò*, which is in all likelihood older than PWCB.

3.1.5 Summary. A close examination of its present-day distribution (§3.1.1), combined with an in-depth diachronic phonological (§3.1.2), morphological (§3.1.3), and semantic analysis (§3.1.4) leads us to reconstruct the generic plantain term **dì-ŋkòndò*/**mà-ŋkòndò* in PWCB. This reconstruction confirms an earlier proposal by Bostoen & Koni Muluwa (2017) but based on more representative comparative data and with a better understanding of the noun's actual form, noun class and meaning.

3.2 **kò* 'plantain'. The noun stem **kò* 'banana: Musaceae' (BLR 1855) (Bastin *et al.* 2002) is another widespread Bantu root which has often been discussed in studies using lexical data to reconstruct the history of bananas in Central Africa (cf. Guthrie 1971:131; Vansina 1990:62-64; Philippson & Bahuchet 1994-1995; Rossel 1998). In contrast to **kòndò* and **kòndè*, reflexes of **kò* do not occur outside of the equatorial forest region. Bastin *et al.* (2002) report them in Guthrie's zones B, C and H, but they also occur in zone A (cf. Philippson & Bahuchet 1994-1995; Rossel 1998). Along with Central-Western Bantu (CWB), **kò* is no doubt most widely distributed within WCB.

3.2.1 Distribution within WCB. Ricquier (2016:125-126) is one of the few previous studies to specifically deal with reflexes of **kò* in WCB, more precisely in the KLC where she finds them in North Kongo varieties only. As shown in (10), **kò* is indeed not very widespread within the KLC, but we identify some attestations in its Central and West Kongo subgroups as well. As mentioned in §3.1.1, Bostoen & Koni Muluwa (2017:243) erroneously attribute some reflexes of **kò* to **kòndò*. This led them to only reconstruct the latter to PWCB. As we argue here, these two roots are historically not reducible to one single reconstruction and both need to be posited at PWCB stage.

The attestations of **kò*, which we could detect in present-day WCB languages, are listed in (10). They occur in almost all major WCB branches, except Kamtsha-Kwilu, whose two languages both have a reflex of **kòndò*, see (1). As shown in Figure 1, **kò* is to a large extent in complementary distribution with **kòndò* within WCB. The only languages that have a reflex of both

roots are Duma B51 from the Nzebi-Teke West subgroup of Kwilu-Ngounie and three languages of the KLC, i.e. Bembe H11 (North Kongo), Manyanga H16b (Central Kongo), and Yombe H16c (West Kongo). Dondo H112B (North Kongo) is the only WCB language to have both **kò* and **kòndè*. While **kòndò* prevails in the southern KLC Extended subbranch of WCB (as well as Kamtsha-Kwilu), **kò* is the one to predominate in the more northern Kwilu-Ngounie subbranch. The paraphyletic languages from the WCB homeland region all have **kò*. Ding B86 is the only one to also have **kòndò*, although in another variety (West Ding B86W) than the one having **kò* (East Ding B86E).

(10) WCB attestations of **kò* (BLR 1855)[4]

WCB	B86E *e-kwo:/ã-kwo:*; B86E *e-kwo/ăn-kwo*; B861 *ì-ŋkúò/à-ŋkúò*; B862 *kwə/ma-kwə*; B865 *ì-kwɔ̀/à-kwɔ̀*
Kwilu-Ngounie	
KASAI-NGOUNIE EX	B75 *li-ŋko*
Kasai-Ngounie	B71b *kô/á-kò*; B72a *kɔ/a-kɔ*; B74 *kwò/à-kwò*; B77a *kò*; B77b *ko/ma-ko* 'banana (plant)', *lí-nkò/má-nkò*
Kwa-Kasai N	B80z *i-nko/ma-nko*; B82 *ma-nkɔ*
Mbete	B61 *kɔ̀/a-kɔ̀*; B62 *a-kɔ*; B63 *ko/a-ko*
Nzebi-Teke W	B501 *lì-kɔ̀/mà-kɔ̀*; B503 *li-kó* 'plantain'; B51 *li-kɔ/ ma-kɔ*; B52 *lə-kɔ* 'plantain'; B53 *ma-kó*; B73b *kɔ́/má-kɔ́* 'cooking banana'; B73c *kɔ́/má-kɔ́*
KLC extended	
KLC - N	H11 *kó/mà-kó*; H112B *nkó/mà-nkó*; *di-ko*
C	H16b *kò/ma-kò* 'banana (plant)'
W	H12 *li-kó* 'plantain'; H16c *ko di kóoko* 'banana species'

3.2.2 Noun stem. When discussing formal aspects of the root **kò*, the most important issue to demonstrate is that its short monosyllabic shape does not result from the regular shortening of a longer disyllabic form. That is what Bostoen & Koni Muluwa (2017:242-243) assume when they consider actual WCB reflexes of **kò* outside of the KLC as reflexes of **kòndò*, based on an alleged nasal consonant cluster reduction (**nd* > *Ø*) and final vowel loss. Rossel (1998:111) refers to the same changes to link reflexes of **kò* to a *kongo/gongo*-like root. Guthrie (1970:286) too must have had the same phonological processes in mind when he presented **kò* as a possible shortening of **kòndò*. Root reduction processes do take place in certain WCB languages (Daeleman 1977; Rottland 1977; Hombert 1986; Koni Muluwa 2010; Pacchiarotti & Bostoen 2021b), as can be observed in (11)-(13). However, as the same examples show, **nd* is never reduced to zero.

(11) BLR 1326 **gàndó* 'crocodile' ~ BLR 1446 **gòndé* 'crocodile' > B501 *ŋgàándú* ~ *ŋgàándá*, B51 *ŋgàándú*, B52 *ŋgàándá*, B53 *ngàándú*, B72a *ŋàán*, B73b *ŋgáándá*, B73c *ngáándú* 'caiman', B74 *ŋɑ̃̀ɑ̃́n*, B77a *ŋgàndú*, B77b *ngànù*, B80z *ngàn*, B82 *ŋ-gɔ̀:ŋɛ́*, B86W

[4] We did not include the attestations from Hungan H42 *moñkω* 'banana' (Johnston 1919), Mbuun B87 *ko* 'banana' (Philippson & Bahuchet 2008) and Yans B85 *manko* 'banana' (Johnston 1884), because more reliable sources on these languages only mention **kòndò* reflexes for 'banana'.

ŋgààn, B861 *ŋkwŏn*, B862 *nkwààn*, B865 *ŋkwăn*, H11 *ŋgáándu*, H16b *ngándù*, H12 *ngandu*, H16c *ngáàndù*

(12) BLR 1545 **kùndú* 'stomach' > B501 *ù-fúndú*, B51 *fúndú*, B52 ?, B53 ?, B61 *Ø-wúnú*, B62 –, B63 *gi-funu*, B72a –, B73b *yé-fúŋé*, B73c –, B74 –, B77a –, B77b –, B80z –, B82 *ì-kfùŋí*, B86–, B861 *i-pfŭŋ*, B862 *lè-kùn*, B865 *ì-pfŭn*, H11 *ki-fundu*, H16b *ki-fundu*, H12 *ì-fuundu*

(13) BLR 88 **bánd* 'to begin' > B501 –, B51 *báándà*, B52 *ù-bá꞉ndà*, B53 *mà-báándà* 'commencement', B61 *ŋò-bá꞉ná* 'commencement', B62 ?, B63 *gi-bana*, B72a *bɛ̃ɛ̃̀n*, B73b *ɔ̀-bánàŋá*, B73c *ù-bá꞉ndú꞉*, B74 *báána*, B77a *báána*, B77b–, B80z–, B82 *bànè*, B86 –, B861 ?, B862 –, B865 *ò-bààn*, H11 *ku-báándíka*, H112B *bandika*, H16b *banda*, H12 *ku-bänd'*, H16c *báándíkà*.

Based on this evidence, **kò* can in no regular way be historically traced back to **kòndò*. As for Rossel's hypothesis, (14)-(15) show that **ŋg* is reduced to zero in only some of the languages having a reflex of **kò*. However, in many others, it is not.

(14) BLR 1845 **kíngó* 'neck, nape, voice': B501 *lí-kì꞉ŋgù*, B51 *lí-kĭngù*, B52 *Ø-kííngá*, B53 *lì-kìingú*, B61 *Ø-ŋkí꞉*, B63 *ŋkii*, B72a *ŋkíí*, B73b *nkyéèŋé*, B73c *kĩĩngí*, B74 *nkíí*, B77a *nkíí*, B77b *nkiu*, B80z –, B82 *ǹkíɔ́*, B86 –, B861 *ŋkíŋ*, B862 –, B865 *ŋ-kíŋ*, H111 *nsí꞉ngù*, H112B *ntsííngu*, H16b *tsíngù*, H16c *tsííngú*.

(15) BLR 275 **bóngó* 'knee': B501 *lù-bɔ́ɔ́ŋgɔ́*, B51 *lù-bɔ́ɔ́ŋgɔ́*, B52 *là-bɔ́ŋgɔ́*, B53 *lù-bɔ́ɔ́ŋgɔ́*, B61 *vúwó꞉*, B62 *vʷó*, B63 *li-bwo*, B72a *búɔ́*, B73b *bɔ́ɔ̀ŋɔ̀*, B73c *bɔ̃ɔ̃́ngɔ́*, B74 *búó*, B77a *bwɔ́*, B77b *Ø-bwo*, B80z *ì-bwɔ́*, B82 *ì-bɔ́꞉*, B86W *è-bɔ́ŋ ~ bwáng*, B861 *ì-bwóŋ*, B862 *Ø-bɔ́ŋ*, B865 *ì-mɔ́ŋ*, H11 *Ø-bô꞉ŋgò*, H16b *bongo*.

Hence, if **kò* would indeed go back to a *kongo/gongo*-like root, one would need to posit that it spread from the languages regularly attesting **ŋg* >*Ø* to all languages not having undergone this sound change. A contact-induced diffusion of **kò* is not only unlikely because of its very wide distribution within and outside WCB, but also because certain reflexes of **kò* manifest other regular sound shifts which are never observed with loanwords. This is especially the case for the diphthongization of **o* to [*wɔ*] or [*wɛ*] (cf. Koni Muluwa & Bostoen 2012), as observed in the reflexes of **kò* in the paraphyletic WCB varieties at the top of the family tree but also in paraphyletic Teke varieties within Kasai-Ngounie such as Eboo-Nzikou B74, see also (15).

Another indication that reflexes of **kò* are not loanwords is that in those languages for which we have reliable tone data – and these are very few – the tone pattern of its reflex regularly reflects *L. This can be seen in Wanzi B501 *lì-kɔ̀*, given that this language is tonally conservative with regard to PB (cf. Hombert & Mouélé 1988:186-187). Bembe H11 is not conservative, but *kó/mà-kó* can regularly correspond to **kò* (cf. Philippson & Boungou 1999:89, 93). In Ngwi B861, the (supra)segmental behavior of the reflexes of PB noun roots reconstructed as *CV and *CVV is often irregular. Some reflexes of PB noun roots reconstructed as *CV can occasionally develop into synchronic CVV structures. Vowel deletion processes indicate that in these structures VV represents a sequence of two vowel nuclei (and not a diphthong). CVV structures often host a HL tone pattern

regardless of the tone of the proto-form, e.g. BLR 1855 **kò* > *ì-ŋkúò*, BLR 7178 **tó* 'edible caterpillar' >*ò-túò*. Even though what precedes cannot be taken as evidence in support of the tonal regularity of the reflex of **kò* in Ngwi, it shows that other reconstructed *CV noun stems can have CVV synchronic reflexes, where an erstwhile diphthong crystallized into a sequence of two vowels.

3.2.3 Noun class. Just like most WCB reflexes of **kòndò*, all nouns in (10) belong to noun class 5 (prefix *li-*, *i-*, *e-*, *Ø*) in the singular and 6 (prefix *ma-*) in the plural. The only exception is Ngungwel B72a, where *ŋkɔ* 'banana' belongs to class pair 9/6. As for **kòndò* (§3.1.3) and **kòndè* (§4.1.3), several reflexes show trace of a homorganic nasal prefix of classes 9/10 that was integrated into the root. Therefore, we propose **dì-ŋkò*/**mà-ŋkò* as a reconstruction at PWCB level.

3.2.4 Meaning. In most sources, reflexes of **kò* are simply translated as 'banana', 'plantain', or less frequently as 'banana plant'. In Yombe H16c the reflex of **kò* is only found as part of a modified noun phrase to designate a specific but unspecified variety. Reflexes are also attested with a modifier in other languages, e.g. Fumu B77b *ko li nkira* 'red banana' (Calloc'h 1911) and Laali B73b *kɔ́ yéməsè* 'banana variety' (Bissila 1991). Some attestations of **kò* have a diminutive meaning in reduplicated form, e.g. Fumu B77b *ikoko/bikoko* 'diminutive of banana' (Calloc'h 1911) and Kukwa B77a *kìikùkò* 'small banana (dim.)' (Daeleman archive UGent).

3.2.5 Summary. A close examination of its present-day distribution (§ 3.2.1), combined with a diachronic phonological (§3.2.2), morphological (§3.2.3), and semantic analysis (§3.2.4) leads us to reconstruct **dì-ŋkò*/**mà-ŋkò* to PWCB as an additional term for 'plantain' besides **dì-ŋkòndò*/**mà-ŋkòndò* (see §3.1). Given that it is found in almost all major WCB branches and even in first paraphyletic offshoots, the most economical hypothesis is to reconstruct it to the most recent common ancestor of WCB. Why this ancestral language had two terms for banana, i.e. **kò* and **kòndò*, and how they specifically related to each other semantically is hard to tell. How the initial co-existence of **kò* and **kòndò* in PWCB evolved into an almost fully complementary distribution today also needs further investigation.

3.3 **túká* 'bunch of bananas'. In contrast to the two previous banana terms, the one dealt with in this section has received fairly little attention in comparative Bantu language studies aimed at reconstructing the ancient history of banana cultivation in Central Africa. Rossel (1998) is the only one to touch upon the noun stem reconstructed as **túká* (BLR 5455) 'banana: fruit of tree: Musaceae: Musa sp.' in Bastin *et al.* (2002) with reported attestations in Guthrie's zones C and H. Rossel (1998:26, Appendix B) also reports possibly related terms in North-Western Bantu (NWB) languages of zone A and Guthrie's groups B10-30 and WCB languages of Guthrie's groups B40-50 (cf. below).

3.3.1 Distribution within WCB. The reflexes of **túká* which we could identify within WCB are listed in (16). As can be seen, they not only occur in Kongoid and West, East and South Kongo (KLC) languages of Guthrie's B40, H10, and H30 groups and in Nzebi-Teke West (Kasai Ngounie) languages of Guthrie's B50 group, but also in several B80 languages belonging to different WCB branches, i.e. KLC Extended, Kwilu-Ngounie and Kamtsha-Kwilu. What is more, the term is also attested in the first paraphyletic WCB offshoots. Briefly put, the term is well distributed across WCB, certainly if one reckons that it refers to a specific concept often not covered in language

descriptions. Hence, if the forms in (16) turn out to manifest regular sound correspondences, this banana term is a good candidate for reconstruction to PWCB.

(16) WCB attestations of **túká* (BLR 5455)

WCB		B86E *e-súk* 'bunch'; B86W *i-tswa* 'bunch'; B861 *è-tsûʁ/ì-tsûʁ* 'banana bunch'; B865 *e-twâ* 'banana cluster'
Kamtsha-Kwilu		B85F *é-tswa* 'bunch (of bananas)'
Kwilu-Ngounie		
Kasai-Ngounie		
Kwa-Kasai N		B80z *kɛ-tshúka* 'bunch of fruits';
Nzebi-Teke W		B503 *mu-tuka* 'big bunch of bananas with purple fruits'; B52 *mu-tuka* 'French/False Horn Giant/Medium Red-Green Chimaera Subhorizontal';
KLC extended		B85d *mó-tsuː* 'bunch of bananas';
KLC -	K	H31 *m-fúki* 'bunch of bananas'
	S	H16a *m-fuka* 'plantain stalk'
	E	H16g *ǹfúka* 'trunk of banana plant'
	W	B403 *mo-tuka* 'French/False Horn Giant/Medium Red-Green Chimaera Subhorizontal'; B41 – B42 *mu-tuka* 'French/False Horn Giant/Medium Red-Green Chimaera Subhorizontal'; B43 *di-tŭkə* 'ball of banana mash'; H12 *mu-tuka* 'species of plantain with big bunch of purple fruits'

3.3.2 Noun stem. Formally speaking, most nouns in (16) could be phonologically regular reflexes of **túká*, at least as far as vowels and consonants are concerned. The only segmentally uncertain form is the Yaka H31 reflex *m-fúki*, because it ends in /i/, which does not regularly correspond to **a*. However, we did keep it in the dataset, because its meaning and tone pattern are in line with that of other reflexes. The B50 forms are potentially also irregular as far as C1 is concerned (see below).

We start with V1, which should indeed be reconstructed as **u*, not only because this is the vowel which most current-day languages have today, but also because it triggers the mutation of the first plosive consonant into a fricative or an affricate, i.e. **t* > *ts*, *s* or *f*. This sound change, known as Bantu Spirantization (BS), can take place when a plosive is followed by the PB close vowels **i* and **u* (Schadeberg 1995; Bostoen 2008). In several B80 languages, BS occurs irregularly; some words undergo the sound change, while others do not (Daeleman 1977; Rottland 1977; Koni Muluwa 2010), see also (17)-(18). Within the KLC, BS is quite systematic and leads to the mutation of **tu* > *fu*, as observed in the Kongoid, South and East Kongo reflexes of **túká*, and in (17)-(19), with one exception for Yaka H31, cf. *túlá* in (17). However, BS is not fully consistent throughout the KLC (cf. Bostoen & Goes 2019), especially not in the West Kongo languages whose reflexes of **túká* do not manifest the sound shift, see also (17), (18) and (20). In the B50 languages, BS does occur but not many reflexes of **tu* sequences are available; some of them undergo BS, e.g. (17)-(18), others do not, e.g. (20) (Hombert & Mouélé 1988; Mouélé 1997). The B50 reflexes of **túká* could be regular in terms of C1, but we cannot say for certain.

(17) BLR 3101 **túd* 'hammer; forge' > B43-44 *u-tul-a*, B52 *tsól-ɔ̀*, B86W *ku-tsúl*, B85d *ko-tsúl*, B85F *ka-tsül*, B43 *u-tul-a*, H12 *ku-tul'*, H16a *ful-a*, H16g *fúl*, H31 *túl-á*

(18) BLR 3105 **túkɔ̀* 'night' > B404 *mo-tuɣu*, B52 *tsúɣù*, B80z *i-tshúk*, B865 *o-tû*, B86W *túú*, B86W *tsuu*, B861 *ò-tʃû*, B80z *bə-tshuk*, H16a *fuku*, H16g *fúku*

(19) BLR 3122 **túnd* 'teach; punish: accuse' > H12 *funde*, H16a *fund-a*, H16g *fúúnd*, H31 *fúúnd-á*

(20) BLR 5407 **tùtù* 'smoke' > B404 *lo-tutu*, B501-B51 *mú-útù*

Not only C1 can be confirmed as **t*, but also C2 as **k*. Within WCB (cf. Pacchiarotti & Bostoen 2020), when not simply retained, **k* in C2 either shifts to a fricative, such as the voiced uvular fricative [ʁ] in Ngwi B861 illustrated in (16), or is deleted (**k* > *Ø*), as in Nzadi B865, West Ding B86W, Nsambaan B85F and Nsong B85d in (16). Upon the deletion of **k*, either the first vowel is transformed into a glide or a long vowel surfaces, as shown in (21)-(23). In the B40 languages, **k* in C2 is either retained or becomes /ɣ/, as shown below (see also Pacchiarotti & Bostoen 2020).

(21) BLR 3536 **jókà* 'snake; intestinal worm' > B41 *ɲoɣə*, B42 *ɲoɣə*, B43 *ɲoɣə*, B861 *ndʒúà*, B865 *odzwó*, H12 *nyoka*, H16a *nioka*, H16g *nyóka*, H31 *nyóka*

(22) BLR 1044 **dìık* 'bury; (plant)' > B41 *ɣu-tsiiɣ-ə*, B43 *-utsiiɣ-ə*, B80z *ó-djik-a*, B85d *kó-dzíː*, B85F *kadzíí*, B86R *o-dzy-a*, B86W *ku-dzye*, B865 *o-dzy-á*, B865W *dzik*, H16a *zik-a*, H16g *ziik*, H31 *zíík-á*

(23) BLR 1904 **kókó* 'chicken' > B80z *n-kwɔk*, B85d *ń-kɔː*, B85F *ń-koo*, B86R *n-kwó*, B86W *n-kɔ́ɔ́*, B861 *ŋ̀-kóʁ*, B865 *ŋ-kwɔ́*, H16g *koko*, H31 *khóko*

(24) BLR 762 **cùk* 'wash' ~ BLR 712 **còkʊd* 'wash, cleanse' > B42 *utsukə*, B43 *usugha*, B80z *ó-swa*, H12 *ku-suk-a*, H16a *sukul-a*, H16g *sukul*, H31*súkúl-a*

As discussed in §3.1 and shown in (25), the final vowel is regularly lost in the B80 languages (see also Pacchiarotti & Bostoen 2021b), except when C2 is lost first and V1 and V2 interact, as in (26) and (27). In those languages where V2 is not lost, it is retained as /*a*/, except in the B40 languages where **a* in V2 can also become /ə/, cf. (28) and (29). However, as far as **túká* is concerned, this change is only observed in Punu B43.

(25) BLR 261 **bòmà* 'snake: python' > B865 *mbɔ̌m*, B86W *mbɔɔm*, B85d *mbɔ́m*, H12 *mbom'*, B80z *mbɔm*, B85F *mbɔ́m*

(26) BLR3 316 **bógà* 'open space; thrashing-floor; village, path' > B865 *mbvwá*, B86W *mbwa*, B86W *vwaa*, B861 *mbûʁ*, B80z *mbúka*, B85F *mbwáa*

(27) BLR3 2132 **kúpà* 'bone' > B865 *kapfwa*, B86E *mukwa*, B85d *mukpa*, B80z *ekpa*, B85F *makwa*

(28) BLR 70 **bàkàdà* 'man, male' > B41 *dibaɣələ*, B42 *dibaɣələ*, B43 *dibaalə*

(29) BLR 406 **cádá* 'feather' > B41 *dusalə*, B42 *ditsalə*, B43 *dusalə*

The only formal aspect of **túká* which cannot be confirmed based on our dataset is the *HH tone pattern. In Ngwi B861, several PB noun roots reconstructed as *HH underwent a tonal dissimilation rule known in Bantu studies as Meeussen's rule, whereby PB *HH > HL, as shown in (30). Nevertheless, as shown in (31), several historical *HH nominal roots did not undergo this tone shift. While the Ngwi reflex *è-tsûʁ* could be a regular reflex of **túká* (an instance of *HH > HL as in (30)), it could also be the reflex of a historical *HL, which is always preserved in Ngwi nominal (and verbal) roots (Sara Pacchiarotti, personal knowledge).

(30)	BLR 183	**bídá*	'announcement'	>	*mbíà*
	BLR 406	**cádá*	'feather'	>	*è-síà*
	BLR 1647	**kádí*	'woman, wife'	>	*ò-ŋkéàr*
	BLR 1927	**kómbó*	'broom'	>	*ì-kôm*
(31)	BLR 521	**cégé*	'horn'	>	*ì-sə́ʁ*
	BLR 1845	**kíngó*	'neck'	>	*Ø-ŋ̀kíŋ*
	BLR 1904	**kókó*	'chicken'	>	*Ø-ŋ̀kóʁ*
	BLR 1695	**kámá*	'hundred'	>	*Ø-ŋ̀kám*

In the same vein, the *e-twâ* reflex in Nzadi B865, a conservative WCB variety tone-wise (cf. Crane *et al.* 2011:270), matches better with *HL. In Ntandu H16g, the citation form *ǹfúka* belongs to "tone group (b)", which also has a better fit with *HL than with *HH (Daeleman 1983:363; Meeussen & Daeleman 1983:145). The *HL tone pattern reflected in the WCB languages with reliable tone data matches well with that of *etúka* 'bunch' in the CWB language Mongo C61 (Hulstaert 1957:625), which is known to be tonally conservative with regard to PB (cf. Hulstaert 1941). As a consequence, we propose **túkà* instead of **túká* as a noun stem to be reconstructed in PWCB.

Only the surface tone pattern of the Punu B43 reflex *di-tŭkə* 'ball of banana mash' corresponds to neither *HL nor *HH. It belongs to "tone class A", which generally matches with *LL (Blanchon 1999:55, 61) (see also §4.1.2). Given that its meaning is also rather exceptional, maybe this form is not a reflex of **túkà* after all.

3.3.3 Noun class. WCB reflexes of **túkà* belong to distinct noun class pairs. They either have their singular in class 7, i.e. prefix *ke-*, *e-* or *i-* in (16), and their plural in class 8, i.e. prefix *i-* in (16), or they have their singular in class 3, i.e. prefix *mu-*, *mo-*, *m-*, *n-* in (16) and class 4 in the plural. In terms of genealogical distribution, classes 7/8 are spread across most WCB branches, i.e. the paraphyletic varieties at the top of the tree, Kamtsha-Kwilu and Kwilu-Ngounie. In the KLC Extended, only classes 3/4 are attested. This class pair is also observed in the reflexes of the neighboring B50 languages of the Nzebi-Teke West subgroup (Kwilu-Ngounie). Although spread over most branches, reflexes belonging to classes 7/8 are the most uniform semantically in that all mean 'bunch (of bananas)'. Those belonging to classes 3/4 are semantically more diverse. They only designate the bunch in Nsong B85d (KLC Extended) and Yaka H31 (KLC – Kongoid). Elsewhere,

they either refer to the stalk or trunk of the banana plant (East and South Kongo) or to specific varieties of AAB Plantain characterized by big bunches of fruit (West Kongo and Nzebi-Teke West). Finally, class pair 7/8 is also attested outside of WCB, for instance in CWB, in association with the meaning 'bunch'. This is why we propose to reconstruct **kì-túkà/*bì-túkà* (cl. 7/8) to PWCB.

Only one WCB term belongs to neither class pair 7/8 nor 3/4, i.e. Punu B43 *di-tŭkə* 'ball of banana mash', which takes noun class pairing 5/6. The difference in class could account for the difference in meaning. On the other hand, on top of the term's deviant meaning and tone pattern (cf. above), this exceptional class pair could also indicate that this is simply not a reflex of PWCB **kì-túkà/*bì-túkà* (cl. 7/8).

3.3.4 Meaning. As discussed in the previous section, we consider '(banana) bunch' as the original meaning of **kì-túkà/*bì-túkà* (cl. 7/8) in PWCB. Although it refers to bunches of fruit more generally in certain languages, it seems closely associated with banana bunches, more specifically of plantains. This is supported by the fact that its meaning shifted in some WCB branches to another part of the banana plant (stalk, trunk) or to a specific variety of plantains with abundant bunches. Bastin (1985) shows that metonymy is one of the most common conceptual mechanisms underlying semantic change in Bantu languages and that placing a noun root in different noun class pairings is the most common way to change its meaning. The metonymically motivated semantic change of **kì-túkà/*bì-túkà* to designate specific plantain varieties is not only linked with the shift to classes 3/4, but also restricted to a specific geographical area within WCB, i.e. the Atlantic coast of southern Gabon and its immediate hinterland (B40-50 languages). In this area, reflexes of **kì-túkà/*bì-túkà* designate plantain cultivars, which are classified according to the form and structure of the fruit bunch and labelled French, French Horn, False Horn and Horn plantains (Raponda-Walker & Sillans 1995; Rossel 1998). It is likely that its use as an economic plant term originated in one of these languages and then spread to surrounding languages, which would explain certain formal irregularities. This may also explain the presence of *mo-tuka* in certain Gabonese NW Bantu languages of Guthrie's groups B10-30 (Raponda-Walker & Sillans 1995; Rossel 1998).

Rossel (1998:153) argues that **túkà* is etymologically derived from a verb reconstructed as **túʊk* 'come from' (BLR 3052) which would designate the emergence of the bunch from the pseudo-stem. However, this hypothesis is untenable from a phonological point of view. The vowel of **túʊk* and V1 in **túkà* differ in both quality (near close back vs. close back) and length (long vs. short).

3.3.5 Summary. Besides two distinct generic terms referring to plantains, i.e. **dì-ŋkò/*mà-ŋkò* and **dì-ŋkòndò/*mà-ŋkòndò*, **kì-túkà/*bì-túkà* is a third banana term reconstructable to PWCB. The meaning 'bunch of plantain fruits' suggests that the fruits of the banana plant must have been especially relevant in ancestral times, most probably for reasons related to subsistence.

4. Later WCB banana terms

4.1 *kòndè* 'plantain'. Often mentioned alongside **kòndò* in studies on common Bantu banana vocabulary (cf. Guthrie 1971:131; Vansina 1990:62-64; De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995; Rossel 1998; Blench 2009) is **kòndè* 'banana: Musaceae' (BLR 1935). Like **kòndò*, this root has also been observed in Guthrie's zones A, B, C, H and K, all in the western half of the Bantu area, but additionally also in zones D, F, L, N, M and R (Bastin *et al.* 2002). As it extends further south, both westward and eastward, it is much more widespread than **kòndò*.

However, just like with **kòndò*, not all reflexes of **kòndè* turn out to be phonologically regular, a fact that could point again to a diffusion through borrowing (De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995).

4.1.1 Distribution within WCB. Unlike in Bantu more generally, **kòndè* is much less widespread in WCB than **kòndò*. Ricquier (2016:125-126) reports **kòndè* as another common banana term in the KLC, more specifically in North, West and South Kongo. These are indeed the only WCB subgroups in which we could find attestations of this root, as shown in (32).

(32) WCB attestations of **kòndè* (BLR 1935)

KLC -	N	H111 *dì-nkòndí*; H112B *ma-nkonde* 'banana plants'; H13 *di-konde/ma-konde*; H131 *dì-khóndè/mà-khóndè* 'banana (plant)'; H16f *lì-nkòndí/mà-nkòndí*
	S	H16aL *di-nkonde/ma-nkonde*; H16aZ *ma-kónde*
	W	B402-B403-B41-B44 *di-góndi* 'plantain'; B42 *dí-ɣɔ́ɔ́ndə̀/ má-ɣɔ́ɔ́ndə̀*; B43 *di-ɣŏndi/ma-ɣŏndi* 'banana plant; bunch of bananas', *di-ghoondi/ma-ghoondi* 'plantain'; B44A *di-ghoondi/ ma-ghoondi* 'plantain'; H16dL *li-kōnde*

What is more, **kòndè* seems to be in almost perfect complementary distribution with **kòndò* in the KLC. The only languages in which an attestation of both roots was found are Manyanga H16b and Yombe H16c, but both are dubious. As for Manyanga, Odden (1991:190) mentions *mankonde* in a short treatise dealing with tone only, while more comprehensive descriptions of this Central Kongo variety only report *díkóndó* (Laman 1936; Makokila 2012). As for Yombe, Laman (1936:311) mentions it as a western dialectal form, but it occurs in none of the dictionaries of this West Kongo variety (Bittremieux 1923-1927; De Grauwe 2009). Reflexes of **kòndè* are thus mainly attested in the northern part of the KLC, more specifically in North Kongo and the northernmost languages of West Kongo (B40). The only other West Kongo attestation is from the southernmost language of that subgroup, i.e. Woyo H16dL. Although different banana terms are mentioned in sources on Congolese and Cabindan varieties of Woyo (Mingas 1994; Vandenabeele 2016), Guthrie (1970) reports *likōnde*. His source is unknown. Note that Solongo H16aL, one of the two coastal South Kongo varieties where **kòndè* is attested, is spoken immediately south of Woyo. Yombe is the eastern neighbor of Woyo, while Manyanga is the eastern neighbor of Yombe and the western neighbor of the North Kongo variety Laadi H16f. In other words, the distribution of **kòndè* within in the KLC seems to be restricted to two distinct clusters of adjacent languages belonging to different genealogical subgroups: (1) the coastal area around the Congo mouth and its hinterland and (2) the coastal area of southern Gabon and its hinterland. In any event, based solely on its distribution, it is clear that **kòndè* is of much more recent origin within WCB than **kòndò*. While **kòndò* is attested in all main WCB subbranches, **kòndè* is restricted to very late offshoots within one specific subbranch.

4.1.2 Noun stem. Formally speaking, the reflexes of **kòndè* in (32) seem to follow the regular diachronic sound changes of their respective languages in as far as this can be verified with the available documentation. For instance, we would need phonetic equivalents of orthographic conventions in Varama B402, Vungu B403, Shira B41 and Lumbu B44 data in Raponda-Walker &

Sillans (1995) to be entirely sure of the diachronic phonological regularity of **kòndè* reflexes in these languages.

The reflexes of **kòndè* in (32) manifest to a large extent the same regular variation as those of **kòndò* in (1). One specificity in C1 position is that many B40 West Kongo languages have a voice velar fricative [ɣ] as the regular reflex of PB **k* and **g* (Pacchiarotti and Bostoen 2020: 143, 148, 150), which is commonly noted orthographically as <*gh*> and probably as <*g*> in Raponda-Walker & Sillans (1995). As can be seen in (32), the mid front vowel **e* in V2commonly undergoes heightening to /i/. This is a fully regular process in the B40 languages, except in Sangu B42 where it is either heightened to /i/ or centralized to /ə/. Final vowel heightening also occurs in the North Kongo languages Hangala H111 and Laadi H16f, but not consistently, as shown in (33)-(36).

(33) BLR 147 **béénè* 'breast' > B41 *di-beeni*, B42 *di-beenə*, B43 *di-beeni*, B44A *di-beeni*, H111 *bééné*, H112b *bééna*, H13 *di-beene*, H131 *beene*, H16a *yene*, H16b *di-beene*, H16c *di-bééne*, H16d *li-beene*, H16f *beni*

(34) BLR 1434 **gòmbè* 'cattle' > B43 *ngoombi* 'cow', B44A *ngoombi* 'cow', H111 *gòòmbí* 'cow', H16a *ngóómbe* 'cow', H16b *ngombe* 'ox', H16c *ngoómbe* 'cow', H16d *ngombe* 'cow'

(35) BLR 6598 **dombe* 'black' > H112B *n-dóómbe*, H131 *n-dombi*, H16f *n-dombi*, H16aL *n-dombe*, H16dL *nombe*

(36) BLR 7670 **deng* 'mane' > H111 *mi-lengi* 'hair', H112B *mu-leengi* 'hair', H131 *mu-léengi* 'hair', H16f *ǹ-lé'ŋgì* 'hair', B44 *mu-leengi* 'hair', H16d *lu-lendje* 'hair'

As for tone, Shira B42 and Punu B43 are the two B40 languages having reflexes with reliable tone notation. Both B42 *dí-ɣɔ́ɔ́ndə* and B43 *di-ɣǒndi* belong to "tone class A", which generally corresponds to *LL (Blanchon 1999:55, 61), the tone pattern with which **kòndè* was reconstructed. This also holds for the tone pattern of the Laadi H16f reflex *lì-nkòndí* (Blanchon 1998:21). As for Hangala H111, although Nguimbi-Mabiala (1999:8) admits himself that his tone notation is not fully reliable for that language, many of the noun stems reconstructed with *LL do have a reflex with the same tone pattern as *dì-nkòndí*. Finally, the *dì-khóndè* reflex in Sundi H131 points to an underlying HL tone pattern (N'landu Kitambika 1994:49-50). However, the L-HL schema provided by both N'landu Kitambika (1994:153) and Baka (1999:8) for the form in isolation is possibly not the true citation form, but the form followed by a possessive or demonstrative, which are also reported elsewhere, i.e. *dì-khóndè dyáwù* 'their banana' or *mà-khóndè mámà* 'these bananas' (N'landu Kitambika 1994:103, 110). Nouns with an underlying LL pattern are realized L-HL in front of a possessive or demonstrative. If *dì-khóndè* really had a L-HL pattern in citation form, it should have had a H-LL pattern after a possessive or demonstrative (N'landu Kitambika 1994:49-50). Briefly put, all available tone data appear to confirm that we deal here with phonologically regular reflexes of **kòndè*.

4.1.3 Noun class. All nouns in (32) belong to noun class 5 (prefix *di-*) in the singular and 6 (prefix *ma-*) in the plural, just like most WCB reflexes of **kòndò*. Also similar to **kòndò* is that North and South Kongo reflexes of **kòndè* manifest traces of a former nasal noun prefix, either directly on the surface (e.g. H111 *dì-nkòndí*) or indirectly through aspiration (e.g. H131 *dì-khóndè*), triggered by

the nasal before being lost. Such traces are absent from West Kongo, where <*gh*> stands for the voiced velar fricative [*ɣ*] and not for an aspirated stop. This is also the case for the West Kongo attestations of **kòndò*.

4.1.4 Meaning. As it happens with **kòndò*, reflexes of **kòndè* are mostly translated as'banana'. More informative sources such as the plant catalogue of Raponda-Walker & Sillans (1995) give some 'plantain' as a translation. One of these is. In Sangu B42 and Punu B43, reflexes of **kòndè* without a modifier are also reported to refer to a whole bunch of bananas. In very few instances, the **kòndè* reflex has been found followed by a modifier, e.g. for instance Laadi H16f *mankondi wa baingerezo* 'AAA Red' (lit. 'bananas of the English') (Rossel 1998) and Punu B43 *diɣondi dí bǎkə* 'with very long fingers', __ *dí biri* 'with small fingers', __ *dí didụ̂ngu* 'with long and thick fingers' __ *dí sǎsi* 'with small fingers' etc. (Blanchon 2008). Such compounds are always used to designate specific varieties.

In §5, we discuss a possible deverbative etymology for **kòndè*. Although we posit that this noun stem is derived from the same verb root as **kòndò*, the deverbative derivation must have happened independently within and outside of WCB.

4.1.5 Summary. Based on its distribution within WCB, **kòndè* can certainly not be reconstructed to PWCB, and even not to most recent common ancestor of the KLC, as it is only well attested in two of its subgroups, i.e. North and West Kongo, and within the latter only in the northernmost B40 varieties. As the West and North Kongo subgroups are not more closely related to each other than to any other of the KLC subgroups (cf. Figure 2), it is also hard to reconstruct it to an ancestral node shared by these two subgroups. This is even less likely if one reckons that a nasal prefix was integrated into the noun stem in North Kongo, i.e. **dì-ŋkòndè*, but not in West Kongo, i.e. *dì-kòndè*. One way to account for this situation is to posit these reflexes as independent innovations in both subgroups. However, this would be a remarkable coincidence given that both subgroups are geographically adjacent and the same **kòndè* root is also attested in two coastal South Kongo varieties as well as outside of WCB. A more likely explanation would be an introduction into the KLC through contact-induced spread. Recall that **kòndè* occurs in two distinct clusters of adjacent KLC languages belonging to different genealogical subgroups. This geographical pattern is suggestive of a contact-induced spread. On the other hand, if this were the case, one would expect phonological irregularities, which do not occur, not even tonally. This apparent discrepancy could possibly be accounted for by positing that upon borrowing the (supra)segmental shape of the **kòndè* reflex was analogically levelled against **dì-ŋkòndò* reflexes. These were probably already present in languages having reflexes of **kòndè*, because **dì-ŋkòndò* goes back to PWCB and is still attested in closely-related West and North Kongo varieties. The nearly perfect complementary distribution of **kòndè* and **kòndò* reflexes within the KLC and the fact that both are basically generic terms for AAB Plantain could indeed explain why borrowed **kòndè* terms were reshaped in accordance with inherited **dì-ŋkòndò* terms, which they eventually replaced. Within the borrowing scenario, the question would then be from where these terms were imported into the KLC and why they replaced reflexes of **kòndò*. In the NWB languages of Guthrie's B10-30 groups, spoken north of WCB, **kòndò* prevails and no solid attestations of **kòndè* could be retrieved (Philippson & Bahuchet 1994-1995; Raponda-Walker & Sillans 1995; Rossel 1998). South of WCB, on the other hand, **kòndè* is widely attested in South-Western Bantu (SWB) languages (De Langhe *et al.* 1994-1995; Philippson & Bahuchet 1994-1995; Rossel 1998). One of them is the KLC's immediate southern neighbor

Mbundu H21(da Silva Maia 1961:70), which is in direct contact with the coastal South Kongo varieties having **kòndè* (instead of **kòndò*). If indeed **kòndè* was a contact-driven import into the KLC, it must have come from the south, possibly via trade. This ties in nicely with the hypothesis of De Langhe *et al.* (1994-1995) that **kòndè* may have originated in Guthrie's zones K, L and M to the south-east of the KLC. If this were the case, one still needs to explain why reflexes of **kòndè* are not attested in the more southern West Kongo varieties along the Cabinda and Loango coasts, such as Vili H12. Possible reasons might be lack of data or the emergence of other common banana terms (§4.2).

4.2 *tébè* 'starchy banana'. The second WCB banana term with a rather restricted distribution is in (37). *Tébè* has no corresponding reconstruction in BLR3 (Bastin *et al.* 2002). Just like **kòndè*, this root does not occur outside the KLC. In contrast to **kòndè*, it is not attested outside of WCB.

4.2.1 Distribution within WCB. Ricquier (2016:125-126) reports three instances of *tébè* in West Kongo, the KLC subgroup where the root is indeed most attested. Additionally, we retrieved a few attestations in Central and South Kongo varieties spoken in the immediate vicinity of West Kongo. This distribution suggests a probable origin in West Kongo, and more specifically in the southern part of this subgroup. Apart from Lumbu B44, it only occurs in the H10 varieties of West Kongo. The term was already there at least since the end of the 18th century, as *(ki)tébé/b(i)tébé* 'banana' is attested in the oldest West Kongo dictionary (Anonyme 1772).

(37) WCB attestations of *tébè*

KLC -	C	H16b	*tébe, tébi, téebi* 'banana variety';
	S	H16aK	*tebe* 'plantain'; H16aM *tébe/tébe*;
	W	B44	*ì-tébì/bì-tébì*; H12 *tshi-teb'/bi-teb'*; H131M *kì-tébè*; H16c *tebe/bi-tebe*; H16cY *kí-tébì/bí-tébì*; H16cZ *tébe*; H16dK *tébe/bi-tébe*; H16dX *i-teebe/e-teebe*

4.2.2 Noun stem. The noun stems in (37) are phonologically fairly uniform and invite the reconstruction of a shape such as *tébè*. Where tone notation is available, the simple noun stem always has a HL tone schema (note that the accents in the 18th c. form is not proper tone marking). The few forms with a final /***i**/ are easily accounted for as instances of final vowel heightening (§4.1.2). In Vili H12, final vowels – most prominently /***a**/ but not exclusively – are often muted and represented by the symbol <'> (I.LA.LOK 2008:17).

One historically significant phonological irregularity among the noun stems in (37) is the occurrence of /*b*/ in C2 in South Kongo. The intervocalic loss of **b* is known to be a shared innovation defining South Kongo as a subgroup (Bostoen & de Schryver 2018b:84-92). As the South Kongo *tébè* forms did not undergo this regular sound change, they must have been introduced as borrowings after this sound change had occurred. These forms could have been borrowed from West Kongo where the term is most prolific and **b > Ø* did not take place.

4.2.3 Noun class. All nouns in (37) belong to noun class 7 (prefix *ki-, tshi-, Ø*) in the singular and 8 (prefix *bi-, e-, Ø*) in the plural. Both prefixes are commonly subject to reduction and loss within the KLC (cf. Bostoen & de Schryver 2015). In other words, the full noun must originally have looked like *kì-tébè/bi-tébè*.

4.2.4 Meaning. The *tébè* nouns are in most cases translated as 'banana'. However, in some sources which make the distinction between plantains and dessert/sweet bananas, the translation is 'plantain', e.g. in Lumbu B44 *(y)ìtébì* 'plantain (*Musa paradisica*)' (Mavoungou & Plumel 2010). Sometimes the term is followed by a modifier to refer to a specific banana variety, e.g. Yombe H16c *tebe ki P'utu* 'Chinese banana' (=sweet/dessert AAA Cavendish banana) (Bittremieux 1923-1927:640). In Kakongo H16d, the modified noun phrase *tébé bia biala* refers to 'bunch of common bananas' or 'banana plant' (Cuénot 1773). The root itself is also sometimes used as a modifier referring to a certain part of the banana plant, e.g. Zali H16d *mbá tébe* 'bunch of bananas' (Vandenabeele 2016), but also to a specific kind of banana or a banana variety, e.g. Yombe H16c *mansala tebi* 'the longest of all bananas' (Laman 1936:498).

Etymologically, *kì-tébè* might be related to the verb root **téeb* 'gather (firewood)' (BLR 2814) with reported attestations in zones C M N S (Bastin *et al.* 2002). Contrastive vowel length went lost in the KLC. Therefore, **téeb* would have become **téb*. Reflexes of this verb root are also attested in the KLC, among others in the West Kongo oldest source, where we find *teba* 'cut firewood, cut' (Anonyme 1772). In more recent sources, the root seems to have undergone semantic generalization. In Manyanga H16b, *téba* is translated as 'cut, trim (hair); tear down by cutting; cut in pieces; scrape, twist, brush; shave' (Laman 1936:958); in Yombe H16c, *teba* means 'peel, crush, shave, trim' (Bittremieux 1923-1927:640). The fact that within the KLC the verb **téb* mainly occurs in those West Kongo languages also having *tébé* as a banana term reinforces the possible historical link between the verb and the noun. Semantically, this verb developed many more meanings within the KLC compared to **téeb* 'gather (firewood)'. The one which likely favored a deverbative derivation to *tébé* is 'to peel'. Important to know in this respect is that the AAB Plantain fruit cannot be peeled at/near maturity. In early colonial times, the Portuguese introduced several cultivars that can be peeled at maturity, mainly Indian AAB and ABB subgroups, such as the starchy ABB Bluggoe and the dessert AAB Prata. KLC speech communities along the Atlantic Coast and its hinterland may have created *kì-tébè* to distinguish such recently imported cultivars from their traditional AAB Plantain. As Bantu deverbative nouns or participles ending in *-e* often refer to a state (cf. Bastin 1989; Schadeberg & Bostoen 2019:190), this new banana term may originally have meant 'the peeled one'. Speakers possibly wanted to highlight this specific characteristic of those new bananas, because they did not know before any bananas that peeled near maturity. Since any 'starchy banana' is often erroneously called 'plantain', the term may have originally referred to a foreign starchy banana, such as the ABB Bluggoe, before being extended to other types of bananas.

4.2.5 Summary. The banana term *kì-tébè* seems to have emerged relatively late in the southernmost West Kongo languages of the KLC, i.e. those spoken along the Atlantic coast of the DRC, Cabinda and Congo and their immediate hinterland (see Map 1). The term has been there since at least the late 18th century. From the southern West Kongo area, it spread to immediately neighboring Central and South Kongo languages. The noun is possibly derived from a verb root *téb* referring to cutting, peeling and/or crushing of bananas. Given its assumed original meaning, i.e. 'the peeled one', it probably referred originally to a cooking banana that peels near maturity, such as the ABB Bluggoe, which was imported from India in early colonial times. In 18th-century West Kongo and its direct descendants in present-day Cabinda, such as Iwoyo H16dL and Ikwakongo H16dX, *kì-tébè* is the only starchy banana term attested. It is therefore likely that Cabinda was the center of this relatively late innovation.

4.3 *banga* 'False Horn plantain'. The root *banga* is known from specialized literature on the banana in Central Africa (Rossel 1998; Adheka Giria & De Langhe 2018), where it is mentioned as a common Bantu term for a specific type of plantain, i.e. the so-called 'False Horn'. Plantains are usually subdivided into three types according to the degree of the inflorescence degeneration: 'French', 'False Horn' and 'Horn'. The 'False Horn' is a cultivar with a very reduced male inflorescence and the male bud disappearing long before maturity (Adheka Giria & De Langhe 2018:13). Rossel (1998) identifies *banga* as referring to the 'False Horn' plantain in dozens of NWB, CWB and WCB Bantu languages as well as some neighboring Ubangi languages. Adheka Giria & De Langhe (2018:82-93) also list it as 'False Horn' plantain cultivar in several CWB languages spoken in the wider area of Kisangani (DRC). However, this root is not reconstructed in BLR3 or any other work on Bantu lexical reconstruction.

Possible WCB reflexes of this root are given in (38). All forms translated as 'False Horn', or more precisely as 'False Horn Medium Green/Black Subhorizontal', come from Rossel (1998). The two attestations translated as *'*plantain variety: big banana common on Gabonese markets' are from the Gabonese plant guide by Raponda-Walker & Sillans (1995:447), who also list Fang A75 and several other Gabonese NWB languages of Guthrie's groups B10-30 as having the same root with the same meaning. In other words, the root is well represented in botanical treatises, but mentioned in very few lexicographic or grammatical descriptions. Only three attestations in (38) were not also mentioned in Rossel (1998) and/or Raponda-Walker & Sillans (1995:447), i.e. B86W, B63, H16c. Given the meaning of the Yombe H16c reflex, it is even dubious whether we really deal here with the same root. The *m̀-bánga* reflex is reported in Laman (1936:521), who mentions it as a West Kongo root, but none of the dedicated Yombe H16c sources have it (Bittremieux 1923-1927; De Grauwe 2009). In Manyanga H16b, the same term *m̀-bánga* refers to the kernel of the palm nut. A similar term for palm nut kernel is attested in other NWB, CWB and WCB languages and even in Benue-Congo languages beyond Narrow Bantu (cf. Bostoen 2005). Hence, the Yombe reflex is most likely a distinct term belonging to a different noun class (i.e. 9/10) compared to most other reflexes in (38).

(38) WCB attestations of *banga*

WCB	B86W *i-baŋ* 'non-native banana'
Kwilu-Ngounie	
Kasai-Ngounie	
Mbete	B62 *o-banga* 'False Horn'; B63 *gi-banga/e-banga* 'banana variety'
Nzebi-Teke W	B501-B51 *e-banga* 'False Horn'; B503 *gi-banga* 'plantain variety: big banana common on Gabonese markets'; B52 *i-banga* 'False Horn'
KLC extended	
KLC - W	B41 *gi-bangi* 'plantain variety: big banana common on Gabonese markets', B42 *gé-banga* 'False Horn', H16c *m̀-bánga* 'chopped banana cooked without palm oil or peanuts; dish of beans mixed with bananas'

If we exclude H16c from the attestations in (38), the only attestation that is not from a Gabonese language is West Ding B86W, where the reflex is translated as 'non-indigenous banana'

(Mertens 1939:21), unlike *iŋkɔɔn* (the reflex of **kòndò*) which is translated as 'indigenous banana' (Mertens 1939:29). Its attestation in a paraphyletic language at the top of the WCB tree and spoken in the WCB homeland region could be crucial for the reconstruction of *banga* to an ancestral WCB stage. However, the term only occurs in a dictionary from colonial times. We could not find it in any more recent source on Ding nor in any other language from the same region. Moreover, in the majority of languages in (38), *banga* refers to a banana variety that in the early 20th century had just been imported into the WCB homeland region. Therefore, for the time being, we cannot consider the West Ding term as sufficient and reliable evidence to reconstruct a *banga* root to PWCB.

Although other WCB reflexes in (38) are distributed across two different WCB subbranches, i.e. Mbete and Nzebi-Teke West of Kwilu-Ngounie and West Kongo within the KLC, it is unlikely that *banga* is a retention. There are at least two reasons to posit that the distribution of reflexes within Gabon represents a relatively recent loanword set: (i) all languages having a reflex of *banga* are in direct contact (also with NWB languages spoken in Gabon having reflexes of this root); and (ii) the term refers to a very specific plantain cultivar, i.e. the 'False Horn' (Rossel 1998), which is particularly common in Gabonese markets (Raponda-Walker & Sillans 1995:447). As the available data do not stem from strictly linguistic sources, it is hard to assess whether they are phonologically regular from a diachronic point of view.

More linguistic research is needed on the wider distribution of *banga* within Central Africa to properly assess its time depth and history of spread within and outside of WCB. The data available at present do not allow to reconstruct it to PWCB.

4.4 *toto* 'dessert/sweet banana'. The last root to be discussed is the only widespread WCB term specifically referring to dessert/sweet banana. The root *toto* has not been reconstructed in BLR3 or any other work on Bantu lexical reconstruction, but it is mentioned in comparative studies dealing with banana terms, such as Rossel (1998) and Philippson & Bahuchet (2008), who report a *toto*-like root in NWB, CWB, WCB and Eastern-Bantu (EB) languages. Hence, it seems to be a common Bantu term, which is certainly not restricted to WCB. They also signal possible attestations in neighboring Nilotic and Ubangian languages suggesting that the root underwent contact-induced spread.

4.4.1 Distribution within WCB. The WCB attestations of *toto* are listed in (39). This term is widespread in two major subbranches, i.e. Kasai-Ngounie of Kwilu-Ngounie and the KLC of KLC extended. Within Kasai-Ngounie, it is attested in the Mbete and Nzebi Teke West subgroups as well as in Fumu B77b, a paraphyletic Kasai-Ngounie variety spoken on the Bateke Plateau. Within the KLC, it is attested in all subgroups except South Kongo and Kongoid. In West Kongo, the root is present at least since the 18th century, because it is reported in the oldest dictionary of that subgroup as *zi toto* '*figue banane*', an old French word for 'sweet banana' (Anonyme 1772).

Within WCB, Kasai-Ngounie and the KLC are the two westernmost clusters furthest removed from the homeland. Within each of these two subbranches, the subgroups in which the *toto* root is attested are also among the westernmost, i.e. those closest to the Atlantic coast. Based solely on this distribution, this root is certainly not reconstructable to PWCB. It could be at best reconstructed back to Proto-Kwilu-Atlantic, the most recent common ancestor of both the Kwilu-Ngounie and KLC extended subbranches, provided that the reflexes of *toto* are phonologically regular.

(39) WCB attestations of *toto*

Kwilu-Ngounie

Kasai-Ngounie		B77b *toro/ma-toro* '1. small banana 2. all the imported banana plants, being rather small'
Mbete		B61 *toro* 'AAA Gros Michel'; B62 *(e)-toro* 'AAA East African (original) cultivar';
Nzebi-Teke W		B501 *le-toto* 'AAA East African (original) cultivar', *lì-tɔ̀tɔ̀/mà-tɔ̀tɔ̀* 'sweet banana'; B503-B51 *li-tótó* 'sweet banana'; B52 *lé-tótó* 'sweet banana'; *lù-tɔ̀tɔ̀/mà-tɔ̀tɔ̀* 'sweet banana'; B73b *i-totu, toto* 'AAA East African (original) cultivar'; B73c *toto (la ngwambulu)* 'AAA East African (original) cultivar (banana of forefathers)'

KLC extended

KLC -	N	H11 *tóto/mà-tótò* 'sweet banana'; H16f *bi-tóto* 'matiba bananas'
	C	H16b *ntóoto* 'ripe banana; vegetables in general, seeds for cultivation and sale'
	E	H16g *bi-tóto* '*Musa sapientum*'
	W	B402-B403-B41-B42 *ditótu* 'sweet banana'; B43 *di-tŏtu/ma tŏtu*'1. sweet banana 2. bunch of sweet bananas 3. banana plant producing sweet bananas'; B44 *dì-tótù/mà-tótù* '1. (sweet) banana plant 2. sweet banana', B44A *di-totu/totu* '1. (sweet) banana plant 2. sweet banana'; H12 *n-tótó* 'sweet banana', H16c *t'oto/zi-t'oto* 'ripe banana'

4.4.2 Noun stem. As far as consonants and vowels are concerned, the noun stems in (39) manifest regularly attested cross-linguistic variation within WCB. Both V1 and V2 are reconstructable as the mid back vowel **o*, which is regularly heightened to /*u*/ in certain languages (§3.1 and (40), (41), (44) and (44) below). As for C1 and C2, both can be reconstructed as **t*, which is commonly retained as /*t*/, but can also occasionally shift to /*r*/. In the languages where rhotacism (**t* > *r*) is attested, it is rarely fully systematic and tends to be more frequent in C2, cf. (43)-(44), than in C1, cf. (40)-(42). The regularity of the reflexes of *toto* in the WCB languages concerned indicates that it is not a loanword that spread through contact with the Portuguese during the early colonial times. Even if it was introduced from outside of WCB, the borrowing must have happened at an ancestral stage old enough for the forms to undergo rhotacism and final vowel heightening.

(40) BLR 2768 **táànò* 'five > B41 *raanu*, B42 *raanu*, B43 *raanu*, B44 *raanu*, H11 *ta꞉nu*, H12 *táánu*, H16b *tanu*, H16c *táánu*, H16f *tanu*, H16g *táánu*

(41) BLR 2741 **tákò* 'buttock, rear part; back' > B42 *di-tayu*, B44 *di-raghu*, B501 *li-tayu*, B51 *má-tàyù*, B61 *yo-tagi*, B62 *tayi*, B73b *taa*, B73c *lí-tấwù*, B75U *tá*, B77b *i-tau*, H11 *tákù*, H16g *táku*

(42) BLR 2967 **tòk* 'boil up, bubble up' > B43-B44-B44A *u-rogh-a*, B501 *tɔ̀y-ɔ̀*, B52 *ú-tɔ̀x-ɔ̀*, B73c *ú-tɔ́ɔ́*, B77b *ú-tòò*, H12 *ku-tok*', H16d *tok-a*

(43) BLR 346 **bót* 'bear (child); bear (fruit)' > B41 *ɣu-bur-ə*, B42 *u-bur-ə*, B43 *u-bur-ə*, B44-B44A *u-bur-a*, B75V *bur*, H11 *ku-bút-a* 'delivery', H12 *ku-but'*, H16b *but-a*, H16c *búút-á* 'beget', H16d *buta*, H16g *bút* 'beget'

(44) BLR 351 **bótò* 'seed' > B43 *di-búːrə*, B501 *bútò*, B51 *m-bútú*, B52 *lù-m-bútù*, B61 *m-bóró*, B62 *m-boto*, B62 *m-buru*, B75 *li-m-buru*, H11 *m-bútu*, H16b *m-butu*, H16g *lu-bútu*

(45) BLR 3004 **tótò* 'soil' > B501 *tɔ́tɔ*, B51 *tɔ́tɔ̀*, B52 *tɔtɔ*, B73b *tɔ́tɔ́*, B75 *n-tɔt*, B77b *n-tóro*, H11 *bù-tótò*, H12 *n-toto*, H16b *n-toto*, H16c *n-toto*, H16d *m'toto-ziku* 'ashes', H16f *ǹ-tòtò*, H16g *ǹ-totó*

Suprasegmentally, however, correspondences do not seem to be entirely regular. Admittedly, the languages having a *toto* attestation with reliable tone notation are very few, i.e. Punu B43, Bembe H11 and Ntandu H16g. However, these do not point towards the same reconstructable tone pattern. Punu B43 *di-tŏtu* belongs to "tone class A", which generally matches with *LL (Blanchon 1999:55, 61) (see also §4.1.2 and §3.3.2). Bembe H11 *tóto* corresponds either to *LL or to *HL (cf. Philippson & Boungou 1999:89, 93). Ntandu H16g *bi-tóto* belongs to tone group (c), which mostly corresponds to *LH (Daeleman 1983:363). However, as seen in (40)-(44), many roots reconstructed as *HL have the same surface pattern as *bi-tóto* in Ntandu H16g. The fact that reflexes of *toto* are segmentally regular (i.e. *t > r) but tonally irregular could indicate that this term was introduced through contact with languages from outside WCB at an old ancestral stage. Assuming that the tone changes observed are older than rhotacism, forms could have been borrowed after tone changes had happened in certain recipient languages, but before **t > r* took place in certain other recipient languages. On the other hand, tone data are probably too flimsy to draw any firm conclusions. If we go by the Punu B43 and Bembe H11 forms, the only possibly corresponding ones, we would reconstruct **tòtò* with a *LL tone pattern.

4.4.3 Noun class. Just like several of the plantain terms in the preceding sections, most dessert/sweet banana terms in (39) belong to noun class 5 (prefix *li-*, *le-*, *i-*, *e-*, *Ø*) in the singular and 6 (prefix *ma-*) in the plural. In a few KLC languages, it belongs to class pair 9/10, e.g. H12, H16b and H16c. In contrast to **kòndò* and **kò*, we never find attestations in which the nasal prefix of cl. 9/10 was integrated into the root. Therefore, cl. 9/10 must be a later innovation. Laadi H16f and Ntandu H16g are the odd ones out in that is the attestations we found only give a plural form belonging to class 8 (prefix *bi-*). Based on the available evidence, we propose that the WCB noun for dessert/sweet banana be reconstructed as**dì-tòtò*.

4.4.4 Meaning. In contrast to previously discussed common WCB banana terms, the attestations in (39) are never translated as 'plantain'. The most common translation is 'sweet banana (plant)', but also 'ripe banana' or 'dessert banana'. If the source specifies the banana variety, it is often an AAA cultivar. This AAA group contains different subgroups of dessert/sweet bananas, such as those of the well-known Cavendish and Gros Michel subgroups.

4.4.5 Summary. While at least two generic plantain terms can be reconstructed to PWCB, this is not the case for dessert/sweet bananas. The highest possible ancestral node to which **dì-tòtò*, the most widespread WCB dessert/sweet banana term, can be reconstructed is Proto-Kwilu-Atlantic, the most

recent common ancestor of Kwilu-Ngounie and KLC extended. If the term does indeed go back to this ancestral node, it either went lost in several languages (e.g. the paraphyletic KLC extended languages) and subgroups (e.g. Kwa-Kasai North) or it has not yet been reported there. Another possible explanation is that it was introduced from outside of WCB only once Kwilu-Ngounie and KLC extended had already started to diverge. If this later introduction did indeed take place, it must have happened at a stage that was early enough for rhotacism (**t* > *r*) to regularly take place. As this term designates dessert/sweet bananas in NWB and CWB languages but not in SWB, the foreign introduction into WCB must have happened from the rainforest area further north.

5. Discussion and conclusions

By applying the Comparative Method to study widespread WCB banana terminology, we determined that at least three distinct banana terms can be reconstructed to PWCB: not only **kòndò*, as proposed by Bostoen & Koni Muluwa (2017:243), but also **kò* and **túká*. Through low-level historical reconstruction, we could determine their suprasegmental shape, morphology and meaning more precisely than in BLR3 (Bastin *et al.* 2002), i.e. **dì-ŋkòndò*/**mà-ŋkòndò* 'plantain', **dì-ŋkò*/**mà-ŋkò* 'plantain' and **kì-túká*/**bì-túká* 'bunch of bananas'. For the latter term, we also amended the tone pattern proposed by Bastin *et al.* (2002).

In terms of subsistence history, these reconstructions not only confirm the conclusions of Bostoen & Koni Muluwa (2017:243) that "by the time the first Bantu speakers reached south of the rainforest, bananas of some kind had become a regular part of their diet", but even allow to develop them further. As the AAB Plantain subgroup has the highest diversity and the greatest time depth in the Congo rainforest, PWCB reconstructions **dì-ŋkòndò* and **dì-ŋkò* for 'plantain' most likely provide indirect evidence for the presence of these banana cultivars at least 2,500 years ago. This ties in well with the unique archaeological banana date from Cameroon, i.e. between 2,750 and 2,350 BP (Mbida Mindzié *et al.* 2000). Although reflexes of **dì-ŋkòndò* and **dì-ŋkò* as generic banana terms have a more or less complementary distribution in present-day WCB languages, they may originally have designated two different groups of AAB Plantain, which could explain why PWCB had two distinct terms. The possibility to reconstruct a separate and specific PWCB term for 'bunch of bananas' indicates that the exploitation of the fruits was indeed prominent in the subsistence economy of the first Bantu speakers south of the rainforest. As proposed by Vansina (1990:61-65), it is most likely that the cultivation of AAB plantains contributed to a wave of expansion through the rainforest, given that this crop provides a reliable source of energy in a forest climate where other crops, such as grains, are more difficult to cultivate (though not impossible, cf. Kahlheber *et al.* 2009, 2014; Wotzka 2019a, b).

As for dessert/sweet bananas of the AAA subgroup, our comparative study shows that they only came into the picture at a later stage, i.e. considerably after WCB speakers had started to spread from their homeland between the Kamtsha and Kasai Rivers towards the Atlantic coast. The only widespread WCB dessert/sweet banana term **dì-tòtò* can be reconstructed no earlier than at the ancestral stage of Proto-Kwilu-Atlantic. This means that **dì-tòtò* did not spread before the two largest WCB subclades, i.e. KLC Extended and Kwilu-Ngounie, started their vast expansion from somewhere west of the Kwilu River towards the Atlantic coast. However, it cannot be excluded that this term was independently introduced into the KLC and the Kasai-Ngounie subgroups of the KLC Extended and Kwilu-Ngounie subbranches respectively. Further comparative Bantu research on **dì-tòtò* is needed to clarify this issue.

The same holds for the *banga* root, which designates across Central Africa a specific type of plantain, i.e. a typical and very common 'False Horn' one. The term seems to be a relatively recent origin in the WCB languages located closest to the Atlantic coast. It might refer to a type of plantain imported in European colonial times, but it could be older and designate a mutant that was generated within western Bantu speech communities. Certainly of recent origin and probably linked to the introduction of bananas from India by the Portuguese along the Atlantic coast in early colonial times is *kì-tébè*. The original meaning of this term primarily referring to starchy bananas is the 'peeled one' suggesting that its initial referent was a banana that can be peeled near maturity, such as the ABB Bluggoe.

The reconstruction of both **dì-ŋkòndò* and **dì-ŋkò* to PWCB is not only significant with regard to banana history, but also from a methodological point of view. Due to their formal resemblance, these two terms have often been considered as representing one and the same root or stemming from the same ancestral form (cf. Rossel 1998; Blench 2009). This is clearly not the case. Although striking, the similarity in shape between the two forms cannot be but mere chance.

In the same vein, the common Bantu root **kòndè* has a history within WCB that is distinct from **dì-ŋkòndò*. These two terms are not to be conflated in comparative Bantu studies on banana vocabulary. They should be considered separately and representative of different historical trajectories. Within WCB, **kòndè* was possibly introduced as a distinct term for plantain through contact with SWB languages spoken further south. Because **kòndè* does not function as a generic banana term in the few WCB languages where it is attested, the linguistic data do not allow to determine whether its introduction into WCB accompanied the spread of a distinct type of plantains. While the formal near-identity of **kòndò* and **kòndè* may also be taken as a historical coincidence, as in the case of **dì-ŋkòndò* and **dì-ŋkò*, this is highly unlikely. Across Bantu, there are many languages which have a verb root formally similar to **kòndò/*kòndè* with the meaning 'bend', as the following reconstructions indicate: **gònd* 'bend (tr.)' (BLR 6685, zones F J L), *gòndam* 'bend (intr.)' (BLR 6686, zones J L), **gòndık* 'bend (tr.)' (BLR 6687, zone J), and **kòndık* 'bend' (BLR 6729, zones H L) (Bastin *et al.* 2002). The noun stems **kòndò* and **kòndè* are in all likelihood both derived from an ancestral Bantu verb meaning 'bend' (see also Maniacky 2013). Both **-ò and *-è* are common Bantu deverbative noun suffixes (Schadeberg & Bostoen 2019). Considering the bent shape of the banana and how common the verb root **gònd* and the suffixes **-ò* and **-è* are across Bantu, it is easy to conceive how **kòndò* and **kòndè* may have emerged independently and even recurrently as separate banana terms. The fact that the reconstructed Bantu verb roots for 'bend' manifest variation in terms of C1 is probably an instance of so-called 'osculance', which can be easily resolved through a more in-depth study of diachronic sound change (cf. Bostoen 2001; Ricquier & Bostoen 2008). Given that the distinction between **g* and **k* was lost in many Bantu languages of the rainforest through the devoicing of **g* (Möhlig 1981; Nurse & Philippson 2003; Pacchiarotti & Bostoen 2020), the original verb root was probably **gònd* 'to bend'. This verb was retained with an initial voiced consonant in many East Bantu languages, but evolved into **kònd* in many western Bantu languages. The fact that the banana terms **kòndò* and **kòndè* both have initial **k*, suggests that both terms must have their origin in the rainforest and were derived from the verb 'to bend' after it the devoicing of **g* (i.e. **gònd* >**kònd*) had taken place (cf. De Langhe *et al.* 1994-1995:156 for a similar reasoning). While in WCB the merger between **g and *k* certainly goes back to the most recent common ancestor, i.e. PWCB, this is less straightforward for CWB and NWB (Pacchiarotti and Bostoen 2020: 159-162). A more systematic study of **kòndò* and **kòndè* terms and how they related to **gònd/*kònd* 'bend' is crucial to make further progress in resolving the

mysteries of banana history in Central Africa. However, one thing seems to be sure even at this stage: neither **kòndò* nor **kòndè* goes back to PB. Moreover, neither term was created before East Bantu split off from the rest of the Bantu family. They did not spread across the Bantu domain before the initial divergence of the family into its major branches had taken place.

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References

Adam, J.J. 1954. *Grammaire composée mbede, ndumu, duma*. Montpellier: Imprimerie Charité.

Adheka Giria, J. and E. De Langhe. 2018. *Characterization and classification of the Musa AAB plantain subgroup in the Congo basin*. Meise: Botanic Garden Meise.

Anonyme. 1772. *Dictionnaire françois-congo*. Londres: British Library, manuscrit 33779.

Baka, J. 1992. *Essai de description du tso:tso, parler ko:ngo du Nord de l'Angola.* Brussels: Université libre de Bruxelles, mémoire de DEA.

Baka, J. 1999. *Dictionnaire fondamental kisuundi-français suivi d'un indexe français*. Brazzaville: Centre pour l'Étude des Langues Congolaises, Université Marien Ngouabi (manuscrit non-publié).

Bastin, Y. 1985. *Les relations sémantiques dans les langues bantoues*. Bruxelles: Académie Royale des Sciences d'Outre-Mer.

Bastin, Y. 1989. Les déverbatifs bantous en -e. *Journal of African Languages and Linguistics* 11: 151-174.

Bastin, Y., A. Coupez and M. Mann. 1999. *Continuity and Divergence in the Bantu Languages: Perspectives from a Lexicostatistic Study.* Tervuren: Royal Museum for Central Africa.

Bastin, Y., A. Coupez, E. Mumba and T.C. Schadeberg (eds.). 2002. *Bantu Lexical Reconstructions 3*. Tervuren: Royal Museum for Central Africa, online database: https://www.africamuseum.be/nl/research/discover/human_sciences/culture_society/blr (last accessed July 19, 2020).

Batumbula. 2018. *Phytonymes et myconymes yans de Nkara (Kiakia). Étude morphosémantique.* Kikwit: ISP de Kikwit, mémoire de licence.

Bentley, W.H. 1887. *Dictionary and Grammar of the Kongo Language as Spoken at San Salvador, the Ancient Capital of the Old Kongo Empire, West Africa*. London: Baptist Missionary Society and Trübner & Co.

Bissila, S. 1991. *Description phonologique du ilaale (dialecte teke du Congo)*. Brazzaville: Université Marien Ngouabi, Mémoire de Diplôme d'Etudes Supérieures.

Biton, A. 1969. *Dictionnaire ndumu-mbede-français et français-ndumu-mbede. Petite flore de la région de Franceville (Gabon). Grammaire ndumu-mbede*. Bar-le-Duc: Imprimerie St-Paul pour l'Archevêché de Libreville.

Bittremieux, L. 1923-1927. *Mayombsch idioticon*. Gent: Erasmus.

Blanchon, J.A. 1998. Semantic/pragmatic conditions on the tonology of the Kongo noun-phrase: a diachronic hypothesis. In L.M. Hyman & C.W. Kisseberth (eds.), *Theoretical aspects of Bantu tone*, 1-32. Stanford: Center for the Study of Language and Information, Stanford University.

Blanchon, J.A. 1999. 'Tone cases' in Bantu group B.40. In J.A. Blanchon & D. Creissels (eds.), *Issues in Bantu tonology*, 37-82. Köln: Rüdiger Köppe.

Blanchon, J.A. 2008. Dictionnaire punu. Ms. Lyon, Université Lumière - Lyon 2, DDL - Dynamique Du Langage UMR 5596.

Blanchon, J.A. and L. de Nadaillac. 1987. Malcolm Guthrie et la tonalite des nominaux nzèbi. *Pholia* 2: 47-73.

Blench, R. 2009. Bananas and Plantains in Africa: Re-Interpreting the Linguistic Evidence. *Ethnobotany Research & Applications* 7: 363-380.

Bontinck, F. 1972. *Histoire du royaume Kongo (c. 1624). Traduction annotée du Ms. 8080 de la Bibliothèque nationale de Lisbonne*. Louvain-Paris: Editions Nauwelaerts - Béatrice Nauwelaerts.

Bostoen, K. 2001. Osculance in Bantu reconstructions: A case study of the pair °-kádang-/°-káng- ('fry', 'roast') and its historical implications. *Studies in African Linguistics* 30: 121-146.

Bostoen, K. 2005. A Diachronic Onomasiological Approach to Early Bantu Oil Palm Vocabulary. *Studies in African Linguistics* 34: 143-188.

Bostoen, K. 2008. Bantu Spirantization: Morphologization, Lexicalization and Historical Classification. *Diachronica* 25: 299-356.

Bostoen, K., B. Clist, C. Doumenge, R. Grollemund, J.-M. Hombert, J. Koni Muluwa and J. Maley. 2015. Middle to Late Holocene Paleoclimatic Change and the Early Bantu Expansion in the Rain Forests of West Central-Africa. *Current Anthropology* 56: 354-384.

Bostoen, K. and G.-M. de Schryver. 2015. Linguistic Innovation, Political Centralization and Economic Integration in the Kongo Kingdom: Reconstructing the Spread of Prefix Reduction. *Diachronica* 32: 139-185.

Bostoen, K. and G.-M. de Schryver. 2018a. Langues et évolution linguistique dans le royaume et l'aire kongo. In B. Clist, P. de Maret & K. Bostoen (eds.), *Une archéologie des provinces septentrionales du royaume Kongo*, 51-55. Oxford: Archaeopress.

Bostoen, K. and G.-M. de Schryver. 2018b. Seventeenth-Century Kikongo Is Not the Ancestor of Present-Day Kikongo. In K. Bostoen & I. Brinkman (eds.), *The Kongo Kingdom: The Origins, Dynamics and Cosmopolitan Culture of an African Polity*, 60-102. Cambridge: Cambridge University Press.

Bostoen, K. and H. Goes. 2019. Was Proto-Kikongo a 5 or 7 Vowel Language? Bantu Spirantization and Vowel Merger in the Kikongo Language Cluster. *Linguistique et langues africaines*:

Bostoen, K. and J. Koni Muluwa. 2011. Vowel split in Hungan (Bantu H42, Kwilu, DRC): A contact-induced language-internal change. *Journal of Historical Linguistics* 1: 247-268.

Bostoen, K. and J. Koni Muluwa. 2014. Umlaut in the Bantu B70/80 languages of the Kwilu (DRC). *Transactions of the Philological Society* 112: 209-230.

Bostoen, K. and J. Koni Muluwa. 2017. Were the First Bantu Speakers South of the Rainforest Farmers? A First Assessment of the Linguistic Evidence. In M. Robbeets & S. Savelyev (eds.), *Language Dispersal Beyond Farming*, 235-258. Amsterdam; Philadelphia: John Benjamins.

Burssens, N. 1999. *Dictionnaire français-buma*. Bandundu: Centre d'Etudes Ethnologiques de Bandundu.

Calloc'h, J.-R. 1911. *Vocabulaire français-ifumu (batéké) précédé d'éléments de grammaire*. Paris: Geuthner.

Carter, H. and J. Makondekwa. 1987. *Kongo Language Course: Maloongi Makikoongo, a Course in the Dialect of Zoombo, Northern Angola*. Madison: African Studies Program, University of Wisconsin.

Coene, A. 1960. *Kikongo: Notions grammaticales. Vocabulaire français-kikongo, néerlandais-latin*. Tumba: Imprimerie Maison Catholique.

Crane, T.M., L.M. Hyman and S. Nsielanga Tukumu. 2011. *A Grammar of Nzadi (B.865) A Bantu Language of the Democratic Republic of Congo with an Appendix of Proto-Bantu - Nzadi Sound Correspondences by Clara Cohen*. Berkeley: University of California Publications.

Crosby, A.W. and O. Von Mering. 1973. *The Columbian exchange : biological and cultural consequences of 1492*. Westport (Conn.) : Greenwood press.

Cuénot, R.F. 1773. *Dictionnaire françois et congo*. Besançon: Bibliothèque municipale, manuscrit n°525.

da Silva Maia, A. 1961. *Dicionário complementar português-kimbundu-kikongo, linguas nativas do centro e norte de Angola*. Cucujães (Angola): Tipografia das Missões.

Daeleman, J. 1977. A Comparison of Some Zone B Languages in Bantu. *Africana Linguistica* 7: 93-144.

Daeleman, J. 1983. Les réflexes du proto-bantu en ntandu (dialecte koongo). In C. Faïk-Nzuji Madiya & E. Sulzmann (eds.), *Mélanges de culture et de linguistique africaines publiés à la mémoire de Leo Stappers*, 331-397. Berlin: Dietrich Reimer Verlag.

Daeleman, J. and L. Pauwels. 1983. Notes d'ethnobotanique ntandu (Kongo). Principales plantes de la région de Kisaantu: noms ntandu et noms scientifiques. *Africana Linguistica* 9: 149-256.

De Grauwe, J. 2009. *Lexique yoómbe-français, avec index français-yoómbe (bantu H16c)* (Tervuren Series for African Language Documentation and Description). Tervuren: Royal Museum for Central Africa.

De Langhe, E., R. Swennen and D. Vuylsteke. 1994-1995. Plantain in the Early Bantu World. *Azania* 29-30: 147-160.

De Langhe, E., L. Vrydaghs, P. de Maret, X. Perrier and T.P. Denham. 2009. Why Bananas Matter: An introduction to the history of banana domestication. *Ethnobotany Research and Applications* 7: 165-178.

De Neef, A. 2013. *Het Kikongo van N'zeto (Angola): Kisolongo of niet?* Gent: Universiteit Gent, BA thesis.

de Schryver, G.-M., R. Grollemund, S. Branford and K. Bostoen. 2015. Introducing a State-of-the-Art Phylogenetic Classification of the Kikongo Language Cluster. *Africana Linguistica* 21: 87-162.

Dibata Mimpya, I. 1979. *Esquisse grammaticale de la langue tsong: phonologie et morphologie*. Lubumbashi: Université de Lubumbashi, mémoire de licence.

Dimmendaal, G. 2011. *Historical Linguistics and the Comparative Study of African Languages*. Amsterdam; Philadelphia: John Benjamins.

Fontaney, V.L. 1984. Notes towards a description of Teke (Gabon). *Pholia* 1: 47-70.

Gamille, L.G. 2013. *Eléments de description phonologique et morphologique du lumbu, langue bantu (B44) du Gabon parlée a Mayumba*. Paris: Universite de la Sorbonne nouvelle - Paris III, thèse de doctorat.

Goes, H. and K. Bostoen. 2019. Progressive Vowel Height Harmony in Proto-Kikongo and Proto-Bantu. *Journal of African Languages and Linguistics.* 40: 1-51.

Goma, J.-J. 1979. *Le Kikuni: phonologie et syntagme nominal*. Brazzaville: Université Marien-Ngouabi,

Gossweiler, J. 1953. *Nomes indigenas de plantas de Angola*. Luanda: Imprensa Nacional.

Grollemund, R., S. Branford, K. Bostoen, A. Meade, C. Venditti and M. Pagel. 2015. Bantu Expansion Shows That Habitat Alters the Route and Pace of Human Dispersals. *Proceedings of the National Academy of Sciences of the United States of America* 112: 13296-13301.

Guthrie, M. 1970. *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu languages. Volume 3: A Catalogue of Common Bantu with Commentary*. London: Gregg.

Guthrie, M. 1971. *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu languages. Volume 2: Bantu Prehistory, Inventory and Indexes*. London: Gregg International.

Hochegger, H. 1972. *Dictionnaire buma-français avec un aperçu grammatical*. Bandundu: Centre d'Études Ethnologiques de Bandundu.

Hodson, M.J., P.J. White, A. Mead and M.R. Broadley. 2005. Phylogenetic variation in the silicon composition of plants [2005/11//]. *Annals of botany* 96: 1027-1046.

Hombert, J.-M. 1986. The developmnent of nasalized vowels in the Teke language group. In K. Bogers, H. van der Hulst & M. Mous (eds.), *The phonological representation of suprasegmentals*, 359-379. Dordrecht: Mouton de Gruyter; Foris.

Hombert, J.-M. and M. Mouélé. 1988. Éléments de phonologie diachronique du wanzi (langue bantu du Gabon, groupe B50). *Pholia* 3: 183-205.

Hulstaert, G. 1941. Tonetiek van Lomongo en Tshiluba. . *Aequatoria* 4: 56-58.

Hulstaert, G. 1957. *Dictionnaire lomongo-français* (Annales du Musée royal du Congo belge, Série in-8 p0 s, Sciences de l'homme, Linguistique 16). Tervuren: Musée royal du Congo belge.

I.LA.LOK. 2008. *Dictionnaire vili-français. Mpisukulu bi kum' bi tshi vili ku tshi mputu*. Paris: L'Harmattan.

Idiata, D.F. 1998. *Aperçu sur la morphosyntaxe de la langue isangu (Bantou, B42)*. München: Lincom Europa.

Jacquot, A. 1974. *Le nom personnel chez les Laadi (Koongo) : répertoire onomastique : notes linguistiques, comptes rendus* (Bibliothèque de la SELAF 41). Paris: Société des Etudes Linguistiques et Anthropologiques.

Jacquot, A. 1981. *Études beembe (Congo): Esquisse linguistique; devinettes et proverbes*. Paris: Office de la Recherche Scientifique et Technique d'Outre-Mer (ORSTOM).

Janssens, B. 1991. Doubles réflexes apparents en ewondo ou les chassés croisés de la dérivation. *Pholia* 6: 155-179.

Johnston, H.H. 1884. *Der Kongo: Reise von seiner Mündung bis Bolobo: nebst einer Schilderung der klimatischen, naturgeschcichtlichen und ethnographischen Verhältnisse des westlichen Kongogebietes* Leipzig: Brockhaus.

Johnston, H.H. 1919. *A Comparative Study of the Bantu and Semi-Bantu Languages*. Oxford: Clarendon Press.

Kahlheber, S., K. Bostoen and K. Neumann. 2009. Early Plant Cultivation in the Central African Rain Forest: First Millennium BC Pearl Millet from South Cameroon. *Journal of African Archaeology* 7: 253-272.

Kahlheber, S., M.K.H. Eggert, D. Seidensticker and H.-P. Wotzka. 2014. Pearl Millet and Other Plant Remains from the Early Iron Age Site of Boso-Njafo (Inner Congo Basin, Democratic Republic of the Congo). *African Archaeologial Review* 31: 479-512.

Kasuku-Kongini. 1984. *Langue kihungana: phonologie et systématique*. Kikwit: Institut Supérieur Pédagogique de Kikwit, travail de fin d'études.

Katamba, F. 2003. Bantu Nominal Morphology. In D. Nurse & G. Philippson (eds.), *The Bantu Languages*, 103-120. London New York: Routledge.

Kayamba Ma, K. 1979. Aspects phonologique, morphologique et syntaxique du Kiphéléénde. 1979.

Kerremans, R. 1980. Nasale suivie de consonne sourde en proto-bantu. *Africana Linguistica* 8: 159-198.

Kifindi, B. 1997. *Recherches en grammaire du suku: langue bantu (H.32) de la vallée du Kwango (Angola-Kongo Zaïre).* Paris: Paris III, Sorbonne Nouvelle, thèse de doctorat.

Koni Muluwa, J. 2010. *Plantes, animaux et champignons en langues bantu. Etude comparée de phytonymes, zoonymes et myconymes en nsong, ngong, mpiin, mbuun et hungan (Bandundu, RD Congo)*. Bruxelles: Université libre de Bruxelles, thèse de doctorat.

Koni Muluwa, J. 2014. *Noms et usages de plantes, animaux et champignons chez les Mbuun, Mpiin, Ngong, Nsong et Hungan en RD Congo* (Tervuren Series for African Language Documentation and Description). Tervuren: Musée royal de l'Afrique centrale.

Koni Muluwa, J. 2015a. Petit lexique français-anglais-nsambaan (parlers de Kikongo et Kwilumpia) - nsambaan-français-anglais. Ms. Gand, Université de Gand, projet DoBes Kwilu Bantu, http://www.kwilubantu.ugent.be/.

Koni Muluwa, J. 2015b. Petit lexique français-anglais-nsong (parlers de Kipuka) - nsong-français-anglais. Ms. Gand, Université de Gand, projet DoBes Kwilu Bantu, http://www.kwilubantu.ugent.be/.

Koni Muluwa, J. and K. Bostoen. 2012. La diphtongaison dans les langues bantu B70-80 (Bandundu, RDC): typologie et classification historique. *Africana Linguistica* 18: 355-386.

Koni Muluwa, J. and K. Bostoen. 2015. *Lexique comparé des langues bantu du Kwilu (République démocratique du Congo)*. Cologne: Rüdiger Köppe.

Laman, K.E. 1936. *Dictionnaire kikongo-français, avec une étude phonétique décrivant les dialectes les plus importants de la langue dite kikongo*. Bruxelles: Librairie Falk.

Lejju, J.B., P. Robertshaw and D. Taylor. 2006. Africa's earliest bananas? *Journal of Archaeological Science* 33: 102-113.

Lejju, J.B., D. Taylor and P. Robertshaw. 2005. Late-Holocene environmental variability at Munsa archaeological site, Uganda: a multicore, multiproxy approach. *The Holocene* 15: 1044-1061.

Loubelo, F. 1990. *Le nom en kitsa:ngi : langue bantoue du Congo*. Dakar: Université Cheikh Anta Diop, thèse pour le doctorat de 3e cycle.

Lukanda, L. 1990. *L'expression des circonstances en kimbeku*. Kinshasa / Binza: Institut Pédagogique National, travail de fin d'études.

Mabiala, J.-N. 1992. *Etudes du kiyoombi, langue kongo du Congo*. Lyon: Université Lumiere-Lyon 2, mémoire de DEA.

Maho, J.F. 1999. *A comparative study of Bantu noun classes* (Orientalia et Africana Gothoburgensia 13). Göteborg: Acta Universitatis Gothoburgensis.

Maho, J.F. 2009. NUGL Online: The Online Version of the New Updated Guthrie List, a Referential Classification of the Bantu Languages (4 Juni 2009). (Online file: http://goto.glocalnet.net/mahopapers/nuglonline.pdf

Makokila, A. 2012. *Le système verbal du kimanyaanga: approche structuraliste*. Lubumbashi: Université de Lubumbashi, mémoire de diplôme d'études spécialisées.

Makolo Miaka, J. 2000. *Eléments de dialectologie Kongo: Esquisse comparative du Kintandu, Kiyombe et Kimanyanga*. Kinshasa: Institut pédagogique national,

Makouta-Mboukou, J.-P. 1976. *Étude descriptive du fumu, dialecte teke de Ngamaba, Brazzaville*. Paris: Paris III, Sorbonne Nouvelle, thèse de doctorat d'état.

Mamonampasi, B. 1978. *Étude géolinguistique des dialectes yaka (phonologie et morphologie)*. Lubumbashi: Université nationale du Zaïre, mémoire de licence.

Maniacky, J. 2005. Quelques thèmes pour "igname" en bantu. In K. Bostoen & J. Maniacky (eds.), *Studies in African Comparative Linguistics, with Special Focus on Bantu and Mande*, 165-187. Tervuren: Royal Museum for Central Africa.

Maniacky, J. 2013. Dendronymie bantu: la banane plantain sous toutes ses formes. Paper presented at Ecole d'été 2013, Laboratoire Langue, Culture et Cognition, Université Omar Bongo (Gabon), http://www.lcc-gabon.org/EcoleEte2013/Resume/Presentation/Jacky%20Maniacky%20-%20Dendronymie%20bantu%20-%20la%20banane%20plantain%20sous%20toutes%20ses%20formes.pdf.

Mavoungou, P.A. and H.S. Ndinga-Koumba-Binza. 2010. *Civili, langue des Baloango. Esquisse historique et Iinguistique*. München: Lincom Europe.

Mavoungou, P.A. and B. Plumel. 2010. *Dictionnaire yilumbu-français*. Libreville: Éditions Raponda Walker.

Mbida Mindzié, C., H. Doutrelepont, L. Vrydaghs, R.J. Swennen, R.L. Swennen, H. Beeckman, E. De Langhe and P. De Maret. 2005. The Initial History of Bananas in Africa: A Reply to Vansina. *Azania* 40: 128-135.

Mbida Mindzié, C., W. Van Neer, H. Doutrelepont and L. Vrydaghs. 2000. Evidence for Banana Cultivation and Animal Husbandry During the First Millennium BC in the Forest of Southern Cameroon. *Journal of Archaeological Science* 27: 151-162.

Meeussen, A.E. and J. Daeleman. 1983. The tonology of the noun in Kongo (Ntandu). *Africana Linguistica* 9: 137-148.

Mertens, J. 1939. *Les Badzing de la Kamtsha. Troisième Partie: Dictionnaire idzing-français suivi d'un aide-mémoire français-idzing*. Bruxelles: Librairie Falk fils.

Mfoutou, J.-A. 1985. *Esquisse phonologique du kidoondo: un dialecte koongo de la République Populaire du Congo*. Brazzaville: Université Marien Ngouabi, mémoire de diplôme d'études spécialisées.

Mfum-Ekong, A. 1979. *Esquisse grammaticale yansi "parler ntsambaan" : phonologie et morphologie*. Lubumbashi: Université Nationale du Zaïre, mémoire de licence.

Mickala-Manfoumbi, R. 1988. *Eléments de description du duma, langue bantu du Gabon (B51)*. Bruxelles: Université libre de Bruxelles, mémoire de licence spéciale.

Mingas, A.A. 1994. *Étude grammaticale de l'iwoyo (Angola)*. Paris: Université René Descartes Paris 5, thèse de doctorat.

Möhlig, W.J.G. 1981. Stratification in the History of the Bantu Languages. *Sprache und Geschichte in Afrika*: 251-317.

Mouandza, J.-D. 2001. *Éléments de description du iyaa (parler bantu du Congo-Brazzaville)*. Nice: Université de Nice Sophia Antipolis, thèse de doctorat.

Mouélé, M. 1997. *Étude synchronique et diachronique des parlers dúmá (groupe bantu B.50)*. Lyon: Université Lumière Lyon 2, thèse de doctorat.

Mulongo, N. 2011. *Etude toponymique chez les Dôndo: Cas d'oronymie, de phytonymie et d'hydronymie, dans les secteurs de Dela Kenge, Kimumba et Mbanza-Ngoyo (Territoire de Luozi)*. Mbanza-Ngungu, Bas-Congo: Institut Supérieur pédagogique de Mbanza-Ngungu,

Mundeke, L. 1977. *Étude phonologique de la langue mbuun*. Lubumbashi: Université Nationale du Zaïre, travail de fin d'études de graduat

Mundeke, L. 2011. *Etude morphosyntaxique de la langue mbuun (B87) (parler d'Elyob)*. Lubumbashi: Université de Lubumbashi,

Munkyen Okab, S.L. 1990. *Etude contrastive phonetico-phonologique entre le français et le ding B86*. Paris: Université de la Sorbonne Nouvelle Paris III, thèse de doctorat.

N'landu Kitambika. 1994. *Eléments de description du kisuundi (H13b), parler de la République du Congo*. Bruxelles: Université libre de Bruxelles, mémoire de licence spéciale.

Ndonga Mfuwa, M. 1995. *Systématique grammaticale du kisikongo (Angola)*. Paris: Université René Descartes Paris 5, thèse de doctorat.

Ndouli, G.B. 2001. *Description phonologique du mbere: parler de Tsama*. Brazzaville: Université Marien Ngouabi, mémoire de maîtrise.

Neumann, K. and E. Hildebrand. 2009. Early Bananas in Africa: The state of the art. *Ethnobotany Research & Applications* 7: 353-362.

Nguimbi-Mabiala, J.-N. 1999. *Phonologie comparative et historique du koongo*. Lyon: Université Lumiere Lyon 2, thèse de doctorat.

Nurse, D. and T.J. Hinnebusch. 1993. *Swahili and Sabaki: A Linguistic History*. Berkeley: University of California Press.

Nurse, D. and G. Philippson. 2003. Towards a Historical Classification of the Bantu Languages. In D. Nurse & G. Philippson (eds.), *The Bantu Languages*, 164-181. London; New York: Routledge.

Odden, D. 1991. The intersection of syntax, semantics and phonology in Kikongo. In K. Hubbard (ed.), *Proceedings of the Annual Meeting of the Berkeley Linguistics Society 17*, 188-199. Berkeley: Berkeley Linguistics Society.

Okoudowa, B. 2016. *Morfologia verbal do Lèmbáámá: Língua banta falada no Gabaõ (África Central)*. Saarbrücken: Novas Edições Acadêmicas.

Pacchiarotti, S. and K. Bostoen. 2020. The Proto-West-Coastal Bantu Velar Merger. *Africana Linguistica* 26: 139-195.

Pacchiarotti, S. and K. Bostoen. 2021a. Erratic Velars in West-Coastal Bantu: Explaining Irregular Sound Change in Central Africa. *Journal of Historical Linguistics* 11: tba.

Pacchiarotti, S. and K. Bostoen. 2021b. Final Vowel Loss in Lower Kasai Bantu (DRC) as a Contact-Induced Change. *Journal of Language Contact* 14: 437-474.

Pacchiarotti, S., N. Chousou-Polydouri and K. Bostoen. 2019. Untangling the West-Coastal Bantu Mess: Identification, Geography and Phylogeny of the Bantu B50-80 Languages. *Africana Linguistica* 25: 155-229.

Perrier, X., E. De Langhe, M. Donohue, C. Lentfer, L. Vrydaghs, F. Bakry, F. Carreel, I. Hippolyte, J.-P. Horry, C. Jenny, V. Lebot, A.-M. Risterucci, K. Tomekpe, H. Doutrelepont, T. Ball, J. Manwaring, P. de Maret and T. Denham. 2011. Multidisciplinary perspectives on banana (Musa spp.) domestication. *Proceedings of the National Academy of Sciences of the United States of America* 108: 11311-11318.

Perrier, X., C. Jenny, F. Bakry, D. Karamura, M. Kitavi, C. Dubois, C. Hervouet, G. Philippson and E. De Langhe. 2019. East African diploid and triploid bananas: a genetic complex transported from South-East Asia. *Annals of botany* 123: 19-36.

Philippson, G. and S. Bahuchet. 1994-1995. Cultivated Crops and Bantu Migrations in Central and Eastern Africa: A Linguistic Approach. *Azania* 29-30: 103-120.

Philippson, G. and S. Bahuchet. 2008. Vernacular names for plantains and bananas in South-Central Africa. Ms. http://www.rogerblench.info/Ethnoscience/Plants/Crops/Musa/banana%20vocabulary%20in%20E%20&%20S%20Africa.pdf.

Philippson, G. and P. Boungou. 1999. Éléments de tonologie beembe (H.11). In J.A. Blanchon & D. Creissels (eds.), *Issues in Bantu tonology*, 83-107. Köln: Rüdiger Köppe.

Power, R.C., T. Güldemann, A. Crowther and N. Boivin. 2019. Asian Crop Dispersal in Africa and Late Holocene Human Adaptation to Tropical Environments [2019/12/01]. *Journal of World Prehistory* 32: 353-392.

Puech, G. 1988. Augment et préfixe nominal en ngubi. *Pholia* 3: 247-256.

Raharimanantsoa, R. 2016. Réduction syllabique, rallongement compensatoire et syllabes trimoraïques en engungwel (bantou B72a). *Journal of West African Languages* 43: 61-98.

Raharimanantsoa, R. 2019. Dictionnaire Téké – Français (Téké des Plateaux : Boma-Nzikou). Brazzaville, République du Congo: SIL-Congo.

Raponda Walker, A. 1931. Le bananier plantain au Gabon. Variétés et usages divers. *Revue de botanique appliquée et d'agriculture coloniale* 11: 18-27.

Raponda-Walker, A. and R. Sillans. 1995. *Les plantes utiles du Gabon* (Encyclopédie biologique 56.). Libreville: Fondation Raponda-Walker Edition, Sépia & Centre Culturel Saint-Exupéry.

Ricquier, B. 2016. A Foodie's Guide to Kongo Language History: Early Events, North versus South, and the Innovative West. *Africana Linguistica* 22: 107-146.

Ricquier, B. and K. Bostoen. 2008. Resolving phonological variability in Bantu lexical reconstructions: the case of 'to bake in ashes'. *Africana Linguistica* 14: 109-150.

Rossel, G. 1998. *Taxonomic-linguistic Study of Plantain in Africa*. Wageningen: Landbouwuniversiteit Wageningen, PhD thesis.

Rottland, F. 1977. Reflexes of Proto-Bantu Phonemes in Yanzi (B85). *Africana Linguistica* 7: 375-396.

Ruttenberg, P. 2000. *Lexique yaka-francais, français-yaka* (Languages of the World Dictionaries). München: Lincom Europa.

Schadeberg, T. and K. Bostoen. 2019. Word Formation. In M. Van de Velde, K. Bostoen, D. Nurse & G. Philippson (eds.), *The Bantu Languages (Second Edition)*, 172-203. New York: Routledge.

Schadeberg, T.C. 1995. Spirantization and the 7-to-5 Vowel Merger in Bantu. *Belgian Journal of Linguistics* 9: 71-84.

Seidensticker, D., W. Hubau, D. Verschuren, C. Fortes-Lima, P. de Maret, C.M. Schlebusch and K. Bostoen. 2021. Population collapse in Congo rainforest from 400 CE urges reassessment of the Bantu Expansion. *Science Advances* 7: eabd8352.

Simmonds, N.W. 1959. *Bananas*. London: Longmans Green.

Stappers, L. 1986. *Boma: eine Sprachskizze*. Hamburg: Helmut Buske.

Swartenbroeckx, P. 1948. Dictionnaire kiyansi ou kiyei, langage des bayansi ou bayey de territoire de Banningville (district du Lac Léopold II) au Congo Belge. Ms. Bruxelles.

Swartenbroeckx, P. 1973. *Dictionnaire kikongo et kituba-français* (Publications - Ceeba III). Bandundu: Ceeba.

Takizala, A. 1974. Studies in the grammar of Kihungan. 309.

Tavares, J.L. 1915. *Gramática da língua do Congo (kikongo) (dialecto kisolongo)*. Luanda: Imprensa nacional da colónia de Angola.

Van Acker, S. 2018. *A Pilot Study of Kisamba (Bantu, L12a, DRC): Phonology, Morphology, Wordlist and Some Texts*. Ghent: Ghent University, MA thesis.

Van Acker, S. and K. Bostoen. 2020. Inheritance and contact in the genesis of Gisamba (Bantu, L12a, DRC): A diachronic phonological approach. *Linguistique et Langues Africaines* 6: 73-129.

Van de Velde, M. 2019. Nominal morphology and syntax. In M. Van de Velde, K. Bostoen, D. Nurse & G. Philippson (eds.), *The Bantu Languages (Second Edition)*, 237-269. Oxford: Routledge.

Van Gheel, J. 1652. *Vocabularium Latinum, Hispanicum, e Congense. Ad Usum Missionariorû transmittendorû ad Regni Congo Missiones*. Rome: National Central Library, Fundo Minori 1896, MS Varia 274.

Vandenabeele, H. 2016. *Taalevolutie in de Congo-delta: Een comparatieve studie van historische klankverandering in Cimbala, Cizali, Ciwoyo, Kisolongo en Kiyombe*. Gent: Universiteit Gent, MA thesis.

Vansina, J. 1990. *Paths in the Rainforest: Toward a History of Political Tradition in Equatorial Africa*. Madison: University of Wisconsin Press.

Vansina, J. 1991. *Sur les sentiers du passé en forêt. Les cheminements de la tradition politique ancienne de l'Afrique équatoriale.* Louvain-la-Neuve/Mbandaka: Centre d'histoire de l'Afrique, Université Catholique de Louvain/Centre Aequatoria.

Vansina, J. 1995. New Linguistic Evidence and the Bantu Expansion. *Journal of African History* 36: 173-195.

Vansina, J. 2003. Bananas in Cameroon c. 500 BCE? Not proven. *Azania* 38: 174-176.

Wotzka, H.-P. 2019a. Ecology and culture of millets in African rainforests: Ancient, historical, and present-day evidence. In B. Eichhorn & A. Höhn (eds.), *Trees, Grasses and Crops. People and Plants in Sub-Saharan Africa and Beyond*, 407-429. Bonn: Verlag Dr. Rudolf Habelt.

Wotzka, H.-P. 2019b. Experimenteller Anbau von Perlhirse (Pennisetum glaucum) im äquatorialen Regenwald des Inneren Kongobeckens, August–November 2016. *Archäologische Berichte* 30: 269-284.

Appendix

Code	Variety	Subgroup	Source
B402	Varama	KLC – West	(Raponda-Walker & Sillans 1995)
B403	Vungu	KLC – West	(Raponda-Walker & Sillans 1995; Rossel 1998)
B404	Ngubi	KLC – West	(Puech 1988)
B41	Shira	KLC – West	(Raponda Walker 1931; Raponda-Walker & Sillans 1995)
B42	Sangu	KLC – West	(Raponda Walker 1931; Raponda-Walker & Sillans 1995; Idiata 1998)
B43	Punu	KLC – West	(Blanchon 2008; Mavoungou & Plumel 2010)
B44	Lumbu	KLC – West	(Raponda-Walker & Sillans 1995; Mavoungou & Plumel 2010; Gamille 2013)
B44A	Menaane	KLC – West	(Mavoungou & Plumel 2010)
B501	Wanzi	Nzebi-Teke West	(Mouélé 1997; Rossel 1998)
B503	Vili	Nzebi-Teke West	(Raponda Walker 1931; Raponda-Walker & Sillans 1995)

B51	Duma	Nzebi-Teke West	(Adam 1954; Mickala-Manfoumbi 1988; Raponda-Walker & Sillans 1995)
B52	Nzebi	Nzebi-Teke West	(Blanchon & de Nadaillac 1987; Raponda-Walker & Sillans 1995; Mouélé 1997; Rossel 1998)
B53	Tsaangi	Nzebi-Teke West	(Loubelo 1990)
B61	Mbete	Mbete	(Biton 1969; Rossel 1998; Ndouli 2001)
B62	Mbaama	Mbete	(Rossel 1998; Okoudowa 2016)
B63	Ndumu	Mbete	(Biton 1969)
B71b	Tege	Kasai-Ngounie	(Fontaney 1984)
B72b	Ngungwel	Kasai-Ngounie	(Raharimanantsoa 2016)
B73b	Laali	Nzebi-Teke West	(Bissila 1991; Rossel 1998)
B73c	Yaa	Nzebi-Teke West	(Rossel 1998; Mouandza 2001)
B74	Eboo-Nzikou	Kasai-Ngounie	(Raharimanantsoa 2019)
B75	Tio Bali	Kasai-Ngounie Ex	(Guthrie 1970)
B77a	Kukwa	Kasai-Ngounie	(Daeleman's archive)[5]
B77b	Fumu	Kasai-Ngounie	(Calloc'h 1911; Makouta-Mboukou 1976)
B80z	Boma Yumu	Kwa-Kasai North	(Hochegger 1972; Burssens 1999)
B82	North Boma	Kwa-Kasai North	(Stappers 1986)
B85a	West Yans	Kwilu-Ngounie	(Swartenbroeckx 1948)
B85b	East Yans	Kwilu-Ngounie	(Rottland 1977; Batumbula 2018)
B85d	East Nsong	KLC Extended	(Dibata Mimpya 1979; Koni Muluwa 2015b)
B85e	Mpur	Kamtsha-Kwilu	(Koni Muluwa & Bostoen 2015)
B85F	Nsambaan	Kamtsha-Kwilu	(Mfum-Ekong 1979; Koni Muluwa 2015a)
B861	East Ngwi	WCB	BantuFirst Fieldwork 2019
B862	East Lwel	WCB	(Koni Muluwa & Bostoen 2015)
B863	Mpiin	KLC Extended	(Koni Muluwa 2014)
B864	Ngong	KLC Extended	(Koni Muluwa 2014)
B865	Nzadi	WCB	(Crane *et al.* 2011)
B86E	East Ding	WCB	(Munkyen Okab 1990)
B86W	West Ding	WCB	(Mertens 1939)
B87	West Mbuun	KLC Extended	(Koni Muluwa & Bostoen 2015)
H11	Bembe	KLC – North	(Jacquot 1981)
H111	Hangala	KLC – North	(Nguimbi-Mabiala 1999)
H112B	Dondo	KLC – North	(Mfoutou 1985; Mulongo 2011)
H12	Vili	KLC – West	(Raponda-Walker & Sillans 1995; Mavoungou & Ndinga-Koumba-Binza 2010)
H13	Kunyi	KLC – North	(Goma 1979)
H131	Sundi	KLC – West	(N'landu Kitambika 1994; Baka 1999)
H16aK	Sikongo	KLC – South	(Bentley 1887; Ndonga Mfuwa 1995)
H16aL	Solongo (Angola)	KLC – South	(Tavares 1915)
H16aM	Solongo (DRC)	KLC – South	(Vandenabeele 2016)
H16aZ	Kongo-N'Zeto	KLC – South	(De Neef 2013)
H16b	Manyanga	KLC – Central	(Laman 1936; Makolo Miaka 2000)
H16bZ	Ndibu	KLC – Central	(Coene 1960)
H16c	Yombe (DRC)	KLC – West	(Bittremieux 1923-1927; Laman 1936)
H16cY	Yombi (Congo)	KLC – West	(Mabiala 1992)
H16cZ	Zali	KLC – West	KongoKing Fieldwork 2012
H16dK	Woyo (DRC)	KLC – West	(Vandenabeele 2016)
H16dL	Woyo (Cabinda)	KLC – West	(Guthrie 1970)
H16dX	Kwakongo	KLC – West	(Cuénot 1773)

[5] The reference (Daeleman's archive) stands for the legacy of Jan Daeleman's research data that was trusted to Ghent University in 2018. Jan Daeleman was a Jesuit who spent most of his life in the DRC and collected data on multiple Bantu languages spoken there.

H16f	Laadi	KLC – North	(Swartenbroeckx 1973; Jacquot 1974)
H16g	Ntandu	KLC – East	(Daeleman & Pauwels 1983)
H16gX	Mbeko	KLC – East	(Lukanda 1990)
H16gY	Mbata	KLC – East	KongoKing Fieldwork 2012
H16hK	Zombo	KLC – South	(Carter & Makondekwa 1987)
H16hL	Nkanu	KLC – East	KongoKing Fieldwork 2012
H16hZ	Tsootso	KLC – South	(Baka 1992)
H31	Yaka	KLC - Kongoid	(Mamonampasi 1978; Ruttenberg 2000)
H31X	Pelende	KLC - Kongoid	(Kayamba Ma 1979)
H32	Suku	KLC - Kongoid	(Kifindi 1997)
H42	Hungan	KLC - Kongoid	(Kasuku-Kongini 1984)
L12A	Samba	KLC - Kongoid	(Koni Muluwa & Bostoen 2015)

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