TAXONOMIC - LINGUISTIC STUDY OF PLANTAIN IN AFRICA

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Aux paysannes africaines

Uwishimye inturo atera urutoki
`Qui est content de son domaine plante une bananeraie'
(proverbe kinyaRwanda).

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RESUME

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La banane plantain est une banane à cuire (*Musa* spp. groupe AAB (Musacées)) et une des principales cultures vivrières dans les régions forestières d'Afrique centrale et occidentale. La plante est d'origine Asiatique, mais elle a sa plus grande diversité génétique en Afrique.

Comme il s'agit d'un hybride interspécifique et triploide de *Musa balbisiana* et d'une ou plusieures sous-espèces de *M. acuminata*, la plante est stérile et ne peut être multipliée que par voie clonale, raison pour laquelle l'amélioration génétique de cette banane est très difficile. Une meilleure connaissance de ses origines génétiques est nécessaire, car l'identification des sous-espèces parentales permettra de les utiliser dans l'amélioration de la plante. Malheureusement, la connaissance de l'histoire de la banane plantain est très défaillante. Ses origines (génétique, géographique et historique) en Asie ne sont pas connues en détail, pas moins que son histoire en Afrique (temps, agents et voies d'introduction, voies de diffusion et diversification génétique).

Etant des plantes herbacées, les bananiers ne laissent pas des traces archéologiques. En plus, les sources historiques qui font mention de cette plante sont rares. Le seul matériel à notre disposition qui pourra nous donner des indices sur le passé de la banane plantain est de nature contemporaine. Ce matériel consiste des cultivars et des noms vernaculaires, leurs origines, leur distribution et leur diffusion.

Cette étude nous ammène aussi à l'ethnobotanie, c'est à dire l'étude d'autres plantes, parentées ou non, qui ont des mêmes charactéristiques morphologiques et/ou des mêmes usages et qui ont, à cause de celà, des mêmes noms vernaculaires. D'autres aspects à considérer sont les conditions écologiques dans les différents régions oú la banane plantain est cultivé, ainsi que les économies et les histoires (culturelles) des peuples cultivant cette plante.

Un problème de nature purement taxonomique est la classification et la nomenclature des cultivars de banane plantain. Comme ce problème n'a pas été resolu de manière satisfaisante jusqu'à maintenant, des propositions à cet effet sont présentées ici.

Le dernier objectif de cette étude est d'explorer les possibilités d'une approche plutôt multidisciplinaire de l'histoire des plantes cultivées. L'ultime objectif est qu'une meilleure connaissance de cette histoire profite d'autres disciplines comme l'agronomie, l'ethnobotanie, la taxonomie botanique, et l'histoire agronomique, économique et culturelle des peuples.

ABSTRACT

Gerda Rossel. 1998. Taxonomic-linguistic study of plantain in Africa. PhD Thesis, Agricultural University, Wageningen (The Netherlands). 277 p.

Keywords: *Musa* spp., musa, *Ensete* spp., plantain, banana, cultivars, history, Africa, taxonomy, linguistics, ethnobotany, classification, nomenclature, crop history.

Plantain is a cooking banana (*Musa* spp. AAB group (Musaceae)) that is grown as a major food crop in many parts of Africa, especially in the Central-African and West-African rain forest areas. The crop originated in Asia, but its greatest diversity is to be found in Africa.

We are dealing here with an interspecific, triploid hybrid of *Musa balbisiana* and one or more sub-species of *M. acuminata*, with the genome formula AAB. The plant is sterile and can only be multiplied clonally, which is why breeding is difficult. Knowledge about the genetic background of the crop, however, is very important because once the parental sub-species are identified, these can be used in breeding.

There are still many gaps in our knowledge about the history of plantain, both in Asia and in Africa. It is only fragmentarily known how, where and when the plant came into existence, when, whence and by whom it was brought to Africa and how it spread and diversified in this continent.

Musa plants do not leave archaeological traces behind and historical sources are scarce. We only have present-day material at our disposal, i.e. cultivars and vernacular names, the nature, distribution and spread of which may give us clues about the history of the crop in the African continent.

In doing so, we have to take into account other plants that are closely related to musa, or that have similar morphological features and/or uses, and therefore possess similar names in African languages. We also have to take into account the ecological conditions in those parts of the continent where plantain is grown, as well as the economies and (cultural) histories of the people cultivating plantain.

A more technical problem is formed by the classification and nomenclature of plantain cultivars. Until now this problem has not been satisfactorily solved, and suggestions to this end are therefore presented in this study.

This study is also meant to be an exploration into the possibilities of a multi-disciplinary approach to crop history. Ultimately, a better understanding of the historical background of crops might serve other disciplines too; in the first place, but not uniquely, plant breeding, plant taxonomy, ((agri)cultural) history and ethnobotany.

SAMENVATTING

Gerda Rossel. 1998. Taxonomisch-linguistische studie van plantain in Afrika. Proefschrift. Landbouwuniversiteit Wageningen. 277 p.

Plantain, of bakbanaan (*Musa* spp. AAB groep (Musaceae)), vormt één van de belangrijkste voedselgewassen in de regenwoudgebieden van Centraal en West Afrika. Hoewel de oorsprong van het gewas in Azie ligt, wordt de grootste diversiteit in Afrika aangetroffen.

Men heeft met vrij grote zekerheid vastgesteld dat plantain een triploide hybride is van *M. balbisiana* en één of meerdere ondersoorten van *M. acuminata* (waarvan het verspreidingsgebied zeer groot is), maar verder is er niet veel bekend over de genetische achtergrond van dit gewas. Hetzelfde geldt voor haar oorsprongsgebied en verspreidingsgeschiedenis. Niettemin is kennis hierover van groot belang omdat de plant (vrouwelijk) steriel is en alleen klonaal vermenigvuldigd kan worden, hetgeen een belangrijk obstakel vormt voor haar veredeling. Deze veredeling is echter dringend gewenst omdat de cultuur van plantain sinds een aantal decennia bedreigd wordt door enkele ernstige ziekten en plagen. Als belangrijkste hiervan moeten Black Sigatoka (*Mycosphaerella fijiensis* var. *difformis*) en vooral een snuitkever (*Cosmopolites sordidus*) genoemd worden. Deze hebben zich respectievelijk sinds het eerste en het achtste decennium van de 20e eeuw snel over het continent verspreid, met zeer schadelijke gevolgen voor het gewas en dus voor de voedselvoorziening in een groot deel van Afrika.

Zoals alle leden van de Musaceae is plantain een kruidachtige plant die geen archeologische sporen nalaat. Bovendien zijn historische bronnen die melding maken van dit gewas uiterst schaars, zodat er naar andere manieren gezocht moet worden om inzicht te verkrijgen in haar oorsprong, ontwikkeling en verspreiding. Meer zekerheid over het oorsprongsgebied van plantain moet een gerichter zoeken naar de wilde voorouders mogelijk maken. Daar deze wilde voorouders fertiel zijn en bovendien vermoedelijk allerlei resistenties bezitten tegen ziektes en plagen, zullen deze zeer van pas komen in de veredeling van plantain.

In deze studie wordt aan de hand van hedendaags materiaal nagegaan hoe en wanneer plantain verspreid is over het Afrikaanse continent, en ook waar, wanneer, door wie en van waar het gewas geintroduceerd werd. Tevens wordt getracht te achterhalen uit welke cultivar(s) de oorspronkelijke introductie heeft bestaan en hoe de hierna opgetreden diversiteit verklaard kan worden. In tegenstelling tot het continent van oorsprong is het aantal cultivars in Afrika namelijk dermate groot dat er gesproken kan worden van een secundair centrum van diversiteit. Volgens sommigen wijst dit er op dat plantain reeds zeer lang aanwezig moet zijn in Afrika, maar betrouwbare aanwijzingen hiervoor ontbreken.

Voornoemd hedendaags materiaal bestaat ondermeer uit de cultivars en cultivargroepen die voorkomen in het continent. Gegevens over dit materiaal zijn verzameld tijdens veldwerk in West-Centraal en oostelijk Afrika en zijn aangevuld met gegevens van enkele reeds bestaande regionale studies. Op basis hiervan zijn de opvallendste distributie-patronen van de verschillende types van plantain cultivars in Afrika in kaart gebracht en is er aandacht besteed aan factoren die daarbij mogelijk een rol gespeeld hebben. Ook andere musa cultivars en cultivar groepen zijn in het onderzoek betrokken, evenals *Ensete* spp. (Musaceae), een aan *Musa* verwant geslacht dat inheems is in Afrika.

Hedendaags materiaal van een geheel andere aard wordt gevormd door de volksnamen van het gewas in de vele talen die Afrika rijk is. Kennis hierover is van belang omdat de verspreiding en de oorsprong van deze namen indicatief zijn voor de verspreiding van het gewas in het algemeen en van de oorsprong en verspreiding van de diverse cultivars in het bijzonder. Hierbij moet natuurlijk rekening gehouden worden met allerlei taalkundige, ethnolinguistische en historische processen die een rol gespeeld kunnen hebben in de vorm, betekenis en verspreiding van deze namen. Het resulterende overzicht van musa namen en musa nomenclatuur is gebaseerd op veldwerk en op literatuurstudie.

Gedurende deze studie kwam aan het licht dat de classificatie en nomenclatuur van plantain cultivars nooit op een bevredigende en vooral geldige wijze is geregeld. De mogelijke oplossing die hiertoe wordt aangedragen is geheel voortgekomen uit practische overwegingen en heeft o.a. te maken met de grote omvang van deze groep cultivars, het nog grotere aantal vernaculaire namen, het beperkte aantal descriptoren en de mogelijkheid om op basis van dit laatste op een eenvoudige en nauwkeurige wijze over een onbeperkt aantal cultivars te communiceren.

Een ander, meer indirect doel van deze studie is een verkenning van de mogelijkheden tot een multidisciplinaire aanpak van gewashistorie in het algemeen. Dit werd ingegeven door de constatering dat de geschiedschrijving van landbouwgewassen tot nu toe vooral lijkt plaats te hebben gehad in de kantlijn van andere disciplines zoals historie, taalkunde, ethnobotanie, taxonomie of, in een zeldzaam geval, in dat der plantenveredeling. Echter, omdat de ontwikkeling en verspreiding van een gewas afhangt van een groot aantal, intrinsieke zowel als extrinsieke factoren, mag de beschrijving van haar geschiedenis nooit gebaseerd worden op de gegevens van één discipline. De onderhavige studie beoogt daarom, door middel van gegevens uit verschillende en zeer uiteenlopende vakgebieden, een meer geintegreerd beeld te schetsen van de geschiedenis van een gewas. Bovendien kan een betere kennis van de historische achtergrond van gewassen op haar beurt weer van nut zijn voor genoemde disciplines, bijvoorbeeld plantenveredeling, en dus uiteindelijk ten goede komen aan de bevolkingslandbouw en voedselvoorziening in Afrika en daarbuiten.

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The illustrations of plantain bunches (chapter 2.1) are the fruit of the artistic talents of Mrs. I. (Isbe) Tezenas du Montcel (Montpellier, France), for which I am most grateful. Mr. M. Peacock (Isleworth, United Kingdom) kindly undertook the task of getting the Dutch out of my English and of trying to explain to me the how and why of his corrections. However, I reviewed the text of this thesis after he had gone through it, so all errors are for my account only. I thank him as well as mrs. L. van de Wege and mrs. K. Babeliowsky, who helped me with the lay-out of the text.

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ABBREVIATIONS

Linguistic groups:
The languages spoken in Africa belong to four language families, Afro-Asiatic, Nilo-Saharan, Niger-Congo and Khoisan. Following is a list of language groups and sub-groups, and their abbreviations, that are mentioned in the text. For the classification of African languages see Guthrie (1967-1971), Greenberg (1970), Barreteau (1978), Heine et al. (1981) and Bendor-Samuel (1989).

Afro-Asiatic
Semitic: South Semitic (SS)
Cushitic: East Cushitic (EC)
South Cushitic (SC)
Omotic (O): North Omotic (NO)
South Omotic (SO)
Chadic (Ch)

Nilo-Saharan
Central Sudanic (CS)
Eastern Sudanic: Nilotic: Western Nilotic (WN)
Southern Nilotic (SN)
Eastern Nilotic (EN)

Niger-Congo
Mande (M)
Kru
Gur
Atlantic (A)
New Kwa (K)
Ijoid (Ijd)
Adamawa (Ad)
Ubangi (Ub1,2a,2b,2c,3)
Benue-Congo: Defoid (Dfd)
Edoid (Edd): Delta Edoid (DE)
Nupoid
Platoid (Ptd)
Idomoid
Igboid (Igbd)
Cross River (CrR): Bendi (Bnd)
Upper Cross (UCr)
Lower Cross (LCr)

	Central Delta (CD)
	Ogoni (Og)
Bantoid (Btd):	Jarawan
	Mbe
	Kenyang
	Ekoid (Ekd)
	Grassfields (GrF)
	Tiv
	Jukunoid (Jkd)
	Mambila
	Tikar
	Vute
	Bantu (Zones A-S)

Khoisan (Kh)

Countries:

C.A.R.: Central African Republic.
Congo: Congo-Brazzaville.
Congo(-K.): Congo-Kinshasa (the former Zaire).

Miscellaneous:

CB: Common Bantu } (see Guthrie, 1967-1971).
CS: Comparative Series }
G42nd: Northern dialects of Swahili.
G42^{sd}: Southern dialects of Swahili.
Ganda-S: Ganda (as recorded on the Ssese islands).
Ganda-M: Ganda (as recorded in the Masaka area).
Ganda-K: Ganda (as recorded in the Kawanda banana collection).
n.n.: no name
C_1: first stem-consonant
C_2: second stem-consonant

ORTHOGRAPHY

(1) The vernacular names and words used in this study are printed in bold type followed by a gloss between single quotation marks (e.g. **malala** `musa leaves').

(2) Reconstructed vernacular names are preceded by * (e.g. ***-konde**). Upper case letters stand for segments with under-specified phonological features (e.g. **BOLO** or **nkoBa**). Underlying forms are preceded by °.

(3) Accepted cultivar names are presented between single vertical marks (e.g. 'Gros Michel'), in accordance with article 17.7 of the International Code of Nomenclature for Cultivated Plants (ICNCP).

(4) Vernacular cultivar names are printed in accordance with those mentioned under (1), as most of them have not yet been published, established and accepted (see ICNCP xi- xii).

(5) Phonetic representations:

i:	close high unrounded front vowel
u:	close high rounded back vowel
o̲:	open mid rounded back vowel
e̲:	open mid unrounded front vowel
ã or e˜:	nasalised vowels
á:	high tone vowels
à:	low tone vowels
ß:	voiced bilabial consonant
gh:	voiced velar fricative
ng':	nasal velar consonant
' :	glottal stop

(6) The change of segments is represented by a formula (e.g. **k** > **g**) whereby the direction of change is indicated, sometimes followed by the environment in which this change takes place (e.g. **k** > **g/n--**).

(7) Noun-class prefixes in Bantu languages are indicated by their classificatory number (e.g. of cl. 5). Pairs of singular and plural noun-class prefixes are separated by a slash (e.g. cl. 5/6).

Part one
PREFACE

1.1 Introduction

Bananas and plantain (*Musa* cultivars (Musaceae)) are tropical crops, although some commercial banana cultivars are grown in the subtropics too (Tai 1977:444-449, Stover & Simmonds 1987:193-198, Sastry 1988). In many parts of Africa, plantain (*Musa* spp. AAB group) and the so-called East African highland banana (*Musa* sp. AAA group) form the basis of food crop production (Wilson 1987:29, Price 1995:1, Swennen et al. 1995:320-321). Extensive cultivation of the plantain is mainly found in the hot and humid rain forest areas of Central and West Africa. Cultivation of the East African highland banana, on the other hand, is confined to the relatively cool and wet highlands of East Africa. Both crops are better suited to the humid or wet ecological conditions that prevail in these areas than are root or grain crops (Johnston 1958:91-94, 105-106, 112-116; Andreae 1980:59, 61, 65, 72-73; Rossel 1987:46). It is believed that a proper sustenance of relatively large populations in the equatorial rain forest areas has only become possible after the introduction of plantain (Posnansky 1961:90). Until recently, the most important constraints to the cultivation of plantain were unsuitable ecological conditions, but this situation has dramatically changed with the advent of some serious pests and diseases (Wilson 1987:33, Jeger et al. 1995:317-381, Gowen 1995:382-402). Due to the specific nature of plantain (triploidy, sterility and lack of variation), breeding, for instance for resistance, is very difficult. In spite of extensive studies and breeding efforts that have been going on since the 1920's, questions about the genetic background of bananas and plantain have not all been answered yet (Simmonds 1962:141 and 1966:88-90, De Langhe 1976:538 and 1987b:20-21, Lanaud et al. 1992:147). For example, although of Asian origin, no close relatives of the East African highland banana have been identified so far in Asia (Simmonds 1966:118). Plantain, on the other hand, is widely represented in Asia, albeit with far fewer cultivars than in Africa. Notwithstanding the great botanical homogeneity of the plantain (sub)group as such, and contrary to the situation in Asia, no satisfying explanation has been presented so far for the enormous morphological variation of plantain in Africa, and the same can be said of the highland banana. Presently, approximately 120 plantain cultivars have been described in Africa, which is about ten times the number found in Asia, the continent of origin (De Langhe 1961:447-449, Tezenas du Montcel 1983:251-253, Swennen 1990:177-196). Estimates about the number of cultivars belonging to the group of East African highland bananas range from 45 to 70 (Baker & Simmonds 1951:287, Shepherd 1957:285, Sebasigari 1987:172). Although this variation must be based on a limited number of clonal sources (Vuylsteke et al. 1991:430), there is

still much speculation about the identity of the cultivar(s) first introduced to Africa, as well as about the origin, time and agents of introduction.

The closest relative of musa is ensete (*Ensete* spp., (Musaceae)), which occurs wild (and cultivated) in many parts of Africa, as well as in Asia. Remarkable similarities, for instance between the uses and the ritual functions of this plant, can be observed in all parts of the continent where it occurs. Ensete is probably one of the oldest useful plants in Africa and its name can be reconstructed for Proto-Benue Congo (a subgroup of Niger-Congo, one of the four language families in Africa; it includes the group of Bantu languages, which are spoken from Cameroon to South Africa). In many languages this name has been transferred to musa too and so have its ritual functions (Rossel 1996a:136-137, 143-144). Domestication of ensete has taken place in Ethiopia, where it forms part of the, supposedly ancient, Ethiopian food-crop complex (Vavilov 1926, Harlan 1971:469-471, Westphal 1975:73). Here, people have also developed elaborate techniques aimed at clonal propagation of ensete plants with desired qualities as well as at the maintenance of genetic variation (Shigeta 1990:98-106). The history of musa and ensete has not been written down, nor did the plants leave (unequivocal) archaeological remains behind. The hard seeds of ensete, as well as the earthen pits used to ferment and store ensete, on the other hand, might give some insight into the domestication of the crop, but no archaeological information on this is available yet (Brandt 1984:188-189). Nonetheless, some of the practices concerning the domestication of ensete are still observable in present-day Ethiopia and these might help us to understand the domestication process of musa.

Another point is that the musa cultivars are usually known under a multitude of vernacular names, reflecting the linguistic diversity rather than the musa diversity in a given area. This makes the collection and identification of plantain cultivars very difficult and not only presents an obstacle in the communication and exchange of material between researchers, but also makes the maintenance of collections very costly in terms of space, time and money.

Considering the fact that plantain is not indigenous to Africa, its cultivars and their names in the various areas and languages are either obtained from elsewhere (spread of crop and cultivars, borrowing of names) or came into existence locally (mutations of plants, innovations of names). The idea is that from the distribution patterns of these cultivars and of their names in the African languages will emerge a picture of the pathways of spread of the crop over the continent. The distribution of plantain diversity, in conjunction with ecological, cultural and plantain-historical information should also give us some insights into the causes of this diversification. The total picture of diffusion and diversification then, will lead to a hypothesis about time, place, identity and origin of the original introduction(s) of plantain to the continent. Knowledge about the history of plantain in Africa is also expected to provide clues as to its origin in Asia, which might enable a more direct search for its (fertile, diploid) parental subspecies, which can then be used in breeding (see Tezenas

du Montcel et al. 1996:123). However, this cannot not be done adequately, if only for linguistic reasons, without considering the history of ensete and that of the other bananas in Africa. Therefore, both ensete and bananas have been included in this study, wherever possible or necessary.

1.2 Objectives

The aim of this study is to establish a theory about the various aspects of the introduction to and spread of the plantain through the African continent. Retracing the pathways of diffusion will result in the identification of place, time, agent and origin of the introduced material as well as of the areas of later genetic diversification. Equally important is the identification of specific areas to be explored for cultivars (e.g. cultivars that retained some degree of female fertility) that would enable more effective breeding (see Swennen & Vuylsteke 1990:253).

Also, the diffused (and therefore old) cultivars and those more or less recently introduced or mutated will be identified, and their ratios in the various regions assessed. Apart from these sets (general, regional, local), the ratios of the different morphological types of cultivars (e.g. with features such as pseudo-stem colour or bunch-type) that are grown in the regions studied will be established. In connection to this, the nature (ecological, cultural, genetic, or other) of the influences on these ratios will be indicated, wherever possible.

Following the recommendations that were made on the need for exploration and collection in these areas (De Langhe 1987a:16-17, Swennen & Vuylsteke 1991:307), fieldwork was performed in hitherto unexplored areas in West-Central and eastern Africa. This has resulted in an inventory of plantain cultivars and their vernacular names in these areas (Rossel 1992, 1994, 1995; see chapter 3.1). The latter is in accordance with an another recommendation, i.e. the establishment of a list of (international and vernacular) synonyms (Swennen 1990:173-206). Although of a provisory nature, this inventory may serve as the basis for future collecting and evaluation.

The study of ensete and musa, of their uses, distribution and names, is not only relevant for agronomical reasons, as outlined above, but also for history, ethnobotany and linguistics. It may teach us more about the use and significance of plants, about factors involved in crop diffusion and diversification (within and between continents), about contacts and exchanges of goods and ideas between peoples, or about the adoption of loan-words and the functioning of semantic fields in languages. Some attention has therefore been given to the importance of musa and ensete with respect to their use for other than food purposes.

Finally, this study is meant to be an exploration of the possibilities of a new methodological approach to crop history. To achieve this, linguistic and taxonomical data are combined with ethnobotanical and historical information. The expected

outcome is a better understanding of processes concerning the spread of the plantain in particular, and of the dispersal of crops in general.

1.3 Methodological considerations

So far, crop history has been studied within the frameworks of various disciplines (e.g. agronomy, history, taxonomy or linguistics). As a result, the outcome of these studies rarely arose above the level of speculations. Nevertheless, helped by the eminence of certain authors in their own discipline, and in the absence of sufficient counter-expertise, such speculations often succeeded in entering the circle of quotations. The most important example of this is the belief that musa was already present in West Africa when the Portuguese first arrived there. Although no proof of this can be found in the historical sources of that time, the idea seems to have been generally accepted as fact (see for instance Simmonds 1962:146 and 1966:312).

Another example is the assumption that the plantain diversity in Africa is due to a very long period of cultivation in the region (Ortiz & Vuylsteke 1994:130 and 1996:1). This assumption is based on the thesis of De Langhe (1964:76-7) that plantain must have been spread from India to Africa in very remote times, by "palaeo- or mesolithic people".

Ideally, the history of crops, of their domestication, diffusion and diversification, should not be studied from the viewpoint of a single discipline, but in a combined effort of various disciplines such as botany, agronomy, archaeology, history and linguistics. Where musa is concerned, archaeological evidence is absent and written sources are scarce. Unlike archaeology and history, however, botany and agronomy are based on present-day material, which is plentiful. This living material may serve, if well interpreted, as a window to the past. The study of (the spread of) crop names in languages provides an alternative source of information. These disciplines therefore play an important part in such a combined approach of plantain history in Africa.

Crop history, as an independent discipline, should define its own rules, principles, plausibilities and constraints. Some of the botanical constraints are for instance the different propagation modalities (generative or vegetative, out- or in-breeding, hetero- or homo-zygosity), which partly determine the degree of genetic diversity to be found. A case in point is the fact that banana and plantain cultivars are highly sterile (female as well as male, see De Langhe 1976:538; Stover & Simmonds 1987:46, 175; Mukasa & Rubaihayo 1993) and can only be propagated clonally. This implies that their distribution over the world depended on the intervention of man. Therefore, the diversity found after introduction to areas where wild musa plants are absent, must be due to mutations of the introduced material.

Historical factors to be taken into account, in relation to the spread of a crop and its names, are the movements and contacts of peoples and languages. It is known that historical (e.g. commercial) relations between peoples often resulted in plants and (to

a lesser degree) plant names being exchanged or, rather, being passed on. Migrations of peoples to or from areas with different ecological conditions is another point, since ecological conditions are an important factor in the cultivation of certain crops. These conditions also determine the pre-existence of (related) plants or crops with similar morphological features, or with similar uses. Prior acquaintance with such plants can thus be expected to influence the acceptance as well as the naming of a crop.

Evidence from the contributing disciplines should never be considered in isolation. One-sided approaches, for instance by historians who are basing themselves on written records, or by biologists trusting on laboratory results, can not serve as a shortcut to the whole history of a crop. Some researchers have tried to overcome this problem by using information from other disciplines. The inherent danger of this is that an incomplete availability of data or an incomplete understanding of aspects covered by the other discipline tends to lead to an inaccurate interpretation or an uncritical adoption of such data. Möhlig (1989:189-190) sounded a word of caution against the cloning of results from a single discipline and their use as a basis for interdisciplinary historical interpretations. He argued that such results are no longer subject to the methodological considerations of their original discipline but have become part of a different theoretical context, and that their relative value can only be judged by a small number of insiders. An example of this may be the discovery and identification of musa phytoliths (cellular silica bodies) in an archaeological site in Cameroon dated between 2580-2100 BP and calibrated at 850 BC - 1 AD (Mbida 1996:313, 486, 652, 657 and Mbida 1997), implying that musa had already arrived in West-Central Africa at a very early date. Apart from historical considerations, such as the existence of maritime contacts between India and North-East Africa that would have to had existed long before that, one also has to take into account the ecological and cultural setting of the time, i.e. the plausibility of a passage of musa through large areas with arid climates and of areas populated by hunting-gathering societies. Another arguable point is whether musa phytoliths can be distinguished from those of ensete (Tomlinson 1957:794, Swennen 1991, Mulder & Rossel, forthcoming).

Just as each of the above-mentioned disciplines may contribute to crop history, the latter, in its turn, may also contribute to the former. For example, conclusions about the historical movements (origin, introductions, diffusions) of a crop, combined with information on its botanical diversification, can assist breeders to gain more insight into matters of genetical importance such as mutating behaviour and the original genetic make-up of introduced plants. Also, the adoption of a new crop in an area helps to explain some historical processes like high population densities, competition for resources and ensuing social tensions.

In view of the multi-facetted nature of crop history, some kind of a bird's-eye view is needed in order to oversee all aspects of the subject and to assess their relative importance. Not all farmers in a region are equally knowledgeable about the cultivars grown or about the names of these cultivars. Apart from the fact that many

regions consist of populations of different linguistic backgrounds, it must always be kept in mind that, although standardisation is an important process in name-giving, the information present in an area is of a non-written nature and may therefore be variable. For this reason, superficial surveys, whereby large areas are covered in a few days only, may be adequate to draw up an inventory of the cultivars most commonly grown. It is, however, not likely to lead to reliable results as to vernacular names or other cultural information and rare but interesting cultivars are easily missed in this way too. For instance, in the overview of plantain cultivars in Cameroon (Tezenas du Montcel 1979:93), the number of cultivars listed for the Haute Nyong and Kadei districts in east Cameroon is rather low (four identified and four unidentified cultivars), whereas the languages in which the vernacular names were recorded are difficult to identify (cf. chapter 3.2 and appendix B, with 18 cultivars listed).

Observations of this nature were already made by Letouzey (1976), a botanist who studied vernacular botanical names in use by various population groups in Cameroon, Gabon and Congo, especially by the so-called pygmies. He stated that, although the latter generally have an excellent knowledge of their natural environment, individual variation in knowledge occurs, and that the data obtained must always be confirmed by other informants, in different locations.

When conducting surveys, care should therefore be taken to interview several farmers. Only so can individual variation in farmers' knowledge be levelled out and a relatively complete picture of local musa diversity be obtained.

Another point is that, in a number of cases, generic musa names were borrowed from other plants with similar features or uses, for instance from ensete, *Sansevieria* or *Ficus* spp. These plants often occur in different ecological zones, not all of which are equally suited for the cultivation of all musa cultivar groups. Also, the plantain and highland banana cultivar groups and their names have been spread at different periods in time, via different linguistic groups and via different pathways. We therefore have to take into account the varying demographical and linguistic constellations that existed in the past in a given area. Moreover, the spread of musa cultivar groups from the areas where they were first established and from the languages where their names were first coined, has resulted in the present-day overlap of these cultivar groups and of their names. This implies that the occurrences, uses and names of those plants that gave their names to musa, should be considered too. Therefore, apart from fieldwork, detailed literature study has to be made, also on regions not surveyed. Since the sources containing useful information are of a very diverse nature (e.g. agronomical, botanical, linguistic or historical), they are to be found in very diverse places too (e.g. in libraries and archives of universities, research institutes or religious institutions).

1.4 Working hypothesis

As said, the total genetic diversity of plantain is the object of this study, not only in the surveyed areas, but on a continent-wide scale and in combination with information on related and similar plants.

The basic principles of a taxonomic-linguistic approach to matters of agricultural interest still have to be defined. An onset to this will be given by the outcomes of this study, considering the specific nature of the crop dealt with. However, in the absence of previous studies of this sort, a few preliminary considerations have to be made, in order to establish some kind of a research framework. These considerations are of an agro-botanical and of a socio-linguistic nature.

Firstly, different kinds of selection mechanisms have influenced the distribution patterns of certain cultivars or cultivar groups. Also, a number of cultivars has been spread rather quickly over a large area in more recent times, while others had time to move more slowly over the continent, via different pathways. Apart from this it may be assumed that:

- Cultivars that are grown in most parts of the "Central-African plantain-zone" are probably old and, especially those most commonly grown, may have been part of the original set of cultivars.
- Cultivars present only in the eastern, respectively western part of this zone probably evolved or were introduced later in these areas.
- The cultivars that only occur very locally are probably rather recent mutations (the absence of False Horn cultivars, apart from some relatively recent introductions, in eastern Africa seems to plead against the existence of relicts).

Secondly, the study of the spread of generic musa names and of names of bananas and plantain in general, of plantain in particular, or more specifically of certain cultivar groups, will reveal the broader outlines of the diffusion of the crop and of the first cultivar or cultivar type to be diffused.

On the other hand, the study of individual cultivar names will help identify their linguistic and geographical origin, as well as their pathways of diffusion. Moreover, the meaning of these names can be informative to breeders, especially when indicating certain features of the cultivars in question. These features may be of any possible nature, whether morphological, organoleptic or agronomical; they may also point to certain resemblances (e.g. to animals or to other plants), to the agent of introduction or to some cultural concept.

There is a distinction between the occurrences of names restricted to certain geographical areas or, on the contrary, to certain linguistic groups. Names having mainly a geographically-determined spread must be younger than those spread in linguistically related groups only. In this respect, historical information is of great importance. The hierarchy of more or less related linguistic groups is a reflection of the relative age of their separation from a common ancestral language. The extent of the spread of certain names through the ranks of the linguistic groups (ranging from

dialect, dialect cluster and language to language group) is therefore an indication of the relative age of these names. However, the possibility of an origin in a language-substrate or in ancient or recent linguistic neighbours has to be considered too. Another point of consideration is, of course, the fact that the present knowledge about linguistic relationships in the regions studied, as well as the regional history itself is still in progress.

Where the naming of crops is concerned, different processes may be at work, influenced by factors of historical, economical, social or political nature. Some of these processes are:

- Linguistic groups of various sizes creating their own names.
- Standardisation of names in these groups.
- The quick spread or slow diffusion of certain names.
- Loan-translations, i.e. the translation of names borrowed by one language from the other, especially when having a transparent meaning or indicating a very conspicuous feature of the cultivar in question.
- Folk-etymologies.

In their turn, these processes are acting on different levels:

- Generic names, of musa in general or of plantain in particular.
- Names of cultivar-groups, with the people not necessarily making the same division as the scientists do (folk-taxonomy).
- Cultivar names.
- Names for parts of the plant.

Fulfilling the objectives for this study, as mentioned above, the outcomes of the agro-botanical and socio-linguistic data will lead to a theory about:

- The age of introduction and spread of plantain and its cultivars to and through Africa.
- The original cultivar(s) or cultivar type(s) that were introduced.
- The identity and places of later introductions.
- The pathway(s) of diffusion of the crop and/or of (part of) its cultivars
- The areas of diversification and the origins of more or less recent mutations (and their subsequent spread).
- The nature and effect of selection mechanisms: environmental, genetical and anthropogenous.

Part II of this study will be devoted to some botanical background information on musa and ensete, to the uses of both plants in Africa as well as to the historical information that is available to us. Parts III and IV are based on the results of fieldwork and on literature study, and will deal with the distribution of musa cultivars and their names in eastern and West-Central Africa. (For the list of the areas visited and the languages in which the vernacular names were recorded, as well as for the taxonomical framework in which the plantain diversity is placed, see chapter 3.1).

Finally, in part V, the conclusions from Parts III and IV will be brought together, in order to arrive at a general theory of the history of the plantain in Africa and its migratory routes. In the appendices all cultivars of plantain and bananas encountered during fieldwork are listed with comments.

Part two
OUTLINES

2.1 Taxonomy

Musa. Origin and nomenclature:

The genus *Musa* originated in South-East Asia, where numerous wild species occur in an area stretching from Papua New Guinea to India. The two species believed to have been involved in the evolution of most edible bananas (including plantain) are *Musa acuminata* Colla and *Musa balbisiana* Colla. The Malay region, with its tropical climate, is considered to be the primary centre of origin and diversity of the cultivated bananas derived from *M. acuminata*. The region of origin of *M. balbisiana* is believed to be situated north of this, and is characterized by monsoon climates and seasonal droughts. So far, six subspecies of *M. acuminata* have been described. *M. balbisiana*, on the other hand, shows little genetic variation and no subspecies are being distinguished, despite its wide distribution (Champion 1967:29-35, Simmonds 1995:371-2).

Wild banana fruits are inedible because they contain little pulp and many seeds. Two evolutionary processes, parthenocarpy and female (seed) sterility, i.e. the development of the pulp but not of the seeds, contributed to the edibility of bananas, which was favoured by human selection. Simmonds & Shepherd (1955:306-7) developed a hypothesis about the evolution of the complex of edible bananas (see also Simmonds 1962:134-41). According to them, the edible bananas of the section *Musa* originated primarily from *M. acuminata* by the joint processes of hybridization with *M. balbisiana* followed by back-crossing to both parents and polyploidy. They distinguished five main stages in this evolution:

- Development of vegetative parthenocarpy and seed sterility in diploid *M. acuminata*.
- Out-crossing of some of these nearly sterile edible diploids of *M. acuminata* to wild *M. acuminata* and *M. balbisiana*, followed by human selection among the parthenocarp products of such crosses.
- Occurrence of triploidy as a consequence of haploid fertilization of diploid female cells after female restitution, known to occur widely in *Musa*. The resulting triploids were superior in vigour, fruit size and sterility (absence of seeds in the fruits).
- Occurrence of tetraploidy after restitution in triploids and followed by haploid fertilization.
- Diversification by somatic mutation.

The interspecific hybrids of *M. acuminata* and *M. balbisiana* developed when edible female-sterile but male-fertile *M. acuminata* diploids spread northwards into the area of *M. balbisiana*. The *balbisiana* genome probably contributed a certain

degree of hardiness, i.e. of tolerance to droughts and diseases, to most hybrid cultivars. The highest diversity of hybrid cultivars is found in the Indian subcontinent, and southern India is thought to be the homeland of plantain, one of the main groups of the hybrid cultivars (Champion 1967:29-35, Simmonds 1995:371-2).

Because of (female) sterility, most banana cultivars produce no seeds and sexual propagation is impossible. For this reason the plants have to be propagated vegetatively and cannot maintain themselves in the wild. This implies that their dispersal can only be attributed to the activity of man. It also means that the variation that occurs within groups of cultivars with the same genetic background is the result of mutations. Following is an overview of the most important cultivar-groups (the word musa will be employed throughout the text to indicate any *Musa* species or cultivar, whereas the *acuminata* genome will be represented by the letter A and the *balbisiana* genome by the letter B):

Musa acuminata:

- Wild AA diploids
- Cultivated parthenocarp AA diploid bananas.
- Triploid AAA bananas: probably hybrids of different subspecies. One of the cultivar groups is formed by the so-called "East African highland bananas". Part of these cultivars are used for cooking while the fruits of others, containing bitter sap, are destined for the fabrication of alcoholic beverages. The cooking banana constitutes the main staple in several areas in East Africa. Other important groups are formed by dessert cultivars, the best known of which is probably the 'Gros Michel' banana. Due to its susceptibility to "Panama Disease" (*Fusarium oxysporum* f sp. *cubense*), this cultivar has been largely replaced now by the Cavendish group.

Musa balbisiana:

- Wild BB diploids.

M. acuminata x *M. balbisiana*

- Diploid AB hybrid bananas.
- Triploid hybrids: AAB bananas ('Pisang rajah', 'Pisang kelat', 'Mysore', 'Pome', 'Silk', 'Maia maoli) and the group of AAB plantains. Plantains, which cannot be consumed raw, constitute the main staple food in large areas of Central and West Africa.
- Triploid hybrid ABB bananas (for dessert, or made into flour in East Africa).

Plantain cultivars are classified according to the form and structure of the fruit bunch. The cultivars representing the four main stages of bunch morphology are labelled French, French Horn, False Horn and Horn plantains. French plantains have a complete inflorescence at maturity, relatively small and numerous fruits, many biseriate neutral flowers and a large and persistent male bud (consisting of bracts and

male flowers). The French Horn and False Horn plantains are characterized by incomplete inflorescenses of which the male axes wither before maturity, less numerous but bigger fruits than of the French type and uniseriate neutral flowers. The French Horn plantains, however, produce a greater number of fruits and neutral flowers than the False Horn plantains. The Horn plantains, finally, have few but big fruits and the male axis is absent altogether (Tezenas du Montcel & Devos 1978:15, Tezenas du Montcel et al. 1983:462-3, Swennen & Vuylsteke 1987:165-168, Swennen 1990:172).

There has always been much confusion concerning the use of the terms "banana" and "plantain" in the European languages. Nowadays, in South America, "plantain" either stands for AAB plantain or for dessert bananas, while in the West Indies and in West and Central Africa the name is reserved for AAB plantain only. In East Africa a "plantain" can be any banana that is not consumed raw, contrary to India, where the term is mainly used for the dessert bananas (Cheesman 1948:149-50, Simmonds 1966:57).

The origin of the distinction between "plantain" and "banana" seems to stem from the West Indies. The first known source making this distinction is Ligon's *History of Barbados*, which was published in 1657 (see Anonymous 1894:253). In this, Ligon states that "....the "bonano" is of sweeter taste than the "plantine" and for that reason the negroes will not meddle with it....". In the same period plantain and (dessert) bananas were also distinguished by name in West Africa and South America, but here the name "banana" was used for plantain and the name "bakoba" for dessert bananas (see chapter 4.3.1). Another term for musa in the European languages of those days was "fig" (see Wis 1958:30-4).

As for the scientific nomenclature, Cheesman (1947-9) succeeded in ending much of the confusion about the application of Latin names to *Musa* species and cultivars. He showed that Linnaeus had based his description of *M. paradisiaca* (1753), and of *M. sapientum* (1759), on two cultivars of the same group, respectively an AAB French plantain and the AAB 'Silk' banana. Also, Cheesman saved from oblivion the observations of W. Roxburgh (*Hortus Bengalensis*, 1814) about the similarities between many of the cultivated banana varieties in India and what he considered to be a wild sort of *Musa sapientum* L. (the later *M. balbisiana* Colla). Cheesman further credited Sulpiz Kurz (1865-6) for discovering the bispecific origin of these Indian cultivars as well as the fact that the majority of cultivars in the Indo-Malaysian Archipelago descended from one species, *M. simiarum* Rumph. (the later *M. acuminata* Colla). Finally, Cheesman was able to relate these two wild species (*M. sapientum* L. and *M. simiarum* Rumph.) to resp. *M. balbisiana* and *M. acuminata* as described by Luigi Colla (*Memorie dell' accademia reale delle scienze di Torino*, Tomo XXV, 1820). Colla had based his descriptions on two species in Rumphius' *Herbarium Amboinense* of 1750 (i.e. *Musa* XI 'Pissang batu' and *M. simiarum* 'Pissang jacki').

Although Rumphius' publication of the name *"Musa"* antedates Linnaeus' *Species Plantarum* (1753), it follows Linnaeus' (pre-Linnaean) publication entitled *Musa Cliffortiana, florens Hartecampi prope Harlemum*, 1736 (see Cheesman 1948:147). The name *"Musa"* is the Italian version (fem. sing./plur. **musa/muse**) of Arabic **muuz** (or **mouz**), which was already mentioned by Pilgrims to the Holy Land as early as the 14th century (Wis 1958:25-7, Simmonds 1966:54-6).

Linnaeus probably based the species name *M. sapientum*, ('fruit of the wise men') on classical sources such as Theophrastus (late 4th century BC) and Pliny (77 AD). The latter two, in their turn, relied mainly on the reports of Alexander the Great, who had noticed that the **pala** (i.e. musa) fruits were much eaten by the sages of India (Reynolds 1951:9-10). The name *M. paradisiaca* also goes back to the time of the pilgrimages. Descriptions of the "paradise apple" (i.e. the banana) are found in sources dating from the beginning of the 14th century (Wis 1958:19).

Cheesman (1948:11) explains that the name *M. balbisiana* was chosen by Colla in honour of Professor G.B. Balbis (1765-1831), professor of botany in Turin and director of the botanical garden in Lyon (because a musa plant in this garden had been labelled *M. paradisiaca* by Balbis; see Colla 1820:15, 57). The name *M. acuminata*, on the other hand, was based on Rumphius' description of the acu(mina)te apices of the fruits of *M. simiarum* (see Colla 1820:66-7). After Cheesman, it was generally accepted that the parental species of most cultivated bananas were *M. acuminata* and *M. balbisiana*. Cheesman considered the 'Silk' cultivar (*M. sapientum* L.) to be a triploid hybrid of *M. acuminata* and *M. balbisiana*, and the plantain (*M. paradisiaca* L.) to be a triploid form of *M. acuminata*.

However, Simmonds & Shepherd (1955:308) demonstrated that both the plantain and the banana cultivar 'Silk' are of hybrid origin and therefore concluded that the Linnean nomenclature of (cultivated) musa was to be rejected. Instead, they developed a scoring method, based on morphological features, which reveals the relative contribution of each species to the genetic make-up of the various cultivars. This enabled them to distinguish six groups of cultivars, two diploid (AA, AB), three triploid (AAA, AAB, ABB) and one tetraploid (ABBB).

Moore (1957:171), on the other hand, argued that Linnaeus' description of the genus *Musa* is based on *M. paradisiaca* and that, in accordance with the International Code of Botanical Nomenclature, this name should be retained. As Simmonds & Shepherd had already proposed to reject *M. paradisiaca* and *M. sapientum* from the nomenclature of the wild bananas, Moore put forward that in the case of cultivated bananas it would be better to use the clonal name with the genus name only. According to him, this was also in accordance with the general practice concerning clonal names of other plants of (partly) unknown or complex genetic constitution. Following Simmonds, he proposed to indicate the genetic make-up of a clone by using the symbols A (for every *acuminata* genome) and B (for every

balbisiana genome), for example *Musa* (AA) 'Sucrier', or *Musa* (AAB) French plantain.

Ortiz & Vuylsteke (1996:8) found that plantain has a trisomic pattern of inheritance and that there is no preferential pairing between the homologous chromosomes of the A genome but a random distribution of the paired chromosomes (of the A genome) to the cell poles during anaphase I of the first meiotic division. The authors therefore concluded that there is no genome differentiation between *M. acuminata* and *M. balbisiana* and suggested that the AAB genomic designation for plantain should be discontinued or replaced with a more specific genetic characterization. This conclusion, however, has been refuted by Shepherd (forthcoming), who demonstrated that their argument was based on a false premise (the *acuminata* parent in question being heterozygous, not homozygous).

Lately, Ortiz (1997:404) argued that the three-letter coding of musa cultivars should be reconsidered and instead, the old Latin names be re-assigned to the triploid *Musa* cultivars. Although he based this idea on examples from other polyploid crops with odd chromosome numbers (e.g. triploid and pentaploid tuberous *Solanum* spp.), the above-mentioned conclusion about genomic differentiation must have played a rôle too. In his opinion the French plantains should be designated as *Musa x paradisiaca* L. and the Horn plantains as *M. x corniculata* Lour., in spite of their admitted close genetic relationship (p. 403). However, this proposal is in disregard of recommendations made by the International Code of Nomenclature of Cultivated Plants (for instance with Principles 1, 2 and 5, or with Article 15.1; Trehane 1995), a point already made by Moore (see above).

Expanding on former work (e.g. of P. Sagot, Sur le genre bananier, *Bull. Soc. Bot. France*, 1884, and of J.G. Baker, A synopsis of the genera and species of Museae, *Ann. Bot.*, 1893), Cheesman (1947:108) subdivided the genus *Musa* in four subgenera or sections, called "series" by Simmonds (1966:52), i.e. *Rhodochlamys* (Baker) Cheesman, *Callimusa* Cheesman, *Australimusa* Cheesman and *Eumusa* (however, the latter should rather be *Musa*, conform Art. 21.3 of the International Code for Botanical Nomenclature). While the first two series are of ornamental interest only, and the third contains fibre plants (*M. textilis* Née) as well as food plants (the so-called "Fe'i" bananas of the Pacific region), it is the last series that comprises most edible bananas.

Ensete:

Ensete plants are very similar to those of musa and occur wild in Africa and Asia. Cultivation of ensete is only undertaken in south-west Ethiopia, where **ensät** is an important staple crop. Unlike musa, the consumable starch of ensete is not situated in the fruits but in the lower part of the pseudo-stem and in the corm. The fruits of ensete are almost inedible because they contain large, hard seeds.

Musa and ensete cannot intercross, (for instance) because of different chromosome numbers. Whereas wild musa only occurs in Asia, three ensete species are found in Africa, i.e. *E. ventricosum* (Welw.) Cheesman, *E. gilletii* (De Wild.) Cheesman and *E. homblei* (Bequaert) Cheesman, one in Madagascar, i.e. *E. perrieri* (Clav.) Cheesman, and two in Asia, i.e. *E. glaucum* (Roxb.) Cheesman and *E. superbum* (Roxb.) Cheesman. *E. ventricosum* is found in eastern and southern Africa, in an area ranging from Ethiopia via Sudan and the Central African Republic to Angola and South Africa. *E. gilletii*, on the other hand, has a more western distribution and occurs in West and Central Africa, from Guinea to Angola and Congo(-K.). *E. homblei* is found in a relatively small area in Zimbabwe and south-east Congo(-K.). Edible cultivars have only been developed within *E. ventricosum*, but some of the other species are reported to be occasionally used for food purposes too (also in Asia).

Ensete plants are monocarpic (i.e. they die off entirely after flowering and fruiting), apart from one cultivar in Ethiopia and a specimen collected in Vietnam that produce side shoots (Azeb 1997; Nguyen Dang Khoi & Valmayor 1995:4). They usually grow in highland climates, where they take three to six years to build up an adequate store of carbohydrates in the leaf sheaths that form the pseudo-stem. These carbohydrates are needed during flowering and fruiting and thus for the propagation through seeds. Musa plants have a perennial underground corm-like rhizome, ensuring a reproduction of the sterile cultivated bananas by way of side shoots or suckers. Although ensete does not normally form side shoots, people in Ethiopia have developed a technique of vegetative propagation. By hollowing out the corm of an ensete plant and filling it with a mixture of soil and organic manure, the production of lateral sprouts is induced, which are used as planting material. Compared to this method, the reproduction from seed has many disadvantages:
-It takes longer, and at very high altitudes the plants hardly flower at all.

- No parts of the plant can be used as food, as the carbohydrates in the stem and leaf sheaths are used up during flowering and fructification.
- More plants are necessary for propagation, because the number of seeds in the fruits is inferior to the number of lateral sprouts that can be produced.

Also, by means of the vegetative propagation method, plants with desired properties can be maintained indefinitely. Owing to this and to prior selection, cultivated ensete can be grown at higher altitudes (1600-3100 m) than wild ensete, which does not occur above 2000 m (Baker & Simmonds 1953, Smeds 1955, Simmonds 1958, Champion 1967, Shigeta 1990).

To summarize, most edible banana and plantain cultivars are derived, in different genomic combinations, from only two of the nine species of the Musa series of the genus *Musa*, i.e. *M. acuminata* Colla and *M. balbisiana* Colla. Part of these cultivars are monospecific (*M. acuminata* diploids or triploids), while other cultivar(group)s such as plantain are interspecific hybrids of *M. acuminata* and *M. balbisiana*. The genera *Musa* and *Ensete* together constitute the family of the

Musaceae, one of the six families of the order of the Zingiberales. These relationships are schematized in table 2.1, with that of plantain printed in bold type (see Simmonds 1962 and 1966).

Table 2.1 The taxonomic position of ensete and musa, including plantain

Order:	*Family:*	*Genus:*	*Series:*	*Number of chromosomes (x =):*	>>
Zingiberales	- Strelitziaceae				
	- Lowiaceae				
	- Zingiberaceae				
	- Marantaceae				
	- Cannaceae				
	- **Musaceae**	- Ensete		(9)	
		- **Musa**	- Australimusa	(10)	
			- Callimusa	(10)	
			- Rhodochlamys	(11)	
			- **Musa**	(11)	

>> *Species*	*Subspp.*	*Group*	*Subgroup*	*Bunch type*	*Cultivars*
- [#]					
- **M. acuminata** }	[##]	- AA			} see 3.3
- **M. balbisiana** }		- AAA			} an
	}	- AB			} app.
	}	- ABB			} C, D
	}	- ABBB			}
	}	- **AAB**	- [###]		}
			- **Plantain**	- **French**	} } see 3.2
				- **French Horn**	} } and
				- **False Horn**	} } app.
				- **Horn**	} } A, B

[#] *Musa schizocarpa* Simmonds, *M. basjoo* Siebold, *M. itinerans* Cheesman, *M. nagensium* Prain, *M. cheesman* Simmonds, *M. sikkimensis* Kurz, *M. flaviflora* Simmonds (for a list of synonyms see Champion 1967:38-43).

[##] *M. acuminata* ssp. *malaccensis* (Ridley) Simmonds, ssp. *burmannica* Simmonds, ssp. *burmannicoides* De Langhe, ssp. *siamea* Simmonds, ssp. *microcarpa* (Beccari) Simmonds and ssp. *banksii* (F.Mueller) Simmonds.

[###] 'Pisang rajah', 'Pisang kelat', 'Mysore', 'Silk', 'Pome', 'Maia maoli'.

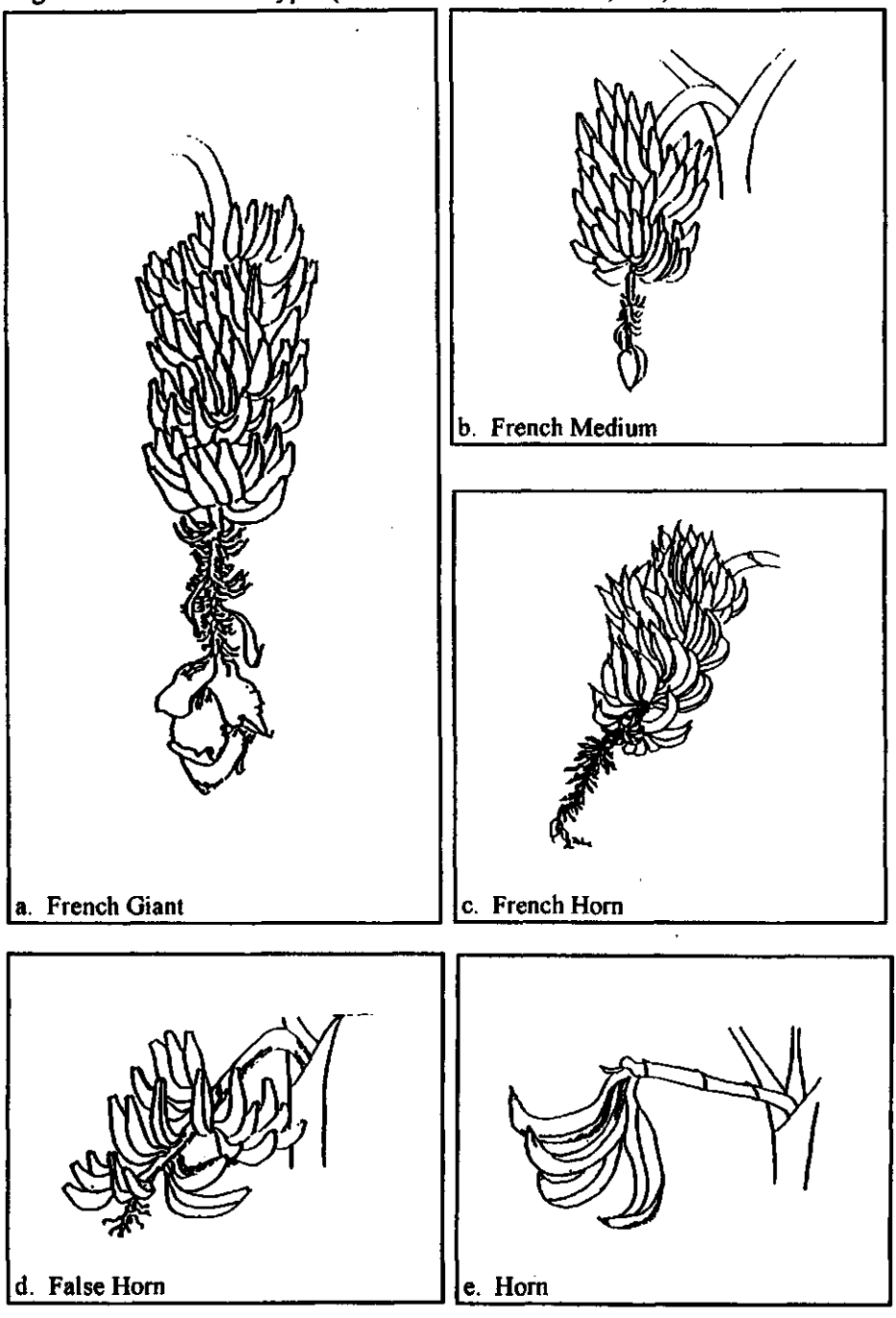
Plantain: distinctive features and classification:

Some thirty years ago it was assumed that all plantains descended from one or few original clones (De Langhe 1964:59, Simmonds 1966:90). The existence of the four bunch types that are distinguished in this group (e.g. French or Horn) was explained by a process of degeneration through somatic mutations of the floral axis, the so-called "plantain inflorescence degeneration line". The first stage in this process is represented by the French bunch type, which resembles the hypothetical original plantain. The French Horn and False Horn bunch types are intermediate stages and the Horn bunch type forms the last stage (see above and fig. 2.a).

New research on somaclonal variation, however, seems to suggest that not all plantains developed in this way (Vuylsteke & Swennen 1990:8, Vuylsteke et al. 1991:433-4). This presumption is based on the bunch type variations, resulting from somaclonal mutations after in-vitro multiplication, that are found among False Horn and Horn cultivars but not among French cultivars. Kaemmer et al. (1992:1032) concluded from DNA research that the B genome contained in a cultivar of French plantain was differing from that found in a Horn cultivar and also from that in two ABB cultivars. This is supported by other findings suggesting that the *M. balbisiana* genomic group displays a certain degree of heterogeneity (Lanaud et al. 1992:152) and Tezenas du Montcel (1990:218) suggested that the origin of the plantain might probably be sought in a complex of diploid derivatives of *M. acuminata* ssp. *banksii* F. Muell. in Papua New Guinea, some of which were found to resemble the False Horn and Horn plantains. This was assented by Horry & Jay (1988:2671), who found the plantain subgroup to resemble *M. acuminata* ssp. *banksii* in its anthocyanin (a flavonoid product of secondary metabolism, see Jarret & Gawel 1995:81) composition.

Since plantain is of hybrid origin, it shares many characteristics with other hybrids of the same parental origin. No less than 15 morphological descriptors are needed to discriminate between the hybrid cultivar-groups (AB, AAB and ABB). There is no single criterion either that can distinguish the AAB cultivar subgroups. Although the floral characters of plantain are invariable (the male flowers have a yellow perianth, sometimes flushed with pink or red, and the lobes are yellow-orange), these features are shared with AAB 'Pisang kelat' and AAB 'Pisang rajah'. Moreover, at higher altitudes, the male flowers lose much of their coloration. Another criterion, slender fruits, is not absolute either, as certain plantain cultivars have blunt apices, giving the fruits a less angular appearance. The salmon-coloured and starchy pulp of the fruit is fairly typical of plantains, but 'Banane sept semaines', a banana cultivar of unknown genetic background found on Guadeloupe, as well as the Pacific AAB bananas ('Maia maoli'), have yellow, or sometimes orange flesh. The persistence of the male flowers and bracts along the male axis as well as the strongly imbricated male bud of the French plantains is found in AAB 'Pisang rajah' too (see Simmonds 1966:88). Absence of the male axis has also been observed, constantly or

Fig. 2a Plantain bunch types (Tezenas du Montcel 1987; Isbe)



inconstantly, in the AAB cultivars **randombe** and **wadane kehel** in Sri Lanka (Simmonds 1966:115) and in AAB 'Mysore' (De Langhe 1961:439). Apart from the above-mentioned *banksii* derivatives that have a degenerated male axis (and a similar AA cultivar on the Comoros; Horry 1993:3), this feature has been found furthermore in the AB cultivars **padali moongil, poovilla kunnan** and/or **thattila kunnan** in south India (with fruits resembling those of plantain; Singh & Chadha 1993:131, Singh 1997). Another rather typical featureof plantain is the light green colour of the pseudo-stem, but cultivars with dark-green, red or black pseudo-stems are not uncommon too. In spite of this, the homogeneity of the plantain (sub)group is quite obvious and the variation found is only of a secondary nature (De Langhe 1961:437-40, Simmonds 1966:47, 86-97).

Due to their variation under different ecological circumstances, plantain cultivars are difficult to describe. De Langhe (1961:418, 425, 444) showed that dimensional data such as plant size or leaf width are too variable to be of any use. Other absolute data such as length of the floral parts cannot be used to discriminate between cultivars either, because they do not vary between the cultivars. Yet, De Langhe drew up a list of morphological descriptors that can be used for the determination of cultivars under different ecological circumstances (i.e. development of the male axis, orientation of the bunch and of the fingers, form of the finger apices, colour and size of the pseudo-stem, persistence of the style and/or of swollen staminodes).

A few years later, De Langhe (1964:59-60) concluded that the main morphological features or descriptors of plantain had two origins. In his opinion, the size of the pseudo-stem and the orientation of the bunch were inherited from the parental (sub)species, whereas descriptors such as pseudo-stem colour, dwarfing, form of apex, bunch type, orientation of fingers and shape of bracts were the result of later mutations.

Tezenas du Montcel et al. (1983:465), on the other hand, classified the plantains primarily according to the size (i.e. giant, medium or small) of the pseudo-stem. In time, plantains of these original sizes were believed to have degenerated from the French bunch type via a False Horn to a True Horn bunch type. In a later study (Swennen et al. 1995:326) it was concluded that the inflorescence characteristics (i.e. number of fruits and hermaphrodite flowers as well as persistence of the male bud) and the height of the pseudo-stem suffice to group plantain cultivars. According to Tezenas du Montcel et al. (1983:467-470, 472-473), the orientation of the bunch is a function of the degree of degeneration and depends on the weight of the bunch and the length of the peduncle. Variations in coloration, if not covering the total surface of the petioles and petiole bases (forming the pseudo-stem), depend on growth conditions and the age of the plant. Other characteristics, such as dwarfing, colour of the pseudo-stem and fruits or form of the apex, are due to mutations. The stages of development that led to the present variation found can be summarized as follows:

Stage 1: Original natural hybrids (with a complete or French type of inflorescence):
- Three sizes, giant, medium and small, each with a stable number of leaves.

Stage 2: Degeneration of these three natural hybrids:
- Four stages of inflorescence degeneration, French > French Horn > False Horn > Horn.
- Bunch orientation: pendulous or subhorizontal.

Stage 3: Later mutations:
- Dwarfism.
- Pseudo-stem colours.
- Fruit colours.
- Shape of apex.

Nevertheless, in the determination code that was developed by the authors and which was based on multivalued features, priority was given to bunch type, followed by stem size and bunch orientation, then by stem colour and finally by various descriptors concerning the fingers. De Langhe (1961:447-9, 1964:77-9) and Swennen (1990:177-96; after De Langhe) also grouped the plantain cultivars primarily according to bunch type, with bunch orientation as a second criterion of distinction, followed, at random, by all other descriptors.

The hierarchy of descriptors, as presented by these authors in their cultivar keys, differs slightly. The main division made by De Langhe and by Swennen is according to bunch type, followed by bunch orientation and then by all other features. The first division made by Tezenas du Montcel et al., on the other hand, is according to bunch type, followed by stem size and bunch orientation, then by stem colour and finally by bunch orientation, colour of fingers, form of fingers and form of finger apices.

Another difference concerns the number of values assigned to certain features. For instance, De Langhe (1961, 1964) and Swennen (1990) distinguished four forms of fruit apices, namely graduate (1), salient (2), faint (3a) and integrate (3b). However, since these distinctions are difficult to make in practice, Tezenas du Montcel (1979:85) reduced the number to three, which he labelled aigu (1), tranché (2) and obtus (3). (The numbers between brackets are added here in order to facilitate a comparison between the different terms used.)

We hereby touch on the subject of descriptor terminology. Where De Langhe (1961 and 1964) speaks of (French/English) gradué/graduate (1), tranché/salient (2), effacé/faint (3a) and intégré/integrate (3b), Tezenas du Montcel (1979:85-6) and Tezenas du Montcel et al. (1983:472), use the terms (effilé or) effacé)/aigu (1), saillant/ tranché (2) and obtus/obtus (3).

Also to be taken into account are differences due to the way observations have to be made in the field, as opposed to careful measurements that can be done in a living

collection in one location. An example of this is the feature O/S ratio in the 20th hand, which concerns the length of the reduced ovary (O) and the length of the stamen (S). This descriptor was introduced in order to distinguish between two otherwise identical cultivars, one of which occasionally produced seeds after (artificial) pollination, whereas the other did not (De Langhe 1961:449). It must be clear that such distinctions cannot be made in the field.

One of the purposes of this study is to facilitate the communication between researchers, especially where the identity and characteristics of cultivars are concerned. It should therefore provide a framework for the classification of cultivars (according to morphological descriptors), to which data from various sources can be fitted (see the synopses of plantain cultivars in chapters 3.2 and 5.1). This implies that the descriptions of newly discovered cultivars have to be compatible to already existing ones. It also means that the different classificatory systems have to be integrated. Therefore, the sequence of descriptors used in the present work is a compromise between the various hierarchies (in morphological characteristics) as presented in previous work, a maximum of clarity, as well as compactness of representation. To this, a distinction is made between main descriptors (with capital initials) and minor descriptors (with lower case initials and following the comma). It reserves an opinion as to the phylogenetic hierarchy of these descriptors which, in any case, is immaterial for cultivar classification.

Main descriptors (concerning bunch and pseudo-stem):

- Bunch type: French, French Horn, False Horn, Horn
- Stem size: Giant, Medium, Small, (Semi-)Dwarf
- Stem colour: Green(-Red), Dark-Green, Light-Green, Red(-Green), Wine-Red, Violet-Black, Black-Green
- Bunch orientation: Pendulous, Subhorizontal

Minor descriptors (when differing from default values #):

- Various: mainly concerning the fruits, or relatively rare mutations.

Default are green fruits with salient apices and separated pedicels, biserially arranged in hands along the axis.

Cultivar nomenclature:

In this way, the three most common plantain cultivars are called French Medium Green Pendulous, False Horn Medium Green Subhorizontal and Horn Medium Green Subhorizontal. Other cultivars are for instance French Giant Green Pendulous, spiraloid (with a helicoid arrangement of the fingers along the female axis), False Horn Medium Black, blunt (with a black pseudo-stem and fingers with blunt apices), or Horn Medium Red Subhorizontal, yellow & pendulous (with a red pseudo-stem and pendulous fingers that are yellow before maturity). The resulting system, a kind of phrase name, is not only practical where it comes to group and

memorize plantain cultivars, but also has the advantage of incorporating many elements already in use in plantain description.

2.2 Uses

Many similarities can be recognized where the uses of ensete and musa are concerned: between the two genera, between the different parts and peoples of Africa, and even between different parts of the world. This can be ascribed to the similar morphological features and physiological properties of the plants in question, to the diffusion of the plants and of knowledge and techniques related to them, as well as to a shared cultural heritage.

A great deal of information on the uses of plants, wild or cultivated, lies dormant in unsuspected sources, and good use can be made of it, for instance in a comprehensive study on plants, their names and their uses in relation to the (agri)cultural history of Africa. Since much of such traditional knowledge is no longer transmitted to the younger generations, pertinent data should be recorded to print.

The data on the uses of ensete and musa in this chapter are partly based on fieldwork and in (greater) part gleaned from literature, whether agronomical, anthropological, botanical, geographical, historical or linguistic (see Abbiw 1990, Abella 1979; Acquier et al. 1981, A.D.F.T. 1934, Ankei 1990, Anonymous 1912 and 1986, Ashe 1970, Augustiny 1929, Baker & Simmonds 1952 and 1953, Baron 1885, Bascom 1951, Bates 1926, Beattie 1960, Beavon 1989, Bennett et al. 1965, Benson 1964 and 1975, Berlin et al. 1974, Bernard 1972, Bezuneh & Feleke 1966, Bieber 1920, Biebuyck 1973, Biton & Adam 1969, Blanchard & Noss 1982, Blench 1987, Bodinga bwa Bodinga 1969, Bouquet 1969, Bouquiaux 1971-1972, Bourgeois 1957, Breedveld & Angenent 1996, Bruel 1935, Burssens 1958, Busse 1949-1950, Bylin 1966, Calloc'h 1911ab, Chabuovie Menizibeya Songwe 1990, Chasin 1912, Chevalier 1937, Chasin 1912, Chrétien 1979, Coupez 1991, Crazzolara 1960, Crazzolara 1978, Cuypers 1970, Daeleman & Pauwels 1983, Dahl E. 1915, Dale & Greenway 1961, Dalziel 1936, Davis 1952, De Barbot 1732, Debray et al. 1971, Decary 1946, De Greef 1916 and 1919, Demesse 1980, Denis 1937, Descamps 1909, Dimmendaal 1988, Doke & Vilakazi 1964, Dorsch 1911-1912, Dubowski 1900, Dupuis 1981, Ehret 1971, 1980 and 1983, Eichhorn 1918-1922 and 1913, Ekandem 1957, Even 1936 and 1938, Everaerts 1939, FAO 1988, Farsi 1984, Felkin 1885-1886, Fleuret 1980, Gachathi 1989, Gaisser 1912, Galley 1964, Gerard 1924, Gerstner 1938 1939, Gleiss 1912, Gningone 1951, Godfrey-Sam-Aggrey & Tuku 1985, Goldie 1964, Good 1934, Gotanègre 1983, Gourou 1966, Grimaldi & Bikia 1985, Hagendorens 1975, Hannan 1984, Harries 1942, Harrison Church 1961, Heckel 1910, Hecq et al. 1963, Heine et al. 1988, Helmlinger 1972, Herrmann 1904, Hetherwick 1889, Hilberth 1952, Hobley 1910, Hollis 1910, Hubert 1907, Hulstaert 1966, Huntingford 1929 and 1955, Hurel 1909 and 1911, Irvine 1930, Ittmann 1953, 1956 and 1976, Jacquot 1978, Janssens 1993, Jeffreys 1960, Johnston 1886, 1902 and 1908, Julien 1953, Junker 1888-1889, Karikari 1971, Kervégant 1935, Kokwaro 1976, Korse 1984, Krapf 1882, Krapf & Rebmann 1887, Laburthe-Tolra 1981, Lacomblez 1917ab, Laman 1964, LangHeinrich 1921, Leakey 1977, Le Veux 1917, Lekens 1958, Lemb & De Gastines 1973, Lenselaer 1983, Leroy 1979, Leslau 1958, Lestrade 1972, Le Testu 1940,

L'Honoré Naber 1912, Louango 1989, Mackenzie 1925, Maddox 1902, Mair 1933-1935, Malasi Ngandu 1988, Mamet 1960, Martrou s.d., Massal & Barreteau 1973, Mateene 1972, Mazenot 1970, Melzian 1937, Merkies 1980, Messing 1985, Minker 1986, Moesieke 1929, Monteiro 1968, Müller 1947, Mulira & Ndawula 1952, Murphy 1972, Namaganda 1985, Ngeze 1994, Ngoi 1944, Nout 1981, Nurse & Philippson 1977, Nyakabwa 1990, Nyakabwa & Dibaluka 1990, Oliver 1958, Olmstead 1974, Ostendorf 1962, Pages 1928, Parker 1992 and 1990, Parker & Durrant 1990, Paulian 1975, Pauwels 1954ab, Perrois 1966 and 1968, Philippson 1983 and 1984, Prata Pires 1990, Prins 1952, Proyart 1776, Rascher 1967-1968, Rechenbach 1967, Rehse 1910, Richardson & Mann 1966, Rietkerk 1990, Riley & Brokensha 1988, Robinson 1984, Rodegem 1970, Rood 1958, Roscoe 1911 and 1923, Rossel 1992, 1993, 1994, 1995 and 1996, Ruete 1909, Rusch 1975, Sacleux 1939, 1941 and 1959, Scherer 1959, Schumacher 1928, 1954 and 1955, Scott 1892, Shack 1966, Shigeki 1985, Shigeta 1990, Siegenthaler 1990, Siertsema 1981, Simmonds 1958 and 1966, Sims 1886, Smeds 1955 and 1958, Snoxall 1967, Sonpie Kpone-Tonwe 1990, Southall 1953, Spreda 1991, Stamberg 1949-1950, Stanford 1970, Stapf 1913, Staschewski 1917, Stern 1906, Stigand 1937, Stuhlmann 1909, Swartenbroeckx 1948 and 1973, Talbot 1969, Taylor & Scruggs 1985, Terashima et al. 1991, Terpstra 1910, Tessmann 1913, Tharin 1915, Tihon 1934, Tisserant 1930 and 1931, Torday & Joyce 1922, Toreton 1977, Trezenem 1936, Tsala 1976, Ukoko et al. 1964, Van Acker 1907, Van der Burgt 1902 and 1903, Van Geluwe 1956, Velten 1904 1933, Viana 1961, Walker 1930, 1931, 1935, 1939, 1940, 1952-53 and 1953, Walker & Sillans 1961, Warburg 1895, Werner 1901 and 1910-1911, Whitehead 1899, Whiteley 1958 and 1960, Widemann 1899, Williamson 1956, Williamson 1991, Wilson 1957, Yanes & Eyinga Essam 1987, Zuure 1929).

Ensete

There are four categories of purposes for which ensete and musa plants are used and which can be labelled as "nutritional", "technical", "medicinal" and "ritual". Similar uses, especially those technical and medicinal, are found in related families too, for instance the leaves of *Maranta* spp. (Marantaceae) that serve as wrapping material all over Africa, or the fibres and bark of *Strelitzia* spp. (Strelitziaceae) that have multiple uses in South Africa. This can be ascribed to properties such as fibrousness, a high potash content or big leaves common to the Zingiberales, to the practical minds of the users as well as to imitating. The extraction of fibres, the fabrication of soap and the multiple uses of the leaves, especially for wrapping and cooking, are therefore (almost) universal, although nowadays mostly obsolete because of the availability of modern products. Similar uses have also been reported from outside Africa. Examples of this are the use of the leaves of *Heliconia* spp. (Strelitziaceae) for wrapping in Mexico, the ornamental use of the seeds of *Ensete glaucum* in Papua New Guinea and the fabrication of soap from musa in Malaysia. The similarities between some magico-ritual functions of ensete (and musa, especially in those areas where ensete is absent) in the various ethnic and linguistic communities and the various parts of Africa may be, at least to a certain extent, the result of a shared cultural heritage. The fact that a generic name for ensete can be reconstructed for Proto-Benue-Congo (see

chapter 4.3.1) also suggests that we deal here with a "useful plant" of considerable antiquity.

Moreover, the cultivation methods of bananas in the East African highlands are very reminiscent of the way ensete is cultivated in Ethiopia. This led Clark (1988:62) to suggest that an early "ensete culture" may underlie that of the East African "banana cultures" (see also Allan 1965:161-175). In view of this, and of concordances found in nomenclature (see chapter 4.3.1), it becomes clear that the cultivation history of ensete has to be included in the study of the history of musa in Africa.

Following is an overview of the uses of ensete (in Africa). Although many of the uses are obsolete now, they still live on in memory, and may even come into use again in times of need (war, famine).

Nutritional:
The use of the corm and the lower parts of the stem for food purposes is mainly found in southern Ethiopia, especially among Cushitic and Omotic peoples. In the south(-east)ern parts of the Ethiopian highlands, the starch contained in the lower part of the plants is usually fermented and made into a kind of bread, whereas in the more south(-west)ern parts of the area the corm and lower stem are cooked and eaten as such, e.g. by the Aari (SO). The latter practice is also found with the hunter-gatherers or pygmies in the Kivu area in eastern Congo(-K.), but neighbouring Shi herders (J53) also make flour of the dried corm. The Gurage (SS) and Oromo (EC) in Ethiopia and the Okiek (or Dorobo, SN), a hunter-gatherer people in western Kenya, make a kind of porridge of sap that is extracted from the stem. The Dullay, Gidole, Burji (EC) and Aari (SO), on the other hand, are said to make beer from the sap of flowering stems, i.e. when they have a high sugar content.

The whole plant serves as fodder for livestock, for instance with the Aari in Ethiopia. Sometimes, in Malawi, the young flowers are eaten as a relish. The fruits of ensete are hardly edible, nevertheless they are consumed, mainly in times of famine, but also by some hunter-gatherer peoples. The fruits are reported to be consumed, either raw or roasted, by the Okiek (SN) in Kenya, the Twa and Impunyu (pygmies) and the Rwanda (J61) in Rwanda, the Shi herders and Rhwaa (pygmies) (J53) in Congo(-K.), and the Manyika (S13a) in Zimbabwe. The fruits are eaten raw when ripe or cooked when unripe by the Hyam (Ptd) in Nigeria.

Flour from the crushed seeds is eaten by Gurage (SS) children in Ethiopia, the Nandi (SN) in Kenya, the Impunyu in Rwanda, and, in times of hunger, by the Ikulu (Ptd) in Nigeria.

Technical:
The Okiek (SN) in Kenya use the pseudo-stems for house-building and for the fabrication of bee-hives (note that the real stem of musa and ensete is underground

and that the areal structure, called pseudo-stem, is made up of the enrolled leaf sheaths).

In Ethiopia, the pseudo-stem-fibres are made into string, cords or ropes and items such as sacks, bags, baskets, small containers, hats, sieves or roof-hoops. The fibres are also used to tie livestock or to bundle harvests. A fine and strong fibre is extracted from the leaf petioles, for instance in Kenya, and snares are made of them by the Shambala (G23) in Tanzania. Similar uses are also found in Uganda and Congo(-K.), for instance with the Tembo (J57), or the Lega (D25) who make long plaited bags with the fibres. The Cewa (N31b) in Malawi slit strips from the leaf stalks, which then serve as binding and building material. The North-Sotho (S32) in South Africa also make strings of the fibres, while the Zulu (S42) make prepuce covers from dry strips of the petiole basis of the "wild banana", i.e. *Strelitzia augusta* Thunb. (Strelitziaceae). Tassels of fibres of this plant, which resembles musa, are made into ornaments that are worn above the elbows and below the knees by men of rank. On the other side of the continent, skirts for initiates are fabricated of ensete fibres by the Gbaya (Ub1) in Cameroon, and small shoulder bags, in which women keep their pipe and tobacco, are made by the Birom (Ptd) in Nigeria.

The Gamu (NO) in Ethiopia wash their hands with fresh ensete fibres and their clothes with the liquid squeezed from the pulp of the stem. Fresh fibres also serve as dental floss for cleaning teeth, as filter material, or for general cleaning purposes.

The dry leaves are used in many ways by the Gamu (NO), Aari (SO) and other peoples in Ethiopia, for instance as ropes, for thatching, fuel or holding bandages over wounds, as sashes for women, sheetings to sit on and cushions or bedding for people and livestock. The leaves are also made into baskets, mats, rain capes, hats, women's skirts, containers, or personal ornaments for funerals and weddings. Fresh leaves are used to cover pots, as stops on bottles, to bake bread in, as disposible and biodegradable plates to serve food on, for lining silos (in which the ensete starch is fermented), or for wrapping grain, meat and fermented cakes. They are also used to picket animals. In Kenya, the leaves make a durable thatch, whereas the Lega (D25) in Congo(-K.) cover the roof of their houses with the leaves or use them as umbrellas. Lugbara (CS) women sometimes plant ensete near river-sides and wear the leaves as cloth.

Beads are made by boring holes in the seeds with a red-hot nail, after which they are strung. In East Africa, they are often worn for magical reasons (see below), for instance by the Pokot (SN) and Gikuyu (E51) in Kenya. The seeds are worn as necklaces, bracelets or anklets by Ziba (J22), Matengo (N13), Nyanja (N31a) and Manganja (N31c) children in Tanzania and Malawi, while the Banda (Ub2a) in the C.A.R. and the peoples around Mount Cameroon also make such necklaces. In northern Sierra Leone and Togo, the seeds are made into rosaries (for muslims), necklaces (for men), hip strings (for children) or wristlets (in Togo, ensete is deliberately planted for these purposes). The seeds are used in musical instruments,

for instance by the Nyanja and Kunda (N42) in Mozambique, or for making a rattling sound in dancing, as the Bamileke (GrF) do in Cameroon. Widespread is the use of ensete seeds as "stones" in the Bao board-game, e.g. with the Lega (D25) and Alur (CS) in Congo(-K.), the Nyoro (J11) in Uganda, the Shona (S10) in Zimbabwe or the Ziba (J22) in Tanzania. To the Ziba, the seeds also served as money, before the introduction of cowrie shells.

Medicinal:

Medicinal uses are very often based on the specific properties of the plant, especially its astringency (due to tannin) and its high potash content, for instance against heart troubles, dysentery, bleeding and all kinds of problems connected to child-birth. This last may be based on some unknown chemical properties common to the Zingiberales also recognized in other continents. However, it may also be that this particular application is based on widespread beliefs in Asia that were diffused to other continents together with the introduction of musa (or other, related, plants). Examples of this are to be found in Serapio's tenth-century treatise on Arabic medicine, in which reference is made to the fact that bananas make the unborn baby grow (Kern 1910:228-229) and an eighth-century Chinese source which mentions that bananas were prescribed to promote child-birth recovery (Abella 1979). Also, Indian women in Mexico use *Hedychium coronarium* J. Koenig (Zingiberaceae), a plant introduced from Asia, to promote their child-bearing ability (Berlin et al. 1974:440). The importance of musa and ensete in fertility rituals (see below) may also be related to this.

The Gurage (SS) in Ethiopia prepare medicine from the corm, which is supposed to protect against all kinds of illnesses. Cultivars destined for medical purposes are given special care and can be found around most homesteads. In Guinea, the corm is also used as an ingredient in remedies, for instance for children, or employed as a menstrual stimulant. The Meru (E53) in Kenya boil the stem and drink the decoction as a protection against liver troubles. Water, in which pounded ensete leaves are soaked, is drunk by women who have a miscarriage, and the water resting between the sheaths is drunk as a protection against, or as a cure for post-natal problems. The Lega (D25) in Congo(-K.) use the bark as a medicine against post-natal pains, and the bitter-acid sap of the stem serves the Yao (P21) in Mozambique as a remedy against animal skin diseases. The sap is applied to wounds in Guinea and used by the Ngombe (C41) in Congo(-K.) as a disinfectant. The milky latex is regarded as a stimulant for the milk-flow of nursing mothers by people in western Uganda, Burundi and the Kivu area in eastern Congo(-K.). The seeds are worn to prevent sickness in West Africa, pounded and used medicinally by the Fulbe (A) in West Cameroon, or used for treating eye complaints in Madagascar.

Ritual:

The strong similarities in ritual functions, namely protection against evil spirits, enhancement of fertility and divination, as found in all parts of the continent, seems to point to a high antiquity of ensete as a useful plant. The development of ensete into a food crop in Ethiopia may have been a later development (see chapter 2.3), but the fact that it is almost without exception considered to be a magical plant, whether wild or cultivated, is conspicuous. Remarkable also is the fact that in areas where ensete does not occur, e.g. in south Nigeria, the above-mentioned functions (protection, fertility and divination) are attributed to musa.

For the Gamu (NO) in Ethiopia, ensete has several ritual functions, for instance at the birth of a baby. It is thought that by making the child bite food made of ensete it will become strong or beautiful. Pulling out a flowering stem bearing seeds is believed to hasten the death of someone who is very ill. The Aari (SO) maintain wild ensete groves especially for ritual purposes (at the same time assuring a natural gene-flow between these groves and the cultivated landraces in the area; see Shigeta 1990:106). The Gurage (SS) also consider the mature plant to be endowed with supernatural powers and Chaga (E62) traditional healers in Tanzania use the plant in ritual washings of people. In Burundi, ancient cultivated plants such as finger millet (*Eleusine coracana* (L.) Gaertner, sorghum and ensete still have a certain ritual importance, e.g. in divination, and ensete is planted in special sacral bushes, together with some other plants. The Lega (D25) in Congo(-K.) tie a cord or piece of the bark around the neck of a new-born goat, in the expectation that its neck becomes as thick as an ensete stem. When a village is attacked by enemies, a messenger is sent with an ensete leaf (or a musa leaf; cf. the protective function of musa plants or leaves in southern Nigeria) to the next village as a message for help, or as a warning to take refuge. In the upper Sangha region in north Congo, ensete is planted near the houses for protective reasons and the Kwiri (A22) in Cameroon plant ensete in courtyards as a chief fetish, next to the offering stone.

The seeds are of ritual importance, for instance in divination, to the Gurage (SS) in Ethiopia and the Dabida (E74a) in Kenya. Chaga (E62) chiefs in the Kilimanjaro region plant ensete in their compounds as a sign of authority, and also use the seeds in ceremonies and divination. For this they blow the flour of the seeds from the hand into the air; the direction in which the wind blows the flour is believed to be an indication from where an attack may be expected, or where favourable commercial dealings can be made. Chaga people also think that children who eat the fruits become handsome and big, and this belief is found around Lake Nyasa too. The Gikuyu (E51) make decorative fringes with the seeds on the grass kilts worn by boys that are to be circumcised, while people from the Lake Victoria and Mount Kilimanjaro regions in Tanzania make necklaces and amulets from the seeds. Probably because of their value (as currency, see above) the seeds serve as offerings to the Ziba (J22). The Nyoro (J11) in Uganda decorate diviner's crowns with the seeds,

while the Ganda (J15) wear the stringed seeds as a charm or amulet, as one of the distinguishing marks of a prophet. In Rwanda, the seeds are worn for magical purposes too, for instance as amulets or charms for children. Brides have to swallow an ensete seed and, after it has come out again, carry it in a special bag attached to their sashes, in order to ensure a favourable pregnancy and delivery and protection against witchcraft. Stringed seeds are also used by the Kongo (H16) in Congo(-K.) as a fetish, and they are worn in fertility rites by the Kwiri (A22) and Duala (A24) in Cameroon, for the benefit of people, domestic animals and crops. The Mambila (Btd) in west Cameroon use the fruits or seeds, and some cowrie shells, in divination ceremonies

Apart from its place in Ethiopian agriculture, ensete is apparently an important plant in many parts of Africa, at least there where it occurs. Its value can be mainly ascribed to its usefulness for non-nutritional purposes, and probably also to its potential as a famine food. This would explain the almost universal ritual importance of ensete.

Musa

Bananas and plantain are not only grown for food, but for other purposes as well and it appears that these alternative uses overlap those of ensete. Before the advent of modern medicine and of manufactured products formerly made of plant fibres, these uses were much more important than they are today. One of the indications of an initial adoption of musa as a useful non-food plant is the fact that the oldest generic musa names fall in the "technical" category (see chapter 4.3.1).

Nutritional:

Bananas and plantain are nowadays mainly grown for their fruits, which are consumed raw, cooked/baked or fermented into beer. Although hardly palatable, because of a high potash and tannin content, the musa corm is sometimes eaten too, in times of hardship. This is not very healthy and can even be lethal. Serious side-effects are, according to people in Mozambique, rashes and inflammations erupting all over the body. Its use as (famine) food has only been reported from areas where the corms of wild ensete are also considered to be edible. It may be that some processing techniques are known to the people there, unlike in Mozambique. This may for instance be the case in the region of the volcanos in Rwanda and Burundi, where flour is made of the pounded musa corms after drying in the sunshine and extraction of the potash. The Ganda (J15) in Uganda, the Ziba (J22) and Shambala (G23) in Tanzania, and the Ngombe (C41) in north Congo(-K.) also make flour of the dried and pounded corms, and the latter consume the peelings as well. The Ngombe are the westernmost people from whom the consumption of musa corms has been reported and they live in an area where ensete does not seem to occur. This could be an indication of a more easterly habitat of this people in the past.

Musa fruits produce ethylene, a gas which hastens the ripening of fruits. This effect is exploited by the Gbaya (Ub1) in east Cameroon, who lay green musa fruits to ripen under a cover of green leaves, while the Kamba (E55) in Kenya leave bananas to ripen in a calabash. Bananas destined for the production of beer in the highlands of Uganda, western Tanzania, Rwanda and Burundi are artificially ripened in a heated pit in the ground, under a cover of grass and dry leaves. The advantage of this technique is that the fruits ripen quickly and all at the same time. The method has also been reported from Benin and from the Laadi (H16f) in Congo (as well as from the Pacific area). From southern Nigeria to Congo(-K.) banana beer is made by fermentation of the ripe fruits mixed with water in a jar left in the sunshine, for instance by the Edo (Edd), Yoruba (Dfd), Ewondo (A72), Bulu (A74a), Makaa-Njem (A80), Fang (A75) and most peoples in Gabon. The Bira (D32) in north-east Congo(-K.) put the pot with water and bananas to ferment near the fire. Banana beer or, more correctly, banana wine, is sometimes also distilled, while in the region of the volcanos in Rwanda, where water is scarce, a kind of beer is made from the sap in the stem.

The Efik (LCr) and Boma-Ijo (Ijd) in southern Nigeria make a salt-like substance of the dried fruit skins, which is added to soups. The Limbum (GrF) in west Cameroon, the Yebekolo (A70) in south Cameroon and the Fang (A75) in north Gabon calcinate the dried peelings and dilute the ashes in water, giving it a salty taste. This mixture is then added to **kpem**, a spinach-like preparation of cassava leaves. The Ombo (C69) in Congo(-K.) also make a salty condiment of the peelings, but in Gabon salt is made from the corm, while people in Rwanda and Burundi use the ashes of the leaves. The Yao (P21) in Malawi strain water through ashes obtained from calcinated leaves too, and add the salt thus obtained to relishes. The Kunda (N42) in Mozambique make salty water with the ashes of the midribs.

The Ngbandi (Ub2b) in Congo(-K.) are said to eat the male bud as a vegetable and the same is reported from Gabon. In Uganda the male bud is sometimes used for the fermentation of banana beer, instead of sorghum flour.

In East Africa, the chopped stems are fed to cattle, for instance by the Gikuyu (E51) and Meru (E53) in Kenya, the Chaga (E62) in Tanzania, as well as by people in Madagascar.

Technical:

Other useful parts and products of musa plants are the large leaves, the potash (see above) and the fibres (cf. the fabrication of "Manila hemp" in Asia from the fibres of *Musa textilis*). Proverbs referring to the utility of musa and ensete can be found in several languages. One example, from Rwanda (J61), illustrates the use of musa fibres for the fabrication of cords: ***Inyanda ibulira umugozi murotoki.*** *`A lazy person does not have cord, (not even) in a banana garden'* (Crepeau & Bizimana 1979:273). Another example can be found in Swahili (G42), where a popular riddle

refers to the useful bark of the plant: *Question:* ***Bwana mkubwa kagu na makobakoba yakwe*** *`An old man has fallen with his bags'. Answer:* ***Mgomba*** *`the musa plant'* (Whitely 1960; for the link between **makobakoba** (`bags') and **mgomba** see chapter 4.3.1).

The use of the bark, the fibres and the leaves of musa is universal. For instance, the Obolo (LCr) in Nigeria make ropes with fibres from the midribs of musa leaves. In Gabon, the leaves are used for wrapping food that is to be steamed; they also serve as plates, bedding, and for numerous other purposes. The Bobangi (C32) in Congo(-K.) use soft-rubbed leaves as towels or as wads for guns or cartridges. The Mongo (C61) cover pots and the roof of their house with young leaves, or use them for wrapping bundles, while old leaves are made into girdles that are worn in dancing. The Hima (J11) and Hunde (J51) in north-eastern Congo(-K.) make cordage from the dry leaves, whereas the Tembo (J57) cover rooves and beds with bundles of the same. In Rwanda and Burundi, the leaves are used for various purposes, e.g. as plates, umbrellas, wrappers for children, wrapping material, bottle stoppers, strings, cords, ropes or mats. In Uganda, the green leaves are used by the Ganda (J15) as umbrellas, aprons for young girls, funnels, wrappings, plates, for cooking, or as shade, while the dry leaves are used for bedding, head pads or toys. The Nyoro (J11) and Ziba (J22) wear the dry leaves as a sign of mourning.

The Aka pygmies (C14) in the C.A.R. make small bags of the bark, whereas the Ngbandi (Ub2b) in Congo(-K.) tie bundles or packets with it. Mongo (C61) widowers wear belts or girdles made of the bark and the Mongo also make straps or slings for carrying baskets and children of this material. The Hima (J11) and Hunde (J51) use the (outer) bark for making cordage. In Rwanda and Burundi rooves are covered with the dry bark, while bracelets and the so-called **ingata** head-pad are made of plaited bark. Pieces of dry bark are used as wrappers for carrying various articles by the Haya (J22) and Sukuma (F21) in Tanzania. The Chaga (E62) make cords of the dry bark, like the Nyakyusa (M31), as well as baskets, and they also cover their houses with it. Fresh sheaths are used for watering cattle; their use as food containers, however, is taboo. Dry bark (or a cowhide) which is used as a sleeping mat, is called **kyahi** in Zone J languages, for instance in Kerebe (J24) and Ganda (J15). In Uganda, flat strips of the dried outer bark of the stem are used, for instance by the Ganda, for packaging or tying parcels, or as leggings for women when working in the fields. They are also used as waist belts, for plaiting ropes, tying reed huts together, for fencing, thatching or weaving. Furthermore, the Ganda make ropes and strings from the dried plaited or twisted bark, while the untwisted sheaths are used as thatch or for the fabrication of mats, baskets, chair seats, plant pots or corks.

Fishing tackle is made with the stem or peduncle fibres in Ghana. In Nigeria, the fibres are extracted from the stem just before flowering by the Boma-Ijo (Ijd) and the Igbo (Igbd). These fibres may serve to tie food parcels together, attach yams in the barn, or to fabricate ropes and fishing tackle. Fibres from plantain plants are said to

be stronger and whiter than those extracted from banana plants. When the fibres are rotten they may be used to seal canoes. In the south-east of Nigeria plantain fibres are also found to ornament fetishes, fetish houses and dresses that are used in plays. The Duala (A24), Basaa (A43), Mande (A46a), Beti (A70), Mundani and Meta (GrF) in Cameroon use the fibre-strings for the fabrication of snares, fishing nets, bags and small baskets, or to tie bundles, whereas the strings are also twisted into ropes or cords. The Basaa sometimes fill holes with rotten fibres. In Gabon women's fishing nets (to catch small fish) are made of the fibres, as well as gun-cotton and woven cloth. The Laadi (H16f) in Congo, like the Ijo and Igbo in Nigeria, apply the fibres from a rotten musa clump as an isolating layer in leaky boats, because of their viscous properties. Already as early as 1776, reference was made to the Yombe (H12b) in Loango (Congo), who made strings and cords from the leaf sheaths. Fibres are extracted from the petioles of certain cultivars by the Banda (Ub2a) in the C.A.R. and serve to string beads, while the Monzombo (Ub2c) women in this country wear girdles or skirts of fibres made into very fine wickerwork. The Bobangi (C32), Bolia (C35) and Ngombe (C41) in Congo(-K.) extract fibres from the dried bark as well as from the leaves, while cords are made with musa fibres by the Lendu (CS), Bira (D32), Nyali (D33) and Tembo (J57). The Mongo (C61) fabricate fishing nets and fishing lines for women and youngsters with the fibre-strings, as well as hats for old men. The traditional attire of Enya (D14) men was a short skirt or apron made of felted musa fibres. The Shi (J53) make many things from the dried stem-fibres, for instance cords, wrapping material, roof-thatch, house walls and all kinds of plaitwork. The people in Rwanda and Burundi prefer to make small baskets, cords (e.g. for mat-weaving), fringes on clothes, armbands, girdles, children's costumes or tobacco pouches with the fibres of a beer-banana plant. For the fabrication of mats and curtains that have to be predominantly black, bark of a cultivar called **intuntu** is used, because of its black stem. The Nyoro (J11) and Ganda (J15) in Uganda use the string, made of dry musa fibres extracted from the stem and midribs, for the fabrication of mats, baskets and fish-traps and so do the Gikuyu (E51) in Kenya, who make mats from the fibres of the midribs. The Swahili-speaking (G42) people in East Africa make cords, threads, strong tow, fine muslin and sail-cloth (for ships) with the fibres. The fibres of a cultivar called **shumbalieno** are preferred by the Shambala (G23) in Tanzania for making baskets, snares, fishing tackle and bead-strings. The Chaga (E62) make baskets, containers, clothing and mats either from grass or from musa fibres (see chapter 4.3.1) and tie the entries of their houses with cords made from dry midribs. In Madagascar a kind of cloth, called **lamba sarika**, is woven with musa fibres.

The interaction between potash in the sap of musa stems and body grease results in a soapy substance. This cleansing effect of musa bark is widely known, for instance by women in Ghana, who use musa fibres as sponges or towels. The peduncle fibres serve as sponges or to scour pots and metal objects in Guinea and

Gabon, while the Mongo (C61) in Congo(-K.) make sponges from the sheaths to wipe their hands. The Haya (J22) in Tanzania even keep special banana plants of which the fresh bark is used for cleaning hands before eating. Fresh bark or the scrapings of the stem serve the Ganda (J15) in Uganda as soap or as a sponge, also because of their cleansing properties.

The ashes of burnt musa peelings or leaves, which are very rich in potash, are mixed with palm oil (or other kinds of oil) in order to make soap, for instance by people in Guinea and Ghana, the Ibibio (LCr) in south-east Nigeria, the Duala (A24) in Cameroon, the Fang (A75) and Kota (B25) in Gabon and the Mongo (C61) in Congo(-K.). The latter also de-rust metals and make salt with the ashes. Elsewhere in Congo(-K.), the Bembe (D54) and people in the Kananga (former Luluabourg) area in the Kasai make a kind of black soap from a mixture of the ashes of musa leaves and palm oil. The Hima (J11), being cattle keepers, mix the ashes of burnt peelings with animal fat and wash their clothes with it. The Taabwa (M41a) make soap with the natron they obtain from the ashes of **migomba** ('musa leaves'), which is a loan-word from Swahili. The technique has probably been popularized by the Swahili, since the so-called "arabized" (i.e. muslim) people in eastern Congo(-K.) also make soap in this way. According to Ashe (1970:311), the manufacturing of soap from leached ashes of burnt peelings boiled with fat had been introduced to Uganda from the Sudan. The Songye (L23), Nkutu and Kela (C70) in the Kwango and Kasai areas in Congo(-K.), on the other hand, burn the dried roots and corm, filter the ashes, evaporate the filter-water and mix the residue with palm oil to produce soap. In Rwanda and Burundi soap for washing clothes is made from burnt leaves or from the potash-rich juice extracted from the corms. In the region of the volcanos in Rwanda, sap from the stem is sometimes used for the same reason, in the dry season when water is scarce. The Ziba (J22) in west Tanzania fabricate soap from the burnt peelings by boiling the lye from the ashes with beef fat, while sap from the stem is also used to wash the body. The Shambala (G23) in north-east Tanzania make soap from the peelings, and in Madagascar soap is made with ashes of the burnt corm.

Funnels for clismas are made from the musa stem by the Mongo (C61) in Congo(-K.). The Ngbandi (Ub2b) in Congo(-K.) and people in Rwanda and Burundi make dolls for their children of the male buds. Mongo and Kongo (H16) youngsters make toys of the stem, or use it to practise archery, like the Beo (C45), who cut discs out of a stem for a spear-throwing game. In Rwanda and Burundi, toys are made of the corm and the stems are used as targets by boys for archery. Fishermen in these countries sometimes make rafts by tying musa stems together with ropes from dry leaves. The Ganda (J15) cut a kind of necklet of c. 2.5 cm thick out of a flowering stem that has been shredded and bleached beforehand, and decorate this with small red, white and blue beads.

Pipes are made of the midribs of musa leaves by people in Gabon and the Tembo (J57) in Congo(-K.), while the Mongo (C61) in Congo(-K.) or people in

west Uganda use the petioles to this end. The Tetela (C71) in Congo(-K.) mix chewing tobacco with the alkaline, natron-containing lixiviate of the ashes of the burnt peelings in order to enhance its taste. The Nyika (E72) in Kenya dry the peduncle, reduce it to powder and mix it with snuff, while the Nyamwezi (F22) in Tanzania use the dry leaves for making snuff or tobacco. In West Africa, the powdered dried fruit skins are mixed with snuff too.

Traps are made from parts of the corm by the Shambala (G23) in Tanzania, for whom, in the old days, the dried fruits of the **maboko** type of bananas served as currency. A blue dye is made from the corm in Madagascar and from the floral bracts in Gabon. The Ngombe (C41) in Congo(-K.) make a kind of talcum from dried pounded fruits of the **motondo** plantain cultivar mixed with salt.

Medicinal:

The main component that makes musa medicinally useful is probably potash, which is present in most parts of the plant and has both a diuretic and a disinfectant effect. Another important component is tannin, which has a strong astringent effect.

In old sources, some kind of cooling properties were attributed to bananas, for instance by Serapio, an Arabian physician in the tenth century, who wrote that bananas were used to cool the breast and lungs (see Kern 1910:229). A similar belief was echoed by De Marees in 1602 (see l'Honoré Naber 1912:169), who stated that "bananas are cooling the stomach". The Bulu language (A74a) in Cameroon has a verb **-volo** or **-voe** that refers to, and can be glossed as (the effect of) `calming down' or `cooling' (for instance of the stomach) that occurs after eating fruits. Another allusion to a cooling effect of musa fruits can be found in Yoruba (Dfd) in Nigeria, where the name **omini** of a certain banana cultivar literally means `to cool/calm down'. It is not clear whether the banana really has cooling properties or that such a belief had been transmitted from Arabic medical scripts, via the "received wisdom" of European seafarers to Africans, upon introduction of the banana to western Africa (note that medicinal concepts in the past and/or in other parts of the world differ(ed) considerably from modern, western medicine; see Slikkerveer 1990).

The sap of musa inflorescences is used against ear-ache in Gambia and the flowers are considered to have menses-stimulating properties in Guinea.

In Ghana the AAA 'Red' banana, said to have a strong odour, is rubbed on walls, in order to keep away vermin. The corm of musa is pounded, mixed with palm oil and prepared as an enema against diarrhoea by the Twi (K), because of the tannin, which has an astringent effect. The sap of the stem is used for the same reason in other parts of West Africa.

The Ogoni (CrR) in southern Nigeria believe that plantains contain a high level of iron and pregnant women or nursing mothers therefore eat plantains to hasten the replenishment of lost blood and energy after child birth and to increase the flow of

breast milk (see also Watt, 1891:300, who reports that in India the corms of musa are fed to cattle in order to increase the production of milk).

The Obolo (LCr) add peeled plantain bark to bathing water as a treatment of malaria, while hard labour of women is relieved by splitting a double plantain fruit on her womb. Plantains are also used for curing wounds, sores, measles and running stomachs.

Cultivars with non-green fruits or stems often have some kind of medicinal use in Cameroon. The roots of a red-stemmed cultivar are an ingredient of a medicine enhancing male potency that is taken daily by Kenyang (Btd) men. The Duala (A24) keep two cultivars (**munanga** with pale fruits and **mboma** with dark-green fruits) for medicinal purposes and sap of the stem of the **atia** cultivar (with red fruits) is also considered to have medicinal properties. The Koose (A15b) use rotten stems for dressing and curing wounds. The Bulu (A74a) employ the crushed leaves to apply medicine or in medicinal bathing, while the AAA 'Red' banana cultivar is grown primarily for medicinal use. The Mbimu (A86c) in east Cameroon believe that children become clever when they eat some AAB 'Pome' bananas every morning. The Mbimu and Konabembe (A85a) treat stomach complaints, intestinal worms, epileptic fits or children with a cold by having them eat bananas of the AAA 'Red' cultivar. The peel of the **ankia** plantain cultivar, which contains red sap, is mixed with hot pepper and local salt and used for treating caries, or applied as a hot unguent, also by the Pomo (A92).

In Gabon, the chopped and boiled male bud serves as a lip-pomade, sick limbs are brushed with the mid-ribs, the youngest leaf is put, together with palm oil, as a dressing on burn-wounds, but bandages for wounds or sores are also made from the dry sheaths. The powdered ashes of the peelings are put on tattoos, scarifications, circumcision wounds and (sick) teeth, and scrapings of the petioles are put on wounds, to stop bleeding. The white-striped **ndjego** cultivar is forbidden for framboesia patients, probably because of its colour. The chopped and soaked heart of the inner stem is taken to calm colics, used as a gargle against tooth-ache, to soften the skin prior to the extraction of jiggers, or to clean wounds and sores, like cotton wool. Roasted green plantains are, mixed with other ingredients, a cure against dysentery, and the crushed, pounded and boiled peduncle is used in clismas. The Sangu (B42) consider several plantain cultivars to have medicinal properties, for instance those with a red or a short stem or with brown fruits. The cultivar with fused pedicels is used by the Mbama (B62) as a remedy against broken bones. The Kota (B25) wash children who have a fever with water in which the crushed bark of a short plantain cultivar is mixed. Medicinal applications of the red-stemmed **motuka** cultivar are known to the Galoa (B11c), Pinji (B33), Sangu (B42) and Punu (B43), while the latter as well as the Lumbu (B44) also use Horn plantains with a bare floral axis to such ends. When Punu (B43) women fear a miscarriage they drink a decoction of the bark of the AAB 'Pome' banana. Gabonese women who want to get

pregnant, mothers of twins, or women whose children died after birth are treated with medecine made of the local highland banana. Most peoples in Gabon also employ (the bark of) of this banana for treating a wide range of diseases, especially of children (for instance eye complaints, broken bones, rheumatism, impotence, spleen complaints, paralysis, bronchitis, epilepsy, miscarriage or convulsions).

A decoction of the musa corm is drunk in case of painful menses in Congo. Here too, a drink made of the male bud mixed with salt and ashes is taken against heart pains. Certain variegated cultivars are taboo for pregnant Bongili (C15) women, but the same cultivars are used medicinally by the Bekwil (A85b) and Mpiemo (A86). The Njem (A84) put the boiled rotten heart of the stem on sores.

The sap of young plants is a remedy against sprained ankles in the Lower Congo area, while the sap of the corm serves as a vermifuge. The smoke of dried and burnt leaves is inhaled against headaches.

For the Bangala (C36d) in Congo(-K.) the sap of the stem is used as a medicine against jaundice (see Abella 1979, who refers to a similar application mentioned in an eighth-century Chinese source). In south-east Congo(-K.), the sap is also applied on wounds, for a speedy healing. The Ngbandi (Ub2b) use the dried fibres as cotton-wool and rotten bananas as a dressing. The Mongo (C61) make a wound-dressing of the fruits of the **bolongo** cultivar, as a protection against infection or swelling, and mix the flesh of the **mpoto** cultivar with white clay and sap of *Costus afer* Ker-Gawl. (Zingiberaceae), which is then put as a dressing on sores. The heart of the stem may serve the same purpose but the rotten corm is reserved for the treatment of deep ulcers. The rotten corm is also taken by the Mongo as a vomitive, just as the leaves of the **iembe** cultivar, and a decoction of the dry leaves is taken as a purgative. Ashes from the peelings, stems or dry leaves are put in the nose of someone who has fainted, and may also be used against head-lice. The Mongo further mix the male bud with bathing water against fever, while scrapings of the upper stem are made (by men) into a potion intended for women giving birth. The Ngbandi rub smelling or infected gums with the peel of the blackish fruits of the **bita** cultivar, and the calcinated fruit skins of the **bita**, **bito ndu** and **pipimomboya** cultivars are used against tooth-ache. The Bua (C44) rub a mixture of potash, palm oil and the juice of a red cultivar on newly tattooed tribal marks and cover these with banana leaves.

The fibres of a certain plantain cultivar are tied around the forehead against head-ache in Burundi and people in Rwanda believe that the fruit skins of the **indarama** (< **-rarama** `to look up to sky') cultivar can cure paralyzed limbs (this is a Horn plantain with an erect bunch).

The Meru (E53) in Kenya cut the male bud into small pieces, burn these, grind the powder with castor seeds and add the mixture to beverages that are drunk as a treatment of high blood-pressure.

The Shambala (G23) in Tanzania employ the soft-fruited **matote** banana or the leaves and bark of the **paka** cultivar against intestinal upsets, and make a medicinal

tea with the **ndizi ya kike** cultivar. The ABB 'Bluggoe' banana is called **mkojozi** 'bed-wetter' in Swahili, because of its diuretic properties. The astringent, antiseptic and diuretic properties of musa are also known to the people in Madagascar, who use the flowers in all kinds of decoctions, and the pulped leaves and stem for the treatment of dysentery, diabetes, or to soothe skin burns.

Snake bites are treated by the Ganda (J15) in Uganda with sap of a musa stem. The Ha (J61) in west Tanzania use the **ikiziramuhoro** cultivar (a badly-suckering cooking banana) and the roots of the **nsingawa** cultivar (a beer banana) for various medicinal purposes.

Ritual:

The main ritual functions of musa are connected to fertility, protection and divination, while colour and form symbolism are important too.

Placentas, umbilical cords and foreskins are usually buried under a musa plant in most areas where musa is cultivated. It seems, however, that (indigenous) palm trees (raphia and oil palms) were originally used for this purpose. The habit is found outside Africa too, for instance on Rossel island in Papua New Guinea, where the umbilical cord of a baby is also buried under a musa plant. This plant then becomes the property of the chief attendant who remained with the mother during the whole period of her seclusion (Armstrong 1928:101). The name **borodehene** 'kings-plantain' (a highland banana?) in Ghana is motivated by the white pulp of the fruits, which reminds of the white robes worn by kings. This cultivar is part of mashed food offerings to the gods in case yams are not available.

For the people in south Nigeria, plantain plays an important rôle in rituals, which explains why it is the subject of certain taboos. For instance, the **iblain ibuda** cultivar of the Degema (DE) is considered to be the plantain of the witches. The **eliabo** cultivar of the Ijo-Tarakiri (Ijd) is taboo for women of child-bearing age, and the **okunyam** cultivar is used in rituals by the Abua (CD). The Epie (DE) grow plantain near their houses to ward off evil spirits and believe that the leaves prevent evil spirits from seeing their enemies in the world of the living, while medicine men are supposed to be able to travel on them. For the Obulom (CD) too plantains ward off ghosts and the unripe fruits are used in divination. Plantains (and bananas) are the commonest food used in sacrifices and rituals, for instance among the Obolo (LCr), Ijo-Nembe (Ijd), Igbo (of Isokul), Epie and Kana (and other Ogoni) peoples in south Nigeria. The fruits are found in every ritual basket, offered to the gods or used in sacrifices; they are considered to be the food of the soil and thus holy. Plantain is important for the Ogoni (CrR) peoples in ancestor worship, burial rites, sacrifices or as dowry payment. The **booasuu abue** cultivar, for instance, a French plantain with a red stem, is considered to be a shrine and may not be touched. The Efik and Ekit (LCr) bury the afterbirth and umbilical cord under a palm tree or under a plantain, and every Ibibio and Obolo (LCr) child owns the (high-yielding) plantain (or raphia

palm) under which his/her afterbirth and umbilical cord are buried, for protective reasons. An Ibibio (LCr) father will also give his son the ownership of a high-yielding plantain after the son has made his first hunting kill. The peoples in the Upper Cross region (e.g. Abini, Umon, Agwagwune, Korop, Loke and Mbembe), the Ekoid (e.g. Nde, Etung, Nkumm and Nnam) and the eastern Igbo (e.g. Aro, Ihe, Ututu, Izi, Ezza, Afikpo and Ika) in east Nigeria bury afterbirth and umbilical cord under a plantain or a palm tree near the house in the compound, but the Bokyi (Bnd) do this outside the compound. The afterbirth of a boy is often buried under a palm tree and that of a girl under a plantain. For the Ijo peoples (e.g. Arogbo, Nembe and Kalabari) plantains are ritually important, not only is the umbilical cord buried under a plantain (or under a coconut palm) but the fruits are used in divination too. The Obolo (LCr) always boil plantain fruits entire and in odd numbers, but they may never be offered in a cooked state to the gods (who are thought to feed mainly on plantain). It is equally taboo to cut down a plantain at night, whereas someone who is standing under it may not be persecuted. A kind of spice, made of the peelings dried over a fire, is spread on all the meals offered to the gods, or made into a kind of soap that is used by the young women in a "fattening house". The Obolo may only split a double plantain fruit behind the house, for fear of getting twins, and Igbo (Igbd) women are not allowed to eat from the **mgbemgbe** cultivar, also for fear of twins (in Mexico too, double plantain-fruits are believed to cause the birth of twins). The **abina agba** cultivar has ritual uses for the Engenni (DE) and there are also some taboos related to its use. Significantly, this is the common False Horn plantain, which was probably the first cultivar that arrived in Nigeria (see chapter 5.1).

In Cameroon plantain leaves are used in all kinds of rituals and ceremonies, such as the enthroning of chiefs, or burials. Here too, the placenta, umbilical cord and afterbirth are ritually buried under a plantain, e.g. by the Bambui, Meta, Nso, Ncane (GrF), Kenyang (Btd), Bafo (A15) or Njem (A84). Formerly, Beti (A70) women gave birth under a plantain. Because of its fused pedicels the **elad** cultivar has a place in all Beti ceremonies as a symbol of union or reconciliation. The **elad** and **amung** ('smile') plantains are given to young couples as a symbol of harmony and good atmosphere in their new village and between the two families. Beti women (as well as circumcised boys) used to dress in musa leaves or bark, because the plant is a symbol of fertility, especially in relation with the female sex. The AAB 'Pome' and AAA 'Red' bananas are planted by the Konabembe (A85a) and Bomwali (A87) in graveyards, and the fruits may only be eaten in men's ceremonies. It is probably for this reason that they are called 'banana of the dead'. The choice of the 'Pome' banana may be inspired by the fact that it tends to survive even in deserted villages, where are also the tombs of the ancestors, and that of the 'Red' banana because of its red colour. Moreover, the fruits of these bananas are not a source of food, as the plantains are, and can therefore be wasted.

Members of the Bwiti sect in Gabon consider the AAA 'Dwarf Cavendish' banana to be a magical plant, and use the AAA 'Red' banana in fetishes and witchcraft. This is for instance the case with the Fang (A75), who employ the **elar** (or **elad**) plantain in love-potions (its fused pedicels being a symbol of union, as we saw above). Sap of its stem is put on open fontanelles of babies, for obvious reasons, whereas the fruits of this cultivar may not be eaten by girls who have not yet given birth, for fear of a narrow birth canal. Double fruits are taboo to women in times of war, and for fear of getting twins. The umbilical cord of a baby is buried under a bearing plantain and when the bunch is ripe the father announces the day for a celebration to be held. On the day itself the mother cuts the bunch and cooks a meal with it. The Fang, Mpongwe (B11a) and Duma (B51) perform circumcisions between the plantain plants that grow in the village and the Njebi (B52) do the same under a red-stemmed cultivar. The Galoa (B11c), Sira (B41), Geviya (B40), Tsogo (B31) and Pinji (B33), on the other hand, circumcise under the **motuka** plantain (with a red stem and red fruits) and then pin the foreskin to the stem after the operation. The fruits of this plant are taboo for uncircumcised men, as well as for women. The same cultivar plays a prominent part in the "Bwiti" and "Byeri" cults, for instance with the Pinji (B33) and Vungu (B40); after a night of dancing the adepts of the Bwiti cult may only eat this plantain, and formerly it was taboo for women to eat from it altogether. Other cultivars are also taboo for certain persons, while still others are used in rituals, in magical potions or as amulets. The spiraloid plantain, for instance, is taboo for Tsogo (B31) boys and men, for fear of becoming "unfit for marriage", while women may only eat from the **gebokama** cultivar (with an erect bunch) after having given birth to a child. The **mokombe** cultivar (with a bright-red stem) is a luck-bringing talisman to the Tsogo, Sira (B41), Geviya (B30) and Vili (H12a); it is planted in the village street as a protector of the village, while hunting fetishes (human skulls or bones) are buried under it. Strings, woven with fibres of the **motebo** (French Giant Red) cultivar are put around the ankles of babies as a charm. Mpongwe (B11a) brothers and sisters may not eat the **sikidyambo** (French Medium Dark-Green) cultivar together. The Njebi (B52) bury still-born babies in the leaves of a red-stemmed plantain so that the mother will soon be pregnant again. The local highland cultivar has many ritual functions in Gabon too, for example in initiations or when twins are born. The placenta of twins is always buried under this banana, for their protection. The plant also serves as a barrier against demons or as a protection against witchcraft. The bark is soaked in the water in which boys are washed prior to circumcision. The fruits are sometimes used to make fetishes and they may not be eaten by women who have not yet given birth or that are still in the child-bearing age, for fear of sores on the body of the baby. Pregnant Njebi women do not eat any bananas or plantains, believing that the baby would be born with scabies. In fact, any mash-like food (e.g. avocado, the safu plum or mash of maize) is thought to cause skin complaints in Gabon. The first plantain in a new Mbama (B62) village is

planted by an old woman. The fruits of this plant may only be eaten by the chief of the village and this woman, while the first fruits of the other plantains are dedicated by the chief to his forefathers in a special ceremony. For the Kota (B25), some musa cultivars are of ritual importance, as a symbol of birth, growth and vitality, for instance in connection with birth, circumcision or when a new village has been built. When a twin is buried, people take a ritual bath prepared with (among other things) the stem of a plantain. The placenta and umbilical cord are buried under the AAB 'Pome' banana because of its hardiness and its prolific suckering. The plant may not be cut down, because to the Kota it symbolizes the growth and health of the child.

The Njem (A84) and Bongili (C15) in north Congo plant the AAA 'Red' banana, which may only be eaten by old men, near graveyards and use it for fetishes. The Fumu (B77b) in south Congo keep a cultivar called **ngaaba** for the same purposes.

In the Mongo (C61) language in Congo(-K.), **nkinda** is the word for `musa plant' or `palm tree' or, rarely, for some other herb or tree) which is planted by a magician on a heap of sweepings and ashes (i.e. a fertile place where it will grow vigorously), or for plants that grow spontaneously on a place where magical rites are performed. Such a tree or plant is often protected by an enclosure and its fruits may only be eaten by the magician and its co-initiates. The Mongo also make protective amulets from musa petioles. The short **swedh** banana cultivar (AAA 'Dwarf Cavendish') is a fetish banana for the Yanzi (B85) in west Congo(-K.) and for the Swahili-speaking people (G42) in eastern Congo(-K.) (in the Kisangani-Ituri area). For the Sakata (C34) there is a mysterious connection between birth, the twin cult and plantains. Dried umbilical cords are buried under a plantain and the fruits of this plant may only be eaten by the elders of the family. Among the Ngombe (C41), the umbilical cord and the foreskin are buried by the maternal grandmother or aunt under a plantain and only the maternal family may eat from this plantain, of which the fruits have to be cooked. In times of disaster, the Lega (D25) take a leaf of the **kizombo** cultivar or of ensete (see chapter 4.3.1), for protection, to a neighbouring village and ask for help.

Before killing a bull, the male bud of a musa plant is passed over the head of the animal in Rwanda. The **igihuna** beer banana seems to have drowsy-making properties and sorcerers are said to put their victims to sleep by giving them beer of this cultivar.

At the birth of twins in Uganda, a ritual stealing of bananas must be performed and the Ganda (J15) father has to eat unmashed bananas for a month, thus ensuring the benevolence of the gods. Withered banana leaves are worn as a sign of mourning, especially at the death of twins, whereas a band of bark is tied around the head of a dead person. The Ganda (like the Chaga (E62) in Tanzania) are reported to plant bananas for magical reasons (protection?) around their houses in the same way as the

Oromo (EC) in Ethiopia do with ensete plants. The Gisu (J31a) relate the **nasara** or **gonzoha** cultivar (a highland banana that resembles plantain) to magic and sacrifice.

In Kenya, adolescent Gikuyu (E51) girls, small children and post-natal women eat from the **mutahato** banana. This cultivar is taboo for boys, allegedly because of aphrodisiac properties (but more likely because of its soft fruits).

The Ha (J61) in west Tanzania use the **umulili** cultivar (a beer banana) in religious sacrifices. Every Nyakyusa (M31) clan and almost every house has a sacred banana plant or grove for family ceremonies, where the clan-head prays to the ancestors. This plant or grove is never to be cut down and the fruits of it may not be eaten by women, as the spirit(s) of the ancestral father(s) are believed to be residing here. Bananas are also important in Nyakyusa funeral rites.

As in Nigeria, married women on Zanzibar, especially when pregnant, do not eat twin bananas, also for fear of giving birth to twins. When the umbilical cord of a baby is buried, a seedling of a coconut palm is planted on the spot (as is done with a plantain elsewhere in the continent), in the belief that the baby will grow as that palm tree does, either healthily or sickly.

It is clear that musa has taken over many of the uses of ensete (and of palm trees). The success of musa and its rapid spread over the continent can therefore not only be ascribed to the edibility of its fruits, but to other properties as well. The data on the uses of both genera in the African continent have been presented here in some detail in order to bring to light their importance as well as the motivation for many (generic) musa names (see chapter 4.3).

2.3 History

So far, the study of musa history has been taken up by botanists, agronomists, historians, and even linguists, often independent from each other. This is probably a reflection of our own, 20thcentury-Western view of the world, in which the different aspects of society like profession, religion and private life are separated to a large extent. Such an approach tends to ignore the complexity of "traditional" agriculture in Africa and the interwovenness of many aspects of the lives of African farmers, past or present. Early explorers and researchers seem to have had a better understanding of this complexity than present researchers, who are inclined (or obliged) to concentrate on highly specialized fields of research.

These monodisciplinary approaches are probably also the reason why ensete has hardly ever been related to the history of musa in Africa, although they not only are morphologically and physiologically very similar, but also share habitats, uses and names. Moreover, despite the fact that ensete is a major food crop in Ethiopia, as well as a multipurpose plant in many parts of the continent, it has never received the same amount of attention as other important food crops. Also, ensete is a very old useful plant in the cultural history of Africa and its domestication in Ethiopia

probably goes back to times when a transition took place from a gathering to a cultivating way of life.

However, due to lack of archaeological finds or written sources, the history of this plant can only be traced by using circumstantial evidence, i.e. by linguistic and (ethno)botanical means. Aspects of (the different stages of) its domestication, cultivation and multiplication as well as its nomenclature, uses and functions are therefore included in this study.

Ensete

Taking into account the natural distribution of wild ensete and its importance in many parts of Africa, it becomes clear that, although domesticated and cultivated in Ethiopia only, the importance of this genus is truly pan-african. Therefore, the history of ensete in Ethiopia should be viewed in a larger context, encompassing the whole continent.

Previous work:

Unfortunately, hardly any written evidence for the history of ensete is available. Yet, ideas on the history of its cultivation as a food crop in Ethiopia have been put forward by a number of authors, the most important of which will be enumerated here.

Simoons (1965:3-8), treating the economic (pre-Semitic) prehistory of Ethiopia, discusses some hypotheses about the domestication of ensete and cites Stiehler (1948), who presumed that the ensete-planting culture goes back to (in Stiehler's words) negroid or even pygmoid peoples, the latter having been the ancient inhabitants of southern Ethiopia. Simoons also mentions Bruce (1790), who suggested that the ancient Egyptians in the Middle Pre-dynastic period (c. 3500-3100 BC) already grew ensete for food; an idea taken over by Laurent-Täckholm (1951 and 1954). The latter saw in some plant designs on Middle Pre-dynastic (c. 3500-3100 BC) Egyptian pottery and hieroglyphs a great similarity with ensete plants. Bruce also reported that in the tradition of the Ethiopians, the plant was taken by the Oromo (EC) northward during their later migrations, and that it therefore must have been a relatively recent introduction (16th century?) to the north of the country. This view was opposed by Stiehler, who believed that the cultivation of ensete was spread northward by an older group of Cushites (e.g. the Sidamo), who were later displaced by the cereal-plough agriculture of the Semites. According to Simoons himself, there is little evidence that ensete was once widely cultivated in northern Ethiopia for food, and the ensete plants found there are probably of two types: one wild and propagated through seeds, and one that cannot flower, both of which had probably been introduced from warmer regions in the south. Simoons also believes that evidence for ensete cultivation in ancient Egypt is inconclusive.

Straube (1963: 27-28, 88-96, 154, 296), in his interesting work on the Omotic peoples in south-west Ethiopia, gives an overview of the state of agriculture in the area. According to him, ensete cultivation is nowadays important to most Omotic and Highland East Cushitic peoples, as well as to the Gurage (SS). The methods of cultivation and preparation, however, differ and are, generally speaking, more developed in the (north-)eastern than in the western part of the area. In the latter area, the crop comes second in importance, after yam (*Dioscorea* spp. (Dioscoreaceae)) and taro (*Colocasia* sp. (Araceae)) and the cultivation methods are less elaborate. Here, people keep fewer plants and fewer cultivars. This is, among others, the case with the Maale, Gimira, Sheko (NO), Dime and Baka (SO). Many peoples, such as the Amarro, Basketo, Sheko, Janjero and Baka (O) or the Sidamo and Deresa (EC) consider ensete to be their oldest cultivated plant. Almost everywhere that ensete is cultivated it is revered as an important cult or holy plant, for instance by the Ubamer (SO) and Basketo (NO), who believe that they received the plant from an earth goddess. According to northern Sheko (NO) tradition, ensete was brought to them by the first Sheko king as an offering plant. The southern Sheko, however, for whom the crop is not very important, believe that it was brought by Bencho (NO) women whom they took as wives. Although the Bencho are neighbours of the Sheko, they have a more developed ensete culture. The history of the Amarro (NO) begins with the arrival of north Ethiopian dynasty-founders, who are believed to have brought the plant with them and to have planted it under a *Cordia abyssinica* R. Br. (Boraginaceae) tree (a holy tree, often used as a place where offerings are made). The Haditscho (EC) connect the origin of ensete to the wild pig, only to be eaten by the despised clan of artisans. The Arbigona (EC), on the other hand, believe that ensete has grown out of the head of a killed man. According to Straube, the fact that the multiplication of ensete plants takes place through corms, the plants are mainly found around the homesteads and the work is mostly done by women may be an indication of an old root-crop cultivation. On the other hand, an argument against the idea of a high antiquity of the crop would be that the cultivated varieties, although numerous, hardly differ from wild ensete. Also, the small degree of genetic differentiation might be due to a long term use of the plants as a secondary crop, cultivated in small numbers only. However, multiplication by seeds from wild plants, as can sometimes still be found e.g. with the Kefa (NO), could be a reason why clearly recognized cultivars have not been developed.

As far as Ehret (1979:175) is concerned, the analysis of relevant linguistic evidence for the possibility of a separate invention of agriculture based on ensete cultivation in south-west and central Ethiopia, has not yet begun. Nevertheless, he assumes that the complexity of customs concerning ensete, as compared to those of grain crops (whose cultivation is also of high antiquity in the area), points to the development of ensete as a cultigen by early Omotic peoples.

Brandt (1984;189-190), finally, constructed a possible model for the origins of food production in south-western Ethiopia, from the gathering of ensete by hunter-gatherers in the highland forests to intentional (shifting) cultivation and experimentation with vegetative propagation. The use of manure to fertilize ensete fields would subsequently have enabled the establishment of a fully sedentary way of cultivation, after which an increase in population density resulted in the development of new conservation techniques, enabling long-term storage of harvest surpluses through the fermentation of ensete in deep earthen pits.

Discussion:
Although the domestication of ensete has been viewed as a linear and diachronical process, from collecting via shifting cultivation to sedentary mixed farming and from generative to vegetative propagation, examples of all the different stages can still be observed synchronically in Africa, especially in Ethiopia.

Moreover, outside Ethiopia in East Africa, ensete occurs wild in those areas where the East African highland banana is intensively cultivated. The cultivation methods of bananas in these areas are very reminiscent of the way ensete is cultivated in the highlands of Ethiopia. Also, many of the uses, functions and names of ensete have been taken over by musa after the latter was introduced to Africa (see chapter 2.2 and 4.3.1).

Straube's argument (p.96) that the cultivars of ensete hardly differ from wild ensete because of their cultivation in small numbers, as a secondary crop, seems to be valid for the diversification patterns of musa in Africa too. Where musa is cultivated as a subsidiary plant only, its variation is slight to absent. On the other hand, in areas of intensive cultivation, like the highlands of East Africa or the Central African rain forest, its variation is high.

In many respects, musa and ensete are very similar, although the first is mainly cultivated for its starchy fruits and the second for the carbohydrates contained in its corm and pseudo-stem. Not much is known yet about the early history of the cultivated banana and its evolution from a generatively to a vegetatively propagated crop. Since ensete is also on its way of becoming a clonal crop, it might serve as a model in the study of the domestication of musa.

Musa
Where the study of musa history in Africa is concerned, we are faced with a paucity of written records and a profusion of hypotheses, the most important of which will be given below. Final conclusions on the history of musa in Africa, however, will not only be based on historical records, but also on (ethno)botanical and linguistic evidence (see part V).

Previous work:

The introduction of musa to Africa and its spread through the continent has been the subject of much speculation. In the opinion of various authors, likely places and times of introduction range from Egypt to Madagascar and from 2000 BC to 700 AD, with Arab merchants or Indo-Malay immigrants as agents of introduction. Also, the Nile valley, the Ethiopian highlands, the Pare-Usambara-Kilimanjaro mountains, Arab trade routes and the Zambezi river have been considered as possible pathways for the spread of musa to the interior. Following is a short enumeration of some of the ideas that have been put forward concerning place and time of introduction.

Based on Arabic sources and oral tradition, Watson (1983:54) opts for a spread of musa from Oman via Abyssinia (Ethiopia) to Uganda, where it arrived as early as the year 1000 AD. Kervégant (1935:13), on the other hand, considers the possibility of an introduction to Madagascar from Indonesia, because of the existence of Polynesian crops such as taro and breadfruit on the island and the name **(f)ontsy** 'banana' which is also found in the Pacific area. Champion (1967:83), not convinced that musa entered Africa via Madagascar, believes that the plantain has been longer in Africa than the East African highland banana and that its diversity is the result of its long history in the continent.

Baker & Simmonds (1951:286), Thomas (1954:211) and Simmonds (1966:312) propose two routes of spread of musa from the coast to the hinterland, both consisting of tracts of land with areas moist enough for banana cultivation that are either continuous or nearly so. The first route reaches Lake Malawi and runs via Lake Tanganyika to Lake Victoria and Uganda, whereas the second runs from the Usambara mountains to the Kilimanjaro. On the other hand, Wainwright (1952:146-7), Sauer (1952, cited in MacMaster:23-6), and also MacMaster (1962:26) in his review of theories put forward by several authors, postulate a diffusion through the Ethiopian highlands (estimated by Wainwright to have taken place as early as 1000 AD). The tradition of the Baganda which says that their ancestor Kintu came from the north and brought the banana with him, is repeated by several authors (e.g. by MacMaster and Wainwright).

According to Posnansky (1961:90), the banana probably spread from the Mozambique coast,via the Zambezi and the Great Lakes to East Africa some two thousand years ago, as similar cultivars and names for the cooked food of bananas (which he did not name) are found all along this route. Posnansky also links the expansion of the Bantu peoples to the coincidence of the arrival of Asian crops such as banana and yam, and the arrival of the knowledge of iron-working.

Ehret (1988:633) assumes a (minor) diffusion, somewhere around the tenth century, of bananas via the Pare region to Mount Kenya. The basis for this assumption is that the same root for the plant is found in Taita-Chaga (E74-60; **maruu**) as well as in Thagicu (E50) and that is was borrowed from the Proto-Thagicu (**marigo**) language by the Proto-Maa-Ongamo (EN; **mariko**) of the Mt.

Kenya region by or before the 10th century. Like Posnansky, he situates the main introduction and diffusion into the interior of the continent, not from the Kenya or northern Tanzania coast, but from the lower Zambezi via the Malawi and Zambezi basin to the Congo basin and the Great Lakes region, reaching Mt Elgon well before 1000 AD.

Wrigley (1989:68-9) situates the introduction, to the northern part of Africa's east coast, of *balbisiana* hybrids from India somewhere in the first millennium. In his opinion, *acuminata* forms were introduced only later, to the southern part of the coast, whence they followed the "***-tooke** corridor" (see chapter 4.3.1) northwards to the Lakes region. According to Wrigley, this latter route corresponds to an ivory trade route from the coast to Lake Nyasa that developed during the first part of the second millennium, whereas the northern movement could have been associated with the regional copper trade of roughly the same period. Lately, Wrigley (1997:120) found his ideas confirmed by recent evidence (from a new translation of the *Peryplus of the Erythraean Sea* by L. Casson, 1989) revealing that the central part of the East African coast was inhabited by "tillers of the soil" in the mid-first century AD. Although this source does not mention the presence of musa, Wrigley feels that the prevailing cultural conditions in the area make an introduction of musa well before the ninth century likely.

De Langhe et al. (1996:150) believe that plantain and bananas spread to Africa in successive waves. The first wave consisted of plantain, ca. 3000 years ago (the authors arrived at this early date by an extrapolation of in-vitro mutation rates), the second wave consisted of the East African highland banana and the third wave of a complex of cultivars of different genomic constitution (AA, AAA, AB, ABB, AAB). According to them, the latter form the so-called "Indian Ocean Complex", which was dispersed by various trading groups (Persians, Indians, Arabs) in the last millennium, or even earlier, by Austronesian migrants to Madagascar.

Unlike the previous authors, Vansina (1990:62-4) does not speculate about dates of introduction of musa to Africa, nor about ports of entries along the coast. As for the interior of the continent, Vansina considers that the Upper Nile valley must have been an important centre of diffusion of both plantains and highland bananas, the first spreading into the rain forest area and the second into East Africa. The total pattern of distribution of both groups of cultivars in Africa from this upper Nile centre of diffusion would make an introduction from north-eastern Africa or from the east African coast probable. He also points out that the linguistic evidence is incomplete and that the term **kondo** (or the like, see Guthrie's CS 1090, 1144, 1146 and 1146a), although a generic term for both banana and plantain in Western Bantu, is not Proto-(Western) Bantu. Contrary to the situation in Western Bantu, this name is used in a much more restricted sense in Uganda, i.e. for plantain, and in northern Swahili for a single banana cultivar only. Moreover, another generic term, **bugu**, presumed old as well, would originally have referred to an early introduction of Horn plantains from

the Upper Nile, followed by a later introduction of French plantains and highland bananas. According to Vansina, the arrival of plantain in equatorial Africa might have taken place in the beginning of our era and its diffusion could have been completed by the middle of the first millennium.

To sum up, the different ideas about about the places and times of introduction of musa to Africa range from Egypt to Madagascar and from 2000 BC to 700 AD, as can be seen in the following (non-exhaustive) overview:

Table 2.2 Suggested places and times of introduction of musa to Africa

Suggested places of introduction:	
Ethiopia:	- Wainwright (1952)
	- Sauer (1952)
	- MacMaster (1962)
	- Watson (1983)
Northern coast of East Africa:	- Simmonds (1966; later, minor, hybrids)
	- Ehret (1988; minor)
	- Wrigley (1989/1997; earlier, *balbisiana* hybrids)
Southern coast of East Africa:	- Simmonds (earlier, major, highland bananas)
(via the Zambesi)	- Ehret (main)
	- Wrigley (later, *acuminata* forms)
	- Baker & Simmonds (1951)
	- Thomas (1955)
	- Posnansky (1961)
Madagascar:	- Kervégant (1935)
	- Simmonds (1962)
Suggested times of introduction:	
Blakney (1963:60)	- before 2000 BC
De Langhe et al.	- before 1000 BC
Posnansky	- before 1 AD
Wrigley	- (beginning of?) first millennium AD
Vansina	- first half of first millennium AD
Simmonds	- middle first millennium AD
Watson	- after 700 AD

Apart from a few authors, like Kervégant (1935:14) who believe that the Portuguese might have introduced musa from the Mediterranean region to West Africa, most

(e.g. Reynolds 1951:19 and Simmonds 1966:312) assume that when the Portuguese arrived in West Africa they found musa already present there.

Earliest records:

Now let us consider the actual evidence, in the form of written sources witnessing the spread of musa westward out of India, that is at our disposition.

A possible first reference to musa in Africa is found in the *Christian Topography* of Cosmas Indicopleustis ('the Indian Navigator'). Cosmas, a Greek monk from Alexandria, travelled to Adulis (near Massawa) on the Ethiopian coast around 525 AD and after that to Ceylon (now Sri Lanka), hence his name. In the Topography mention is made of **moza** or the **indeke fig**. In Cosmas' time, contacts existed between India and East Africa and the name **indeke** means 'India(n)' (Watson, 1983:172). Nevertheless, it is not sure if the manuscript (a 9th century copy made in Constantinople, the original having been lost) can be trusted at this point. It can not be excluded that Cosmas saw the plant in Ceylon, since the drawing (on a loose leaf) that he (or his copyist, 4 centuries later) made, has been misplaced in the manuscript (moreover, it is not sure either if the **moza/indeke fig** names mentioned in the text actually refer to the illustration in question which, actually, very much looks like a palm tree). Another possibility to take into account is that Cosmas confused Ethiopian ensete with Ceylonese musa, as he is known to have made several later additions to his travel accounts (McCrindle 1897:xi, Wainwright 1952:145, Watson 1983:172).

The earliest certain references to musa stem from the eastern part of the islamic world, for instance in poems of Ibn al-Rumi (896), and from Mesopotamia. Abu Hanifa (895) believed that the banana originated in Oman, which Ibn Hawqal (c. 988) found "rich in bananas", while Ibn Wahshiya (c. 903-4?) claimed that the banana originated in "Babylon". Ibn Rusta (c. 903), stated that banana cultivation was very common around Sana'a in Yemen and a 14th century agricultural treatise from the same area mentions a Yemenite and an Indian species of banana, with several varieties, among which was one called **al-muqaddasi** (Watson 1983:173, Meyerhof 1944:61), which can be translated as 'the holy' or 'the sacred'.

Banana cultivation in Egypt is mentioned on a 9th century papyrus and by the 10th century references come from Palestine (Jerusalem and Jericho) too. The earliest evidence of the presence of musa in the Maghreb, from Gabes in Tunisia, dates from the the 11th century and was given by al-Bakri in 1068. By then, however, the banana had already appeared in Spain, for it was mentioned by al-Razi at the beginning of the 10th century and in the Cordovan Calendar of 961 (Watson 1983:54).

The first time musa appears in a record concerning the East African coast is c. 915, when al-Mas'udi reports that musa was grown there as abundantly as in India. In the 10th century bananas were also the chief food on Zanzibar, at least according to

al-Idrisi (1154), whose work was based on reports brought to him by explorers that had been sent out by the king of Sicily. He also mentions the names of the five cultivars that were found on Zanzibar: **fiilii**, **kundu**, **sukari**, **omani** and **muriani**. Later reports of the banana in East Africa are from Abyssinia (or Ethiopia; al-Qazwini, 13th century and al-Umari, 14th century) and from Mogadishu (Somalia) and Mombasa (Kenya), also in the 14th century. The last two places were visited by Ibn Battuta in 1331, who noticed that the banana was one of the main staples there (Freeman-Grenville 1962:27-31, Watson 1983:54).

As for West-Central Africa, the first record of musa dates from c. 1506-1510 and concerned Sao Tomé. The author, Valentim Fernandes, based himself on notes made by the Portuguese seafarer Gonçalo Pires, according to whom bananas were called **avalaneyra** on Sao Tomé. A few decades later (c. 1535-1555), an anonymous Portuguese seafarer describes how 'people on Sao Tomé had begun to plant a tall herb called **abellana** (another source from that period renders the name as **avela**), which was the same as a kind of "fig" called **muse** in Egypt' (Ramusio 1613:118, Silva e Lains 1959:296, Mauny 1961:247-8).

Oviedo, in 1526, is the first to mention musa in West Africa, writing that **platanos** were taken from the Canary Islands to the Dominican Republic in 1516 by Friar Tomas de Berlanga (Reynolds 1951:20).

In short, the earliest written record of musa in Asia (India) goes back to the second or third century BC (Reynolds 1951:7; or maybe even to the second or third millennium BC, Singh 1997), after which Cosmas (525) referred to musa in Sri Lanka and possibly also in Ethiopia. The first source to mention musa in the Arabic world (Oman) is Abu Hanifa (895), while Al- Mas'udi (915) is the first reliable source where the East African coast is concerned. Finally, the transfer of musa from Africa (Canary Islands) to America (Dominican Republic) probably took place in 1516, as reported by Oviedo in 1526.

Discussion:

As we saw above, Cosmas' identification of **moza** or "the Indian fig" in Ethiopia is debatable and may have concerned ensete. In view of the similarities between the cultivation of ensete in Ethiopia and that of the East African highland banana in Uganda and other East African countries, there may also have been some confusion between the two crops in the Kintu tradition (where concerning the origin of the bananas of the Baganda).

Sana'a, the capital of Yemen, is situated at 2300 metres altitude; it has a rather moderate climate and a fair amount of rainfall. In Yemen, nowadays, bananas are often intercropped with coffee, which is cultivated between 1200 and 2100 m altitude (Wiet 1955:125, Anonymous 1969:16). This situation resembles the banana-coffee farms as found in the East African highlands. It is therefore likely that the East African highland banana, the only cultivar group to thrive in these conditions, is

found in Yemen too. Yemen may even have served as a stepping stone for its spread from South-East Asia to Africa. The highland banana was probably also one of the first bananas to have spread to Egypt, taking into account its present-day Egyptian name **moz baladi** `country (i.e. native) banana'.

The banana did not spread far in Spain during Islamic times. This is due to the fact that the plants cannot withstand low temperatures and have to be covered in autumn, as was already mentioned in the Cordovan Calendar. After the Islamic rule had ended, the gardens in which bananas were grown disappeared and the banana probably too. However, some plants may have been maintained, or have been reintroduced to Spain, since Oviedo writes in 1526 (cf. Reynolds 1951:20) that he had heard that the banana was found in the city of Almeira in Grenada and that it was brought there from the Levant, Alexandria and East India.

Posnansky (1961:89-90) thought that musa spread from the Mozambican coast via the Zambezi to the Great Lakes, because of the distribution of similar cultivars and names along this route. The distribution of the ***-tooke** names, on which he based his assumptions, however, was not from south to north, but the other way around (see chapter 4.3.1).

The use by De Langhe et al. (1994-1995:154-156) of in-vitro mutation rates, as a measuring stick for the rate of somatic mutations of musa plants occurring under in-situ conditions, is misleading. Firstly, mutation rates differ too much in the various publications on the matter (see Vuylsteke 1990:36-37, Vuylsteke et al. 1990:321) in order to have any absolute value. Secondly, it does to explain why, in contrast to (False) Horn plantains, French plantains are relatively stable under in-vitro conditions, whereas of all the cultivars described so far, those of the French type outnumber by far those of the other types (see chapter 3.2). As for the so-called "Indian Ocean Complex" of bananas, we shall see in chapter 3.3 that the Europeans have been largely responsible for the dispersal of these bananas.

The different degrees of inclusiveness mentioned by Vansina (1990:62-4) for the term **kondo** (from a generic name for musa in the western part of the continent, via a generic name for plantain in the area where the highland banana is commonly grown, to a mere cultivar name at the east coast) can be explained by the presence or absence of different groups of musa cultivars in the first two areas. The cultivar name **konde** in northern Swahili has a different etymology and the cultivar in question (AAB 'Mysore') probably was introduced relatively recently. The only group of musa cultivars traditionally cultivated in West-Central Africa is that of the plantains, whereas in the Interlacustrine area both plantain and the highland bananas are known. At the east coast, on the other hand, all kinds of musa cultivar groups are found as the result of different introductions (which not all made it to the interior).

With respect to the idea that musa was already present in West Africa when the first Europeans arrived, we cannot ignore the fact that of the three early writers on the western coast of Africa, Ca da Mosto (c. 1457), Pacheco Pereira (c. 1506-1510) and

Valentim Fernandes (1506-1507) (see Kimble 1937, Monod et al. 1951 and Mauny 1961), only the latter mentions musa. According to Fernandes, the cultivation of this crop had, in the first decade of the 16th century, just begun on Sao Tomé. Pacheco Pereira was a compiler who was mainly concerned with maritime itineraries and dealt with the entire coast from Morocco to Gabon. Unfortunately, he gave few details about coastal cultures. Ca da Mosto, on the other hand, visited the area himself, and gave a very detailed description of the coasts, from Senegal to Liberia. Fernandes was a compiler too and described the same area as Ca da Mosto, as well as Sao Tomé (Mauny 1961:248). According to Mauny, Ca da Mosto's silence about musa is much more significant than that of Pacheco Pereira. Significant also is that Fernandes does not mention the presence of musa in West Africa either.

The name **avalaneyras**, as mentioned by Fernandes for Sao Tomé, does not originate in the Mediterranean region. At that time, only the names **musa** or **paradise tree/fruit** were found in Europe, for instance in pilgrim accounts of the Holy Land in the 14th century. The name **fig** came only into use in Europe in the 16th century, from Portuguese usage in the East Indies (Wis 1958:30). This early name on Sao Tomé, therefore, was probably of Indian origin (see chapter 4.3.1).

Although musa cultivars are not easily distinguished by the untrained eye, the names and descriptions given in the early sources allow us to identify several of them. For instance, three of the five cultivar names reported by al-Idrisi from Zanzibar in 1154 (Freeman-Grenville 1962:27-31) are still in use today. The **fiilii** ('elephant' in Arabic) cultivar, of which the fruits were said to weigh 12 ounces (i.e. 336 g), must have been the AAB Horn plantain, nowadays called **mkono wa tembo** ('elephant trunk' in Swahili). The name **sukari** ('sugar' in Arabic and Swahili) can be connected to the AB 'Sukari' cultivar, while **qnd** probably stands for Swahili (Comoros) **kundu** 'ripe musa'. The name **omani** ('from Oman') points to the direction of introduction of the cultivar concerned, but its identity is unknown, like that of the **muriani** (a geographical name from Yemen) cultivar.

Finch, however, who in 1625 described the plantain in Sierra Leone (Bakshi 1963:252), seems to have confused the different bunch types (of plantain), considering the number of fruits per bunch (Horn?), the length of the fruits (False Horn?) and the presence of the male bud (French?): 'The fruit is a bunch of 10 or 12 plantains, each a span (9 inches) long, and almost as thicke as a man's wrist, somewhat crooked or bending inwards ... the substance within is also yellowish ... Beneath the fruit on the same stalke hangs down a leavie tuft, sharpe-pointed, which seemeth to have been the flowre ... They call this fruit Bannanas ...'

De Marees described in 1602 the 'Bannanas or Indian figs in the Gold Kingdom of Gunea (Ghana) which they had always had' in a way that reminds of the French plantain, (fruits 9 inches or 23 cm long, white-yellowish inside, abrasive in the throat, and with more than 100 in the bunch). The Dutch name for banana was **bachovens** at that time, and the name is still used in present-day Surinam (i.e.

bakove). According to De Marees 'Bachovens or Congo Bannanas had shorter and smaller fruits than the Bannana and the inside of the fruit was whiter, sweeter of taste, less healthy to eat and less common in the Gold Coast, as they have been brought here from the kingdom of Congo' (l'Honoré Naber 1912:169). With the latter he must have meant the Portuguese possessions in that area. It appears that at the beginning of the 17th century the people in Ghana still remembered the introduction of the banana, which came later to them than the plantain. Although the plantain had been introduced here less than a century earlier, namely in the 16th century, it had gained such an importance that it was believed by the people to be one of their "own" crops.

The possible reference to musa in Ethiopia by Cosmas dating from the 6th century is not beyond doubt, as we saw above. At most it can be said that some plants might have found their way to Ethiopia by that time. In view of the consistency of appearances of the plant in Arabic scripts from the late 9th century onwards, one can assume that a westward spread of musa of any importance began only in Islamic times and reached Africa not long afterwards.

No early written sources concerning the history of musa in Madagascar are available. Linguistic and botanical information, however, seem to suggest that, even if these Indo-Malaysian immigrants (in the second half of the first millennium) brought musa plants with them on their long voyage, this had no impact on the African mainland.

Plantain was not introduced to West Africa from the Mediterranean area, but arrived here from West-Central Africa. The earliest descriptions of cultivars from Ghana and Sierra Leone reveal that all bunch types were already present a century after the initial introductions. Linguistic evidence suggests (see chapter 4.3.2) that the False Horn bunch type was probably the first introduction to this area, by the Portuguese, from Sao Tomé (see chapter 4.3.2).

Part three
DIVERSITY

3.1 Introduction

The available information on the distribution of musa germplasm in Africa is very incomplete. Only a few areas have been prospected, and data on the morphological characteristics of the collected cultivars and their vernacular names have often remained unpublished. Morphological information on bananas other than the plantains and the East African highland bananas is not a problem because they occur mostly as single cultivars or belong to cultivar groups with very few members. Moreover, they are usually well-known, under internationally accepted names (see Simmonds 1966:76-123). As for the large cultivar groups formed by the plantains and the East African highland bananas, of which the individual cultivars are for the greater part only known under vernacular names, the situation is very different.

Although some efforts have been undertaken to classify the plantain diversity in a uniform way (see Tezenas du Montcel et al. 1983), this has not been followed, not even by the authors themselves (see Swennen 1990). The present study is therefore meant to provide a framework for the classification of plantains as well as for the vernacular names by which they are known in the continent. It is based in part on already existing information, as well as on fieldwork (see appendices A and B). The classification system used has been devised in order to make data from different sources compatible and in such a way that incomplete descriptions can be fitted in as well (see also Simmonds 1962:14). Moreover, the resulting overview of the extent and distribution of plantain diversity in Africa can be contrasted to that in other continents.

Not only musa cultivars, but the languages in which the vernacular names have been recorded are classified too. The classification code used for the Bantu languages (indicated with a capital letter followed by a number; after Guthrie 1967-1971) is based on Bastin (1978:123-185), whereas the classification code of the Ubangi languages (indicated as "Ub" followed by a number) is based on Boyd (1989:190-7). The Malagasy languages mentioned (Betsimisaraka and Sakalava) belong to the Austronesian language family. Following is a list of the locations visited during fieldwork in West-Central and eastern Africa from 1991 to 1995, the languages in which the vernacular musa names were recorded and the classificatory code of these languages (see Rossel 1992, 1994, 1995; figures 3a, 3b and appendices A, B, C, D).

Table 3.1 List of countries, languages and places visited during fieldwork in eastern Africa

Code:	*Language:*	*Location (area):*
South-east Kenya:		
E73	Digo	Matuga
E74b	Sagala	Wundanyi
G21	Tubeta	Taveta
Central Kenya:		
E51	Gikuyu	Thika (KARI banana collection)
E51	Gikuyu	Maragua
E55	Kamba	Mbooni
West Kenya:		
E41	Logoli	Kisumu
E42	Gusii	Kisii
J32	Tiriki/Luyia	Kisumu
J33	Nyole	Kisumu
East Uganda:		
J31a	Gisu	Mbale
South Uganda:		
J16	Soga	Jinja
J15^{k}	Ganda	Kawanda (UNBRP Banana Collection)
J15^{m}	Ganda	Masaka
J15^{s}	Ganda	Ssese islands
West Uganda:		
J11	Tooro	Fort Portal
J11	Kiga	Fort Portal
J41	Konzo	Bundibugyo
D32	Amba/Isi	Bundibugyo
North-west Tanzania:		
J22	Haya	Bukoba (ARI-Maruku Banana Collection)
North-east Tanzania:		
E62b	Bosho, Wunyo}	Arusha (Horti Tengeru), Moshi
E62c	Rombo }	
Central-east Tanzania:		
G12	Kaguru }	Morogoro (Sokoine University Banana-Collection)
G35	Luguru }	
South-west Tanzania:		
M25	Safwa	Mbeya (ARI-Uyole Banana Collection)
M31	Nyakyusa	Tukuyu

Fig. 3.a Location of languages as mentioned in tables 3.1 and 3.2

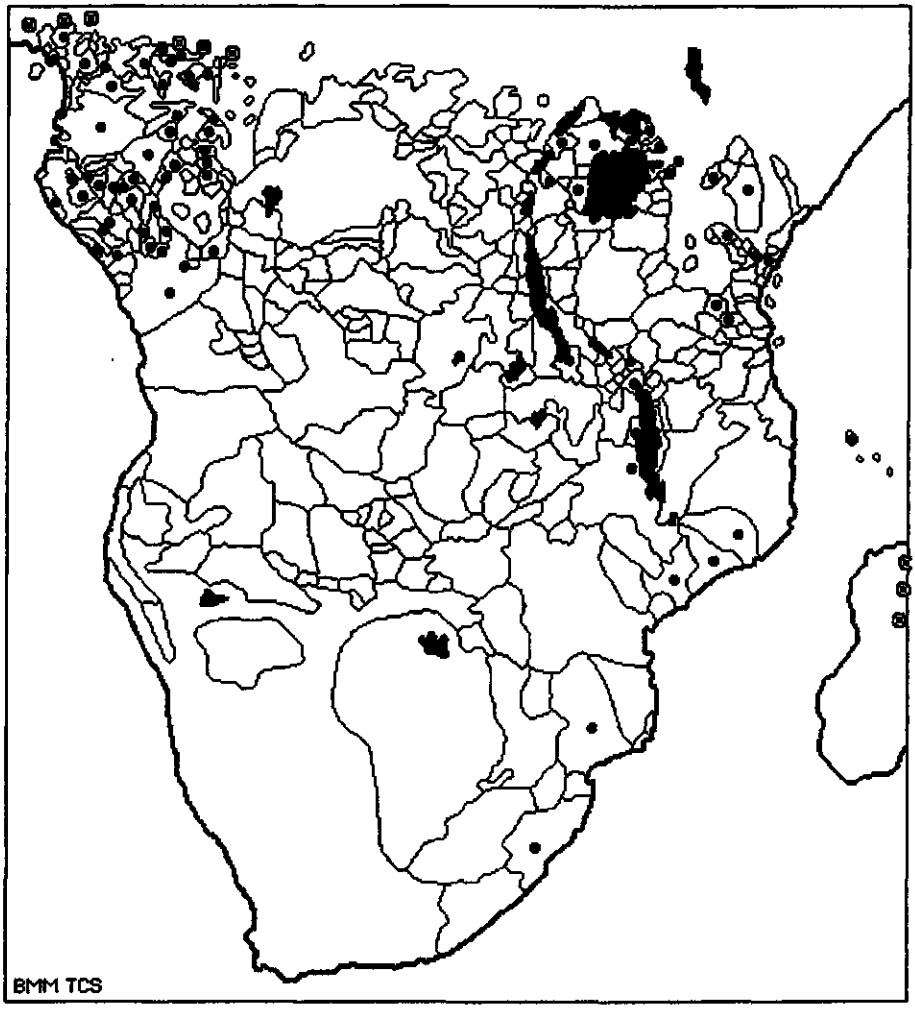


Fig. 3.b Zones of Bantu languages

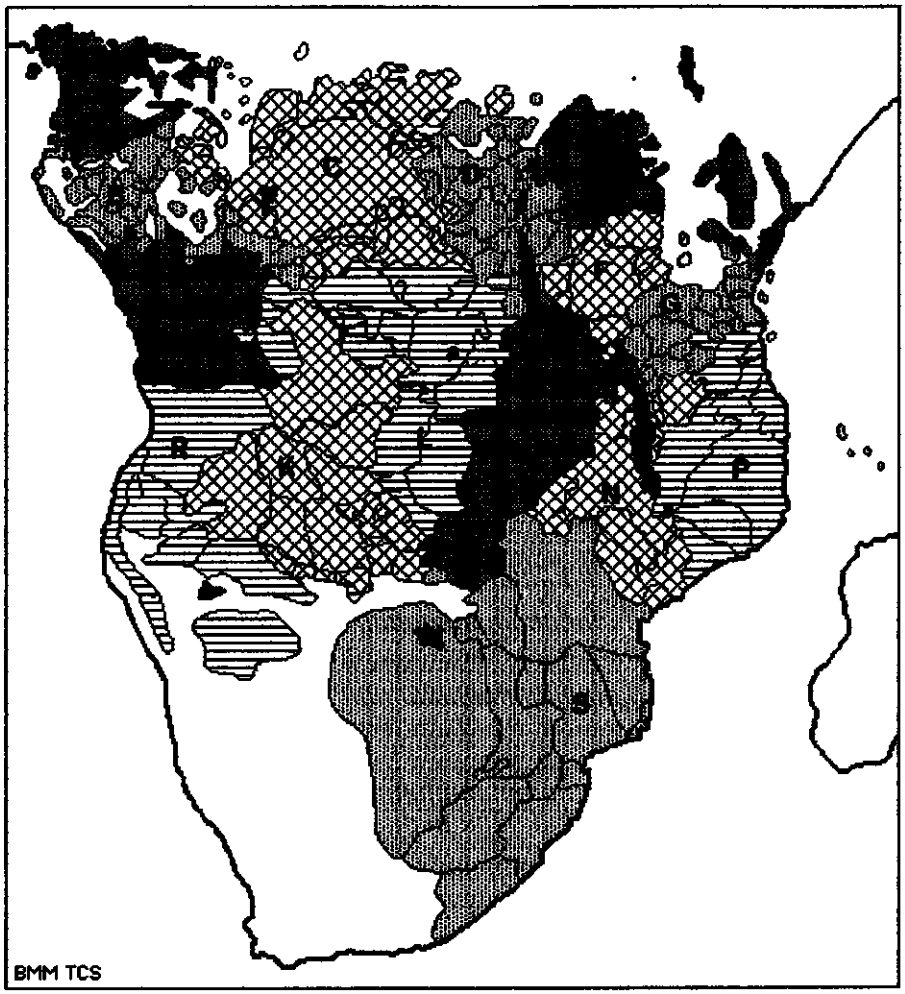


table 3.1 continued

Code:	*Language:*	*Location (area):*
North Malawi:		
M31	Konde	Karonga (Baka Banana Collection)
Central Malawi:		
N15	Tonga	Nkhata Bay (Mkhondezi Banana Collection)
South Malawi:		
N31	Nyanja	Blantyre (Mvumbwe Banana Collection)
North-central Mozambique:		
P32	Lomwe	Gurue
Central-east Mozambique:		
N44	Sena	Sena
East Mozambique:		
P34	Cuabo	Quelimane
South Mozambique:		
S53a	Tsonga	Umbeluzi
Kwazulu-Natal:		
S42	Zulu	Richards Bay
East Madagascar:		
Betsimisaraka		Tamatave (Ivoloina Banana Collection)
North-west Madagascar:		
Northern Sakalava		Ambanja
Comoros		
G44a	Ngazija	Moroni

[i] immigrants from another part of the country

Table 3.2 List of countries, languages and places visited during fieldwork in west-central Africa

Code:	*Language:*	*Location (area):*
Southern Nigeria:		
(Dfd)	Yoruba	Ife
(Igbd)	Igbo	Umu Ahia, Mokwa
	Ngwa	Ikot Ekpene
	Ikwere	Port Harcourt
(Btd)	Tiv	Makurdi
(Og)	Eleme	Onne (IITA banana collection)
(LCr)	Ibuno	Upen Ekang
	Oron	Usem Oron, Udong Ako Okosi
	Eket	Eket, Ikot Abasi

table 3.2 continued

Code:	*Language:*	*Location (area):*
LCr	Ibibio	Okom, Etinang, Uyo, Onna
	Anaang	Ikot Ekpene, Abak, Uyo
	Efik	Calabar
(UCr)	Umon	Ikot Okpora
	Abini	Abini
	Agwagwune	Ikot Okpora
	Ehom	Ehom
	Ugep	Ugep
	Legbo	Agbo
(Bnd)	Bekwarra	Ogoja
	Bette	Obudu
(Ekd)	Nde	Nde
	Ejagham	Ikom
West Cameroon:		
(Btd)	Kenyang	Kumba
A11a	Londo	Ekona
A22	Kwiri	Ekona
A15b	Koose	Nyombe (CRBP banana collection)
South Cameroon:		
A43	Basaa	Makak
A70	Yebekolo	Yokadouma[i]
A71	Mangisa	Yaounde[i]
A72a	Ewondo	Doume[i]
A74a	Bulu	Yaounde
A74b	Bane	Yaounde
East Cameroon:		
A83	Makaa	Abong Mbang
A83	Bikele	Abong Mbang[i]
A84	Bajue	Abong Mbang[i], Yokadouma[i]
A84	Koozime	Lomie, Messok
A85a	Konabembe	Yokadouma, Majoe, Ngatto, Salapoumbe
A85b	Bekwil	Mouloundou
A86a	Bageto	Mbang
A86a	Mezime	Mbang
A86b	Mpompo	Yokadouma
A86c	Mpiemo	Yokadouma
A87	Bomwali	Mouloundou
A91	Bakum	Yokadouma[i]
A93	Kako	Mouloundoui

table 3.2 continued

Code:	*Language:*	*Location (area):*
Ub1	Bangandu	Yokadouma[i]
Ub1	Yangiri	Yokadouma[i]
Ub2c	Baka[p]	Messok, Lomie, Yokadouma, Mouloundou
Gabon:		
A75	Fang	N'Toum (CIAM banana collection)
Ub.2c	Baka[p]	Makokou
A34	Benga	Cap Esterias
A75	Fang 1	Oyem/Bitam
	1a	Oyem
	1b	Bitam
	2	Lambarene
	3	Makokou
	4	Bifoun
	5	Mevang (Ndjole)
A85b	Bekwil	Makokou
A75?	Makina	Makokou
B11c	Galoa	Lambarene
B11e	Nkomi	St. Anne
B22a	Kele 1	Lambarene
	2	Mbigou
	3	Koulamoutou
B25	Kota 1	Makokou
	2	Lastourville
B25	Kota 3	Okondja
	Shamaye 1	Makokou
	2	Okondja
B25	Mahongwe	Makokou
B25	Sake	Lastourville
B30[u]	Puvi 1	NToum[i]
	2	Lambarene[i]
	3	Koulamoutou
B30[u]	Eviya	Fougamou
B31	Tsogo 1	NToumi
	2	Fougamou
	3	Mouila
	4	Lambarene[i]
B33	Pinji	Mouila
B40[u]	Ngubi	Ndougou

table 3.2 continued

Code:	*Language:*		*Location (area):*
B40[n]	Vungu	1	Bifoun[i]
		2	Mouila[i]
B41	Sira	1	Fougamou
		2	Ndougou
		3	Mouila
		4	Lambarene
B42	Sangu	1	NToum[i]
		2	Mouila
		3	Mbigou
		4	Koulamoutou
B43	Punu	1	NToum[i]
		2	Bifoun[i]
		3	Mouila
		4	Tchibanga
B44	Lumbu	1	Mouila[i]
		2	Mayoumba
B51	Duma		Lastourville
B51	Wanji		Lastourville
B52	Njebi	1	NToum[i]
		2	Lambarene[i]
		3	Mouila
		4	Mbigou
	Njebi	5	Koulamoutou
	Njebi[p]	6	Koulamoutou
		7	Koulamoutou-Mimongo
		8	Bifoun[i]
B62	Mbama		Okondja
H12a	Vili		Mayoumba
North Congo:			
A84	Njem		Sembe[i], Ouesso[i], Ngombei, Pokola[i]
A85b	Bekwil		Sembe, Ouesso, Ngombe[i], Pokola[i]
A86c	Mpiemo		Ouesso[i]
A87	Bomwali		Ouesso, Pokola
A92	Pomo		Ouesso[i], Ngombe[i]
B22b	Kola[p]		Sembe[i]
B22b	Ngom		Sembe[i]
B61	Mbede		Ouesso[i], Pokola[i]
C15?	Mikaya[p]		Mokeko-Ouesso, Ngombe, Pokola
C15?	Benjele[p]		Pokola[po], Ngombe[ng], Pikounda[pi]

table 3.2 continued

Code:	*Language:*	*Location (area):*
C15?	Luma[p]	Pikounda
C15	Bongili	Ouesso[i], Ngombe[i], Pikounda
C15	Bokiba	Ouesso[i]
Ub	Yaswa	Ouesso[i], Ngombe[i]
Ub1	Bangandu	Ouesso[i]
Ub2c	Ngombe[p]	Mokeko-Ouesso, Ngombe
Ub2c	Baka[p]	Sembe
Central Congo:		
C22	Akwa	Ouesso[i], Pikounda[i]
C24	Koyo	Ouesso[i], Pokola[i]
C25	Mboshi	Ouesso[i], Pokola[i]
C36d	Lingala	Vehicular language (in all but S.W. Congo)
South-west Congo:		
B26	Ndasa	Sibiti[i], Mikamba[i]
B62	Mbama	Mambouana, Moukanda, Mongo, Sibiti[i],Mikamba[i]
B73a	Tsaayi	Sibiti[i]
B73b	Laali	Indo[i], Mikamba[i], Sibiti[i]
	Babongo[p]	Indo
B73c	Ya(k)a	Mikamba, Indo, Sibiti, Moukanda, Mongo
	Babongo[p]	Mikamba
H11	Yaari	Loudima (Banana Collection)
H11a	Bembe	Mikamba[i]
H12b	Yombe	Koulila, Les Saras
H17b	Kamba	Pointe Noire[i]
South Congo:		
H16f	Laari	Ouesso[i]
H16	Kongo	Pokola[i]

[ng, po, pi] Ngombe, Pokola and Pikounda are situated resp. 25, 45 and 200 km. south-east, Sembe 200 km. west and Mokekou 15 km. south of Ouesso. Ngombe and Pokola are constituted of migrant workers.
[i] immigrants (from an other part of the country). [p] pygmies. [u] unclassified.

3.2 Distribution of plantain cultivars

The plantain cultivars listed in tables 3.4. and 3.7 are classified according to Bunch Type, Bunch Orientation, Pseudo-stem Size, Pseudo-stem Colour and to minor descriptors (see also IBPGRI-INIBAP/CIRAD 1996). The abbreviations that are used are listed in table 3.3.

Table 3.3 List of descriptors and their abbreviations

Major descriptors and their abbreviations:

Bunch type:		*Bunch orientation:*		*Pseudo-stem size:* #		>>
Fr	French	P	Pendulous	G	Giant	
FrH	French Horn	Sh	Subhorizontal	M	Medium	
FH	False Horn			S	Small	
H	Horn			Sd	Semi-dwarf	
				D	Dwarf	

>> *Stem colour:*

Green	Red	Black
Green-Red	Red-Green	Black-Green
Green-Yellow	Light-Red	Violet-Black
Light-Green	Wine-Red	
Dark-Green	Wine-Red Chimaera	
Yellow-Red	Red Chimaera	
Green(-White)Chim(aera)	Red-Green Chim(aera)	
Yellow-Brown-fl(amed)		

Minor descriptors: ##

fruit:	(semi-)erect, sub-pend(ulous) or pend(ulous).
apex:	salient, gradual, faint or blunt(ish).
peel:	green, lightgreen, darkgreen, grey-violet, reddish (when young), red-brown (when mature), brown (when mature), yellow (when immmature), white-striped, black-striped, brown-striped, dark-striped, red-striped or red-flamed.
sap: ###	watery or (orange-)red.
pedicel:	separated or fused.
bunch:	hands, spiraloid or repetitive (serial).
hand:	normal number of fingers or lower number of fingers.
male bud:	normal or pink-coloured.

Abbreviations:

f.ped.:	fused pedicels.
deh.:	(a French plantain with a) dehiscent male axis.
yell.pend. & grad.:	yellow-pendulous and gradual.
bl.striped:	black-striped.
f/upper hands:	fingers/upper hands.
h.:	hands.
f.:	fingers.
fing.1st h.erect.:	fingers of first hand erect.

table 3.3 continued

pend.:	pendulous.
nfp:	neutral flowers persistent.
nfnp:	neutral flowers non-persistent.
n.flow.part.dec.:	neutral flowers partly deciduous.

Giant plantains have 38 or more, Medium plantains between 32 and 38, and Small plantains fewer than 32 leaves (Swennen 1991; Nigeria), or resp. > 40, 32-38 and < 30 leaves (Tezenas du Montcel et al. 1983: 465; Cameroon). The difference may be due to the exceptionally good growing conditions (volcanic soil) in Nyombe (Tezenas du Montcel), as opposed to the rather poor soil qualities in the Onne (Nigeria) collection (see Buddenhagen 1996:5). The category "size" is expressed in the number of leaves emitted before florification, because it is stable under all growth conditions, contrary to the actual size of the plant, which depends on ecological conditions. In central Congo(-K.), for instance, the Giant, Medium and Small sizes have values of 3.5 m, 2.75 m and 2.25 m resp. (De Langhe 1964:51), whereas in Cameroon (volcanic soil) these amount to > 5.0 m, ca. 4.5 m and < 4.0 m resp. (Tezenas du Montcel 1979:85). Dwarf or Semi Dwarf plantains are characterized by short internodes, giving the plant a compact and sturdy appearance. Dwarfing can occur in plantains of all sizes, whether Giant, Medium or Small. The number of leaves, however, reveals the original size of the plant.

underlined features are default.

sap in peel.

Eastern Africa:

The following synopsis of plantain diversity is for the greater part based on fieldwork. To this has been added information from literature pertaining to Zanzibar, Pemba, La Réunion and the Seychelles. Vernacular names of the cultivars are listed in appendix A. The names of the countries (* or parts thereof) have been abbreviated as follows:

K	Kenya	Md	Madagascar
U	Uganda	C	Comoros
T	mainland Tanzania *	Z/P	Zanzibar/Pemba *
Ml	Malawi	R	La Réunion
Mz	Mozambique	S	Seychelles

No.:	see appendix A
Type:	of bunch
Size:	of pseudo-stem
Colour:	of pseudo-stem
B.o:	orientation of bunch (Pendulous or Subhorizontal)
fruits:	various characteristics, mainly of the inflorescence

Table 3.4 Distribution of plantain cultivars in eastern Africa

No.:	*Type:*	*Size:*	*Colour:*	*B.o.:*	*, fruits:*	*Countries:*									
a	French	Giant	Green	Pend.			U								
b	French	Giant	Green	Pend.	, conical			T	Ml				Z/P		
c	French	Medium	Green	Pend./Subh.			U		Ml	Mz.	Md				
d	French	Medium	Green-Red	Pend./Subh		K	U	T	Ml			C	Z/P	R	S
e	French	Medium	Green	Subh.	, white flesh						Md				
j	French	Medium	Green	Pend.	, blunt		U	T							
i	French	Medium	Green	Pend.	, spiraloid		U								
f	{French	Medium	Green	Pend.	, reddish			T							
g	{French	Medium	Green	Pend.	, brown(ish)				Ml						
h	French	Medium	Green	Pend.	, n.flow.part.dec.			T							
k	French	Medium	Red	Pend.			U	T	Ml				Z/P	R	
l	French	Medium	Violet-Black	Pend./Subh.			U				Md				
m	French	Semi-Dwarf	Green	Subh				T							
n	False Horn	Medium	Green	Subh.			U	T					Z/P		
p	False Horn	Small?	Green	Subh.	, 3-5 hands; 5-6 f/h		U	T							
o	False Horn	Medium	Black	Subh.			U								
q	Horn	Medium	Green	Subh.	, 0-5 hands	K	U	T	Ml		Md	C	Z/P	R	S
r	Horn	Medium	Green	Subh.	, appendices		U	T							
s	Horn	Medium	Red	Subh.			U								
t	Horn?	Medium?	Green	Subh.	, unstable			T	Ml		Md				

As can be seen, the most widespread groups of closely related cultivars in eastern Africa are of the French (Medium Green) and the Horn (Medium Green) types. The highest diversity of plantains is found in the western parts of Tanzania and Uganda, where plantain is grown as a main staple, as is the case in neighbouring Congo(-K.).

An unusual plantain in eastern Africa, tentatively labelled Horn, unstable, varies between a Horn, a False Horn and a French type (sometimes more than one type can be observed in one and the same stool). It occurs in central-east and south-west Tanzania, northern Malawi and north-west Madagascar. According to Vuylsteke et al. (1990:323), the interconversion between inflorescence types as mutations occurring after in-vitro multiplication is only observed in the False Horn type (and in one Horn cultivar), but False Horn plantains are absent from the area where the Horn, unstable cultivar is common. The size of the stem is intermediate between the Giant and Medium types, like the Horn Medium Green cultivar (which, however, is classified as Medium for reason of convenience) and this plantain is presumably an (unstable) mutation of the Horn type.

The False Horn type of plantain is rare to absent in eastern Africa. It was only found in Uganda and adjacent north-west Tanzania. The (reported) presence of a False Horn cultivar on Zanzibar and in Moshi (north-east Tanzania) might have been the result of introductions to the banana collections in both areas. Its Zanzibari name (**msinyore**) resembles a banana name **cenorins** or **senorijns** that was already recorded in 1567 by Garcia de Orta (1964: 221) and by Van Linschoten (1585; see Kern 1910:227) in Malabar in south-west India. This was probably the AB 'Ney poovan' cultivar which is (nowadays) called **sonery** in Maharashtra, west India (see Bose 1985:132). The confusion may be due to other AB cultivars (**thattilla kunnan**, **poovilla kunnan** and **padali moongil**; note that **moongil** is the name of the Horn plantain) in Malabar, Kerala and Tamil Nadu, which are considered to be variants of AB 'Kunnan' and AB 'Unique' and which also lack a male axis (although reversal in the male phase is frequent). These cultivars resemble a plantain when grown under favourable conditions, their fruits are bigger in size than those of 'Ney poovan' and have a more pronounced apex, but do not differ in taste (Singh & Chadha 1993:131, Singh 1997). See also Simmonds (1966:112), who was not sure if AB 'Kunnan' was a minor variant of AB 'Ney poovan' or an AAB type.

As for Uganda, the presence of False Horn cultivars in the west of the country can be regarded as being a continuation of the Central African situation, and some cultivars were probably taken from here to south Uganda. The fact that False Horn plantains are absent in south-west Tanzania, in spite of an introduction of plantains to this area from north-west Tanzania where False Horn is found (nowadays), also pleads for its relatively late introduction to south Uganda and north-west Tanzania. The general absence of this type in most of eastern Africa as well as on the islands in the Indian Ocean, while being very common in (West-)Central Africa, suggests either

an introduction by Europeans to the latter area or a mutation (of a Horn plantain?) somewhere in Central Africa (see chapter 4.3.2).

A few cases of reversion from the False Horn to the French type were observed in Uganda. According to the farmers, the direction of mutation is always from the former to the latter type. Apart from occurrences in West-Central Africa, the same phenomenon has been reported from elsewhere too, for instance from Colombia by Cardenosa (1953, cited in Simmonds 1966:122), from Venezuela by Borges & Orangel (1972:44), from Puerto Rico by Irizarry et al. (1985:413) and as a somaclonal variation by Vuylsteke et al. (1990:322). In Uganda we find a description of the **manjaaya** (False Horn) cultivar by Serubiri (1979): 'One year it puts on a compact bunch (**enkota**) and the other year a widely spaced bunch (**manjaaya**)'. If the direction of mutation were the other way around, i.e. from French to False Horn, then False Horn plantains would have been more common in East Africa. Such a mutation would be expected to take place in areas with high-density plantain-cultivation such as south-west Tanzania. Nevertheless, False Horn plants are not found there.

The most common characteristics of East African plantains are complete (i.e. French) and Pendulous bunches, as well as Green-coloured and Medium-sized pseudo-stems. The group of French Medium Green Pendulous cultivars is most numerous, as is the case elsewhere in Africa (see below). The Horn Medium Green Subhorizontal cultivars come second in eastern Africa (contrary to West-Central Africa, where the False Horn Medium Green Subhorizontal group of cultivars is second in importance).

Table 3.5 Distribution of plantain bunch types in eastern Africa and numbers of cultivars displaying the main descriptors states

***Bunch types*:**	Total number of cultivars in E. Africa		
French	12		
False Horn	3		
Horn	4		
Stem colour:	*Green(-Red)*	*Red*	*(Violet-)Black*
Bunch types:	Number of cultivars:		
French	9	1	1
False Horn	2		1
Horn	3	1	
	–	-	–
total:	14	2	2

table 3.5 continued

Stem size:	*Giant*	*Medium*	*Small*	*Semi-Dwarf*
Bunch types:	Numbers of cultivar:			
French	2	9		1
False Horn		2	1	
Horn		4		
total:	2	15	1	1

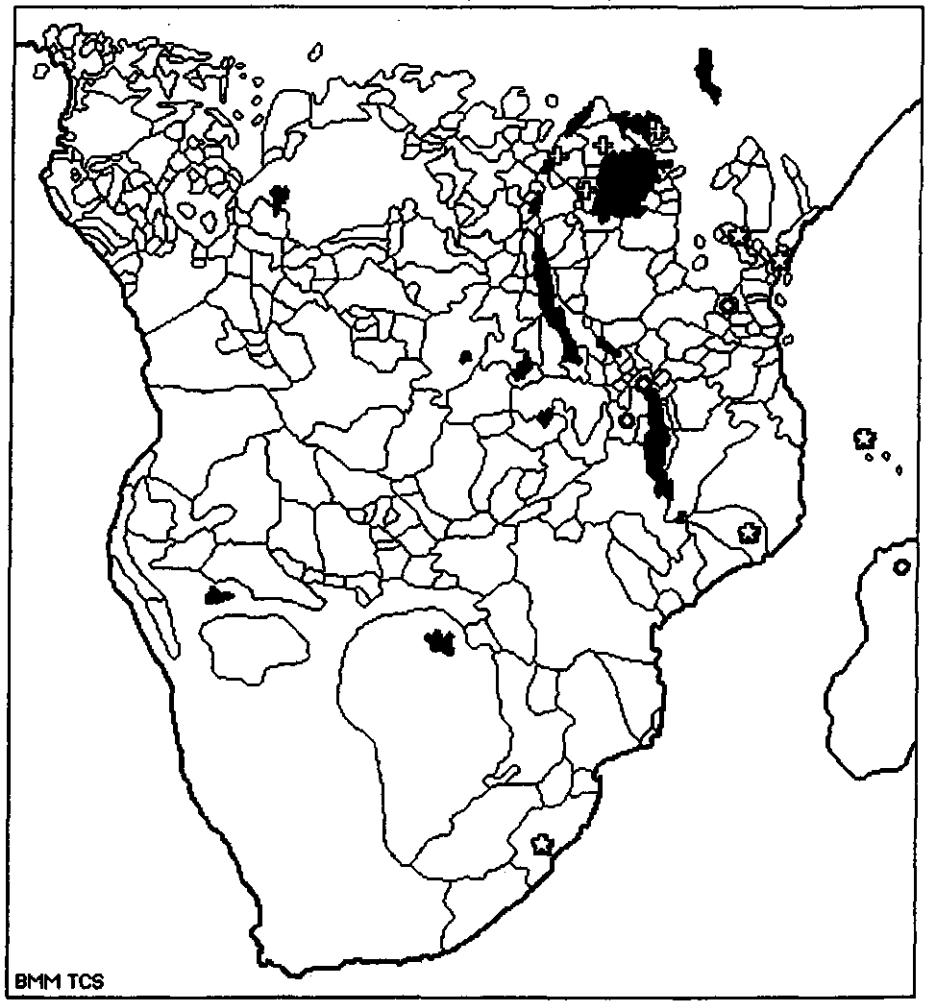
Bunch orientation:	*Pendulous*	*Subhorizontal*
Bunch types:	Numbers of cultivars:	
French	10	1
False Horn		3
Horn		4
total:	10	8

Most common groups of cultivars:

	Fr Med Gr(-Red) Pend.	*H Med Gr Subh.*
Countries:	Numbers of cultivars:	
Kenya	1	1
Uganda	4	2
Tanzania	5	3
Malawi	3	2
Mozambique	1	
Madagascar	2	2
Comores	1	1

Country:	*Ken.*	*Ug.*	*Tanz.*	*Mal.*	*Moz.*	*Mad.*	*Com.*
Bunch types:	Numbers of cultivars:						
French	1	7	8	5	1	3	1
False Horn		3	2				
Horn	1	3	3	2		2	1
total:	2	13	13	7	1	5	2

Fig. 3.c Plantain zones in eastern Africa (see table 3.6)



Where plantain diversity is concerned we can divide easternAfrica in three, partly overlapping zones (see ill. 3c and table 3.6). Zone I is coastal and comprises the two almost universal cultivars French Medium Green Pendulous and Horn Medium Green Subhorizontal. Zone II is intermediate between zones I and III and stretches from central-west Tanzania to Malawi. Here we find some variation in the French and Horn types, and also the Horn, unstable cultivar. Zone III consists of Uganda and north-west Tanzania and has French, Horn as well as False Horn plantains, and also the highest number of cultivars.

Table 3.6 Distribution of plantain bunch types in eastern Africa

Regions	Numbers of cultivars		
Total number of cultivars:	*French* :	*False Horn* :	*Horn*
total eastern Africa:	12 :	3 :	4
Zone I (French Medium Green and Horn Medium Green):			
E. Kenya:	1 :	0 :	1
Comoros:	1 :	0 :	1
N.E. Tanzania	1 :	0 :	0
Mozambique	1 :	0 :	0
Natal	0 :	0 :	0
Zone II (French and Horn cultivars):			
Madagascar:	3 :	0 :	2
C.E. Tanzania:	4 :	0 :	2
S.W. Tanzania:	4 :	0 :	2
Malawi:	5 :	0 :	2
Zone III (French, False Horn and Horn cultivars #):			
W. Uganda:	5 :	3 :	2
S. Uganda:	5 :	2 :	2
E. Uganda:	1 :	1 :	1
N.W. Tanzania:	3 :	2 :	1

the three types are represented in this region in more or less the same ratio as in (West-)Central Africa (see below).

Plantain diversity is distributed unevenly within the above-mentioned zones. In zone I diversity is highest in the north (i.e. in east Kenya), whereas most cultivars are to be found in the central part (south-west Tanzania) of zone II. In zone III plantain diversity is highest in the west (western Uganda), where the Central African rain forest begins. In Central and West-Central Africa the ecological circumstances are

almost uniformly well-suited for the cultivation of plantain, reason why it is one of the main staple crops. The situation in eastern Africa, on the other hand, is far more complicated. This can be ascribed to a combination of ecological, cultural and historical factors, which differ per region and per country.

Kenya:
Although the climate in north-eastern Kenya and adjacent Somalia is generally too dry for plantain cultivation, there were, at least until the beginning of this century, some gallery forests along the Webi Shebelle and Juba rivers in Somalia and along the Tana river in Kenya (Engler 1905:4-6, Rung 1911:88). These forests must have provided a favourable microclimate for plantain and to this day musa plantations are a characteristic feature of the Tana river banks (Zoebl 1987:18). Also, before the Italians started growing bananas (for export) in Somalia in the 1920's (the first trials began in 1912), they found the local farmers already growing all kinds of bananas and plantains, especially along the Juba river (Kaplan et al. 1969, cited in Houtkamp 1996:79). In the Tana area, plantains are much sought after during Ramadan, particularly by Arab people, who are said to be fond of the firm texture of the fruits (Zoebl 1987:18). The same seems to be the case in Bagamoyo, on the coast of Tanzania, and on Zanzibar, where **mzuzu** (French plantain) is used for a Muslim dish called "futari", which is eaten during Ramadan (Ngeze 1994:10, 100). Nevertheless, farmers in south-east Kenya declared that nowadays they prefer to cultivate bananas, as these do not have to be replanted as often as plantains. Only the French Medium Green and Horn Medium Green cultivars were found in south-east Kenya. In central and west Kenya plantains are rare or absent.

Uganda:
Plantain cultivation and diversity in west Uganda (in the Rwenzori-Semliki area) resembles that of Central Africa, of which it is, ecologically and culturally, part. In southern Uganda, on the other hand, where plantains are only marginally grown, far fewer cultivars, albeit of all three types (French, False Horn and Horn) can be found. However, there are indications that in the past more plantains were grown, for beer, as seems to have been the case on the Ssese islands. The inhabitants of these islands were evacuated to the mainland for more than a decade (1909-1920) because of sleeping sickness. According to the people, upon their return they found the **kagoye** cultivar (a French cultivar which was used for brewing in the old days; see also appendix A), to be one of the few plantains that had survived in the forests which had grown over their former plantations.

Some cultivars found in south and east Uganda may have been introduced from west Uganda, but other introductions probably took place via the Entebbe Botanical Garden. Apart from west Uganda, False Horn plantains are only found (in East Africa) north and west of Lake Victoria (in the Buganda, Busoga, Bugisu and Kagera

regions) and on Zanzibar. It may be that the British, who already established a banana collection on Zanzibar in the 1880's and in Entebbe in 1902, were responsible for the introduction of this plantain type. The Horn plantain probably came later to Uganda than the French type. According to Tooro (J11) informants in Fort Portal (west Uganda), the Horn plantain was introduced from Ankole (south-west Uganda). Significant also are the names of the French and Horn plantains, for instance in Ganda (J15) and Tooro (J11). The French Medium Green cultivar is called **gonja omuganda** `Ganda plantain' or **gonja ekitooro** `Tooro plantain', and is thus identified as the people's own, or original cultivar. Other names are **kikonje(-konje)** `the (real) plantain' or **gonja** `plantain', without an epithet. The Horn (Medium Green) cultivar, on the other hand, is called **gonja chayaya** or **gonja mamba**, with a specifying epithet (**mamba** is a fish sp.).

The Gisu (J31) in east Uganda believe that plantains bring good luck and make a protective medicine of the roots, which is worn wrapped around the upper arm. The Ganda (J15), on the other hand, are convinced that plantains bring bad luck and lorry- or busdrivers often refuse to transport them. Masefield (1944:13) reported that the Baganda believe that plantain (as well as AB 'Kisubi') have a harmful effect on **matooke** (the highland cooking banana) and that plantain plants attract lightning. Plantains are also believed to be less easily uprooted in gales than other musa types, which is why they are not planted near the houses but rather on the edges of banana gardens. Formerly, before the introduction of new cultivars like AB 'Kisubi', plantain fruits were preferred for beer-making, because they produce stronger beer than **mbidde** (highland beer bananas). It looks as though the Gisu borrowed their generic plantain name **gonja** from the Ganda (many of their names for highland cultivars came from the same source too). However, they share with the Gusii (E41) in west Kenya a highland banana cultivar (called **gonje** in Gusii) which they call **gonzoha** or **konzoha**, depending on the dialect. The fruits of this banana are roasted like plantains, and the cultivar is connected with magic and sacrifices (Siertsema 1981:142). The resemblance in use and morphological traits between the plantain and this particular banana cultivar is reflected in the fact that their name is the same, but which came first to the Gisu/Gusii is not clear.

Tanzania:

French plantains grow, with some difficulty, in the Kilimanjaro area, but no Horn plantains were found there. Further south, in the Morogoro area, we find more or less the same variation (of French and Horn cultivars) as in south-west Tanzania and Malawi. According to a banana survey held by the Regional Agricultural Office in Mbeya Region (Anonymous 1976) musa (plantain?) was first introduced to the Rungwe district. Gradually, with the expansion and migration of the Nyakyusa (M31) people, and in some districts also in combination (as shade plants) with coffee farming, which started in the early 1930's, the crop spread to other districts in the

area. It is believed that this took place (at least) more than a century ago. The cultivation of plantain may have been one of the reasons for the expansion of the Nyakyusa.

Malawi:
The uncommon cultivars (French Giant Green, conical, French Medium Green, brown and Horn Medium Green, unstable) are the same as in central-east and south-west Tanzania. The distribution of cultivars and cultivar names point to an introduction of plantain to northern Malawi from south-west Tanzania. South Malawi, on the other hand, seems to have received the **zeru** cultivar (French Medium Green), as well as numerous banana cultivars from Mozambique.

Mozambique:
Most areas of Mozambique are too dry for plantain cultivation and the bananas grown here are mainly of the ABB type. Nevertheless, there are some wetter areas where rainfall is induced by mountains, such as the Gurue highland in north-central Mozambique and the Mulanje mountains on the Malawi border. The plantain probably spread from the coast inland via these stepping-stones, as far as south Malawi. The country is regularly subjected to severe droughts, which is serious constraint for the expansion of plantain cultivation. Also, the Zambezi valley cannot have been a path of entry for the plantain into Africa, because, for some meteorological reasons, dry and hot (mistral-like?) winds are characteristic for the area (according to local informants).

Madagascar:
In north-western Madagascar the same variation is found as in Zone II of East Africa, i.e. French and Horn cultivars (among which the Horn Medium Green, unstable cultivar) but no False Horn cultivars. The absence of French plantains on the east coast of Madagsacar remains unexplained, the more so since a banana collection had already been established in the area in colonial times.

Comoros:
Only the French Medium Green(-Red) and, rarely, the Horn Medium Green plantain seem to be present on the Grande Comore island. The name of the latter cultivar (**funti**) points to an introduction from Madagascar.

As a conclusion it can be said that in the eastern part of eastern Africa plantains are hardly grown and no diversity has developed. Only one cultivar, French Medium Green, was found in north-central Mozambique and only the two (originally introduced?) cultivars, French Medium Green and Horn Medium Green, in Kenya and the Comoros. In the western part of eastern Africa the situation is quite different.

Uganda has the greatest plantain diversity of all of eastern Africa. This can be attributed, in part, to the proximity of Congo(-K.), where plantain diversity is even higher. The intensity of plantain cultivation is another factor and the main reason for the relatively high diversity in south-west Tanzania. Central-east Tanzania (Morogoro) also has a certain degree of diversity, partly because the area has attracted many immigrant labourers from other parts of the country and probably also because of introductions from other banana collections.

(West-)Central Africa:

The following synopsis of plantain cultivars in Central and West-Central Africa is based on fieldwork in Nigeria, Cameroon, Gabon and Congo, and on observations in the banana collections of the International Institute of Tropical Agriculture (IITA) at Onne, Nigeria and of the Centre de Recherches Bananiers et Plantains (CRBP) at Nyombe, Cameroon. Published cultivar descriptions from central Congo(-K.), Cameroon and Nigeria have been added, in order to complete the picture. The different sources and origins of the data are indicated as follows:

- Names without special marking: fieldwork.
- Names in italics: observations in collections of IITA and CRBP.
- Names between parentheses: De Langhe (1961, 1992), Tezenas du Montcel (1983, 1991), Swennen (1990, 1991).
- Names between brackets: other sources.

Information about the origin of the cultivars in the two collections was obtained from the collection data sheet of CRBP, from Lescot (1994) and from Swennen (1991). Only those cultivars were entered of which the origin could be traced to the five countries concerned. In many cases, the recorded origin of collection entries only mentions the collection from where the material had been received from. However, a number of cultivars is known to have been sent from one collection to the other. A good example of this are cultivars first sent from Congo (IFAC-Loudima) to Ivory Coast (IFAC-Azaguie), then from Ivory Coast to Cameroon (IFAC-Nyombe) and lastly from Cameroon to Nigeria (IITA-Onne) (e.g. **ebibi**), or from Guinea via Cameroon to Nigeria (e.g. **cantebalon**).

In case of conflicting data on certain morphological characteristics, priority was given to personal observations. Also, colour-terminology depends partly on ecological conditions or the season, and is often a source of confusion, not only between different observers but also between different languages (English, French, Dutch). In order not to lose the information given by the various authors, separate entries have been made which are preceded by braces ({ or }), thus indicating that the variant descriptions most probably concern one and the same cultivar. For each country one vernacular name has been chosen per cultivar. For numbers 1-60 and a more complete list of vernacular names, see appendix B.

Table 3.7 Plantain cultivars in (West-) Central Africa

No.	*Type*	*Size*	*Colour*	*B.o.,*	*fruits*	*Cameroon*	*Congo(-K)*	*Gabon*	*Congo*	*Nigeria*
	Fr}	G	Green-Red	P			**(losakalaka)**			
1	Fr}	G	Green	P		**zok**		**odigha**	**mukama**	**oni akam**
	{Fr	G	Green-Red	P,	faint & plump		**(inkeleikumi,**			
	{Fr	G	Green	P ,	faint	***nyombe no.1***	**(kocha)**			**ndandan ntanga**
	Fr}	G	Green-Red	P ,	bluntish		**(boloma'ise)**			
	Fr}	G	Green	P ,	blunt	***okele***				
2	Fr	G	Green	P ,	red	***niabang***				
	Fr	G	Light-Green	P				**pembi**		
	Fr}	G/M	Dark-Green	P			**(litete)**			
3	Fr}	G	Dark-Green	P				**mbilu**		
	Fr	G	Yellow-Red	P			**(wale osombo)**			
4	Fr	G	Green-Red	P				**tomba**		
	Fr	G	Green-Red	P ,	red	***zue ekon***				
5	Fr	G	Red	P		**muena liko**	**(bosua)**	**tsaselanga**	**min**	**(boahku abue)**
	Fr	G	Red	P ,	gradual	**(rouge de Loum)**	**(boloko)**			
	Fr	G	Red	P ,	reddish	***ntie***				
	Fr	G/M	Red	P ,	reddish & blunt	***nkounda***				
	Fr}	G	Violet-Black	P			**(bosakaraka)**			
6	Fr}	G	Black	P		***hinanga***		**mungeli mungele**		
	Fr	G	Black	P ,	blunt	***ovang***				
7	Fr	G/Sd	Green	P				**olayi**		
8	Fr	M	Green	P/Sh		**ekpal**	**(okere, sogbe)**	**ina**	**zigdieb**	**obino l'ewai**
9	Fr	M	Green-Red	P/Sh		***toutoun kelong***	**(wenge)**	**nzoangu**	**n.n.**	**ntanga**
	Fr	M	Green	P ,	yell.pend.& grad.	***(lipfo)***				

table 3.7. continued

No.	*Type*	*Size*	*Colour*	*B.o.,*	*fruits*	*Cameroon*	*Congo(-K)*	*Gabon*	*Congo*	*Nigeria*
10	Fr	M	Green	P ,	red-flamed			**kumbu**		
11	Fr	M	Green	P ,	red-striped			**moanza**		
12	Fr	M	Green	P ,	bl.striped & blunt			**ebee makutu**		
	Fr}	G/M	Green	P ,	spiraloid		**(aleke)**			
13	Fr}	M	Green	P ,	spiral. & blunt	**pilapile**		**mutsingamutsinga**	**dingadinga**	**ing'inie**
14	Fr	M	Green	P ,	red sap	**ankia**		**nagia**	**malongo**	
15	Fr	M	Green	P ,	f.ped.& dehisc.	**elar ntanga**		**iseluku**		
	Fr}	M/S	Green-Red	P ,	gradual (f.ped.?)		**(boofo)?**			
16	Fr}	M	Green	P ,	fused pedicels	**nduenzy**		**iseleku**	**seleko**	
	Fr	M	Green	P ,	n.flow.part.dec.	***kwa***				
17	Fr	M	Green	P ,	lightgreen & faint			**diba**		
	Fr	G/M	Green	P ,	< 7 fingers/hand		**(libanga-liboela bokoi)**			
18	Fr	M	Green	P ,	< 7 f/upper hands	**n.n.**				
19	Fr	M	Green	P ,	2-3 fingers/hand			**mutsangu**		
20	Fr	M	Green	P ,	brown(ish)	**ebu(b)a**		**mondo**	**mundu**	**nta bi**
	Fr	M	Green-Chim.	P ,	brown-striped		**(ikiokio)**			
	Fr	M	Yell.Brownfl.	P ,			**(lo'see)**			
	Fr	M	Green-Yell.	P ,	pink male bud	**amou**				
	Fr}	M	Green-Red	P ,	bluntish		**(otiti)**			
	Fr}	M	Green-Red	Sh ,	bluntish		**(bombutule)**			
21	Fr}	M	Green	P ,	blunt	**meduma**		**unungi**	**bakusibakusi**	**egjoga**
22	Fr	M	Green(-Red)	P ,	brown & blunt			**mowanji makoto**		
	Fr	M	Green-Red	P				**biri mbongo**	**n.n.**	
	Fr	M	Green-Red	P ,	faint					**(ntanga 4)**

table 3.7. continued

No.	*Type*	*Size*	*Colour*	*B.o.,*	*fruits*	*Cameroon*	*Congo(-K)*	*Gabon*	*Congo*	*Nigeria*
23	Fr	M	Dark-Green	P ,	faint	**mbidi**		**taba**	**ebilo**	**enyaghe**
24	Fr	M	Red	P		**mwende**	**(afati)**	**mulolo**	**mololo**	**mbi egome**
	Fr	M	Red-Chimaera	P		***anka***				
	Fr	M	Red	P ,	reddish	**kedong kekang**				
	Fr}	G/M	Red	P ,	blunt		**(koko)**			
25	Fr}	M	Red	P ,	blunt	**due angue**				**akpakpak**
26	Fr	M	Red	P ,	dark-striped				**mbende**	
27	Fr	M	Red	P ,	grey-violet				**ngalefutu**	
28	Fr	M	Violet-Black	P					**esibi**	**obubit akpakpak**
29	Fr	M	Black	P		**ekpal entanga**	**(afati black)?**	**zibo**	**boko**	**obubit ntanga**
	Fr	M	Violet-Black	P ,	blunt		**(ilelf)**			
	{Fr	M/S	Violet-Black	P ,	gradual (f.ped.?)		**(boofo black)?**			
30	{Fr	M/S	Black	P ,	fused pedicels	**asika**			**eseleko**	
	Fr}	M/S	Green	P/Sh			**(yumba, isabolobaete)**			
31	Fr}	S	Green	Sh		**biye**		**ibele**	**bili**	**mbi egome**
32	Fr	S	Green	Sh ,	reddish				**biye namul**	
33	Fr	S	Green-Red	Sh				**ingomba**		
	Fr}	Sd	Green-Red	Sh ,	gradual		**(ikelese, koi)**			
34	Fr}	Sd	Green	Sh		**twan**				
	Fr	Sd	Green	Sh ,	swollen style		**(atemeso)**			
	Fr	Sd	Green-Red	Sh ,	bluntish		**(ituma)?**			
	Fr	Sd	Green-Chim.	Sh ,	white-striped	***moto moliko***				
	Fr	Sd	Dark-Green	Sh ,	bluntish		**(litete likoko)**			
	Fr	Sd	Red	Sh		***ndom rouge***				

table 3.7. continued

No.	Type	Size	Colour	B.o.,	fruits	Cameroon	Congo(-K)	Gabon	Congo	Nigeria
	Fr	Sd	Red	Sh ,	bluntish		**(amuku, ndee)**			
	Fr	D	Green-Red	P ,	gradual	***njok kon***	**(ngulu)**			
	Fr	D	Dark-Green	Sh			**(agwetuke)**			
	Fr	D	Red	Sh		***red yade***				
	FrH	G	Green	Sh		**batard**			**3 vert**	
35	FrH	M	Green	Sh		**ngomba liko**		**idze**		
	FrH	M	Green	P ,	many h., erect f.					***bise egome 2***
	FrH	G/M	Green-Red	Sh ,	brown			***motuka 2***		***mbang okon***
	FrH	M	Light-Red	Sh						**[orishele]**
	FrH	Sd	Green-Red	Sh ,	faint		**(bogbeta)**			
36	Fr/FH	G/M	Red-Green-Chim.	Sh				**motuka**		***mbirinyong***
37	FH	G	Green	Sh		**ndum eyoh**		**nzoa**	**zau**	**njok egome**
	FH	G	Light-Red	Sh ,	reddish (young)					*mimi abue*
38	FH	G	Light-Green	Sh				**pembi**		
39	FH	G	Black	Sh		**(nzorba)**			**n.n.**	***obubit ukom***
	FH	M	Green	P ,	erect		**(libanga type-c)**			
	{FH	M	Green-Red	Sh			**(libanga likale)**			
40	{FH	M	Green	Sh		**ebanga**		**ebanga**	**ebanga**	**agbagba**
	FH}	M	Green	P ,	subpend. & nfnp.					***kiogo***
41	FH}	M	Green	Sh ,	subpendulous			**n.n.**	**wera**	
	FH	M	Green	P ,	subpend. & nfp.					**(atali kiogo)**
42	FH	M	Green	Sh ,	pendulous				**mubumu**	

table 3.7. continued

No.	*Type*	*Size*	*Colour*	*B.o.,*	*fruits*	*Cameroon*	*Congo(-K)*	*Gabon*	*Congo*	*Nigeria*
	FH}	G	Green	P ,	yellow & pend.		**(wangala)**			
43	FH}	M	Green	P ,	yellow & pend.	**gwak**		**nyoka**	**mubumu wa pemba**	**eba oboikpa**
	{FH	M	Green-Red	Sh ,	blunt		**(libanga ya koko)**			
44	{FH	M	Green	Sh ,	blunt	**nkumo**		**kuduku**	**nkumo**	**agok egome**
45	FH	M	Green-Chim.	Sh ,	white-striped	**sisiendz**		**osen**	**senji**	
46	FH	M	Green	Sh ,	brown	***esang***		**ngoye**	**(ebibi)**	**eberedia**
	FH}	G/M	Green-Red	Sh ,	< 4 fingers/hand		**(monganga)**			
47	FH}	M	Green	Sh ,	1-4 fingers/hand				**mebobo**	
48	FH	M	Green	Sh ,	undeveloped			**n.n.**		
49	FH	M	Green-Red	Sh				**ekwala**		***mbirinyong-gm***
	FH	*G/M*	Red	Sh			**(libanga lifombo)**			**(red ukom)**
50	FH	M	Red	Sh		***red ebanga***		**oghei**	**baa na tobola**	**okoyo ukom**
51	FH	M	Red	Sh ,	brown			**soe**		
	FH}	G/M	Wine-Red	Sh			**(nkonga)**			
	FH}	M	Wine-Red	Sh ,	reddish	**plantain-17**			**(18 corne rouge)**	
	FH	M	Wine-Red-Chim.	Sh ,	red-brown				**(owang rouge)**	
52	FH	M	Black-Green	Sh				**ombombo**		
	FH}	M	Violet-Black	Sh			**(libanga black)**			
53	FH}	M	Black	Sh				**mungeli**	**mungele**	**obubit ukom**
	FH	M	Black	Sh ,	blunt				**(mbindi)**	
54	FH	M	Black	Sh ,	black-striped			**mbendi**	**mbendekumi**	
	FH	S	Green	P ,	blunt		**(andala)**			
55	FH	S	Green	Sh		**(esong)**		**kaa**		
	FH	D	Green	Sh ,	blunt		**(tjene)**			

table 3.7. continued

No.	*Type*	*Size*	*Colour*	*B.o.,*	*fruits*	*Cameroon*	*Congo(-K)*	*Gabon*	*Congo*	*Nigeria*
	FH	D	Green	Sh			**(bongokoni)**			
	FH	Sd?	Green	Sh		***3/4 nain?***				
	H	G	Violet-Black	Sh			**(bogboto)**			
	H	M	Green-Red	P			**(lokusu)**			
	H	M	Green	P ,	fing. 1st h. erect		**(suelenama)**			**(ihitisim)**
	H}	G	Green-Red	Sh			**(igbulu)**			
56	H}	M	Green	Sh ,	0-5 hands	**boi**	**(bokangasoku)**	**woto**	**dum**	**ndome egome**
57	H	M	Green	Sh ,	appendices			**oworo**	**muhangi**	
58	H	M	Green	Sh ,	blunt				**zom**	
	H	G/M	Green-Red	Sh ,	yellow & pend.		**(tala)**			
	H	M	Green-Red	Sh ,	pet.m. wine-red					***ubok iba***
	H	M	Green-Red	Sh ,	reddish (young)					***76.17***
	H	M	Red	P			**(lokusu red)**			
	H}	G	Red	Sh			**(igbulu red)**			
59	H}	M	Red	Sh		***biya-2***		**baka**	**dum**	
60	H	M	Red	Sh ,	yellow & pend.				**mbondo**	
	H	S	Green	P			**(ifelete)**			
	H	D	Green	Sh		***mbeta-***				

As in eastern Africa, the French Medium Green (Pendulous) group of cultivars is most numerous in (West-)Central Africa, followed by the False Horn Medium Green (Subhorizontal) cultivars.

Table 3.8 Distribution of plantain bunch types in West-Central Africa and numbers of cultivars displaying the main descriptors

Bunch type:	Total number of cultivars in W.C. Africa				
French	63				
Horn	7				
False Horn	31				
Horn	14				
Stem colour:	*Green(-Red)*	*Red*	*(Violet-)Black*	*Yellow(-Red)*	
Bunch types	Numbers of cultivars				
French	42	13	6	2	
French Horn	5	2			
False Horn	20	6	5		
Horn	10	3	1		
	---	---	---	–	
total:	77	24	12	2	
Stem size	*Giant*	*Medium*	*Small*	*Semi-dwarf*	*Dwarf*
Bunch types	Numbers of cultivars				
French	16	33	4	7	3
French Horn	1	5		1	
False Horn	4	22	2	1	2
Horn	1	11	1		1
	—	—	--	–	–
total:	22	71	7	9	6
Bunch orientation:	*Pendulous*	*Subhorizontal*			
Bunch types	Numbers of cultivars				
French	50	12			
French Horn	1	6			
False Horn	4	27			
Horn	4	11			
	---	---			
total:	59	56			

table 3.8 continued

Most common groups of cultivars:

Countries	Numbers of cultivars	
	Fr Med. Gr(-Red) Pend	*FH Med. Gr(-Red) Sh*
Congo (-K.)	8	5
Congo	8	8
Gabon	15	8
Cameroon	12	5
Nigeria	6	7

Country:	*Congo(-K.)*	*Congo*	*Gabon*	*Cameroon*	*Nigeria*
Bunch types	Numbers of cultivars				
French	29	21	27	35	15
French Horn	1	1	3	2	4
False Horn	12	16	16	11	13
Horn	8	5	3	3	4
total:	50	43	49	51	36

The highest number of cultivars is to be found in Cameroon, with most French Medium Green Pendulous cultivars occurring in Gabon, most False Horn Medium Green Subhorizontal cultivars in Congo and Gabon and most Horn cultivars in central Congo(-K.). Semi-dwarf and Dwarf cultivars mainly occur in Cameroon and central Congo(-K.) (originating in areas of higher altitude?). Cultivars with red, brown or striped fruits abound in Cameroon, Gabon and Congo.

In spite of these numerical indications, the number of cultivars listed per country should be regarded as no more than a rough indication of diversity, until complete inventories have been made and leaving aside questions such as sample size of the regions to be compared. For instance, Müller (1947:366-7) enumerated the names of 22 plantain cultivars (of which he described 11) in the languages spoken in the Yangambi region, i.e. in Gesogo (C53), Lombo (C54), Lokele (C55), Ngando (C63) and Mbole (C68). His successor, De Langhe (1961:447-9), described 56 cultivars, which were contained in the INEAC-Yangambi collection at that time. These, however, were not only collected in the Yangambi area but came from all over (north-)eastern Congo(-K.). This means that the 56 cultivars in question are not representative of the plantain diversity in the area around Yangambi, but of a much greater part of (north-)eastern Congo(-K.).

The division of the total area (West-Central Africa) into countries (Cameroon, Congo, etc.) can also be misleading as there is, for instance, less relation (concerning plantain diversity) between north Congo and south-west Congo than between north Congo and south-east Cameroon, or between south-west Congo and south Gabon.

Also to be taken into account is the subjective nature of some observations. Furthermore, some cultivars can only be distinguished after extensive study in a collection. An example of this are the **isabolobaete** and **yumba** cultivars in central Congo(-K.), showing a difference in the degree of sterility after artificial pollination, which is why the ratio of the length of the ovary and the longest stamen was chosen as a morphological criterion of distinction (De Langhe 1961:449). Another example is the slight difference in pseudo-stem-size between the cultivars with fused pedicels. This was observed after careful study in the IITA-Onne collection in Nigeria (Swennen 1991), but cannot easily be ascertained under fieldwork conditions.

Although the number of cultivars grown in (West-)Central Africa is much higher than in eastern Africa and in spite of some minor regional variations, the overall ratio of the different bunch types is comparable to that of zone III in East Africa (see above). This zone can therefore be considered as being a transition zone between East and Central Africa. Where the number of cultivars is concerned, zone III ranges with East Africa, but the bunch type ratio is similar to that in Central Africa.

Table 3.9 Distribution of plantain bunch types in West Central Africa and numbers of cultivars

total number of cultivars:	*French*	:	*False Horn*	:	*Horn*
Congo(-K.) - Nigeria:	63	:	31	:	14 #
total Nigeria:	15	:	13	:	4
total Ejagham (Cross River):	8	:	3	:	1
total Ibibio (Akwa Ibom)	6	:	2	:	1
total Cameroon:	35	:	11	:	3
total east Cameroon:	13	:	4	:	1
total north Congo:	17	:	7	:	3
Bekwil (A85b) - Sembe:	15	:	6	:	3
Kota (B25) - Makokou:	12	:	6	:	2
total Gabon:	27	:	16	:	3
Punu (B43) - Mouila:	12	:	5	:	2
total west Congo:	16	:	11	:	4
Mbama (B62) - Sibiti:	13	:	2	:	3
total C. Congo(-K.):	29	:	12	:	8
Lombo (C54) - Yangambi:	13	:	3	:	5 ##

a ratio of 4 : 2 : 1 ## see Müller (1947:366) and De Langhe (1961:447-9).

The situation in West-Central Africa is rather uniform where the ecological conditions and the place of plantain in the diet of the people is concerned. Nevertheless, differences exist, partly because of minor ecological variations and partly because of demographic, cultural and historical factors.

Cameroon:
The plantains most commonly grown in east Cameroon are the French Giant Green, the French Medium Green as well as the Horn Medium Green cultivars, with some local variation as to the dominant cultivar. For instance, the Horn Green cultivar is very prominent in Mbang, and the same goes for the French Medium Green, blunt cultivar in Abong Mbang. The place taken by the False Horn Green cultivar is modest, although it can be found in all localities. The False Horn Medium Green, yellow & pendulous cultivar is popular in the Makaa-speaking area (A83; Abong Mbang), while cultivars with Red, Black or Dark-Green stems are rare in east Cameroon. The highest variation is probably found in the Mouloundou area, which might be due to the particularly favourable climatological conditions in this part of east Cameroon.

Congo:
Around Sembe, in north Congo, cultivars with blunt fingers and cultivars of the French Small type are relatively numerous. The area around Sibiti in south-west Congo and probably the whole area extending from Sibiti, via Zanaga and Mossendjo to Koulamoutou-Tchibanga in south Gabon is worthwhile exploring for hitherto unknown cultivars.

Gabon:
Near Koulamoutou in south Gabon, blunt-fruited cultivars are relatively common too and a high variation of plantains exists around Okondja in east Gabon, where soil and climate are exceptionally favourable for plantain cultivation. Other areas of high variation are Moabi (a forested part between Tchibanga and Mayumba), Koulamoutou, as well as Ndougou in the Fernan Vaz lagoon (because of cultivars brought in by immigrant farmers on a plantain development project that produced for the Port Gentil market). In sum, the highest cultivar diversity in Gabon was found in the area between Okondja, Koulamoutou, Tchibanga and Fougamou. This can be ascribed to demographical factors (i.e. to a relatively high density and diversity of the population, compared to other parts of the country).

Discussion:
If the number of cultivars were an indication of the relative age of plantain cultivation in Africa, then the crop would seem to have spread from west to east over the continent. This would also mean that the cultivars from the Central African gene

pool would have spread more or less at random to eastern Africa. However, the absence of many cultivars in eastern Africa, especially those that are elsewhere very common and widespread, proves that this is not the case. The best example is, of course, the absence of False Horn cultivars, especially since it is this type of plantain that thrives best in the more marginal plantain areas in the western part of the continent. The plantain diversity found in West Africa and in the New World, on the other hand, does mirror to a certain extent that of West-Central Africa (whence plantain was introduced). As shown by the following inventories, several cultivars are found in West-Central Africa as well as in West Africa and the New World, but are absent from eastern Africa (see also tables 3.4 and 3.7):

Table 3.10 Distribution of plantain cultivars in Ghana, Venezuela and Colombia

Ghana (Gill 1973; Karikari 1971, 1973; Karikari & Abakah-Gyenin 1976; Swennen 1990, 1991):

Vernacular name	*Cultivar*
osabum	French Giant Pendulous Green
apem (pa)	French Medium Pendulous Green
apem onniaba	French Medium Pendulous Green, fused
kwakuo nsa	French Medium Pendulous Green, blunt
osoaboaso	French Horn Subhorizontal Small Green
apantu (pa)	False Horn Subhorizontal Medium Green
borodekokwaa	False Horn Subh. Medium Green, yellow & pendulous
borodewuio	False Horn Subhor. Medium Violet-Black
asamiensa #	Horn Subhorizontal Medium Green

or **asamienu**

Venezuela (Haddad & Borges 1971; Borges & Orangel 1972):

Vernacular name	*Cultivar*
dominico largo	French Giant and French Medium #
rojo morado	wine plantain (French?)
dominico negro	French Black
dominico morado	French, blunt
dominico morado	French Black-Violet
harton	?
harton de vega, harton corriente	False Horn
harton morado	False Horn, brown
harton semienano } **fontana** }	False Horn Dwarf
harton negro	False Horn Black

sometimes spontaneously occurring in plantations of False Horns.

table 3.10 continued

Colombia (Lescot 1993):

Vernacular name	*Cultivar*
dominico	French (up to 2000 m)
dominico-harton	French Horn (medium altitudes)
harton	False Horn (low altitudes: coast/valleys/Amazone)
no name?	Horn (equatorial zone)

The prevalent types of cultivars grown in a region depend on several factors, whether *ecological* (altitude, rainfall, soil fertility), *botanical* (precocity, suckering behaviour) or *human* (agronomical and culinary properties/preferences, ritual functions). The result of a high incidence of a certain plantain (bunch-)type grown in an area is a higher diversity of cultivars of that type, due to mutations.

The influence of *ecological* conditions on a more localised level can be exemplified by the case of the Mbama (B62). Part of the Mbama people migrated a few generations ago from the Okondja area in east Gabon to the Sibiti area in south-west Congo. The prevalence of Horn and French Giant plantains in both areas is striking and may have something to do with the favourable soil fertility and rainfall conditions in the forested area around Okondja. Both types of plantains must have been brought along during the migration to south-west Congo, since some rather unusual cultivars of both types are only found in both areas. On the other hand, the Mbama in Sibiti have far fewer False Horn cultivars than the other peoples in the area.

Giant French and Horn plantains need fertile soil. The former also has a tendency to fall over and therefore has to be supported. For these reasons people prefer to plant them on fertile refuse heaps in the villages, where they can be supervised. The Medium-sized French and False Horn cultivars are hardier, which is why they are planted in the fields and in the more marginal plantain regions. A larger number of mutations in these plantains is the logical result of the fact that larger numbers of plants can be grown in fields than in back-yards.

The Colombian situation suggests a correlation between altitude and type of plantain grown and this might partly explain the overall distribution pattern of cultivar types in Africa:

- French plantains in eastern Africa, where rivers and highlands served as stepping-stones for the westward spread of plantain.
- Horn plantains in central Congo(-K.).
- False Horn plantains in coastal Gabon, Congo and West Africa.

One of the *botanical* factors is length of growth cycle. A Gabonese study (Robert 1990) shows that the False Horn Medium Green (**ebang**) cultivar has the shortest cycle, compared to 14 other cultivars (see table 3.11). Farmers also, were found to be

well aware of this characteristic of **ebang**, as well as of **ibele**, the French Small Green cultivar which is even more precocious (but was not included in the study).

Table 3.11 Length of growing cycle (days) of some plantain cultivars in Gabon (CIAM collection)

Cultivar	*No. of days*	*Cultivar*	*No. of days*
ebang	245	**french sombre**	275
ebang-rouge	250	**essang**	285
borode wuio	250	**esson**	295
elate-1	250	**minkwe-rml**	315
elate-2	255	**akone**	300
ebibie	255	**odiga-vert**	300
main de sorcier	255	**odiga-noir**	330
orishele	260		

De Briey (De Wildeman 1920) found that 40% of the plantains grown in the Mayombe area in west Congo(-K.) belonged to the **seluka** (a synonym of **elate-1**) cultivar. According to him, **seluka** was the most precocious cultivar in the region and also well-suckering. Precociousness and prolific suckering may be the reasons why the False Horn Medium Green (**ebang**), French Small Green (**ibele**) and French Medium Green, fused pedicels (**elate** or **seluka**) spread fast in West-Central Africa, a fact confirmed by the pattern of spread of their vernacular names.

An example of the importance of the *human* factor is the preference for blunt-fruited plantains near Koulamoutou in south Gabon, because, it was said, they can be eaten without "sauce". The form of the fruits is probably the result of a high moisture content (cf. **enyamaizi** 'having water', a highland cooking banana with blunt fruits in Tanzania). Also, the French Medium Red, False Horn Red and French Horn Red-Chimaera cultivars are mainly found in central Gabon, where they are used in certain cults. Around Mouila in south Gabon many Red-stemmed cultivars occur, which are often used for special purposes too. It is known that colour symbolism has a certain importance in Bantu spiritual life and indeed, the region north of Mouila is the heartland of the Bwiti cult in which the French Horn Red-Chimaera cultivar plays an important rôle. Mutations of this cultivar are probably the French Horn Green-Red, brown and the French Horn Green cultivars.

Whatever the reasons (botanical, ecological or cultural), the total number of plantain cultivars in eastern Africa is about the same, or smaller, than can be found in any one place in West-Central Africa. The numbers found in Congo or Gabon are about 12-15 French, 2-6 False Horn and 2-3 Horn cultivars per population group and per locality. Thus, in north Congo French cultivars are three times more numerous than in south-west Tanzania.

The French cultivars in south-west Tanzania may have resulted from one introduced cultivar (French Medium Green). It is not known when this cultivar arrived here, nor the number of plants that have been cultivated ever since, but a measuring stick might be the c. 30 False Horn cultivars described so far in Africa. If, for the sake of argument, these go back to one cultivar (False Horn Medium Green), introduced at the end of the 15th century to West-Central Africa by the Portuguese, then they have given rise to about the same number of six mutants per century as the AAA 'Gros Michel' banana produced in Jamaica (see Simmonds 1962:148). If, on the other hand, False Horn arose somewhere in the area itself, then the length of time in which the mutations could occur is unknown. Moreover, AAA and AAB cultivars most likely do not have the same mutation rate (nor do French and False Horn plantains), and other circumstances cannot be compared either.

False Horn and Horn plantains are said to mutate more readily than the French type (in micro-propagated plants about ten times as fast; Vuylsteke et al. 1990:323). Unfortunately, in-vitro mutation rates, as proposed by De Langhe et al. (1996:154-157) as a way of determining the "age" of plantains in Africa, are no help. They not only differ considerably between the different studies, but also from in-situ mutations (see Vuylsteke 1989:36-37 and Vuylsteke et al. 1990:321-323). Since insufficient data are available on in-situ mutation rates and since it is impossible to know how many plants have been cultivated (and mutations maintained) ever since the introduction of plantain to Africa, we will have to go by other, i.e. historical and linguistic evidence, the more so since the total plantain diversity in the continent is still only partly known.

3.3 Distribution of banana cultivars

Eastern Africa

Mainland:

Following is a synopsis of banana cultivars commonly grown in eastern Africa (see also appendix C). Apart from a few interesting or widespread cultivars, the group of highland bananas (AAA EA) has been left out of consideration. The reason for this is that the highland bananas are very numerous, especially in south Uganda and north-west Tanzania (see Rossel & Mbwana 1991 and Karamura & Karamura 1994). Another reason is that a more detailed study on this group is still in progress (see Karamura & Karamura 1994:1).

Table 3.12 Distribution of banana cultivars in eastern Africa

Genome formula:	*AA*	*AAA*	*AAA*	*AAA*	*AAA*	*AAA*	*AAA*	*AAB*	*AAB*	*AB*	*AB*	*ABB*	*ABB*	*ABB*
Cultivars:	*EA's*	*EA^{or}*	*DC*	*GC*	*Paz*	*GM*	*Red*	*Silk*	*Pome*	*Sukari*	*Kisubi*	*Bluggoe*	*S.Bl.*	*P.a.*
East *Kenya*	x	x	x	x		x	x			x		x	x	
- Central	x		x		x		x			x				
- West	x	x	x			x	x			x	x	x		
East *Uganda*		x	x			x	x			x	x	x	x	x
- South		x				x	x			x	x	x	x	x
- West		x	x			x				x	x	x	x	
N.W. *Tanzania*		x				x	x			x	x	x	x	x
- North-east	x	x	x	x	x					x				x
- Central			x	x		x	x			x		x		x
- South-west	x		x				x	x		x		x		x
North *Malawi*	x		x	x			x	x		x		x	x	x
- Central	x		x	x			x	x				x	x	
- South	x		x	x			x	x				x	x	x
N.C. *Mozambique*	x	x	x			x	x					x		
- Central-east												x		
- East			x	x			x	x	x	x		x		x
- South			x	x								x		x
KwaZulu Natal		x	x									x		x

Abbreviations: NW north-west, NC north-central, EA's East African highland bananas, EA^{or} the presumed original AAA EA cultivar in East Africa, DC 'Dwarf Cavendish', GC 'Giant Cavendish', GM 'Gros Michel'; S.Bl. 'Silver Bluggoe'; P.a. 'Pisang awak', x indicates the presence of a cultivar.

Islands: Madagascar, Comoros, Zanzibar, Pemba.
Madagascar is rich in musa (cultivar) names, in the different dialects and regions. Some of them refer to origins, e.g. **batavia** AAA 'Cavendish' (< Batavia/Jakarta, Indonesia), **bitraka malabar** AAA 'Red' and **akundru malabary** unidentified (< Malabar, India), **akundru la reunion** AAB 'Silk'? (< La Réunion) and **akundru makoa** ABB 'Bluggoe' (< Makua, Mozambique). The geographical or ethnic part of these names (underlined) are an indication that the introduction of these cultivars did not antedate the arrival of the Europeans in the Indian Ocean.

Furthermore, there is a number of cultivars whose origin is unknown, e.g. **akundru mainty** 'black banana' unidentified AA, **akundru ranjaliha (de madagascar)** AA 'Sucrier' and **akundru andatra** unidentified AA, as well as some (French) plantain-like cultivars in the north such as **menaluki** 'red after cooking' unidentified AAB (Horry 1993). The latter cultivar is found on the Comoros too. AA cultivars also occur on Zanzibar and Pemba (see below) as well as in north-east Tanzania. The question is whether they were introduced by Indo-Malaysian immigrants or by later visitors to the islands (Indians, Arabs, Europeans), or both? The number of banana cultivars that have been introduced to banana collections in the area by the French (Seychelles, Mauritius, La Réunion, Madagascar), the British (Zanzibar, Seychelles, Mauritius) and the Germans (Tanzania) should not be underestimated. For instance, from 1896 onwards bananas were introduced to Madagascar from the "Jardin Colonial" of Nogent-sur-Marne in France and in 1901 from Java (Montagnac 1960). Archival study might teach us more about this (see chapter 5.2).

Madagascar shares four cultivar names with the Comoros, two of which are Malagasy introductions to the Comoros, i.e. **mnaluki** AAB French-like and **funti** AAB Horn plantain. The number of AA cultivars found in these islands, as well as on Zanzibar/Pemba and in the Usambara-Kilimanjaro area in north-east Tanzania, is remarkable. Unfortunately, these cultivars have never been the subject of an exhaustive study and their synonymy has hardly been worked out, as can be seen in the following table.

Table 3.13 Vernacular names of banana cultivars in the Comoros, and on Zanzibar and Pemba

Cultivar[1]	*Grande Comore*[2]	*Anjouan*[3]	*Zanzibar/Pemba*[4]
ABB Bluggoe		**barabahi**[6]	**koroboi**
AB Sukari	**isukari**	**sukari**	**kisukari**
AAB Silk		**musukari**	**pukusa**
AAB Pome	**paka**	**sharia**	**kijakazi**
AAB Mysore	**gorolo**	**zabi**	**kikondre**
AAB French-like[5]	***mnaluki***	***menaluki***[6]	
AAA Paz Cavendish	**paji**		**paji, sunuha?**
AAA Giant Cavendish	**kontrike**	**kontrike**[6]	**mtwike**
AAA Dwarf Cavendish	**kuti**	**kut(r)i**	**kiguruwe**
AAA Red	**paji manga**	**trindri mossi**	**mzungu mwekundu**
AA(A?)		**koja**[7]	
AAA EA			**mzigo**
AA FH-like[8]	**samba nkarobe**[9]		
AA-AB		**dzu moheli I**	
AA?		**dimbouni**	
AA Sucrier			**china, kisukari cha kamba**
AA Bande			**mlali kifupa, mjenga**[11]
AA	**ikame?**	**chicame**	
AA	**samba**[10]	**dzu moheli II**	
AA			**mjenga/mlali maua**
AA			**mhalihali,**
AA			**pukute**
AA			**paka**
AA			**lua lua**
AA			**sikuzani**

[1] Genome formula followed by (international) cultivar name; after Copland (1822), Chamanga (1992), Simmonds (1966), Champion (1966), Shepherd (1957), Baker & Simmonds (1952), Horry (1993), Tezenas du Montcel (1991) and fieldwork.

[2] Ngazija (G44a).

[3] Njuani (G44b); one of the Comoro islands.

[4] Unguja (G42d) and Pemba (G43a).

[5] resembles a French plantain (Hory 1993).

[6] these names also occur on Madagascar.

[7] 'brown'.

[8] resembles a False Horn plantain.

[9] '**samba**-without bracts'.

[10] 'leaves'.

[11] cf. Tikuu and Siu (G41) **ijenga**, a cooking cultivar.

Bananas with an acyanic male bud:

From Kenya to Mozambique AA, AAA and AAA EA plants were found with yellow male buds, i.e. with red-lined greenish-yellow (inner) bracts and mostly (but not always) bright light- green stems with few or no blotches. It does not seem to be a permanent feature, appearing now and then in plants, or only on the inner (younger) bracts in a male bud. References to bananas with acyanic bracts can also be found in literature. Following is a summary of such bananas in eastern Africa:

Table 3.14 Bananas with an acyanic male bud

Country	*Genomes*	*Language*	*Code*	*Local name*
Kenya:	AA?	Gikuyu	(E51)	**muraru**
Uganda:	AAA EA	Amba	(D32)	**gbebe basalya**
		Isi	(D32)	**ndyabakama**
		Ganda	(J15)	**muziranyama**
Congo(-K.):	AA(A?)	Burhale region		**n.n.** (Sebasigari 1987)
Tanzania:	AAA EA	Chaga	(E62)	**ndizi ya uhuru** (with yellow mottled leaves and fruits)
	AAA 'Lacatan' [#]			**n.n.** ?
	AAA EA	Morogoro collection		(C.E. Tanz.) **bukoba giant** (blackish stem)
	AA(A?)	Shambala	(G23	**mlema, pazi, zahala** (Baker & Simmonds 1952)
	AAA EA	Bondei	(G24)	**mboko** (Lujugira-b, black stem; Shepherd 1957)
Zanzibar:	AA	Swahili	(G42)	**mhalihali** (= Amani **kahua**; Baker & Simmonds 1952, Shepherd 1957) [##]
	AA	Swahili	(G42)	**paka** (Baker & Simmonds 1952, Shepherd 1957, Williams 1949)
Malawi:	AA	Konde	(M31)	**ndyali uluwa**
		Nyanja	(N31)	**kalota**
Mozambique:	AA?	Lomwe	(P32)	**piko**
(cf. India:	AAA			**eththa chingan** (Simmonds 1966))

[#] Mitalula banana collection (S.W. Tanzania).

[##] This cultivar has probably been sent from collection to collection; it was also reported from the Morogoro collection (**halahala**) where it had been obtained from the Tengeru collection in Moshi.

Stuhlmann (1909) reported this name from Uzaramo, not far from Dar es Salaam, were it allegedly had been introduced by Arabs (from Zanzibar?) not long before that. The name **luaka** reported by Baker & Simmonds from Amani means 'flowers' and focusses attention to the yellow male bud, just like the Konde form **ndyali uluwa**.

The rôle of botanical gardens:

Zanzibar:

In the 1880's, Sir John Kirk, the British Consul on Zanzibar, maintained, at his own expense, an experimental garden in which he tried every useful tropical plant likely to be adapted to the climate. These were for the most part supplied from Kew (Anonymous 1892:87; Fitzgerald 1898:545, 726-730; H. 1922:49-63) and bananas were most certainly part of them. Already in 1875 there is an entry in the records of Kew Gardens (1805-1906) stating that *Musa textilis* was sent to Kirk on Zanzibar. In the forests of Pemba wild bananas were found, described as being similar to the Malaysian form *Selangor* and one of them as being most closely related to the Javanese *Buitenzorg* form of *Musa acuminata* ssp. *malaccensis* (Simmonds & Shepherd 1952:507-508). They may have been introduced to the island by Arab travellers, as the two authors suspect, but their presence could also have resulted from a dispersal via bird droppings, from fruits consumed elsewhere, e.g. in the Zanzibar collection (as nowadays can also be observed around the IITA banana collection in south Nigeria, where wild bananas grow in the forests surrounding the collection). Seedy (wild?) bananas have also been reported from Mauritius (Anonymous 1894:253) and must have been introduced there, because the island was uninhabited before the Europeans arrived.

Zomba:

The Botanical Garden of Zomba, the old capital of Malawi, was founded by Mr. A. Whyte in 1890, who introduced musa cultivars from Kew Gardens (Johnston 1897, Fitzgerald 189:726). Examples of these are "*Musa champa*" (AAB 'Mysore') and "*M. martaban*" (AAB 'Silk'), two cultivars from India (West Bengal), which were introduced in 1894 (Anonymous 1896:84), followed by *M. sapientum* 'Champa' and 'Rubra' (AAA 'Red') in 1895 (Kew Gardens 1805-1906). (Note that Garcia de Orta, in 1567, already mentioned **figos martabanis** in India.)

Before that, the records of Kew Gardens (1805-1906) mention that, in 1858, 'Cavendish' plants were sent along with the expedition of Dr. Livingstone. (This was Livingstone's second expedition; he was accompanied by Kirk and the journey led from the coast of Mozambique along the Zambezi river to the Malawian side of Lake Nyasa.). Indeed, both *M. cavendish* and *M. ensete* are mentioned in the list kept by Kirk on the contents of his "Wardian case" (a special case used for long-distance plant transports in those days). Unfortunately, no plant survived the voyage (Foskett 1965:606).

Entebbe:
The Entebbe Botanical Garden was founded in 1898 by the same Mr. A. Whyte, who was appointed in that year as its curator. Several cultivars of bananas were introduced, in 1902 AAA 'Red' from the West Indies, in 1903 ten cultivars from Sri Lanka, while further introductions were made from India in 1907 and from Dominica and Kew in 1908. Amongst these introductions was AAA 'Dwarf Cavendish', whereas AAA 'Gros Michel' was introduced from Jamaica (Tothill 1940).

Amani:
The rôle played by the Botanical Garden in Amani, 80 km from Tanga in the Usambara mountains in north-east Tanzania, with respect to the introduction of banana cultivars, is probably a considerable one. The following overview of the early history of the Amani Research Station, especially concerning musa (the number of introduced varieties of other crops was even higher), shows how zealous the Germans introduced plants from all over the world (the establishment and equipment of the station is reputed to have cost one million pounds, Moffet 1958:259) in their efforts to catch up with the other colonial powers. It may also explain the high number of AA cultivars in north-east Tanzania.

In 1896 an experimental station was founded at Kwai near Lushoto, Usambara and there was a station for tropical lowland crops in Ubiri (near Mombo). The station at Kwai was transferred to Amani when the Amani Research Station was founded in June 1902 (as "Das Biologisch-Landwirtschaftliche Institut") on the terrain of the "Deutsch Ostafrikanische Gesellschaft". An Indian gardener had been growing a large collection of plants in the garden before the take-over. He and a gardener from Sri Lanka had been employed in the place already for a long time but a Javanese botanical artist came with the first director, Zimmermann, from Java. At the founding of the Station, a large number of plants, especially those with edible fruits, were therefore already present, mostly originating from Sri Lanka and Java (e.g. *Musa* spp.). Many seeds and plants were further received via the "Kulturabteilung" in Dar es Salaam, from the "Fr.-Hoffmann Plantation" (among which were bananas from Sri Lanka), from several botanical gardens and institutes (e.g. the botanical gardens from Calcutta-India, Buitenzorg/Bogor-Indonesia and Victoria-Australia), from the "Zentralstelle und Kolonial Wirtschaftliches Komittee" in Berlin and via German consulates in Batavia/Jakarta (Indonesia), Calcutta and Bombay (India), Alger (Algeria), Bahia (Brazil), Cairo (Egypt), Colombo (Sri Lanka), Tamatave (Madagascar) and Zanzibar. A number of banana plants were personally introduced by the directors Busse (in 1903) and Stuhlmann, from Buitenzorg/Bogor on Java. Introductions were also made from the West Indies and from the banana collection on Zanzibar (Busse 1902-1911, Stuhlmann 1909:49).

The Station was re-established by the British in 1916 as the "East Africa Agricultural Research Station" and transferred in 1952 to Muguga, near Nairobi

(Moffet 1958:259). The banana collection in Amani was probably lost long before that, but some bananas must have found their way to the people. This, at least, is suggested by Greenway (1944:39), who reports that of the numerous native musa cultivars from northern Tanzania he tried at Amani, there were only a few (sweet) bananas, and that the best of these came from Amani District. One of the cultivars, on inquiry, was said to had been introduced from Java at the beginning of the (20th) century. A better knowledge of the world-wide diffusion of musa cultivars (and of related plant species), as well as of their "adhering" pests and diseases, might help to trace back the exact geographical origin of both hosts and pathogens (and to find possible natural enemies of the latter). Apart from the arguments presented in chapter 1.1, this would justify a systematic study of the historical records of botanical gardens and other institutions involved in these introductions, either as suppliers or as receivers.

West-Central Africa

Banana cultivars have only been introduced to West-Central Africa after the arrival of the Europeans, and their number is much lower than in eastern Africa. As can be deduced from its names, the Portuguese first brought the AAB 'Pome' banana to Sao Tomé and from there to the continent (see chapter 4.3.1 and 4.3.3).

Table 3.15 Distribution of banana cultivars in West-Central Africa

Genomes	*Names*	*Areas*			
		E. Cameroon	*N. Congo*	*Gabon*	*S.W. Congo*
AAB	'Pome'	x	x	x	x
AAA	'Red'	x	x	x	x
AAA	'Gros Michel'	x	x	x	x
AAA	'Dwarf Cavendish'		x	x	x
AAA	EA "Original"		(x)	x	x
AA	'Sucrier'			x	x
AA	'Pisang awak'			x	

"x" indicates the presence of a cultivar in a region.

Around the middle of the 19th century bananas were introduced from the island of Fernando Po to the Catholic Mission in Libreville, Gabon. For instance, 'Dwarf Cavendish' was introduced about 1854, followed ten years later by the "banane pomme" and "banane figue" (Walker & Sillans 1961:305-306). The Catholic Mission in Loango (coastal Congo) introduced, from 1883 onwards, fruit trees (and probably bananas as well) from their colleagues in Libreville (Vennetier 1968:91). In 1936, 40.000 suckers of 'Gros Michel' were introduced from Cameroon to the

Mayombe area in south-west Congo, in order to promote banana cultivation, after the Belgian example in western Congo(-K.) (Kouba 1987). From 1953 to 1956 the IFAC-Loudima research station in south-west Congo introduced bananas and plantains from sister institutes in Guinea, Ivory Coast and Cameroon and this was followed by material from Gabon between 1960 and 1962 (partly received, and partly collected in south Gabon). The Ministry of "Eaux et Forêts" in Libreville in its turn received 10,000 suckers of 'Gros Michel' in 1958 from Loudima (Lossois 1964). These data only represent the minor pathways of spread of banana cultivars in this part of Africa. The most important way by which bananas were distributed, however, was via the local population. Unfortunately, no records of such movements exist and the only way to trace some of them is by the study of the spread of vernacular names.

Discussion:

The distribution of banana cultivars in West-Central Africa is very uniform and the only thing that can be said about it at this point is that not all cultivars have spread outside the coastal regions yet.

In eastern Africa, the distribution patterns give away three main ways of introduction and diffusion. The first is formed by early introductions of highland bananas (AAA EA) and AB 'Kisukari' to the northern coast. The former stayed mainly confined to the wetter and cooler highlands, whereas the latter, being hardier, spread further. The second is formed by botanical gardens, banana collections and, not to forget, by banana schemes established since colonial times. Although this means that the points of diffusion were situated in different parts of eastern Africa, it looks as though they mainly spread from a few centres only. Examples of this are AB 'Kisubi' from Entebbe in south Uganda, AA cultivars from Amani in north-east Tanzania and 'Cavendish' cultivars (mainly) from Nairobi, Malindi and Taveta in Kenya. Finally, many introductions have been made by missionaries, (expatriate) colonial farmers, travellers and migrants (e.g. Nyakyusa mineworkers in Zambia, Chaga immigrants in south-west Tanzania or Portuguese farmers in central Mozambique). The ABB bananas are a good example of such introductions.

Many more cultivars and cultivar groups were introduced to eastern than to western Africa. Moreover, compared to western Africa, their distribution is also far less homogeneous in eastern Africa. Therefore, from a (musa-)historical point of view, the eastern part of the continent is the most interesting.

Table 3.16 shows the present geographical distribution of the various cultivar(group)s found in eastern Africa. Apart from the other plantain cultivars, the distribution of the French Medium Green cultivar, being most widespread, is also indicated separatedly. Unfortunately, the group of the highland bananas (AAA EA) has not yet been worked out. However, the presumed "original" cultivar (AAA EA^{or}), being the most widespread member of this group, is taken to represent the whole group here, the more so since the centre of diversity of the highland bananas is

known to be situated in the north-western part of eastern Africa. This is also in accordance with the overall distribution pattern of musa cultivars in this part of the continent.

Table 3.16 Number and distribution of musa cultivars in E. Africa

Genome formula	} AA, AAA, } AB, AAB, } ABB	AAB	AAA	AAB
Area	***Bananas***	***Plantains***	***EA^{er}***	***French Medium Green***
Kenya:				
East	9	2	1	1
Central	5	0		
West	8	0	1	
Uganda:				
East	9	4	1	1
South	8	9	1	1
West	7	9	1	1
Tanzania:				
North-West	8	6	1	1
North-East	7	1	1	1
Central	7	6		1
South-West	7	6		1
Malawi:				
North	9	5	1	1
Central	7	3		1
South	8	3		1
Mozambique:				
North-Central	5	1	1	1
Central-East	1	0		
East	8	0		
South	4	0		
South Africa:				
KwaZulu-Natal	4	0	1	

It should be kept in mind that this table presents an incomplete view on musa diversity and distribution in eastern Africa, due to the limitations of the survey. Still, the picture it presents can be understood as being the result of a combination of *historical*, *ecological*, *botanical* and *cultural* factors.

Historical factors are time, agent and place of introduction and distribution. The introductions have been taking place from (over?) a thousand years ago up to the present, by agents of Asiatic or European origin and to coastal trading stations, botanical gardens or other places. Distributors were (a.o.) traders, missionaries, researchers, civil servants, travellers, migrants or labourers.

Important *ecological* factors are temperature and (distribution and reliability of) rainfall, while drought resistance of the different cultivar (group)s is one of the main *botanical* factors.

Cultural factors are for instance the importance of the cultivars or cultivar groups in diet and economy. This is because the plants are grown for a variety of purposes, as a staple, fodder, subsidiary (technical, medicinal, dessert fruit) or cash crop.

In spite of this seemingly complicated entanglement of determining factors, some structure can be detected. There are two main directions or flows of spread of the older cultivar groups (the plantain and the East African highland banana). The first flow is a northern one, from the northern Swahili coast to the interior, while the second flow is coastal, from north to south. This was followed by backward movements from west to east, i.e. from Central to eastern Africa of plantains and from Uganda to Kenya of highland bananas. The final result of these diffusions is the above-mentioned centre of diversity (primary and secondary) of musa in the northwestern part of eastern Africa.

Later introductions of all kinds of bananas by zealous botanists and agronomists resulted in a more random distribution, as can be deduced from the high number of banana cultivars in Malawi. However, the ecological tolerance of the various cultivars and cultivar groups is the final condition that determines distribution patterns. This is exemplified by the dominance of ABB cultivars in marginal (musa) areas such as Mozambique.

Part IV
VERNACULAR NAMES

4.1 Introduction

Vernacular plant names have been the object of study from the perspective of various disciplines. Usually, these studies deal with the names of wild plants in a single language or with the names of cultivated plants in different languages. Well-known examples of this are the work of Portères (1958-9) on crop history and of Berlin et al. (1974) on ethnobotany. Others, for instance Capon (1953) and Carrington (1983), dealt with the practical aspects of such studies. Musa names in Africa have been studied too, mainly for historical purposes. Examples of this are the work of Schoenbrun (1993) on the history of pastoralism and banana cultivation in the Great Lakes region, of Philippson (1984) on the culture history of the Chaga in the Kilimanjaro area, of Blakney (1963) on the spread of names for 'banana' and 'iron' in Africa, and of Philippson & Bahuchet (1995) on the spread of cultivated crops and Bantu migrations in Central and eastern Africa. These studies concern either limited geographical areas (the Interlacustrine region), a limited number of languages (the Chaga group), or a limited set of names (generic names).

Although mainly concerned with word formation in the domain of botanical nomenclature, various aspects of linguistics (phonology, morphology and semantics) are involved in the study of crop names. Therefore, apart from historical purposes, the study of these names can be interesting from a purely linguistic point of view too.

We shall see below that the study of musa names also touches on ethnobotanical aspects such as folk-taxonomies or the expression in names of the uses that are made of musa plants. Furthermore, musa names may refer to specific (e.g. morphological, organoleptic or agronomical) features of a plant, to certain resemblances (e.g. to other plants, animals or body parts), to the agent or time of introduction, or to cultural concepts. The preferred use of certain themes or semantic fields in musa names, for instance animal names or colour terms, not only teaches us something about how crops get names, but also about the functioning of these semantic fields themselves (see Berlin & Kay 1969, Jacobson-Widding 1979). An example of this is the preference in certain areas for red-stemmed or red-fruited musa cultivars, reflecting the magico-religious significance (e.g. the enhancement of human male fertility) of the colour red for certain peoples. Human selection certainly has influenced the pattern of spread of such cultivars. Therefore, the conspicuous absence or presence of red- and black-stemmed plantain cultivars in certain areas may not only be the result of ecological pressures but of human selection too and possibly also of cultivation methods. For instance, De Langhe (1964:65) found that colour mutants were often observed on (the suckers of) very old plants (i.e. stools), on the periphery of the outer-ring of the corms.

The present work is the first to present a multi-disciplinary approach to crop-history by encompassing the total taxonomical diversity of a single crop on a continent-wide scale. In order to retrace the history of plantain in the African continent, a detailed study was made not only of the distribution and names of the crop as such and of its cultivars, but also of its cultivated (banana) and wild (ensete) relatives.

Such a multi-disciplinary approach has its own, inherent problems. These problems are related both to the subject of the study and to the disciplines involved. For example, different groups of people can be found to apply different taxonomies and to use different terminologies. We not only have to deal with scientific and folk-taxonomies, respectively used by botanists and African farmers, but also with "lay taxonomies" used by non-producing consumers and scientists not specialized in musa. The existing confusion in the use of labels such as "plantains" and "cooking bananas" shows that even specialists, as musa scientists are, do not always clearly separate the different taxonomies. For some, these terms make a botanical, for others a usage distinction. We should not be surprised, therefore, that non-specialists such as historians or linguists are not even aware of this complexity (an example of this will be given below).

Another problem is that dictionaries and other linguistic sources are often imprecise in their translation of vernacular names. Usually, musa names are merely glossed as 'banana', without specifying whether the plant or the fruits are meant, let alone which cultivar or even which type (e.g. for cooking or for dessert). Also, the identification of the languages and dialects described, especially in the older sources, can not always be relied upon.

To this can be added problems caused by the use of the Latin alphabet, as well as by the (subjective) perception of sounds by non-mother-tongue speakers when recording musa names in local languages. The Latin alphabet is not always adequate for representing sounds in African languages; besides, these sounds may be misinterpreted by speakers of languages with different phonological systems.

Moreover, musa is represented with an exceptional high diversity in Africa, in a botanical as well as in an agronomical sense. The vernacular terminology related to this diversity, multiplied with the high number of languages involved, implies an enormous amount of data to be handled. Therefore, some understanding of the different aspects of the subject is needed, in order to be able to use and analyse these data successfully.

Finally, efforts to unify disciplines as diverse as biology and linguistics, in order to arrive at crop-historical conclusions, should be undertaken with some care. A warning in this sense was also put forward by Eggert (1992:21), who commented on the indiscriminate use and substitution of results from disciplines not easily compatible such as archaeology and historical linguistics. According to him, the main dangers inherent to a multi-disciplinary approach are circular reasoning and

historical speculation, whereby "the archaeologist trims his sails to the linguistic wind and the linguist then uses the archaeologist's findings as supporting evidence for his own insights" and, with regard to the topic of historical speculation, "wishful thinking attempts to continue where the empirical data fade out". Surely, Eggert's conclusion that "there is no simple way of linking linguistics to archaeology (but) rather each discipline has to pursue its own course set by its own data and methodology before uniting forces", also applies to other combinations of disciplines.

4.2 Previous studies of musa vernacular names

An example of the dangers of such a combined approach is Schoenbrun's (1993) effort to use musa names as a source of evidence for the reconstruction of the history of pastoralism and banana cultivation of the Great Lakes region in eastern Africa.

Schoenbrun (p.43) intended to 'place his historical-linguistic findings in a glotto-chronologically-derived time frame, ... in a context of a panoply of sources, palynological, paleoecological and archaeological.' Unfortunately, where musa is concerned, neither of these sources is available and therefore his conclusions had to be based mainly on linguistic data. The main weakness of Schoenbrun's approach, however, is that he did not realize that crop names provide a kind of data that can not be interpreted successfully when the crop itself is not understood.

To begin with, musa does not constitute one but several crops, which differ in many aspects. These aspects are of a botanical, ecological, agronomical, economical and cultural nature, which all are significant for the history of musa in Africa. Some basic understanding of the subject is therefore needed, in order to be able to appreciate the relative value of these aspects. For instance, the different cultivar groups are not only genetically different, but they were also introduced and dispersed at different periods in time. They have different ecological demands, are cultivated and consumed differently, and are also of unequal economic importance.

Another factor not to be ignored is the recent, i.e. (post-)colonial history of musa in Africa, with its large-scale, widespread and random introductions of cultivars, which has considerably blurred the picture of previous distribution patterns. Moreover, regional musa history, for instance in the Great Lakes region, did not develop in isolation and can not be taken out of its wider geographical context. All these factors were disregarded by Schoenbrun, which is the reason why several of the proposed etymologies of musa names, on which he based his conclusions, are erroneous.

For example, Ha or Rundi (J61) ***-ribu** `wild banana (seeds)' (p. 51, 69) does not come from a South Cushitic name for `ensete' which was borrowed in the "West Highlands" historical period (ca. 1000 AD), as Schoenbrun assumes. On the contrary, this name is used widely in Bantu languages for hard seeds of a certain size (of ensete or of other plants). Also, ***-kamba** `beer bananas' (p. 70) is not an areal

generic name in "Rutara" and "West Highlands" (ca. 1000 AD) going back to a Bantu form ***-kamba** `shell, peel', but can be related to the verb **-kamba** `to be sticky, astringent' and the noun **amakamba** `sap of trees' (like banana juice) in Nyoro, Tooro and Nkole (J11). Neither musa name dates from the period that the languages in which they occur now were still one language. Another telling example is Ganda (J15) and Haya (J22) **malindi** `variety of beer banana' (p. 71). This is the name of an AAA ('Giant and/or Dwarf Cavendish') banana cultivar that was first grown on a large scale in colonial times near Malindi town on the Kenyan coast. From here both cultivar and name spread fast to other regions, for instance to Uganda and Tanzania (via botanical gardens), and the name should therefore not be dated for the "Rutara-North Nyanza" (i.e. 1000-1500 AD) historical period.

Moreover, the different (categories of) musa names "travelled" at different speeds in the different periods in time. Inter-regional exchange of plants and their names, especially in the 20th century when musa cultivation took off seriously in many areas, overlaid former and slower diffusions. Quite a number of banana cultivars were introduced to the area by Swahili traders, missionaries and colonial agricultural agents. This is witnessed by names of which the origin can easily be traced. In Ngiti (CS) in north-east Congo (-K.), for instance, the antiquity of the generic names **kondi** `plantain' and **atanga** `dessert banana' (in all likeliness borrowed from Zone C Bantu languages), or **nyominyo** `cooking banana' (from Zone J languages in south-west Uganda, Rwanda, Burundi or the Kivu), is difficult to assess without further information. Cultivar names like **sukali** and **kitika** (from Swahili) or **kisibi** and **musa** (from Ganda), on the other hand, can not be much older than the 19th century, at least not in Ngiti (names collected by Kutsch Lojenga, 1994).

Also, the different elements of musa nomenclature are not of equal importance and should be treated each at their own level. Generic names, names of cultivars and names of parts of the plant, or related terminology such as names of implements used in musa cultivation, are distributed in different ways, and are of different informative value, both where time and place are concerned. Nevertheless, Schoenbrun considered them all together and gave them equal historical weight.

Apart from these theoretical shortcomings, Schoenbrun's area of study is geographically too restricted for his conclusions on musa history to be comprehensive. Philippson & Bahuchet (1995:111-118), on the other hand, are too much constrained by the rigours of their method, i.e. that of historical comparative linguistics. The authors assumed that in spite of 'numerous interactions between societies that can be expected to have taken place since the initial diffusion of crops, making vocabulary correspondences rather less telling than might be hoped .... it is in principle possible through careful application of the comparative method to throw some light on these processes' (p.103).

This method resulted in a list of reconstructions of musa names that are most likely derived from the same etymon (***-gombo**, ***-kombwe**, ***-kombwa**, ***-kombua**,

***-gombua**, ***-kobua** or ***kompua**) in south-eastern Bantu languages, as well as in the conclusion that the situation remains more complicated than might be supposed by non-linguists. The final conclusion therefore was that much more linguistic fieldwork would be necessary in order to arrive at any more detailed statement.

To this could be added the argument that the non-linguistic (i.e. botanical) situation is also more complicated than these authors (linguists) seem to realize. We saw above that the term "musa" stands for a complex assemblage of cultivars and cultivar groups each with different historical backgrounds. Moreover, we can not exclude the possibility that ensete, although indigenous in Africa, is not everywhere the older plant with the older name. For instance, Philippson & Bahuchet were puzzled by the apparent fact that the Gweno (E65) and Pare (G22) name **-rìgò** of ensete, a plant they presumed to be more anciently known than musa, is more segmentally irregular than the similar-looking musa names **-rùgú** and **-jìgú** in these languages. However, even if ensete was already present in an area before musa, this does not imply that the people living there now also knew ensete before musa.

Furthermore, looking for regular phonological correspondences in borrowed crop names supposes full integration of loans in languages, which is often not the case. An example of this is the application of strict historical comparative rules by Philippson & Bahuchet to the ***-digu** names (see chapter 3.3.3). For Taita (E74), Pare (G22), Kami (G36), Sabaki (E71-3, G40) and Chaga (E60) ***-dìgú** or ***-dùgú** were reconstructed with a low-high tonal pattern and for Central Kenyan (E50) languages ***-dìgù** with a low-low tonal pattern. Although these two reconstructions are regular with respect to each other, the fact that both Gikuyu (E51) and Kamba (E55) have low tones is not, according to the authors. A regular Kamba correspondence to Gikuyu **-rìgò** would have been ***-ìo** (with a low-mid tone profile) and not **-ìò** (with two low tones), but the low-low tonal profile is often found in loan-words in Kamba. The authors therefore sounded a word of caution about the necessity of taking tones in consideration when examining possible cognates.

The best explanation for stems with skewed forms and meanings was given by Philippson & Bahuchet themselves, namely that we deal here with loans which have been borrowed separately several times. Yet, they did not go much further than listing a number of possible cognate musa names. However, the fact that many forms are irregular should not prevent us from drawing up distribution patterns of names that were, to all likeliness, derived from the same etymon (although present distribution patterns of names do not necessarily mean that these names go back to a former historical stage of the languages involved).

As we shall see in the following chapter, the naming of musa in African languages is not a straightforward affair whereby a name was coined once and then spread from language to language. Most names were subjected to reticulate borrowing between languages, and to the adaptation to the different phonological systems of these languages. Another factor to consider is the structure of the semantic fields to

which some names belong (e.g. that of names of ripening fruits or of otherwise similar plants) and the loan-translations of such names. Also, for reasons of communication between people speaking different languages, names of crops, especially those of which the products are sold on markets, get changed over time. This can be seen in central Tanzania, where Swahili **ndizi** is commonly used now in most languages and where ***-koba** names are becoming obsolete. There is no reason to believe that formerly this has not been the case too.

Finally, in order to avoid pit-falls like homophones or folk-etymologies, one should always take into consideration the total picture of distributions, especially in the case of cultivars and cultivar names. This can be illustrated by Philippson & Bahuchet's suggestion that the ***-gomba** name for `ensete' in eastern Africa had been erroneously claimed (they don't say by whom) to be found in North-Western Bantu too. Instead, they are of the opinion that the name **ngomba** for some plantain cultivars in Cameroon simply means `brush-tailed porcupine' (p.116). In fact, we are talking here about the name of a relatively rare French Horn plantain cultivar that only occurs in the Mungo, Bangangte and Yabassi areas in western Cameroon. Whatever the origin or meaning of this cultivar name, Bantu `porcupine' or Grassfields `ensete/musa' (see chapter 3.3.3), most Benue-Congo language groups (Grassfields, Mambiloid, Adamawa, Platoid and Nupoid) in West Cameroon and Nigeria have a ***-gomba** name for ensete. This is especially the case in areas where ensete occurs in the wild, and we find that similar names are used generically for musa, also in neighbouring areas where ensete is absent or rare (in Kenyang, Ekoid, Cross River, Igboid, Idomoid and Defoid languages). The generic ***-gomba** names for both ensete and musa in the above-mentioned language groups are so widespread and so phonologically "eroded" that they must be very old. In spite of this, the etymological relationship between these western ***-gomba** names and those found in eastern Africa is not the result of diffusion but of parallel developments (both probably go back to a Benue-Congo name ***-gomba** for plants with large leaves).

The borrowing of crop names between languages is often attended by (an interaction of) phonological, morphological and semantic changes of these names. For instance, a voiced consonant may become voiceless, the prefix may be changed, or the meaning of the name slightly altered (e.g. `musa fruits' > `musa plant'). Of course, names may also be borrowed unaltered. The problem is that these processes are not always easily reconstructable, as can be seen in the following example taken from De Langhe et al. (1995:156-157).

These bioscientists believe that the most common Bantu name for plantain, **-konde**, should rather be reconstructed with a voiced velar first stem-consonant ***g** (i.e. as ***-gonde**) and not, as Guthrie (1967-1971) did, with a voiceless velar consonant ***k** (CS 1144 ***-kòndè**). They came to this conclusion on ground of the fact that ***g** > **k** in most parts of the rain forest area where these ***konde** names occur, i.e. in Bantu Zones A, B, C and H. In their view this would be proof of a theme

°**-gonde** to have entered the rain forest, where it became °**-konde** and whence it diffused further into the area where Zones L, K and M languages are spoken at present. The languages of the latter three groups would have adopted °**-konde** without change of the first stem-consonant, but with a reversal of tones (°**-kòndè** > **-kóndé**), which is characteristic in L30 languages. This course of events then, would imply a north-south direction of spread, i.e. from Zone C to Zone L(30), in a distant past (when these phonological rules still applied). Another indication that the plantain would be older in the northern (rain forest) area than in the southern (savannah) area is, according to the authors, the fact that in the former a rounding of the final vowel took place (**-kondo**), a trait that Guthrie considered to be secondary and to have occurred later.

Although the conclusion about the direction of spread of the plantain in Central Africa is probably right, the authors did not have to postulate a form ***-gonde** in order to prove this (see chapter 4.3.1). In fact, it is difficult to see how the proposed ***-gonde** stem can explain the absence of °**-Ngonde** forms, especially in view of the numerous and widespread °**-nkonde** (or °**-nkondo**) forms. The latter are mostly realised as **-konde**, **-khonde** or **-honde** and occur in languages where ***nk** > **k**, **kh** or **h**.

The (underlying) nasal part of the first stem-consonant in these °**-nkonde** forms is a frozen cl. 10 noun class prefix. This homorganic nasal prefix is often used in names of fruit-bunches (or of plants and trees with clustering and/or numerous fruits) contrary to the names of (plants with) large and single fruits like those of the Cucurbitaceae, which mostly have a cl. 5 prefix). The singular form of such names gets a cl. 11 or a cl. 9 prefix and the prefix of cl. 3 is added when the tree bearing these fruits is indicated. This can be illustrated by the following examples from Suku (H32): **tsafu** (°**Nsafu**; cl. 10) `safu fruit' and **mutsafu** (°**mu-N-safu**; cl. 3-10) `safu tree', or **ngafu** (cl. 10) `guava' and **mungafu** (cl. 3-10) `guava tree' (see Piper 1977:185). According to Piper, the cl. 10 prefix has a collective sense, whereas the prefix of cl. 3 functions as an autonomous classifier. When such a name for the plantain bunch (°**N-konde**) is singularized in order to indicate a single fruit (or when it is borrowed by languages in which all fruit names have a cl. 5 prefix, or where the prefixes of cl. 5 and cl. 11 have become homophoneous) we get °**di-Nkonde**, i.e. **-nkonde**, **-konde**, **-khonde** or **-honde**, depending on the morpho-phonological rules of the languages in question.

As for the use of cl. 10 prefixes in musa names, Guthrie only mentioned Tsogo (B31) **okondo** (11/10), Bemba (M42) **inkonde** (9/10) and Zaramo (G31) **lu-ko/n-** (11/10) (we shall ignore here that the latter is not a ***-konde** form). However, the use of cl. 10 prefixes (9/10 or 11/10) for names of plants and trees with clustering and/or numerous fruits is, or was, probably more widespread. In Makua (P31), for instance, the original cl. 9/10 prefixes in names of fruits have been reinterpreted as cl. 7/8 prefixes (Katupha 1983:60-61, 66), as in **e-khaci/i-** (7/8) `cashew fruit' and **n-**

khaci/mi- (3/4) `cashew tree', but the aspiration of the first stem consonant still points to an earlier homorganic nasal prefix (**kh** < °**nk**). Indeed, Guthrie listed cl. 7/8, 9/10 and 11/10 in addition to cl. 5/6 for CS 1144 ***-konde** and CS 1146(a) ***-(n)kondo** (note also the prenasalised stem of CS 1146a). The fact that the ***-konde** name for plantain is found with a frozen homorganic nasal prefix (°**-nkonde**) in so many languages (see for instance Lombo (C54) ***lì-nkòndò***), is an indication that we deal here with an old word for `plantain (fruits)'. Unfortunately, not much is known yet about the extent of the use of this prefix (in names of clustering/numerous fruits) and its productiveness in Bantu languages. Therefore, a more detailed study of the (past and present) use of noun class prefixes with names of plants and plant parts would be needed before we can say more on the relative "age" of this plantain name.

The conclusion is that in dealing with borrowed crop names, the historical-comparative method, with its emphasis on regular correspondences of form and meaning, can not always provide satisfying answers. This can be compensated for, in part, by looking at the broader contexts of the plants and names studied. These may be of a historical or of a geographical nature, for instance because of inter-actions between peoples and their languages (e.g. the areal spread of names, across linguistic borders). Linguistic factors may be the use of different prefixes with names of different kinds of plants. Also to be taken into consideration are the semantic fields "around" certain names (e.g. referring to certain morphological features of the plant in question and of similar plants). As we shall see in the following chapters, names belonging to the same taxonomical level (i.e. generic, cultivar or "morphological" names) often belong to the same etymological category. As an example of this may serve the generic names of musa cultivar groups that are destined for consumption in a raw state. These names often go back to names of ripe(ning) fruits and, related to this, to colour terms. This general information then can help us to retrace the etymology of a particular name, for instance in the case of ***-tovi*** or **mbidde** (see chapter 4.3.1, examples c).

4.3 Musa names

The present study of the history of plantain in Africa is based mainly on a botanical and a linguistic approach. The former is concerned with the origin and spread of the crop and its cultivars, and the latter with the origin and spread of their names. Both approaches touch on the different systems of classification of the musa domain as applied by the various peoples, and which is expressed in their languages. The structure of these systems is not uniform but depends, among other things, on the economic importance and the diversity of musa grown in a given area. Since the principal limiting factor of musa cultivation is (the amount and distribution of) rainfall, musa terminology is often more detailed in the wetter than in the drier regions.

4.3.1 Generic names

Thus, generic musa names may represent different parts of the musa domain. Depending on the language, they may be all-inclusive or cultivar group-specific, and even bunch type-specific. All-inclusive names make no distinction as to the musa sub-group, whether plantain, dessert, highland (cooking or beer) or any other kind of banana. This, for instance, is found in marginal musa areas such as Mozambique or northern Nigeria, where any musa type is called respectively **figu** (Portuguese) or **ayaba** (Hausa, Ch). In areas where musa is a staple and where different cultivar-groups are present, these may be told apart according to their use. For instance, in Nyoro (J11; west Uganda), plantains are called **enkonje**, highland cooking bananas **enyamunyu**, highland beer bananas **enkamba** and dessert bananas **ebyenju**. On the other hand, distinctions within the same (plantain) cultivar group are usually made according to differences in bunch morphology. An example of this is Punu (B43; Gabon), where plantains are called **dighondi** (***-konde**) and where **didungu** is the name of the common False Horn Medium Green cultivar. Although **digondi** refers to all plantains, irrespective of bunch type, it is only found as part of compound names of French cultivars. **Didungu**, on the other hand, is only part of compound names of False Horn cultivars.

Apart from names that originated outside Africa, most generic musa names appear to have been motivated by the morphological features of the plant, or by the use that was (originally) made of parts of the plant. In many cases, these names are not restricted to musa, but are also used for (or borrowed from) other plants with similar features and/or uses. The most important of these plants is ensete, no doubt because of the close taxonomic relationship and strong morphological resemblance between both genera. It is interesting to note that most generic names of plantain and of musa are motivated by the use made of the vegetative parts of the plant, whereas the names of the different banana cultivar-groups (whether for cooking, brewing or dessert), mostly refer to (the state or quality of) the fruits. According to their etymological background, the main generic musa names in Africa can be classified as follows:

a) names of (parts of) similar plants.
b) names of the musa bunch.
c) names for ripe fruits.
d) names introduced from other continents.

a) Names of (parts of) similar plants.

Names of plants with similar fruits:

In Shambala (G23), Bondei (G24), Zigula (G31) and Ngulu (G34) a certain (group of AA) musa cultivar(s) is called **(mu-)huti**. This name might have been drawn from a local tree (*Erythrina abyssinica* DC. (Papilionoideae), the so-called Lucky Bean tree, which is called **muhuti** in the above-mentioned languages and **mohote** in Gikuyu

(E51) (and elsewhere ***-tembe**, e.g. Gusii (E42) **omutembe**, Luyia (J32) **murembe** and Luo (WN) **umutembe** or **morembe**; below we shall see that ***-tembe** is also an ensete/musa name in the area). An explanation for this could be that the Lucky Bean tree has banana-like pods (see LangHeinrich 1921). A connection between Bantu **-huti** and resembling musa names in Austronesian languages, as suggested by De Langhe (1996:151), is therefore unlikely. The latter go back to Common Indonesian/Proto-Malayo-Polynesian ***punti** and Proto-Melanesian ***pudi** (e.g. **huti** or **futi** in western Polynesia or **(f)u(n)tsi** in Malagasy) and are found in Indonesia, Papua New Guinea, New Caledonia, Micronesia, western Polynesia and Madagascar (Barrau 1961:41, Simon 1987:283, Blust 1989:126, Langdon 1993:32). In any case, if there were a relation between **muhuti** and these Austronesian forms, this would not necessarily have to point to ancient connections between South-East Asia and the East African coast, but might just as well date from the beginning of the 20th century only, when many Asian banana cultivars were introduced by the Germans to Amani in the Usambara mountains. A likely candidate would be AA 'Pisang Ambon Putih' (***p** > **h** in Shambala), which is an important cultivar in Indonesia and Malaysia (see Robinson 1996:13). (Pisang Ambon Putih means `the white Gros Michel'; see AA **mshale** in appendix C.)

Names of plants with similar seeds:
Some generic musa names come from the name of ensete seeds and also relate to other plants with big seeds. This is because big seeds, of ensete or of other plants, are used for similar purposes (e.g. as stones in the "Bao" board-game).

An example of this is the name **SORO** for the ensete seeds, the ensete plant and, by extension, for musa. This name is commonly found in Southern Nilotic languages, but also in other, mainly Eastern Nilotic and Eastern Bantu languages (see Ehret 1971:138 and Rottland 1982:424, who reconstructed ***so:su:ruo** and ***sa:sur** `ensete' for Proto-Kalenjin, SN). Similar names are widespread in Eastern Bantu and other language families in East Africa, especially so in Cushitic. They are not only used for big seeds, but also for other small, round and hard objects, for instance stones, beads, bullets or marbles. The plants producing such seeds and the products these seeds and objects are used for are often called likewise. In Alur (SN) **sòrò** means `Bao game' and **kùthèmbò** `ensete', and the seeds of the latter are used in the Bao game (Ukoko et al. 1964:162). The **SORO** name probably goes back to a (Proto-)Cushitic or a Semitic word for seeds (Bender 1988:129, Portères 1959:27-9).

Similarly, Pare (G22) **embiri**, Ma'a **ivírí** or **mvíro** and Pogoro (G51) **lirimbiri** `ensete' can probably be related to Saghala (E74b) **viro** `seeds of maize' (or of other large-seeded cereals).

In Rwanda and Rundi (J61) ensete seeds are called **ikiribù** or **indibù** (the plant has a ***-tembe** name). This is also a common Bantu name for (the seeds of) *Borassus aethiopum* Mart. (Palmae) as well as for the bells of hunting dogs (because of the

seeds functioning as a striker in these bells; see CS 560 ***-dìbù** 'bell'). In Nyakyusa (M31) and Tonga (N15) **ndifu** (***b > f/--*u**) is the name of a highland banana. Since Rwanda-Rundi(-Ha?) is the only language where ensete is called ***-dibu**, the Nyakyusa must have obtained this cultivar from that direction.

Names of plants with similar leaves:
Ensete is called ***-gòmba** in many Benue-Congo languages. In the rain forests of (West-)Central Africa ensete is absent, but here the name is used for other plants with useful big leaves. For instance, **-kombe** is the name of *Trachyphrynium*, *Hypselodelphis*, *Marantochloa* and *Haimania* spp. (Marantaceae) in Mongo (C61) and of *Aframomum giganteum* F.K. Schum. (Zingiberaceae) in Myene (B11). This last plant has similar names, **-yombo** (°**(C)V-kombo**?), **-jombo** (°***i*-gombo**?) or **-sombo** (°***i*-kombo**?) in several other languages in Gabon and Congo(-K.). Lega (D25) has **-yombo** 'ensete' (borrowed from a neighbouring language where ***g > Ø**?) and **-zombo** (°***i*-gombo**?), which is the name of a musa cultivar and also of a *Costus* sp. (Zingiberaceae). The Marantaceae, Zingiberaceae and Musaceae are closely related families (see chapter 2.1) and their members are characterized by large leaves with fibrous petioles. Other fibrous plants, such as *Urena lobata* L. (Malvaceae) and *Triumfetta* spp. (Tiliaceae) sometimes also have a ***-gomba** name, e.g. Seke (B21) **-kombye** and Kele (B22a) **-kombo.**

De Wolff (1971:153), who mainly worked on Nigerian languages, reconstructed ***ki-komen** 'banana' for Proto-Benue Congo. However, both form and meaning cannot be correct because the Bantu languages, which most closely preserved the Proto-Benue Congo form, were not taken into account. Moreover, musa was not yet known to the speakers of Proto-Benue Congo, who must have used this name for ensete. The name was transferred to musa in areas where ensete occurred, i.e. in western Cameroon (where several Benue-Congo language groups are to be found). After this, both crop and name spread further west and north, also to languages of different affiliation (see Rossel 1987:76-8 and 86-7).

Except for Bantu, the final syllable of ***-gomba** has been lost in most Benue-Congo languages, often preceded by an assimilation of the stem vowel to the final vowel and a labial-velar articulation of the first stem-consonant (***-gomba >-gwam(ba) > -gba(m(ba))**. De-voicing of ***g > k** (in C_1 or first stem-consonant position) has occurred regularly in most Bantoid languages (in Jarawan, Ekoid, Mbe, Kenyang and Tivoid) and in North-Western Bantu (mainly in zones A, B, C and H10), except in cases where the stem was preceded by a homorganic nasal prefix (see Gerhardt 1982:79). A number of Bantoid languages have ***-gomba** forms with a (nasal) suffix instead of a prefix. For instance, in Jukun (Jkd), we find forms with a voiced or with a voiceless C_1, e.g. **ngwŏ** or **kwŏno** (for the shift from prefixes to suffixes in Jukunoid, see Shimizu 1980:190-7). Such a nasal suffix was probably

mistaken by De Wolff for a stem-final consonant (***-komen**), as can be seen in the following examples from Jukunoid languages:

***n-kom** > ***n-gom** > **ngwõ** > **(mgbõ)mgbõ**
***n-kom** > ***kom-n** > **kwõ-no** > **(kpõ)kpõno**

Mambila (Mbd) has similar forms (**nguana** and **kuanang**) and Balep (Ekd) **ekomong** corresponds to the **ekome** forms found in other Ekoid languages. Neighbouring Bantu languages sometimes also have musa names with a nasal suffix, e.g. Bafo (A15a) **mbolom** (< **mbolo**), Mbo (A15g) **abenang** (< **banana**) and Kpa (A53) **kunyanyam** (< **banana**).

In eastern Africa we also find ***-gomba** names, e.g. Mijikenda (E72) and Swahili (G42) **m(u)gomba** 'musa or ensete plant' and Lower Pokomo (E71) **gomba** 'musa leaf'. As with the ***-koba** names (see below), reflexes of ***-gomba** are found with either a(n underlying) voiced, a prenasalized or a voiceless first stem-consonant (°**g**, °**nk** or °**k**), especially in the southern part of eastern Africa:

G42 #	**mkomba**	(°**-komba**)	G42 ##	**mugomba**	(°**-gomba**)
M21-3	**nkombwe**	(°**-kombwe**)	M52	**magombwa**	(°**-gombwa**)
			P21,3	**mugombo**	(°**-gombo**)
			P31,2	**mu-opo**	(°**-gombo**)
S53a	**(ti)kompa**	(°**-komba**)	S53b	**muyo(m)bva**	(°**-gomBa**)
S61	**inkomva**	(°**-komBa**) ###	S62	**ngomva**	(°**-gomBa**) ####

\# KiNgwana (eastern Congo(-K.)) and KiPepo (Pemba)

Standard Swahili

inkomva/mikomva

ngomva/migomva (3/4).

Some languages have °**-kombwe**, e.g. Zaramo (G33), Wanda (M21), Mwanga (M22), Nyiha (M23), Tonga (N15) and Tumbuka (N21), or °**-gombwe**, e.g. Bungu (F25) and Lala (M52). Philippson & Bahuchet (1995:118) reconstructed these as ***-kombwe**, i.e. with a glide, but postulated a high vowel ***u** to explain Chopi (S61) **-komva** (***-kombua**), Zulu (S42) **-kova** (***-kobua**), Venda (S21) **-omva** (***-gombua**) and Tsonga (S53) **kompfa** (***-kompua**).

The glide **w** or high vowel ***u*** may have been some derivational suffix (°**-(*i*)u-**? which in some cases also interacted with the final vowel to **-o**; see Stappers 1967:140-5). Other musa names (e.g. **-tembe**, **-konja** or **-koba**) are probably also found with such a suffix (in some languages).

Near the lower Congo river we find **-kò** (***-gòngò**) names, which have a similar etymology. In many Bantu languages this name is used for plants with big fibrous leaves and/or for plant fibres (e.g. Ntomba (C35) **lòkòngé** or **lòkòngiákà** 'fibre'). The plants in question often belong to the Marantaceae (e.g. **mòngòngò** is the name of *Megaphrynium* sp. and of *Sarcophrynium prionogonium* K. Schum. in Aka (C14) and in the Gabonese languages), but also to other families (Agavaceae, Tiliaceae, Malvaceae). All these families include plants that are well-known fibre producers. In a

number of C30 languages, e.g. Ngiri (C31), Bolia (C35) and Lingala (C36d) in Congo(-K.), as well as in some Cross River languages in southern Nigeria, the name simply means `big leaves'. It is therefore not surprising that musa has received this name here too.

Guthrie related the ***-kò** names (CS 1090), as found in most B50-80, C20,30 and H10 languages of south Gabon, central/west Congo and west Congo(-K.), to CS 1144 ***-kòndè** and CS 1146 ***-kòndò**. Forms of the latter two are found in all other languages in the area, but Guthrie did not explain where or how ***-kò** would have lost its final syllable. Nonetheless, the distribution of the ***-kò** names does give us a clue as to their origin. These names are mainly found on and around the Bateke Plateau, which extends at both sides of the Congo river. Several B70 (and some B80) languages spoken in this area have ***ng$_2$ > Ø**, and this rule must have applied to the **°-kongo (*-gongo)** name too, resulting in **-ko**. The Bateke plateau is dry, sparsely vegetated and sandy (it consists of so-called "Kalahari sands" of low fertility and low moisture-retaining capacity, see Johnston 1958:75). The area is therefore rather unsuitable for the cultivation of musa, which explains why the generic musa name in this area differs from that in the surrounding areas. The Mayombe region, further west, is a marginal musa area too and here we also find a very localized generic musa name (**-TIBA**; see below).

The **-konj(w)a** name for `plantain' in the western Zone E and eastern Zone *J* languages (and for `musa leaves' in some Chaga dialects (E62b)) seems to have the same etymology. This name can probably be related to the **°-konge** names for *Sansevieria* spp. (Dracaenaceae) in Zones E, F and G (**°-kong-(*i*)u- > -konj(w)a, -konje, -kong(w)e** and **-kongo**?). *Sansevieria* plants, which have long, fibrous leaves, naturally occur in the lowlands of East Africa (especially along the Sabaki and Tana rivers in Kenya, see Fitzgerald 1898:230, 327). This distribution may be an indication that plantain spread through the lowlands, contrary to the East African highland banana, which seems to have received its name from local plants at higher altitudes (see the **DIGI** names, below, and chapter 4.1).

Names of plants with similar bark:

Ensete and musa produce so-called "hard" fibres, which are coarse, long and strong. Hard fibres are generally extracted from the leaves or petioles of plants, like sisal from *Agave sisalana* Perr. (Agavaceae). "Soft" fibres (e.g. flax, hemp or jute), on the other hand, come from the bast of plants or trees (Lock 1962:12, 260). The leaf sheaths of ensete and musa are rolled up around each other and form a so-called pseudo-stem. This pseudo-stem resembles the stem of a tree and it may therefore be that the leaf sheaths are sometimes considered as bark or bast of a tree. For this reason the names of ensete or musa refer in some languages to (plants with useful fibrous) leaves and in other languages to (plants with useful fibrous) bark. Moreover, musa and ensete fibres can be extracted both from the pseudo-stem and from the leaves/petioles.

Ensete is called ***-tèmbè** in Zone J languages, and this name has been transferred to musa in several Zone J and Zone E languages. Other bark-fibre plants such as *Grewia* spp. and *Triumfetta cordifolia* A. Rich. (Tiliaceae), *Urena* sp. (Malvaceae) and *Ficus* spp. (Moraceae) are called **mutembe** in Lega (D25), **tembu** in Bira (D32) and Mbuti (CS), **mutembo** in Konjo (J41) and **mtembwe** in Chaga (E60). In Swahili (G42) **-tembo** or **-tembwe** are plant fibres (extracted from raphia and other palm trees).

One of the most common ensete/musa names in eastern Africa is ***-koba**. The ensete plant is called **mukobo** in Meru (E53) and the seeds **ngóbò** in Gikuyu (E51), while **koba** is the name of a (ritually important) variety of wild ensete with red petioles in some Ethiopian languages. This name is motivated by the use of the bark(-fibres) of ensete (and musa) which, among other things, served as loin-cloth in the old days (cf. CS 1095,6 ***-kóbà** 'skin, strap' and CS 837 ***-gòbì** 'skin, baby sling'). **Ekobá** means 'dry musa bark' in Lingala (C36d) and 'dry musa leaves for making cord' in Ngombe (C41). Similar examples in southwestern Tanzania are Fipa (M13) **lyangala** 'cotton' (an archaic name; originally meaning 'cloth'?) and Malila (M42), Nyakyusa (M31) and Kinga (G65) **-ßangalala** or **ilyangala** 'ensete'; or Mwera (P22) **cipinda** 'bark-cloth' and Makonde (P23) **lipinji** 'musa plant' (cf. Mbala (K51) **mipindi** 'plantain'). The ***-buugu** names for musa in Zone J languages (see below) also relate to bark-fibre plants, as well as to animal skins used as (loin-) cloth.

The first stem-consonant of most ***-koba** names is often pre-nasalised (in the underlying form), which leads to forms such as **ngobo** and **ng'(h)oBo** in languages where ***nk** > **ng**, **(n)kh** or **ng'(h)**. Examples of this are Gikuyu **ngobo** (cf. Meru **mukobo**), Pokomo (E71) **nkhoo**, Digo (E73) **khoo**, Gogo (G11) **ng'howo** and Kinga (G65) **eng'ovo/elikovo** (and it might be that the cl.5 prefix ***-di-** sometimes had a similar effect too; cf. Shona (S10) **gonje/makonje** 5/6 '*Sansevieria* sp.').

These phonetic correspondences often became obscured due to historically intervening rules such as the effect of a high vowel or a homorganic nasal prefix (of cl. 5, 9 or 10) on the first stem-consonant, followed by an elision of these prefixes (e.g. in languages where all nasals in nasal-oral clusters are dropped, or where the cl. 5 prefix is not realized), as well as a lexicalisation of the output and reanalization of the underlying form (see Fortune 1955:35, Louw 1964:148-9 and Dickens 1984:97). Since we deal here with plant names, the prefixes of these classes are frequently used with the names of the (musa) fruits, in alternation with a (C)V-prefix (e.g. of cl. 3/4) with the names of the (musa) plant. Also, languages may differ in their choice of prefix, gender shifts may have occurred, or loan-words (which musa names often are) may have been assigned to certain classes. Because of this, even closely related languages sometimes appear to have different underlying forms:

S15 **ma-kova** (cl. 6; °**-koba**)
S14 **mu-hova** (cl. 3; °**-nkoba**)
S43 **u-kova** (cl. 11; °**-nkoBa**) (cl. 11-10/10 °**u-nkoBa/nkoBa**?)
P13 **ngobo/makobo** (cl. 9/6; °**-kobo**)
P22 **ng'owo, kagowo** (cl. 9, 12; °**-gobo**)

The two neighbouring coastal languages, Matumbi (P13) and Mwera (P22) both have ***nk** > **ng** and ***ng** > **ng'** as well as **ng'oBo** (°**nkobo**) `musa', a loan from Zone G. Mwera reanalized **ng'(h)obo** as °**-gobo**, but Matumbi "chose" for °**-kobo**, because voicelessness is the default feature of consonants in Matumbi (see Odden 1996:93-4).

Also, the variation concerning the second stem-consonant of these musa names in Zones N and S means that we cannot always be sure if we deal with a ***-gomba** or a ***-koba** form (see also ***-gomba**, above):

N21 **makombwe, makobwe** }
M21-3 **nkombwe** }} (°**-kombwe**, °**kobwe**)
N15 **makobwe** }
S13 **mukomva, muhobo** (°**-komBa**, °**-nkobo**)
S53b **muyomba, muyobva** (°**-gomba**, °**-goBa**)

Another name (`musa hand') in the area shows a similar variation:

M31 **kipambo**
N31a **chipambo** or **pabva**
N31c **pabva**

According to Louw (1964:148-9), in Swati (S43) and in certain Zulu (S42) dialects or ideolects a variation in nasality of nasal-oral compounds is not uncommon (e.g. between **-bovu** or **-bomvu** red'). However, it is not here but in neighbouring Tonga (S52) and Tsonga (S53) that we find a similar variation (at least where these musa names are concerned:

S53a **ikompha** (cl.10) S53b **muyomba, muyobva** S52 **mukova**
S61 **munkomva, inkomva** S62 **ngomva/mi-** (3/4)
S40 **ukova/isi-**

If we consider that musa and its name spread southwards along the East African coast, then we should look north for the origin of these southern Mozambican forms. The N40 languages, which are spoken along the lower Zambezi, in an area not very suitable for the cultivation of musa, can be left out of consideration, since they use the Portuguese name **figu**. Further north, in the P30 languages, we only find ***-gomba** forms. Only upon reaching the Tanzanian border, where P20 languages are spoken, we find ***-koba** as a generic musa name. Here, ***-gomba** is merely a cultivar name, apart from Yao (P21), where it is a generic musa name too. Finally, in a number of languages of Zone G in central Tanzania we find ***-gomba** `musa plant' and ***-koba** `musa fruits'.

We may therefore assume that all forms in Zone S go back to ***-gomba**, of which various forms spread from S50 to S60 (**-komva, -gomva**), S10 (**-komva,**

-kova, **-hovha**, **-hobo**), S20 (**muomva**) and S40 (**-kova**) languages. For instance, in Zulu (S42) ***b** > **b**, but Zulu has **-kova** and not ***-koba**, as expected. This means that Zulu probably borrowed **ukova** from a Zone S50 language, where ***b** > **ß**, for instance from Tonga (S52) **mukova** ([**mukoßa**]).

The second example of a generic name motivated by the use of the bark of musa are the **DIGI** (***-digi** and ***-digo**) names. These names can be related to words for 'string' (made of plant-fibres) in the languages of Zones E and G, and to the names of other bark-fibre plants such as *Triumfetta tomentosa* Boj. (Tiliaceae), which is called **ndizi** in Dabida (E74a). Depending on the choice of the prefix (cl. 5, 9 or other) and the quality of the final vowel (*i*, **i** or **o**), the resulting musa names of this type are either °**-digi**, e.g. Swahili (G42) **ndizi**, or °**-digi**, e.g. Pare (G22) **indiji**, or °**-digo**, e.g. Gikuyu (E51) **ìrìgò** and Meru (E53) **èrìgò** (cf. Gikuyu **ròrìgí/ndìgí** 'bast- or fibre-string' and Meru (E53) **mòrìgì** 'rope made of root- or bast-fibres').

Despite the strong influence of Swahili in the area, the variation of these musa names is very high between the different languages. Swahili (G42) and Digo (E73) **ndizi** is a generic musa name, but Chaga (E60) **ndishi**, Zigula (G31) **izigu** (***d** > **z**/--*i*; cf. Tubeta and Bondei (G21,24) **luzighi** and **uzigi** 'rope') and Shambala (G23) **ndigha**, apply only to a specific AAA EA cultivar (see chapter 4.1). Chaga **ndishi** does not correspond in a regular way to Swahili **ndizi** (Phillippson 1984:145). However, since ***j** > **sy** in Chaga, **ndishi** ([**ndisyi**]) as well as Tubeta (G21) and Pare (G22) **indiji** were probably borrowed from an E70 language where ***g** > **j**/--**i**, **e** (cf. Lower Pokomo (E71) **muriji** 'string'). Also, the words for 'string' in the different Chaga dialects (e.g. Rombo **urisi**, Central Chaga **urusu**, Meru **orii** and Siha **uruu**), correspond rather well to the different forms of this musa name in the Chaga dialects, i.e. Rombo **ndishi**, Gweno **irughu** (***i** > **u**/*r*--), Rwo, Siha, Machame and Useri **iruu** (***g** > **gh** or **Ø**). The source of this musa name was probably an E74 language or dialect situated in or near the Taita hills, but reticulate borrowing via different languages in the area, whereby the second stem-consonant would have undergone all kinds of possible soundshifts (e.g. ***g** > **z**, **g(h)** or **j**/--*i*, **i**, **e**, and **j** > **j**, **z**, **c** or **sy**) has considerably blurred the picture.

The most widespread generic name for plantain in Africa is ***-konde**. This name is found in most Bantu languages from central Congo(-K.) to central Cameroon. The fact that this area is characterized by a lowland rain forest vegetation explains why there are no ***-konde** names for ensete (ensete does not occur here).

Again, the motivation for this musa name seems to have been the use of musa for its bark and fibres. Several Bantu languages have ***-konde** names for (the soft bast or bark of) plants, shrubs and trees (e.g. Pare (G22) **ikòndè** 'tree bark'). Interestingly, these plants or trees mainly belong to the closely related families of the Bombaceae, Tiliaceae and Malvaceae. Examples of this are **-kondo** (**-kondo**) for *Grewia* spp. (Tiliaceae) in Tsogo (B31), Pinji (B33), Rundi (J61) and Zigula (G31), for the baobab (*Adansonia digitata* L. (Bombacaceae)) in Kongo (H16), Mongo (C61),

Sango (G61) and Hehe (G62), for cotton (*Gossypium barbadense* L. (Malvaceae)) in Fang (A75), the B10-50 languages, Vili (H12a) and Yombe (H12b), and **nkonde** for indian hemp (*Hibiscus cannabinus* L. (Malvaceae)) in Zigula (G31).

However, the use of ***-konde** with the meaning `musa stem' is restricted to a few neighbouring languages in north-eastern Congo (-K.), Rwanda and western Uganda, i.e. to Amba/Isi (D32), Tooro (J11), Konjo (J41), Kabwari (J56) and Rwanda (J61). Only further west, where altitudes descend below 500 m, did the name acquire a generic meaning. This is the case in languages of groups D10, D20, C50 and in the western C40 languages Ngombe (C41) and Bwela (C42). The eastern C40 and the northern Zone D languages (as well as the neighbouring non-Bantu languages), which are spoken in areas situated at altitudes above 500 m, use a different name (**BUKU**, see below). From the north-eastern bend of the Congo river, the ***-konde** name, and thus the plantain, spread further along the river, to the west and to the south (for the presumed occurrence of ***-gonde** forms in Western Bantu, see chapter 3.3.1).

A subsequent spread from Zone L (Luba, Kanyok and Hemba, L31-34), situated further upstream, to Rungu (M14) and Mambwe (M15) at the southern end of Lake Tanganyika can be inferred from the fact that the forms in the latter two languages have high tones (**-kóndé**). These high tones are the result of a general tonal reversal in Luba (see Van Spaandonck 1971). The tones of the **-konde** names in Tongwe (F11) and Fipa (F13), east of Lake Tanganyika, are not known, but it seems likely that these names were borrowed from the western side of the lake, for instance from Holoholo (D28), which is nowadays spoken at both sides of Lake Tanganyika. In Zambia we find ***-konde** names in Zones M40-50, in Nsenga (N41) and Kunda (N42) as well as in Luyi (K31) and Lozi (K21 or S34). Although the last two languages are neighbours, Luyi has **-kóndé**, from Zone L(30), and Lozi has **-kòndè**, as do the other Zone K languages. The southernmost language with a ***-konde** name is Tswana (S31) in Botswana.

The name **(i)nd(ò)ó** in Gbanziri, Monzombo and Baka (Ub2c) and "Mpombo" (the latter are pygmies, like the Baka, but speak a mixture of Bantu C10, Mbandza (Ub2a) and Ngbaka (Ub2c); Motingea 1996:186) might come from Bantu ***-kondo** too. In Baka, the common French Medium Green cultivar is called **ko ndo ko** (lit. `the real plantain'), which must be a reinterpretation of Bantu **-kondo**. Similar reinterpretations have been reported by Bouquiaux & Thomas (1994:94-5), not only from Baka, but also from Ngbaka. In Ngbaka, prefixes and stems in loans from Bantu are frequently re-analysed as elements in a compound noun, whereas in Baka the prefixes of borrowed nouns are considered as free variants.

In Kako (A93) and the A50 languages in central Cameroon we find **-kwende** (***-konde**) and many A80 languages have **-kwa(an)d(e)**. In these forms a harmonizing vowel was inserted and the stem-vowel became a glide. After this the labialized consonant was strengthened in the A50 languages (see ***-gomba**, above), as in

Mbong (A52) **kpende** (°**kwende**), whereas the nasal part of the second stem-consonant was lost in Kpa (A53) **kpede** (°**kpende**). Similar forms are found in neighbouring Bantoid languages too, and also spread further to a number of Jukunoid and Adamawa languages. The Tikar (Btd) forms are identical to those in Kpa, but the direction of borrowing (from each other or from another language) is not clear.

In Bulu (A74a), Duala (A24), Lundu (A11a) and Kundu (A11c) two different ***-konde** forms co-exist, one for the 'plantain plant' and the other for the 'plantain fruit'. Duala has **jòn** (°**kòn(dò)**) 'plantain plant' and **mwèlì** (°**-kwèdè**) 'plantain fruit', while Bulu (A74a) has **èkòn** 'musa plant' and **nkpwèlè** 'musa finger' (or **ndugan**, as in the other A70 languages). These °**-kwede** names for the musa fruits were probably borrowed from Kpa.

In Mande (A46) ***nd** > **tsy**, which resulted in the following musa names: **nyikotsy**, **nyekoco**, **nèkòy** or **nikocy** (different authors, different orthographies). In Nyo'o (A44) and Yambasa (A62) ***nd** > **nd**, which means that they probably borrowed **(nè)kònj(è)** or **nèkònd(zy)** (as in A44), and **gikotsyo**, **ogoondzo**, **gikonjo**, **ing'onco**, **ìgòncò**, **(g)ikoncyo**, **nikondyo** or **nikondya** (as in A62) from Mande.

Forms with an additional nasal suffix (see also ***-gomba**, above) are found in north-west Cameroon, but mainly in the (non-Bantu) Bantoid languages. Elias et al. (1984:80) reconstructed ***-kè(n)dòng** for Southern Proto-Eastern Grassfields, and considered this to be an innovation (Northern Proto-EGrF retained ***gom**). We deal here, of course, with a ***-konde** form (with a nasal suffix), which was later spread further to northern Cameroon by Fulfulde (A) spreakers.

Prenasalised voiced stops as second stem-consonants became simple nasals in a number of North-Western Bantu and Grassfields languages (see ***-gomba**, above). To this can be added that vowels are often lengthened after a consonant-glide sequence or before a prenasalised consonant in Bantu languages. Examples of this are °**-kòn-** in the A10,20,40,70 languages, **kwòn**, **-kwàn** or **-(n)koon** in Yanzi (B85) and Di (B86), **nkònò** in Nkengo (C61) and Mbole (C68), **-kwoon** in Bushong (C83) and **-konno** (***nd** > **nn**) in Hungana (H42). The different Gbaya (Ub1) dialects have besides **kòndì** or **kòndù** 'plantain' (from Bantu) also **kònì** or **kònù** 'banana' (from Mbum (Ad.) **kuni**?).

In West Africa we find this musa name too, probably as an introduction, together with the crop, by the Portuguese (see Rossel 1989:86). Here, **KONDE** names refer to (French) plantains in a number of Atlantic and Mande languages, whilse **KO(N)DO** names are used generically for bananas in (New) Kwa languages. These West African forms must originate in Kongo (H16), near the mouth of the Congo river, because only on this part of the Central African coast did the Portuguese have a permanent settlement and were the people using a **-konde** or **-kondo** name. Further south, in Angola, plantain is called **-konjo** and further north, in present-day Cabinda and Congo, people use **-TIBA** forms (see below).

In summary, ***-konde** became a generic name for plantain near the north-eastern bend of the Congo and then spread along the river, both southwards and westwards. The forms used at the southern end of Lake Tanganyika have high tones and point to Luba (L30) as their immediate origin. However, the **-konde** names in some Zone F languages east of the lake probably came from the west, from Zone D. Most names in Zone K languages (with the exception of Luyi (K31)) have low tones and Luba can therefore be excluded as their immediate origin.

Names with a fricativised second stem-consonant (°**-(n)konjo** or °**-(n)kondi(o)**) in some Angolan languages could have been borrowed either from Zone B, H or K. However, evidence from another musa name, ***-tende** (for the stem and the plant; see below) points to the Malange area in north-east Angola where KiMbundu (H21) is spoken. This implies that western Angola received the plantain from the north-east and not from the north. Also, the absence of ***-konde** names in coastal Congo is a sign that the plantain did not spread all the way down the Congo river to the coast and from there south- and northwards. Instead, the crop circumvented the Bateke Plateau both to the north and to the south.

The situation in Cameroon is more complicated. There seems to have been two movements, the first of which went through the forest area of south Cameroon, where only Bantu-speaking peoples live. This was later followed by a second movement via the savannah area of central Cameroon, where languages of different affiliation intermingle. A number of A70,50,20 (and A10) languages share two different reflexes of ***-konde** (resp. for the plant and for the fruits) which may have been adopted at a time when these languages were situated more closely to each other, probably somewhere near the Sanaga river in central Cameroon.

A final example is provided by the **BUKU** names for bark-fibre plants, or the products (made) thereof, which are widespread in Africa, especially in Niger-Congo languages. ***-Buuka** names for the musa stem or the musa plant are not uncommon in Bantu languages, and examples can be found from south Cameroon to north-east Congo(-K.):

A33b	**iboko**	(Kombe has 7 short vowels and ***k** > **Ø**, but see neighbouring Benga (A34) where ***k** > **k**/*VV–)
B31,33	**gebogha**	(***k** > **gh** in Tsogo and Pinji)
H16a	**mbuuka**	(Kongo has 5 short and long vowels)
C44	**mbo**	(***k** > **Ø** in Bua)
J42,51,57	**mboko**	(Nande, Hunde and Tembo have 7 short vowels)

A slightly different name (***-buugu**?), which is used for the musa fruits only, is found in north-east Congo(-K.), in Bantu as well as in Ubangi and Central Sudanic languages. Ensete would be expected to have been the direct source of this musa name, but the northern Zones C and D languages are situated in an area where ensete is probably absent or rare. The only ensete names found (in literature) were Lega (D25) °**-jombo** (***-gomba**?) and Nyanga (D43) **-tembe**. The latter is a typical Zone J

name for ensete, but Nyanga people are known to have migrated from Unyoro (J11) in Uganda to Congo(-K.) (see Biebuyck 1956:304 and Vansina 1990:68). As for the non-Bantu languages in the area, no ensete names were found in the Nilotic languages, whereas the Central Sudanic languages have different ensete names altogether (e.g. Madi **ullo** and Lugbara **oli**). Ngiti (CS) has **adha** or **avu**, but the latter form looks like a loan from Zande or Pambia (Ub3). Moreover, the Zande names **bogu-mbali** `banana-small' and (Pambia?) **avugu-mbori** `banana of god' were probably derived from the musa name, also because the Zande formerly inhabited areas where they would not have known ensete.

Similar names for bark-fibre plants other than ensete, however, are found widely. Examples of this are Ngombe (C41) **gboko** (also the name of a musa cultivar) and Ziba (J22) **mbuugu**, both names of *Ficus* spp. (Moraceae). In Nkole (J11), Ganda (J15), Syan (J36) and Ziba **-buugu** (or **-búgó**) means `cow-hide' or `bark-cloth'. The use of the bark of ficus trees for the fabrication of (loin-)cloth or other types of dresses replaced other products (animal or vegetal) and was probably introduced to the area from elsewhere (see Roscoe 1911:403). Wynants' (1926) observation that the Doko (C31) women in north Congo(-K.) used to dress in loin-cloth made of musa bark is also an indication that ficus bark and musa bark were used for similar purposes (see also chapter 2.2). Another indication of this is that **-tembe** (see above) is also a ficus name in Mbuti (CS), Bira (D32) and Konjo (J41). Moreover, musa and ficus also share another name, namely **BOLO** in Western and Eastern Nilotic languages. A more general use of **BOLO** names for all kinds of bark-fibre plants is also found in the Ubangi and Northern Bantu languages of the area.

In Zone J languages ***g** > **g** and ***k** > **k**. Therefore, the **-buugu** names in Uganda cannot directly be linked to the ***-buuka** forms as found in West-Central Africa (see above). The Hima pastoralists and the Iru cultivators in west Uganda speak the same language (Nyoro, Tooro or Nkole (J11)), but the Hima are believed to have adopted the language of the Iru. In spite of this, the Hima and Iru use different words for a so-called "two-skin type of dress" (Trowell & Wachsmann 1953:293). The Iru say **enkanda** (cf. CS 1003 ***-kándà** `skin, strap', and ***-koba**, above), while the Hima say **ekibu(u)gu**. It may be that the Hima preserved their original **-buugu** name for this item of clothing.

Due to the use of the Latin alphabet in most of the literature consulted, the exact quality of the stem-vowels in many musa names of this type in northern Congo(-K.) is not known. Nevertheless, the co-existence of two, slightly different names within some of the languages listed and which were recorded by the same author, suggests that we deal here with two different sets of forms. One item of these sets refers to the fruits of musa (**-bugu** or **-bogo**) and the other to the musa plant and/or stem (**-boko** or **-bọkọ**). Examples of this are Bua (C44) **libogo** and **mbo** (***k** > **Ø**; De Cort et al. 1912), Kumu (D37) **ibugu** and **mboko** (Harries 1958:293), and Nande (J41) **mavughu** and **emboko/esyo-** (Baudet 1947:86, 126) or **eribogo** and **emboko** (Fraas

1961) or **amabugu** and **esyomboko** (Kavutirwaki 1975:496, 556). The variation of the three Nande examples may be due to the different sources and/or to different dialects.

As said, the names for the musa plant can be related to similar names for different kinds of bark-fibre trees in the languages of the area (see above), whereas the names for the musa fruits are restricted to musa only.

The existence of a **-bugu** or **-bogo** name for the fruits in languages where ***k** > **Ø** and ***g** > **k**, e.g. in Bua (C44), Beo (C45), Nyali (D33) and Kumu (D37), could mean that they were borrowed as such from (Bantu) languages where ***k** > **g** (as in Gesogo (C53)), or where ***g** > **g** (as in Zone J), or that they were borrowed from a non-Bantu language. However, Gesogo has a different musa name (***-konde**) and is also not a likely source-language of this form because of its limited demographical and geographical situation.

We are dealing here with (two sets of) names, one for the fruits or crop and one for the plant or stem. These two became generalized at different periods in time and in different languages. Also, a number of languages have **-poko** "plant" names, which are very similar in form and meaning to the **-boko** "plant" names. Examples of this are Mituku (D13) and Enya (D14) **mpoko**, Mbati (C43) and Beo (C45) **(a-)po** `musa plant' (cf. **mbo** in Bua (C44)), or Nkundo and Batswa (C61) **mpoku** and **poko** `musa plantation'. These forms may be loan-words of non-Bantu origin, or the result of a reinterpretation of the singular form **ci-poko** on basis of the plural form **mboko** in languages where ***mp** > **mb** (as in Nande (J42) and Bangubangu (D27)). This may have been the case in Hunde (J51) **°kapoko\mboko** `young musa plant\adult musa plant' and Tembo (J57) **cipoka\mboko** `green musa bark\musa plant'. A musa plant stands alone only when it has been transplanted recently. After a while young plants shoot up around such a motherplant, which is why the word for `musa plant' gets a plural prefix in some languages.

Another problem is the unreliable identification of musa names in most sources (and of the languages in which they were found, especially in the older sources). Bullen (1952), for instance, gives two alternative musa names in Zande (Ub3), **bu** and **bugu**, and states that the latter form is obsolete. It cannot be excluded, however, that one of these forms is the name for the fruits and the other the name for the plant, analogous to Mba (Ub2c) **bó** and **bógò** (**°bogo** and **°boko**?) or Kumu (D37) and Nande (J42) **-bugu** and **-boko** `plantain fruits' and `plantain plant'.

A possible reason why names for the fruits or crop and for the plant or stem differ is that the people first became acquainted with musa fruits at markets, in a multilingual environment. The musa plants, on the other hand, are grown in the villages, where the linguistic situation is more homogenous. Also, the consumption of musa fruits was an innovation, but the use of (musa or other) fibres was not.

To summarise, it can be said that apart, from the western ***-gomba** names and the names of non-African origin (such as **muz** and **figu**, see below), all important

generic plantain names originate in an area stretching from east Kenya to east Congo(-K.). The distribution patterns of these names are more or less overlapping, between as well as within the different language(-group)s. This overlapping, however, is only partial and mainly the result of the use of different names for the musa fruits and for the musa plant. The situation can be schematized as follows:

Table 4.1 Origin and distribution of the principal names for the fruits/crop and for the stem/plant of plantain

Crop, / Stem,	*- Etymology*
Fruits / Plant	*Distribution of musa names*
KONJA	- Fibre plants/products in G40, E70, E50.
konja / #	E42, J31,22
konja / **konja**	J15.
KONDE	- Bark-fibre plants/products in Bantu.
	- Musa stem/fibres in J11[n], J61[r]. ##
konja / **konde**	J11[t,n],41, D32. ##
konde / **konde**	D^{south}, C^{south}.
BUKU	- Bark-fibre plants/products in Bantu, Ubangi Central Sudanic and Nilotic languages.
	- *Ficus* spp./products in J30,10,20, C41.
konde / **boko**	J56, D14, C61[k,t]. ###
# / **boko**	J51,57.
bugu / **boko**	J42, D^{north}, $C^{northeast}$, Ubangi, Central Sudanic.
bugu ? **bugu** }	Zone C^{north}, Ubangi, Central Sudanic.
boko ? **boko** }	
BOLO	- Bark-fibre plants in Ubangi and northern Bantu languages.
	- *Ficus* spp. in Nilotic languages.
bolo / **bolo**	Central Sudanic, Nilotic.

miscellaneous. ## **t** Tooro, **n** Nyoro, **r** Rwanda. ### **k** Nkundo, **t** Tswa pygmies.

b) Names of the musa bunch.

A single example was found where the name of the musa bunch has come to refer to the entire musa plant or crop. This is the case with Makua (P31) and Lomwe (P32) **(i)n-ika** `musa' (**\*in-dinga** > **ininga** > **inika**, after the application of Meinhof's Rule and a subsequent soundshift of **\*ng** > **k**). The name refers to the arrangement of the musa fruits around the floral axis (cf. CS 626 **\*-díng-** `to surround, wind round, twist, wrap' and Pokomo (E71) **kilinga** `bundle'). Cuabo (P34), Nsenga (N41) and Sena (N44) **mulinga**, as well as Chaga (E62) **kidingo** (borrowed by Maasai (EN) as **olmarinko**, a cultivar name) still refer to the musa bunch or the musa hand. It is not clear if **N-inga**, a form reported from the southern Swahili (G42) dialects Mrima,

Mgao (coastal Tanzania) and Ibu (Ibo/Mozambique island, Mozambique) means `musa' or `musa hand'. In other parts of the continent, for instance in Uganda, or in West-Central Africa, names with this etymology are only used for musa cultivars with spiraloid bunches (see below). The earliest source for ***-dinga** `musa' dates from 1567, when Garcia de Orta (p. 223) wrote that musa was called **iminga** in Sofala. Nowadays, the name is still found in the same area, for instance in Ndau (S45), which has **ninga** `musa'.

c) Names for ripe fruits.

Musa fruits ready for consumption or for preparation are usually named according to their colour or texture. This can be either at ripeness (`soft, red- or light-coloured') or after heating (`boiled, fermented'). Some of these names have acquired a generic meaning, notably those for dessert and for the East African highland bananas.

For instance, ripe bananas are called **-tovi** (***-tobi**) in the Swahili dialects Amu, Ngazija, Njuani and Maore (G42a,44abd), **-chovi** in Tikuu (G41; ***t** > **[tsy]** in northern Swahili), and **-tofu** or **-rofu** (*t > **r**) in the Gisu dialects (J31ab). These forms are derived from the verb ***-toba** `to ripen, become soft', which is attested in a number of Eastern Bantu languages such as Masaba-Luyia (J31-2) and Logoli-Kuria (E40). Hanga (J32a) has both **-tofu** and **-toro** `soft' (see ***-toote**, below). Nurse & Hinnebusch (1993:670) suggested that there might be a relationship between Proto-Sabaki (E70, G40) ***ntovi** and CB (CS 1779, 1780) ***-tòòkè** or **-tòòkí** (see below). However, there is no ground for this suggestion (***k** > **s**/--***i*** in Sabaki languages).

The name for ripe musa, **-ku(n)du** `red', in Chaga (E60) and Ngazija (G44a; Comoros) spread from the Comoros to Madagascar, where **akondro** or **akundru** is one of the generic musa names. It was probably this name that was rendered by al-Idrisi in 1154 as **qnd** in Arabic (see chapter 2.3).

Similar-sounding names in Tubeta (G21), Saghala (E74b) and Bukusu (J31c), however, seem to have a different etymology, i.e. CS 913 ***-gùnd-** `to ripen fruits artificially'. Examples of verbs with this meaning are Njuani (G44b) **-fundriha** and Ha (J61) **-vundika**, whereas ripe bananas are called **ivunde** (***g** > **v**/--***u***) in Saghala (E74b), **gamafunde** in Bukusu (J31c) and **ifundi** in Tubeta (G21; ***g** > **f**/--***u*** in J31c and G21).

Over-ripe bananas are called **mbòrù** in Pare (G22) and **ibora** in Chaga (E62b), whereas **boro** is the name of a very doughy banana cultivar in the Machame dialect of Chaga (E62c). These names are derived from the verb **-bora** `to rot, become soft' or **-boru** `to be rotten' (cf. CS 153 ***-bòd-** `to become rotten'). A similar name is used in south-east Cameroon for dried ripe musa fruits, e.g. Bulu (A74a) **mbonde**, or **mbuor** and **mbwan** in the A80 languages).

Resembling names for ripe or dessert bananas in the Upper Cross languages in south-east Nigeria, e.g. Akpet **uhoma abot**, Olulumo **owud egome**, Ehom **ahom bot** and Ikom **oburi igome**, on the other hand, should be glossed as `red plantain'.

A Dutch source in 1645 mentions the banana name **bolly** in the Duala area (Hair 1969:51), which was probably derived from the verb **-bolaola** `ripening' (see Meeussen 1980:23, 31, who reconstructed CB ***-boda** `to be red' and ***-budu** `to ripen'). Nowadays, the A10 and A20 languages in the area have **mbò(r)ó**, **abone** (cf. Duala **-bono** `yellow'), **egbule** or **ewule** `banana'. Contrary to the Upper Cross languages, Efik (LCr) has no corresponding colour term and we may assume that it borrowed **mbòró** `banana' from a neighbouring Bantu language.

The name of highland cooking bananas in Gisu (J31a,b) is ***-toote** (**-doote** or **-tòórè**), and Nandi, Karimojong, So, Pokot and Kony (SN) have ***mototo** `musa'. This name probably originates in Gikuyu (E51), because here we can find a number of similar forms with related meanings. For instance, **mototo** is a soft type of banana (< **-tota** `soft but not fully ripe'), **mototoyo** is a (ripe) banana and **marigo wa mutotoiyo** are half-ripe bananas softened by roasting in hot ashes (< **-totoiya** `to soften unripe or half-ripe bananas by pressing, pinching, cooking or roasting'). Mbugu (F35) **itótì** `unripe banana' is probably related to neighbouring Shambala (G23) **matote** `children's banana', which is also a soft banana cultivar.

Various plants with red fruits have a ***-toto** name in Cameroon and Gabon. The most important example of this is the safu plum *Dacryodes edulis* (G. Don f.) H.J. Lam (Burseraceae), which is called **tòtó**, **tòdó**, **-tode** or **butoli** in Basaa (A43; cf. **tòòtòò** `red'), Mande (A46a) and Ewondo (A72). Another example is *Thaumatococcus daniellii* (Benn.) Benth. (Marantaceae), a plant with very sweet, red fruits named **-tótó(lo)**, **-tura** or **-turu** in the Tsogo (B30), Sira (B40) and Njebi (B50) groups of languages. Moreover, all ripe, edible fruits are called **etotole** in Fang (A75). Bananas were probably first coined ***-tótò** in the H10 group of languages in west Congo(-K.)/Congo (cf. Beembe (H11a) **bùtótò** `red (earth)' and **bitótò** `banana'), after which this name spread northwards to Gabon (e.g. as **-tótó** in B10-30 and as **-tótù** or **-tòtù** in B40 languages, while Fang has **àtòrà**). It is not only used for dessert bananas in general, but also for the AAB `Pome' (or the very similar AAB `Silk') cultivar, which was the first banana to have been introduced to the area.

The name for ripe or dessert bananas in Logoli (E41; **eligomya amengu**), Soga/Ganda (J16,15; **amenvu**) and Kiga/Nkole/Tooro/Nyoro (J11; **kyenju**) is derived from the verb **-eng-** `to ripen, become yellow'. Ganda also has **mwenge** `banana beer', which in Hunde (J51) is the name of a beer cultivar (borrowed from Ganda?) as well as the generic name for dessert bananas.

The highland cooking bananas are called ***-tòòkè** in most Zone J languages. This name can be connected to the verb **-to(o)k-** `to boil' (cf. CS 1777-1778 ***-tòòg-** or ***-tòk-** `to boil, bubble up'). Taking into account the meanings of extended forms of this verb (e.g. Rwanda (J61) **-tokera** `to become soft by cooking', Sena (N44) and Makua (P31) **-tokota** `to be ripe, ready for use, (well-)cooked or boiling' and Gikuyu (E51) **-tooka** `to begin to ripen'), it may be assumed that this musa name was motivated in the same way as the **-tovi** and **-toote** names above. Also assuming an

east to west spread of musa and considering the location of ecological "stepping stones" such as Mt. Kenya and Mt. Elgon, the **-tooke** name in Soga and Ganda could have had its origin in Gikuyu (cf. **-tooka** `to begin to ripen'), or be a loan-translation of Gisu **-toote** `musa' (in its turn a loan from Gikuyu).

The ***-tooke** name spread from Zone J (from Haya (J22)?) to Nyakyusa (M31) in south-west Tanzania, where it is the generic name of plantain. Other names pointing to a spread of musa from north-west to south-west Tanzania are those of two highland banana cultivars, i.e. **ndifu** (from J61 **ndibu** `ensete', see above) and **sirya** (from Lungu (M14) and Mambwe (M15) **umusilya** `salt'). The latter name is probably a loan-translation of Rwanda/Rundi (J61) **ibinyamushanga** and **inyamunyu**, or Haya/Ziba (J22) **nyamnyongi**, which can be translated as `salty' and which are generic names for highland cooking bananas in the western Zone J languages. Cooked highland beer bananas have a salty taste and these names may go back to a time when people in these areas still had to learn how to distinguish the cooking from the beer cultivars.

The ***-bida** name for the highland beer bananas in Zone J (e.g. Ganda (J15) **mbìddé**, Nkole/Kiga (J11) **èmbìirè**, Tooro (J11); **embiira**, Nyoro (J11) **mbira**, Haya (J22) **biire** and Rwanda (J61) **imbìi(hi)re**), are derived from the verb ***-bìd-** `to boil, bubble up, cook, ferment, produce foam, transpire, warm up' (cf. CS 104, **-bìd-** `to boil up'). In Nyanga (D43) **kanyambiriri** means `ripening beer bananas', but Chaga (E60) **mbiiro** is used for all bananas that are ripened on the stem and **mbirwa**, **ißiri** or **kinambiiri** for (over-)ripe bananas. These Chaga names were connected by Philippson (1984:140) to the verb **-VIRA** `to ripen' (see also CS 107 and CS 117 **-bíd(*u*)** `to become cooked' and Sonyo (E46) **-berya** or **-beru** `to ripen, be ripe').

Other names for `ripe bananas', `beer bananas' or `banana beer' in Zone J languages are Tembo (J57) **muyo** `well-fermented banana beer' (< **-ya** `to be cooked, fermented'), Rundi (J61) **umuhwi**, Haya (J22) **evitoke vihile** or **viisi**, Dzindza (J23) **evitoke evihize** and Kerebe (J24) **ki(h)isye** `ripe banana', **kihira** `strong banana beer' (cf. CS 2033 and CS 2037 ***-yíd(ù)** `to get dark, black'). Gikuyu (E51) has **wiru** `ripeness, fermentation', **-irua** `to ripen' and **ri-iru** `ripe banana'.

Many more examples of names indicating (the) ripe(ness of) musa fruits can be given, for instance Konjo (J41) and Nande (J42) **-eru** (`white'), Zones C and D **-ti(ti)** (`red, ripe') and Zone C **-tela** (`ripe, red').

In the H10 languages in West-Central Africa we find **TIBA** names (**-tibá**, **-tìbà**, **-tébà**, **-tébé**, **-tébì**, **-ciba** or **-tabi**) for `banana', `plantain', `musa' or for the AAB 'Pome' and AAA EA "original" cultivars (cf. Yombe (H12b) **yotiba** `to be all-red' and Eviya (B30) **motebo** for the French Giant Red plantain; the **-tabi** form is either a metathesis or a different name altogether). These names spread along the river Congo to Zone C languages.

d) Names introduced from other continents.

A number of generic musa names along Africa's coasts have been introduced from other continents, from Asia, Europe and South America. These names are witnesses of some of the historical movements of musa across the oceans.

The northernmost, and possibly oldest example is Northern Swahili (G41-G42) and Mijikenda (E72) **izu/mazu** for all musa sub-groups. Southern Swahili (G42-3) **mzuzu** and Comoros (G44) **dzu/mazu**, on the other hand, only refer to the French plantains. This means that the original musa type to have been introduced to the East African coast was the French plantain.

Hinnebusch & Nurse (1993:126) reconstructed Proto-Sabaki (G40-E70) ***izigu** `musa', which they believed to be a loan from Eastern Cushitic **'arigw** (see also Ehret 1980:287). In order to derive ***izigu** from **'arigw** Hinnebusch & Nurse (after Möhlig 1980:19) had to postulate a loss of ***g** (***izigu** > **iziu**), a gliding of the stem vowel ***i** (**iziu** > **izyu**) and finally, in Comoros, an affrication of ***z** followed by a loss of the prefix ***i-** (**izyu** > **idzu** > **dzu**), analogue to the Common Bantu form ***-digo** `load'. Although this reconstruction gives the right result in Ngazija, Njuani and Maore (G44a,b,d) which have **-dzo** `load' and **dzu** `musa', it does not in the other Swahili dialects. For instance, Amu (G42a) has **mzyo** `load', but **izu** `musa'. In fact, a form ***izyu** `musa' has never been attested.

It is probably no coincidence that the °**-zu** names are only found on that part of the Swahili coast which has been subjected most and longest to Arabic influence, i.e. in northern and Comorian Swahili (G41-2,44), Pokomo (E71), Mijikenda (E72) and Digo (E73). The name **mazu** is likely to be a Bantuized form of Arabic **muuz** or **mawz** (and not the other way around, as proposed by Möhlig, 1980:19). The Arabs, in their turn, had borrowed this name from Sanskrit **moça** or **mauça** (according to Reynolds 1951:9, 25, **mauça** is an adjectival form of **moça**). Where Sidamo (EC) and Oromo (EC) maintained the Arabic form (**muuz**[a] or **muus**[a]), Swahili and Mijikenda reinterpreted **mawz** as **ma-uz** `musa fruits' and adapted the latter form to the preferred Bantu syllable structure (**ma-uz** > **ma-zu**). The reason why we don't find ***mu-zu** `musa plant' can be ascribed to the priority of the "indigenous" ensete name **-gomba** (see above).

One of the generic musa names on Madagascar, **kida**, is believed to have been borrowed from Bantu **-kinda** (Berchem 1990:67). The latter name is attested in Tubeta (G21), Pare (G22) and Chaga (E60), who have °**-kinda** `musa plant or stem'. If this were correct, then the name would have come to Madagascar via the Comoros, because only here is a rule operative whereby °**nkinda** > **kida**. Unfortunately, the musa stem or plant is called °**tindi** on the Comoros, so that we have to look elsewhere. For the moment, Bengali **keda** `musa' seems to be the most likely source of Malagasy **kida**.

Another musa name on Madagascar, **fontsy** (pronounced as **funtsi**), is of Austronesian origin. This does not necessarily imply that the Indo-Malayan

immigrants introduced musa to Madagascar (and from Madagascar to the African continent). **Fontsy** is also the name of *Ravenala madagascariensis* J.F. Gmel. (Strelitziaceae), a tree which is indigenous to Madagascar and which has very similar leaves to those of musa. This tree must have reminded the first immigrants of the bananas in their homeland.

In the N40 languages (Kunda, Nyungwe, Sena and Podzo), as well as in adjacent Cuabo (P34) along the Zambezi river in Mozambique, musa is called **figo** or **figu**. This Portuguese name goes back to the 16th century, when bananas were called "figs" in most European languages. The earliest source mentioning this name in eastern Africa dates from 1626 and concerns Moheli, one of the Comoro islands (Doke 1938:7). The use of the name "fig" for musa was probably first adopted by the Portuguese in India or Sri Lanka (see Marignolli (1338) who wrote that the inhabitants of Ceylon "...muse, quas incole ficus vocat..."), while at that time musa was usually called "apple" in European literature (as it was believed to have been the "apple of paradise"; Wis 1958:30). However, one of the Indian musa names mentioned by Pliny the Elder (77 AD; Reynolds 1951:10) was **ariena**, probably after the fig tree (**erineos** in classical Greek). Nowadays, bananas are still called **fi:w** (**ʿfigu**) in Sri Lankan Portuguese Creole, and Obolo (LCr) **efiong** or **ofiong** `musa' in coastal Nigeria might have the same etymology (< **figo(~)-eira** `fig-tree'; **gh** > **Ø** in neighbouring Ijo).

The **banana** name in Sotho (S33), Zulu (S42), Swati (S43), Shona (S10) and Tonga (M64) in South Africa and Zimbabwe is borrowed from English, and therefore a relatively recent loan.

On the western side of the continent we find **bakobe** `banana' in Bubi (A31) on Fernando Po. From here this name spread, as **-kube** or **-hube**, to Noho and Puku (A32a,b), Batanga (A11d), Balong (A13), Duala A24), Basaa (A43) and Mande (A46a) in Cameroon. Further north along the West African coast, **KOBE** names are used in a number of Kru languages in Ivory Coast. The name originates in South America, whence it must have been taken to West Africa by the Portuguese and/or Spanish. **Pacoba** is the name of *Renealmia* spp. (Zingiberaceae) in the languages of the Tupi Indians in Brazil and of *Heliconia* spp. (Strelitziaceae) in Guyana and Surinam. De Marees already mentioned this musa name in 1602 for Tupi (L'Honoré Naber 1912:167). Nowadays, **bak(o)ba** (in Papiamento) or **bakove** (in Sranan Tongo) is still a banana name in Surinam and Guyana (where the plantain is called **bana**, like in West Africa, see below).

Some Ijo dialects (Ijd) in the Niger delta of south Nigeria have **-bana** `plantain', whereas other Ijo dialects have **-banga** or **-bang'a**. The name **-banga** spread from Southern Ijo to Central Ijo as **-banga** or **-baghã** and to Northern Ijo as **-bana**. Its origin, however, lies further south, in the Bantu languages of Gabon or Cameroon, where **-banga** is the name of the common False Horn Medium Green plantain (this

cultivar is called **didungu** in west Congo/Congo(-K.), therefore a spread from this area is unlikely).

A first reference to musa in this part of Africa was made in the first decade of the 16th (1506-1510) century by Valentim Fernandes, who described the musa plant and its name (**avalaneyra**) on Sao Tomé. His description was based on notes made by the Portuguese seafarer Gonçales Pires. Another early record, written between 1535 and 1550 by an unknown Portuguese sailor, states that the people on Sao Tomé had started planting **avelã** or **abellana** (Monod et al. 1951:135,188-90; Blake 1967:163). It looks as though this name has persisted until this day, as **avlã** `musa' in Aladagbe, an Aja or Gbe (K) language in south-west Nigeria. In Gã (K) in coastal Ghana a similar form, **evla**, is found. The use of this name by the Aja and other coastal peoples in the area can be explained by the fact that they had very close contacts with the Portuguese in the 16th century. The origin of the name is not known, but it can not be excluded that the Portuguese obtained their **avalaneyra** (°**avalã-eira** `**avalã**-tree') plants in south-west India, where musa is called **valei** (Tamil), **vala**, **pala** or **palan** (Malayalam) or **bale(naru)** (Kannadu; see Watt 1891:290). According to Reynolds (1951:10-11) these Indian names come from Sanskrit **pala** `fruit'. Lains e Silva (1959:295) relates **avalaneira** to **bananeira**, but a German source on musa in India dating from 1628 mentions both **avanas** and **bonanas** (Wis 1958:4), which would mean that these are different names (cf. the **vannan** name for the AAB 'Pome' banana in southern India, or the Sanskrit musa name **varanabus(h)a**; Reynolds 1951:8, Joret 1904). Garcia da Orta, in 1567, was the first to mention the name **banana** or "guinea figs" (Friederici 1934:147-8).

Another West African musa name which could be of Indian origin is Susu (M) and Fulfulde (A) **kontombolon(yi)** for the False Horn plantain (cf. the musa name **cande-palon** recorded by Varthema in 1511 at Calicut on the northern Malabar coast; this name has been related to Sanskrit °**kandali-pala** `musa fruit' by Badger (1863:162-3)).

In Temne (A), the adjective **bana** `big' functions as a noun when it is preceded by a nominal prefix. For instance, **ma-bana** `big ones' is used to indicate certain kinds of lemons and **ang-bana** `the big one' is the name of a musa cultivar (Abu-Bai-Sheka 1987:56-7). Temne also has **ma-polo a-bana** `the big **mapolo**', which is the name of ensete (see the **BOLO** names, below). Something similar is found in other Atlantic languages too, for instance Limba and Sherbro have **ubana** and **mbana** `musa'. Significantly, these names are often used for the False Horn plantains (see table 4.3, below).

The name **plantain** has been related to Portuguese **prata** or **p(a)lata** `silver' for the AAB 'Pome' banana in Sao Tomé, Angola and western Congo(-K.) ('Pome' is called **satama** `Sao Tomé' in parts of western Congo, southern Gabon and West Africa). Champion (1967:81) assumed that this name was motivated by the whitish colour of a waxy variant of 'Pome'. It cannot be excluded, however, that we deal here

with a folk-etymology, from the part of the Portuguese, of (an) Indian musa name(s) such as **velathan** (a plantain cultivar in south India; see Singh & Chadha 1993:128), which resembles the Caribbean name **balatana** of French plantains (Desvaux 1814:29). Other examples are **mala-polanda** (recorded in 1511 by Varthema in south-west India; Badger 1863:162-3), **varana-busa** (6-9th century India; Reynolds 1951:8), or **vannan** (a modern-day Tamil name of AAB 'Pome'). Anyhow, the name is still used in Nigeria for the same cultivar, i.e. Yoruba (Dfd) **(k)paranta** or **apanta** and Nkporo or Aro (Igbd) **apata** or **p(a)rata**, while Ge~ (K) in south Benin and Bubi (A31) on Fernando Po have **planta**. In Arowak (Amerindian; Peru) **pulatena** or **puratena** means `banana' and **platana** `plantain' (we saw above that plantain is called **bana** in Surinam and in Portuguese Creole in Angola and Sao Tomé).

The oldest source in which this name is found dates from 1526, when Oviedo writes that ten years earlier the **platano** (an unidentified cultivar; see Simmonds 1966:313) was brought from the Canary Islands to the island of Hispaniola (Dominica) by a certain Friar Thomas de Berlanger (Reynolds 1951:27). Also in 1526, Thomas Nichols mentions the musa name **plantano** on the Canary Islands (Hedrick 1919:376).

The confusion between both form and meaning of the names "plantain" and "banana", which persists up to this day, seems to have existed almost from the beginning. For instance, Finch (1625) states that **plantans** are called **bannanas** in Sierra Leone, whereas De Marees (1602) mentioned **bannana** and **bachove** for Ghana (resp. plantains and bananas, according to his description). At present, plantains are called **BORO** (see below) in southern Ghana and bananas **kwadu** (< Bantu ***-kondo** `plantain'). Ulsheimer, who travelled to Guyana in 1599 and to West Africa in 1603, spoke of **plantines**, **blandinas**, **bladnias** or **bladines**, which were called **pennannes** in "Guinea" (Friederici 1934:150). Another source, dating from 1659, mentioned **banantas** and **baccoves** (see above) in Surinam, which corresponds to present-day plantains and bananas (Donselaar 1976:34), whereas Carletti, in 1615, gives Italian **badanas** (Wis 1958:4). According to Desvaux (1814:29), *Musa paradisiaca* L. (i.e. the French plantain) is called **pla(n)tano** in Spanish and **balata(na)** in the Caribbean area.

This confusion can partly be ascribed to the difficulty of distinguishing musa cultivars. Another reason is that so many languages were involved, not only in Africa, Europe and South America, but already at the source, in the Indian sub-continent. Due to (repeated and skewed) borrowings, loan-translations and folk-etymologies, we are faced with a whole array of forms. Although most of these forms seem to go back to Portuguese **prata**, Atlantic **bana** and/or some Indian form(s) (such as **velathan** a French plantain, **vannan** AAB 'Pome' or **varana**; see also Lassen 1874:684) followed by the Portuguese suffix **-eira** `tree', it is not always easy to draw the line between them. Some forms, also, may have been borrowed in colonial times from English or French **banana** or **banane** and **plantain**. The

following table gives an overview of the situation in South America and West Africa. The names are arranged according to the consonants they consist of, as well as to the position of the nasal consonant in the word. The South American examples are from Nordenskiöld (1922:78-85).

Table 4.2 "Plantain" and "Banana" names in S. America and W. Africa

BARADA	BARADANA	BARANDA	BARANA	BANARA	BANANA	BANA
sequence of consonants:						
Spanish and Caribbean: French plantain						
	platano	**plantano**				
balata	**balatana**					
South America:						
	palatana	**blande**	**parana**		**banana**	**bana**
	ballattana	**blandatza**	**palana**		**manana**	**ban**
		bondare	**plane**		**vanana**	**nana**
		panda	**purana**			**sapana**
		poronda	**plaano**			**sabana**
		palanda		**banara**		
	paratana	**parantana**		**banala**		
	pratan	**planta(n)**		**panara**		
		pa(r)anta				
paata		**paanta**				
Sao Tomé, Fernando Po, Nigeria and Benin: AAB 'Pome'						
prata						
palata		**planta**				
p(a)rata		**(k)paranta**				
apata		**apanta**				
Kwa (coastal Benin, Togo, Ghana and Ivory Coast): plantain						
	amadã	**banda**			**banã**	**bana**
	made~	**manda**				**mana**
	amatã					**mãnaa**
Gur (northern Ivory Coast): musa						
baridaa	**baridan**	**baranda**	**ba(a)rina(a)**			
biradaa		**brannda**	**brana**			
barada		**barãda**	**barana**			
balda		**balãda**				
bada		**baãda**				
Mande (Ivory Coast, Liberia, Sierra Leone, Guinea, Mali, Burkina Faso): banana, plantain, False Horn						
		baranda	**blana**		**banané**	**bana**
		balanda	**blana**		**banani**	**mbana**
		banta				**ma(n)a**
						mani

table 4.2 continued

BARADA	BARADANA	BARANDA	BARANA	BANARA	BANANA	BANA
Atlantic (Liberia, Sierra Leone, Guinea, Senegal): banana, False Horn						
		banda			**banna**	**-bana**
					banana	**apan**
					banane	
					(ba)naana	

Another widespread musa name in West African languages is **BORO**. Most musa names of this type, in the interior of Togo, Ghana and Ivory Coast, can be traced back to the form **oboro-de** in coastal Fante, Asante or Twi (K). The name is already mentioned by Müller in 1673 (**broddi**; Jones 1983:225) and by Barbot in 1680 (**obourady**; Hair 1969:231). According to Christaller (1933), Twi **oboro-de** means 'european yam'. It is not clear if this name can be linked to similar forms further north, such as Kissi (A) **gbolo** or **kpolo**, Bullom (A) **poloth**, Bassari (A) **bo**, Limba (A) **magbore** and Kono (M) **gbore**, or with the **-boro** names (see above) in south-east Nigeria and south-west Cameroon (see also Rossel 1989:63-74).

As can be seen in table 4.3, the **BORO** and **BANA** names are mainly used for False Horn cultivars in the Kwa, Atlantic and Mande languages, and the **KONDE** names (< Bantu ***-konde**) for French cultivars (the names of Horn plantains can usually be translated as 'one, two, three, or four hands').

Table 4.3 West African names for False Horn and French plantains

Language		*False Horn*	*French*
Akan	(K)	**borode-**	
Krim	(A)	**bana**	
Sherbro	(A)	**bana**	**kpende**
Limba	(A)	**bana-**	
Gola	(A)	**bana-, banda**	**konde**
Kisi	(A)	**gbolo(-bana)**	
Kono	(M)	**maa**	**kondeke**
Mende	(M)	**maa**	**konde**
Loko	(M)	**maa**	
Vai	(M)	**bana-**	**konde**

4.3.2 Names of plantain bunch types

Because languages differ as to the inclusiveness of musa names, we should not be surprised to find that the same name can refer to different parts of the musa spectrum in different languages. Depending on the language, a musa name may include all

musa groups, or be restricted to a certain type of cultivars, and sometimes even to a single cultivar. As a result, the status of names that include cultivars of the same bunch type (i.e. French, False Horn or Horn plantains) fluctuates between that of *generic and cultivar names*.

In areas where plantain is an important staple crop, all three bunch types are usually distinguished by name. Often also, it is the name of one of the members of a bunch type that has come to typify all the cultivars of that bunch type, whereas the other members are distinguished by an added epithet. Moreover, this name may also be used as a generic name for all plantains. We shall see below that in East and Central Africa this happened mostly with the name of the French Medium Green (sometimes also of the French Giant Green), in Nigeria with the name of the False Horn Medium Green, and in some parts of north-east Congo(-K.) and Madagascar with the name of the Horn Medium Green cultivar.

French plantains:

The international name **french** for this bunch type stems from Guadeloupe, where **banane franche** and **banane blanche** are alternative names for the French Medium Green cultivar. Both names refer to the green colour of the stem, as opposed to **banane noire**, which is the French Medium Black cultivar. In Pemba (G43), southern Swahili (G42) and Njuani (G44b), **mzo**, **mzuzu** and **dzu mwenye** are names of the French plantains in general or for the French Medium Green cultivar in particular (see the ***muz** names, above). The re-duplicated form **mzuzu**, analogue to **kikonjekonje** in West Uganda, stresses the fact that it is the real or original musa which is indicated. The name **dzu mwenye** `**dzu** itself' on the Comoros and similar names in north Congo (**ko ndo ko** or **tete le kwaar** `the real plantain') also highlight the fact that this name refers to the "real musa" or the first kind of musa that the people came to know, i.e. the French plantain.

In most of Zone J, ***-konja** names (see above) are used generically for all French plantains. The name has been borrowed by Isi-Amba (D32), where **konjekonje** `the (real) **konje**' is the French Giant Green plantain. Baka (Ub2c) **ko ndo ko** `the real plantain' is a re-interpretation of Bantu **kondo** `plantain' (see the ***-konde** names, above), as found in neighbouring Aka (C14), Mpiemo (A86c), Bomwali (A87) and Pomo (A92). This Baka name has the same meaning as **tete le kwaar** `the real plantain' in neighbouring Bekwil (A85b) and both names are used for the French Medium Green cultivar. The **KONDE** names found in Atlantic and Mande languages in West Africa are also used for French cultivars, as is the case in the Bantu languages of West-Central Africa whence plant and name were introduced to West Africa. In Luba (L31,33) in south Congo(-K.), ensete is called **kíkóndèkòndè** and the sap of the plantain pseudo-stem **bikondekonde** (probably because of the use of the sap of ensete and later of plantain, see chapter 2.2).

The ***-tooke** name in the Zone J languages around Lake Victoria includes all highland cooking banana cultivars (see the ***-tooke** names, above). However, in Nyakyusa (M31), north of Lake Malawi in south-west Tanzania, the name is used for the French plantains and spread from here further to southern Tanzania and northern Malawi. In Zambia, where mainly ***-konde** names are used, ***-tooke** is the name of the fruits of plantain in Rungu (M14), Bisa (M51), Lala (M52) and Lamba (M54) (with ***-konde** as the name of the plantain plant).

Widely found in Bantu languages are **-tomba** names for the (young) musa plant, and the French Giant Green(-Red) plantain is called likewise in Congo and Gabon, for instance Kele (B22a) and Ngom/Kola (B22b) **(o)tomba**, **otumba**, **tombo** or **tumbwe**. The following forms, for the same cultivar, probably belong here too (see chapter 4.3.4 and appendix B): Pinji (B33) **motobu**, Sira (B41) and Sangu (B42) **motubu**, Njebi (B51) **motuba**, Yaa and Babongo (B73c) **mutuba** or **tubutubu**, Bongili, Mikaya, Luma (C15) and Bomassa (Ub2c) **(bo)tobo**, and Akwa (C22) **tobu**. Descriptions in literature suggest that western Kongo (H16) and Yombe (H12b) **-tuba** is the French Giant Red cultivar, and other sources mention **-tomba** in Mongo (C61) and Tetela (C71), **tobo** in Gbaya (Ub1) and **motobo** in Kombe (A33b).

Lingala (C36d) **mungomba** and Buja (C37) **akombe** refer to the musa plant or stem (see chapter 4.3.1). Ngom (B22b) **ngombe**, Bekwil (A85b) **ngobe**, Baka (Ub2c) **ngobo** and Koozime (A84) **ngoba** all stand for the French Giant Green plantain. Only Konabembe and Bekwil (A85ab) have a rule whereby ***mb$_2$** > **b$_2$**, and are therefore a likely source of the Baka and Koozime forms (***-gomba** > **-goba**).

Lengola (D12), Nyali (D33) and Komo (D37) **mbongbo** and Ngbandi (Ub2b) **ngbonga** indicate the musa stem, Lingala (C36d) **mòbóngó** is the cut musa stem and Ngombe (C41) **mòbóngó** a musa sucker. Ngbaka (Ub2c) **bó ngó** (translated as `chicken banana', but possibly a folk-etymology) is a French cultivar, whereas Mba (Ub2c) and Beo (C45) **bongo** are unidentified cultivars. In north Congo, south-east Cameroon and Gabon both the French Medium and the French Giant cultivar have **-bongo** or **-bongi** names, not only in Bantu (C15, A86c,87, B43,51,52,73c), but also in neighbouring Ubangi (2c) languages. Analogue to other names that are shared by musa and ficus (see above), we might suspect that the same is the case here. Especially *Ficus* spp. (Moraceae), but also some other bark-fibre plants, as well as their product, i.e. (bark-)cloth, have **-bongo** names in several Bantu and Ubangi languages in northern Congo(-K.) and in the Central African Republic (see also **-bóngó** `(cloth of) raphia' in Duma (B51), Mpongwe (B11a) and Tsogo (B31) in Gabon).

The French Small Green plantain is called ***-bidi** in many Bantu languages in south Cameroon, Gabon, north Congo and north-west Congo(-K.) as well as in some Ubangi languages in the area. The origin of the name is not clear. In Sangu (B42),

Punu (B43), Njebi (B52) and Mbama (B62) the name is used for both the Medium and Small French plantains.

Horn plantains:

The almost universal name for the Horn plantains, in Asia as well as in Africa, is **"horn"**, in reference to similar-shaped bovine horns. Rumphius (*Herbarium Amboinense*, AD 1747) and Loureiro (*Flora Cochinchinensis*, AD 1793) latinized this to *Musa corniculata*, probably after local names with the same meaning (e.g. **pisang tanduk** in Indonesia). Swahili **mkono wa tembo** may have been translated from Arabic **fiilii** `elephant (banana)'. The latter name was mentioned in a 12th century Arabic source describing the East African (Swahili) coast (Freeman-Grenville 1959:12). The Horn plantain must be very old, judging by references to musa fruits "as big as elephant's tusks" in Indian literature from around the 2nd or 3rd century BC (Reynolds 1951:7).

Mkono wa tembo `trunk of elephant' is a Southern Swahili (G42) name for the Horn Medium Green cultivar (in Northern Swahili this would have been **mkono wa ndovu**, because **tembo** is the southern Swahili and **ndovu** the northern Swahili name for `elephant'). Nowadays, name and cultivar are found widespread in Tanzania and Kenya, where they were brought from the coast.

Similar names are also found for unidentified (Horn?) cultivars in north-east Congo(-K.). Examples are Barambu and Zande (Ub3) **pembe nasuku** `tusk of elephant' and **rindingmbara** `tooth of elephant'. In northern Congo and south-east Cameroon the Horn Medium Green plantain is called **iseke** in Bongili (C15) and **melank** in Makaa (A83) and both names also mean `horns'.

As we saw above, **fontsy** is one of the generic musa names in Madagascar. Already in the 17th century De Flacourt (1658) reported that **ontsi** or **fontsy** were "bananas with fruits as long as an arm". The only plantain that is grown nowadays in the eastern part of the island is the Horn Medium Green cultivar. The same cultivar is called **fu(n)ti** on the Comoros and **banane malgache** in Mauritius and La Réunion, which may be an indication that it was introduced from east Madagascar to these islands.

The **baka** name for the Horn Medium Green plantain in southern Gabon probably originated further east, in Lingala (C36d) or Ngombe (C41). These two languages in northern Congo(-K.) have **ebáka** `musa hand', and so does Benjele (C15) in north Congo, which probably borrowed from Lingala too (cf. CS 35 ***-bák-** `to get, catch'). The motivation for this name is the fact that Horn plantains produce only a few (1-4) hands with long fingers that resemble a human hand.

In north Congo and Congo(-K.) the name **nganga** is also used for the Horn plantain. Mbala (K51) **(n)ká:nga/magá:nga** (9/6) means `musa hand' (as for the high tones, *cf.* **-ngá:nga** `docteur' < ***-gànga**) and similar names are found in Monokutuba (H16), Laadi (H16f; **nkáángà**), NTandu (H16g; **nkánga**), Iboko

(C36d), Mongo (C61; **èkàngù**) and Mbuunda (K15; **nkaanga**) too (cf. CS 785 ***-gàng-** and CS 1007 ***-kàng-** `to tie up, seize'). The Horn Medium Green cultivar is called **nkaanga mosi/zoole/tatu** `hands one/two/three' in Ntandu. Stapleton (1903:11) derived Ntandu **ekangi** `tie or bunchlet of plantains' from **-kanga** `to tie', whereas **káángà** is the general word for `cluster' in Laadi (see chapter 4.3.4).

Ngbandi (Ub2b) **gbeke** means `well-developed' (of musa or of people) and is probably a loan-translation of Lingala (C36d) **-kémba** (both **gbeke** and **kembe** have been reported as cultivar names in Ngbandi). The name is likely to have spread along the Ubangi river via Sango, a vehicular language based on Ngbandi. According to Evans-Pritchard (1960:316), the Zande form (in table 4.4) is a loan from Mangbetu (CS), which is spoken in the Uele region (the Uele is a tributary of the Ubangi river; the Congo and Ubangi rivers and their tributaries seem to have been important pathways of spread of these names in northern Congo(-K.)). In Amba (D32; west Uganda), finally, the name has come to include all plantains.

Table 4.4 "Gbeke" musa names in north-east Congo(-K)

Language		*Name*	*Description*
Ngbandi	(Ub2b)	**gbeke**	a plantain cultivar
Zande	(Ub3)	**ngbikpi**	a Horn cultivar with erect fruits and leaves
Bangba	(Ub2c)	**begpa** }	a plantain cultivar with big, fat fruits
Madi, Mangbetu	(CS)	**(ag)begpa**}	
Medje	(CS)	**ngbikpi**	a musa cultivar
Dungu area[#]		**gbikpi, mbikpi**	a musa cultivar
Amba	(D32)[##]	**gbebe**	plantain (generic)
Pygmies	(D32)[##]	**bebe**	plantain (generic)

[#] "Haute Congo", i.e. north-east Congo(-K.). [##] Ituri forest, West Uganda.

Lingala (C36d) has both **lìkémba** and **lìkòndò** `plantain'. Van Everbroeck (1956) derived **lìkémbà** from the verb **-kémbà** `to be strong, fully grown, mature' (cf. ps 222 ***-gímb-** `to become strong'). The developed hands of a plantain bunch are called **indikemba** in Mongo (C61), whereas Amba/Isi (D32) **mogemba** and Nyoro/Tooro (J11) **mugimba** refer to the entire musa bunch. Both **ngembe** and **likemba** have been reported from Bobangi (C32) as a generic name for plantains, while Ngbandi (Ub2a) **kembe** is an unidentified cultivar. It is not clear if the **-kemba** names in Zone C distinguish the plantains from the bananas or the (False) Horn plantains from the French plantains. Anyhow, the name **makembakemba** `genuine plantains' has been reported from Lingala too, analogue to **mzuzu**, **konjekonje** and **ko ndo ko** (see above).

False Horn plantains:
A widespread name for (the) False Horn (Medium Green) cultivar(s) is **èbàngà** (cf. CS 60 ***-bàngà** `tusk' in Zones A,C,D,L). It is difficult to pinpoint the origin of this name. The use of the prefix **e-** for musa cultivar names is found both in Zones A and C, but the final vowel **-a** would favour Zone C).

In Punu (B43), Lumbu B44), Vili (H12a) and Yombe (H12b) the False Horn Medium Green plantain is called **didungu**, which could be a synonym of the **-kanga** (see above) and **-kaka** (see chapter 4.3.4) names for Horn plantains and the musa hand (cf. CS 709 ***-dùng-** `join by tying').

In Nigerian languages ***-gomba** is not only a generic name, but also used for False Horn plantains (see Rossel 1989:90).

The **BORO** and **BANA** names in Kwa, Atlantic and Mande languages in West Africa are often used for the False Horn cultivars (see table 2), but Temne (A) has **eplanti** (a **prata** name, see chapter 4.3.1) and **esanti** `Sao Tomé'. These names suggest an introduction of the False Horn plantains by the Portuguese from Sao Tomé to the Temne area.

"Male" and "female" bananas:
Another way to distinguish between different groups of musa cultivars is by using the terms "male and "female" bananas. This is not only found in Africa, but also in other parts of the world. For instance in South America, **platano macho** are Horn plantains and **platano hembra** French plantains. In north Halmaheira (near Sulawesi, Indonesia) "male" bananas are considered to be bigger and to require more time to ripen than "female" bananas. The former mainly concern AAB cultivars and some (more or less recently introduced) ABB cultivars, while the latter concern mainly AA as well as a few AAB cultivars (Yoshida 1981:11).

In East Africa, the distinction "male/female" is not only a matter of the size of the fruits (e.g. Horn vs French plantains), but also of the consistence of the fruit-flesh (soft vs hard bananas), or of their use (beer vs cooking bananas), as shown in the following examples. Although the cultivars listed below were not identified in the sources, it is clear that some of them distinguish between different bunch types of the plantain (A-L), others between different cultivar groups of the highland banana (J11,15), and others still between plantain and banana (L30, M31).

Table 4.5 "Male" and "female" musa names in Bantu languages

Language	*Name*	*Gloss/Description*
A74a,84,85a }		
A87,93 }		
B22a,62 }	°**-dumu**	male (Horn, 0 hands)
A85a	**ngum kwaar**	husband of plantain (Horn 0 hands; has axis without fruits)
L31c	**ekonde dilume**	male plantain (with big fruits)
	ekonde dikashi	female plantain (with small fruits)
L33	**dikonde dilume**	male plantain (with long fruits)
	dikonde dikazyi	female plantain (with short fruits)
L34	**liluma**	male (with dry/hard flesh)
	likazi	female (with soft flesh)
L30	**dikonde**	plantain (the "male" or starchy plantain that is offered to male spirits)
	dibote	banana (the "female" or sweet banana that is offered to female spirits)
M31	**ilitoki**	plantain (considered to be "male" and offered to male spirits)
	injali, indefu }	AA(A) banana cultivars (considered to be "female" and
	iselya }	offered to female spirits)
J15	**mbidde**	AAA EA beer bananas (considered to be "male")
	matooke	AAA EA cooking bananas (considered to be "female")
J11^{nyoro}	**nyabakazi**	of the women (AAA EA-cooking cultivar)

In some languages, however, French plantains are called "male". The explanation given by people in Gabon was that the fruits of French plantains do not have to be cut into pieces before they are put in the cooking pot. In East Africa, the epithet "male" may have been added to the name of the French Medium Green plantain in order to distinguish it from the smaller AB 'Sukari' banana, at a time when they were the only cultivars known in the area. It was probably at this stage that the (French) plantain was introduced to Madagascar.

Table 4.6 "Male" names for French plantains

Language	*Name*	*Gloss/Description*
B43,44, H12a	°**bagala**	male (French plantains)
G42nd, E73	**ki(l)ume**	male (French Medium)
Malagasy	**katakata lahy**	male plantain (French Medium)

4.3.3 Cultivar names

One of the results of contact between languages is the exchange of words. According to Ngcongwane (1972:22), most Bantu loan-words in Afrikaans concern names of places and of trees (on the other hand, Afrikaans names for wild animals such as **aardvark**, **duiker** or **wildebeest** have been taken over by the English language). Although no systematic study has been made on botanical loan-words in African languages, we may assume that the same holds true for musa names. When musa spread, its names spread too, from language to language.

Whereas the spread of generic names can be used as indicators of the broader movements of musa over the continent, the spread of cultivar names often reveals contacts and borrowing on a more local scale. The patterns of spread of cultivar names are therefore useful in determining the more detailed pathways of diffusion. They may even lead us to the areas where names of certain cultivars were first coined and thus where these cultivars came into being, through mutation. Also, when generic names are part of compound names of certain cultivar(-group)s, the identity of the latter may be an indication of the first (group of) cultivar(s) that came to be known to the people.

The most important aspects of the study of musa names, at least for our purposes, are their linguistic and geographical *origin*, their pathways of *spread* and patterns of *distribution*, their *domain* and their *semantics*.

Origin:

In order to determine the origin of cultivar names, we have to trace their linguistic and thus geographical origin, and possibly also their pathways and time of diffusion. To this, the historical relations in the regions concerned have to be taken into consideration, although knowledge about this is often far from complete. On the other hand, a certain pattern of spread of some musa names may, in its turn, provide a clue to regional history and to former relations between different linguistic groups (see chapter 4.3.5 and Ehret 1975:10).

Borrowed names between closely related languages often go undetected because the phonological systems of these languages tend to be very similar to each other, contrary to those of little or non-related languages. The amount of phonological change a name has undergone in a language depends on these phonological differences and on the length of time that has passed since borrowing. The relative age of a borrowed name in a language can, ideally, be measured with respect to the historically ordered rules of sound change in that language (Ehret 1975:11). However, the historical picture gets blurred when a name has not been borrowed as such from another language, but was loan-translated. Another problem arises with folk-etymologies, whereby only the sound of a name is borrowed and to which the meaning of a homophoneous word in the receiving language is assigned.

Moreover, musa is not a single item with a single name that were borrowed as such and only once by peoples and languages (see Ehret 1975:14), nor does a name always refer to the same part of the musa spectrum in the different languages. On the contrary, we deal here with a complex (of) crop(s) with a complex nomenclature and a complex history, and the economical and cultural value of its constituent members are prone to change, both in place and in time. This complexity, of course, is also reflected in musa names.

Another point to be taken into account is that the modern-day close contacts between people speaking different languages has often resulted in a high degree of multilingualism, also where musa names are concerned. Especially important has been, in this respect, the spread of Swahili cultivar names in eastern Africa, from coastal to inland Kenya and Tanzania and further to Uganda and Mozambique. For instance, the ABB 'Bluggoe' cultivar, called **(ki-/m-/ma-/na-)-kojozi** 'bed-wetter' in Swahili because of its diuretic properties, is found with the same name in many languages, either in its original Swahili form (a), or (more or less) adapted to the phonological system of the language in question (b), or skewed (c). An example of (a) is Ruguru (G35) **mkojozi**. Examples of (b) are Soga (J16) **kidozi** (***j** > **d**), Chaga (E60) **mkojosi** or **mchokosi** (see Dabida) and Dabida (E74a) **ncokozi** (***j** > **c** and metathesis; Swahili **z** normally corresponds to Dabida/Chaga **r**). Examples of (c) are Chaga **mkodosi, ikonosi** or **nkonosu**, Pare (G22) **ikohozi** and Makua (P31) **nakhirodi** or **khirozi**.

Spread and distribution:

It can be assumed that widespread names with a more or less discontinued distribution (i.e. occurring in one language family but in a discontinued area) are usually older than names that are generally and widely used. The hierarchy of more closely and more remotely related members of a linguistic group is a reflection of the relative age of their separation from a common ancestral language. The extent of the spread of certain names through the different linguistic groups, whether dialect, language or language group, may therefore be an indication of the relative age of these names (although the possibility of an origin in a language-substratum or in ancient or recent linguistic neighbours has to be considered too; see Ehret 1975:10-12). Historical information, e.g. about the migrations of peoples, is therefore relevant.

As for the patterns of distribution of cultivar names, these are either scattered over large areas, spread over smaller or larger areas in a general way, or occur in individual dialects or languages only.

A characteristic of a wide but scattered spread of cultivar names is that they are often used in a more or less inclusive or generic way, e.g. for a certain group or type of cultivars, or even for parts of the musa plant. These are the older names, spread among linguistic groups that may no longer be neighbours today.

A characteristic of uniform names is that they mainly concern important cultivars that spread fast from one area to the other in a relatively short time. The size of the area depends on a combination of several factors such as age, importance, ecological adaptability and suckering behaviour of the cultivars concerned.

Widespread also are names that are based on a recurrent theme, but came into being independently in the different languages. The most important examples of these are names with the meaning `male', `female', `horn', as well as colour terms.

The more incidental names, finally, often came into being relatively recently, in the last century or so. They may belong to unimportant but widespread introduced cultivars that received different names in different places. Because of their low importance and the short period of time, these names have not yet become generalised. They may also concern newly mutated plants that did not yet had time to spread far.

Domain:

When cultivar names are borrowed between languages, they may be applied to the same cultivar in the receiving as in the donor language, or to cultivars that are similar in some aspect or another. The latter may be due to the receiver's incomplete knowledge of the identity of the cultivar indicated by a name, to the more or less inclusive use in the donor language of that name (e.g. for a certain bunch type of plantains), or to the allusion that is made by the name to a specific feature that is shared by different cultivars (e.g. certain stem- or fruit-colours or stem-sizes).

Semantics:

In contrast to generic musa names, the names of cultivars are semantically very diverse. Nevertheless, there appear to be a number of recurrent themes, the most important of which are colours, animals and body parts. The categories "local", "origin", "period" and "introducers" in the following overview are often very informative from a (musa-)historical point of view. They may give us information about which cultivars are considered to be first known to the people, about their presumed (geographical) origin, their time of introduction or about the identity of their introducers. Also, when names can be recognized as loans, loan-translations or folk-etymologies, they may provide clues as to the origin of the cultivars they refer to. Apart from that, some names contain a verb and may be called syntagmatic.

local ("our" or "real")

Names alluding to the fact that a cultivar is "local" (i.e. belonging to the people or the region in question) were found to concern plantains in East and West-Central Africa and the AAB 'Prata' or the AAA EA "original" banana cultivar in West-Central Africa.

French Giant		
D32	**kikonjekonje**	the real French plantain
B11	**nyog(o)e ina**	indigenous French plantain
French Medium		
J11	**gonja ekitooro**	the French plantain of the Tooro (J11)
J15	**muganda**	Ugandan (plantain)
M31	**ndoki itole**	the ordinary French plantain
A85b	**tete le kwaar**	the real plantain
Baka (Ub2c)	**ko ndo ko**	the real plantain
French Small, reddish		
A84	**bobio enzimo**	the French Small (cultivar) of the Njem
AAB 'Prata' (or 'Pome')		
A70,80,B11c }	**°-toto-x**	"our" banana (x stands for the people
B30,40,52 }		in question)
B22a,30^{eviya}	**etoto mbego,** }	the real banana
	etoto lembade }	
B31	**etoto a kumu**	the ordinary banana
B30^{puvi},42, 51,62	**°toto, -kala**	the banana of the forefathers
AAA EA "Original"		
B11e,22a,30, 43 }		
B51,62, H12a }	**°toto - x**	our banana
B40^{puvi},43	**ototo -kala**	the banana of the forefathers
B43,73c	**bawulu, ngwambulu**	(the banana of) the forefathers

origin

The only name of a plantain cultivar found to indicate a geographic origin is Ganda (J15) **nakatensese** `from the Ssese islands' for the French Giant Green(-Red) plantain. The BaGanda probably obtained this plantain from the BaSese, who have a different origin and therefore may have had different plantain cultivars. An alternative explanation is that this plantain was preserved on Ssese during the time that the island was evacuated (in the first decades of this century, because of sleeping sickness), while on the mainland the emphasis shifted from plantain to (AAA, AB and ABB) bananas.

Banana names referring to places or introducing agents, at least those recognizable as such, always concern "alien" (a term coined by Baker & Simmonds 1951:284) cultivars, introduced more recently than the plantain and the highland banana. The first example is **farthi** `Persian', a name used at one time in the Kilifi area in coastal Kenya and which was identified as **kisukari unguja** `Zanzibari **k.**', resembling **pukusa** (AAB 'Silk'?); this was probably an AB cultivar. Other examples are **kipukusa cha java** (**k.** from Java', AB), **kikonde kenya** (`**k.** from Kenya', AAB 'Mysore'), **malindi** (`Malindi', AAA 'Giant Cavendish'), **muskat** and

ngazija ('Muscat' and `Grande Comore', ABB 'Bluggoe'), **kiganda** (`Ugandan', AAA 'Red'), **malaya** (`Malaysia', AAA 'Gros Michel'), **buki** (`Madagascar', AAA 'Green Red'), **jamaica** (`Jamaica', AAA 'Gros Michel'?), **bungala** (`Bengal', AAA 'Red'), **kibungara** (`Bengal', AAB 'Silk' or 'Pome' and **kaci** (`Cutch'; this is also a banana name in Bengal).

Some of these cultivars are clearly colonial introductions, e.g. those with names pointing to origins like Java, Malaysia or Jamaica (and Bengal?). In colonial times, Juba (Ethiopia), Malindi (Kenya) and Maputo (Mozambique) were all areas with large-scale commercial banana plantations. Many bananas, also, were introduced to the botanical garden of Zomba in the Mulanje area in south Malawi, which is very suitable for banana growing.

Names in banana collections, especially those which contain an English (or French) element are often inventions of researchers and should not be mistaken for local names. Examples of this are **bukoba giant**, **cooking kinole**, **dwarf uganda** or **green/red michele** (in the Morogoro collection in Tanzania) and **zomba green/red** or **katsizi dwarf/tall** (in the Mvumbwe collection in Malawi).

Moreover, names or origins mentioned on collection labels sometimes did find their way to the local languages. Examples of this are **salyong** or **salon** (`Sierra Leone') in Cameroon and on Fernando Po, **dinekri** (`Conakry') in Gabon, **pazi** (`Paz') and **mshale** ('Gros Michel') in Tanzania, **musa** in Uganda, **israel** in Kenya and the different **uganda** names in Kenya, Tanzania and Malawi (for "alien" as well as for East African highland bananas).

Portuguese names are very dominant in Mozambique. One of these can be traced back to **barbaro**, which is the Mexican name for ABB 'Bluggoe' (cf. Arowak Amerindian **bara bararo** `(over)sea(s) *Heliconia* ' for AAA 'Gros Michel'). This Mexican name is rendered in Mozambican languages as **(ka)boabora** (a *metathesis*) or **mulaboa** (a reinterpretation of the first syllable as a plural prefix and singularisation of **ba-** to **mu-**). It spread to Malawi as **kholobowa**, to the Hova in central Madagascar as **boraboaka** (or **akundru makua** `the Makua banana'; Mozambicans are called "Makua" in Madagascar), and to Mafia, Zanzibar and Pemba as **koroboi**. On the other hand, one of the Swahili names for this cultivar, **bokoboko**, is remarkably similar to **bokbok** for the same cultivar in Trinidad.

Only a few (recognizable) cases of names indicating origin for "traditional" banana cultivars were found. Examples of these are **madoke vadusi** `Tutsi matoke' (AAA EA) in Nyamwezi (F22), **ndizi uganda** (AAA EA) in Nyakyusa (M31) and the **kiganda** and **kampara** (`Uganda', `Kampala') names for the group of AAA EA cultivars in Gikuyu (E51) and Kamba (E55) in central Kenya. These are names of relatively recently introduced, as opposed to "local" highland bananas. Other examples are:

AB 'Kisubi'		
J32	**kisubi**	(Ki)Subi area (south-west of Lake Victoria)
AAB 'Prata'		
B43,44,62 }		
B73,H11a,12}	**°san tome**	Sao Tomé
ABB '(Silver) Bluggoe'		
M31	**halale**	Harare
ABB 'Pisang awak'		
A34,75,85a	**fugamu**	Fougamou town
M31[tanzania]	**songea**	Songea area
M31[malawi]	**zambia**	Zambia (brought by migrant workers)
E62c	**kibungara**	Bengal
AA 'Sucrier'		
A75	**konakri**	Conakry (banana collection)
B41,43,44 }		
B52, H12a}	**dinekri**	Conakry
AAA 'Gros Michel'		
A34,74a,75,84}		
A85a, B22[p],25}	**salyong**	Sierra Leone (banana plantations)
B11	**dongila**	Dongila village (catholic mission)
AAA 'Giant Cavendish'		
E62c, G51	**malindi**	Malindi town (banana plantations)
N15	**mulanje**	Mulanje area (banana plantations)
P34	**munyaringa**	Munyaringa district (near the coast)
AAA 'Dwarf Cavendish'		
A43,72,74b	**tiko**	Tiko (banana collection /plantations)
M31	**mulanje**	Mulanje area
P34	**kabuto, Maputo**	Maputo (banana plantations)
	munaburu	of the Boers? (in neighbouring South Africa)
AAA '(Green) Red'		
G21	**kiganda**	Ugandan
E62c	**ndizi uganda**	Ugandan banana
AAA EA cultivars		
E55	**kiganda**	Ugandan
J53	**cinyamuunyu-kagera**	banana from Kagera region
(False?) Horn cultivars		
J53	**mijooco-emishaba**	banana from Shaba region
J61[west]	**umushaba**	Shaba

period

Names referring to a certain historical period are all very recent.

AAA 'Dwarf Cavendish'

E62b	**mchare wa kisasa**	modern **mchare** (an AA cultivar)

AAA EA, chimaeric

E62b	**ndizi ya uhuru**	Independence banana (from the time when Tanzania became independent.

ABB 'Pisang awak'

B51,52	**centenaire**	centenary (of Lastourville, Gabon, in 1982)

introducers

The following names also provide us with information about the time of introduction.

False Horn, yellow pendulous fruits

A86a	**zapi**	ZAPI (an agricultural development organisation in east Cameroon in the 1970's.

AAB 'Prata'

B11	**itoto ny'afala**	banana of the French (in colonial times, the people were obliged to plant this cultivar, as emergency food in times of famine)

AAA 'Red'

H12a	**satuma ci nganga sambi**	banana of the American missionaries (American missionaries were active in the area in the last decades of the 19th century)

AAA EA "Original"

B51	**letoto iputa**	banana of the Europeans (or Portuguese; 16th century?)

humans

These names allude to a specific group of users, or to certain conspicious features of the cultivars in question.

AAA 'Dwarf Cavendish'

P32	**marusi**	young girl (because of its stature)

AA 'Sucrier'

B22a	**angwa nsombe** } **nsombo omiale** }	beautiful girl
B31	**etoto a genami**	banana like a beautiful girl) the fruits of this banana are smooth and light-coloured)

AAB 'Silk'

N15	**lazaro**	Lazarus (because of hard spots on the fruit flesh)

AAA 'Red'

A84	**toro le bejüe**	banana of the dead (cultivars with red stems or red fruits are often used for magical purposes
A85a	**etora bidim**	banana of the spirits

AAA EA "Original"

B11e	**i. nyemba** }	banana of the witch-doctors (tthis cultivar is
B41	**d. di balosi** }	mainly used for medicinal purposes)

AAA EA, acyanic bud

D32	**ndyabakama**	food for kings (because of the white colour of the male bud)
	gbebe basalya	banana for men

animals

These names refer to the colour, the size or the shape of some part(s) of the cultivars named.

French Giant Green/Red/Black

A80-90	**njoku, zok**	(big as an) elephant
B26	**syubu**	red antelope sp. (red stem)
B22a	**nzibye**	black antelope sp. (black stem)

French Medium, brown/spiraloid/fused

A74a,75	**nkok**	brown antelope sp. (brown fruits)
A75	**kweny**	snail(-shell) (spiraloid bunch)
A85b,B20-70 }		
C10, H10 }	°**-seluka**	porcupine (spiny aspect of bunch)

False Horn Giant Green

B11c	**ewange zi njogu**	elephant's ewange

AAA EA cultivar

E74b, G42	**izu/ndizi ya ng'ombe**	cow's banana (for fodder)

AAA 'Dwarf Cavendish'

E62c,73,G21,51	°**ki-guluwe**	pig (the bunch almost touches the ground and is eaten by pigs)

body parts

These names mainly indicate certain features of the fruits.

French Giant

A70	**esong**	teeth (the fruits are tightly packed and neatly arranged, like a set of teeth)

French Medium, fused pedicels

A80, C15	°**-donzy**	(like the) palm of a hand

Horn Medium Red

H11	**mundeledinga**	white man's neck (stem-colour)

plants

These names often refer to plants having similar features (in colour or form, or in use).

French Medium, red sap

B25	**tonukwe**	a tree sp. with red sap

French Medium Light Green

B41	**diba**	mango (resembling colour/form of fruits)

French Medium Green, nfpd

J22	**kagoye**	bark fibre trees > strings (cf. CS 860, 861 ***-gòyè** or **gòyi** 'string, cloth'; see chapter 4.3.1)

colours

Names pointing to the colour of the stem or fruits are very common

French cultivars (Green, Red, Black, Light-Green, Dark-Green)

A75,B25,52	°**-jedi**	light-coloured
B42	**mutubu mubenge**	red French Giant
B42	**mutubu mupinde**	black French Giant
B41,43	**pembi**	kaolin (white clay)
B31,41,43,51,52	°**-bidu**	black
P32	**mwelu**	white
Ibibio (LCr)	**afia ukom**	white plantain

AAB 'Prata'

B22a,25,42,51 }		
B62, C22 }	°**-dang-**	red (or ripe banana)

AAA 'Red'

B43,44,H12a	**(makaya ma)ngoro**	red (leaves)

AAA 'Gros Michel'

B44,H12a	**ngoro ivembu**	white AAA 'Red'

ABB 'Silver Bluggoe'

J22	**kinyaiju**	ash-coloured
M31[malawi]	**kawalufu**	ashes, powder

various features or resemblances

The following names highlight some striking feature of the cultivars.

French Giant Green

A75	**mfang**	heavy charge
A75	**nadedeng**	echo (main bunch followed by a smaller bunch, on the same axis)

French Medium, spiraloid/blunt/fused

A87,92,C15,H11	°**dingadinga**	turn-turn (of fruits around axis)

B30[puvi]	**ebee makuti**	short French plantain (short fruits)
A34,70,B11a,22a	**elat**	union (pedicles grown together)
French Small		
A84	**bobie ekpal**	short French plantain
False Horn Medium Green		
Baka (Ub2c)	**mgbengbe**	big (fruits, as opposed to French plantains)
Horn, 0/1/2/3 hands		
B44	**muvungu**	female axis (without fruits)
B73	**itangi imosi**	one hand
Malagasy	**tsiamiaroa**	two hands
C15	**mosatu**	three (hands)
AAA 'Dwarf Cavendish'		
G44a	**kuti**	short
A74a,75	**ondek(endek)**	dwarf
AAA EA cultivar		
E51	**mototo**	soft
AA 'Sucrier'		
A75	**mviim bore**	one year (from planting to harvesting)
Malagasy	**malamarivana**	smooth leaves
AA, acyanic male bud		
M31[malawi]	**ndyali uluwa**	ndyali-flowers (an AA cultivar)
AAB 'Mysore'		
Malagasy	**bifitina**	hundred (fruits)

uses

Names indicating the use of certain cultivars are rare.

French Horn Red-Green Chimaera		
B40[vungu]	**digondi di mumbwiri**	plantain for the Byeri cult
False Horn Medium, yip		
A86c	**ndenge**	(plantain for) "ndenge" mash
AAA EA "Original"		
A75	**adzyü bibem**	banana of spleen (i.e. for treating spleen disease)
AAA 'Red'		
Baka (Ub2c)	**taabu a ediyo**	banana for fetishes

syntagmatic names

These types of names contain a verb, and are often used in a descriptive or a metaphorical way.

French Medium, fused pedicels		
B11c	**gwazorema**	a mother has no heart

Horn

H12b	**kiala mooko**	to stretch hands, to beg
Malagasy	**tsimananyamboko**	has no male bud
Baka(Ub2c)	**sia bako**	look up at sun (erect bunch)
J15	**solabesazala**	I do not rear (no fruits)
B22	**akonde isangwe**	has no plantains (no fruits)

AAA EA cultivar

J15	**muziranyama**	forbidden to eat with meat

ABB 'Pisang awak'

H16f	**binda tuna**	swallow quickly
M31	**gurutu mpokanjara**	hunger saver

AAA 'Dwarf Cavendish'

Malagasy	**tsianrenyi**	you don't have to look up
A75	**asim entie**	has stopped growing

Borrowed names:

Whether (the form and/or meaning of) names were borrowed or independently coined in different languages is often difficult to ascertain, the more so when they occur in closely related languages. Names that arose independently may concern the same, similar or different cultivars, in closely- or far-related languages, as well as in nearby or in distant areas. On the other hand, names that were exchanged between different linguistic groups, especially in areas with different ecological conditions (and therefore with different agricultural traditions), may be easier to detect. Examples of these are the Ubangi and Bantu languages in the border area of Cameroon, the Central African Republic, Congo and Congo(-K.). Many of the Ubangi peoples have a savannah background and adopted the cultivation of plantain in a not too distant past, from the Bantu peoples who were living in the forest (see chapter 4.3.5).

loans (form)

French Medium Red

M31	**fuwira**	< Nyanja (N31a) **-fuira** 'to be red'

French Medium Green, red sap

Kako (A93)	**angia**	< A80 'blood' (in Kako **mekiyo**)

loan-translations (meaning)

French Medium Dark Green

B20-50	**-taba**	goat (dark-coloured)
B44, H12a	**kombo**	sheep (< B20-50 **-taba**)

folk-etymologies

An example of a folk-etymology can be found in Sara-Ngambay, a Central Sudanic language in Tchad that has **ko(n) banana** `mother of banana'. In fact **ko(n)** is a loan from Gbaya (Ub1) **konu** `banana', which in its turn is a loan from Bantu (or Mbum (Ad.)). Another example is the name **melik angur** for AAA 'Dwarf Cavendish' in Bekwil. The meaning given for this name was `abandoned village' (**nguur** in Bekwil), a reinterpretation of **ngur** `short' in Fang, see the Fang 1 form **angura akone** `short Akone'. The name **gros michel** has led to forms like **saint michel** (at a nunnery!), **vermisel** or **mimisel** and a Njem informant explained the name **baa** (False Horn Medium Green) as meaning `(it is) finished', but the form derives from **°-banga**.

False Horn Medium

A84	**baa**	finished (homophony; < ***-banga** False Horn Medium; cf. **gaa** `healer' < ***-ganga**)

Independant analogies:

French, blunt in Central and West Africa:

Baka (Ub2c)	**lee ekpa ebobo**	fingers of gorilla
Twi (K)	**kwakuo nsa**	fingers of Mona monkey

Various spiraloid cultivars in West-Central and East Africa (`to turn'; cf. CS 587 **\*dingá** `ring'):

Zones A,B,C	**°-dingadinga**	French, spiraloid
J15	**kiriga**	French, spiraloid
D32	**narwejenga**	AAA EA, spiraloid

Various red cultvars in West-Central Africa (cf. CS 824 ***-gìdá** `blood'):

A80,90	**°-kila**	French, red sap
A15b,24	**mutia**	False Horn, red
A75	**ntie**	French Giant Red
Yangiri (Ub1)	**kondu to**	AAA 'Red'

Various striped cultivars in West-Central Africa (cf. CS 340 ***-cíndí** `striped squirrel' and CS 91 **\*-béndé** `striped rat'):

Gabon, N.Congo}		
S. Cameroon }	**°-cende**	False Horn White-Chimaera
B41,43	**°-cende**	False Horn Black, black-striped
A74b	**sala**	False Horn White-Chimaera
B25	**mbende**	False Horn White-Chimaera
B44, H11	**mbende**	False Horn Black, black-striped
B73, H11,12b	**mbende**	French Red, dark-striped

Various blunt cultivars in West-Central and East Africa (***-kukud-** `short'):

B22a	**kukudu**	False Horn, blunt
J22	**nfufula**	AAA EA, blunt

The conclusion may be that when basing the study of the spread of a crop and its cultivars on the spread of their names, one should be aware of the different factors that may have contributed to the shapes and meanings of these names. Some of the factors involved are borrowing between languages with different phonological systems, semantic drift (e.g. from bark-fibre plants > musa bark-fibres > musa pseudostem > musa cultivar > musa cultivar group > musa), loan translations, chance resemblances and folk-etymologies. The borrowing of names between closely related languages also complicates the search for their origin and pathway(s) of spread, especially so in the Bantu languages. The following table summarises the above-treated aspects of cultivar names that are relevant for musa-historical purposes.

Table 4.7 Origin, domain, distribution and semantics of musa cultivar names in African languages

Origin:
- created - different (newly coined)
  - same (independent analogies)
- borrowed - form and meaning
  - meaning (loan translations)
  - form (folk etymology)

Domain:
- same cultivar
- different cultivar(s) - with shared features - same bunch type
  - other features
  - without shared features

Distribution:
- widespread - scattered (old, inclusive)
  - uniform (relatively recent, important)
  - recurrent
- localized (recent, unimportant)

Semantic fields (from which musa names are derived):

- local	- humans	- colours
- origin	- animals	- various features/resemblances
- period	- body parts	- uses
- introducers	- plants	- other

4.3.4 Names of parts of the musa plant

The main parts of the musa plant that are distinguished by name in languages are the corm, pseudo-stem, leaves, bunch, hands, fingers and male bud. As with the musa crop, the musa plant forms a kind of continuum that is divided in different ways in different languages. This means that the morphological entities are not always strictly separated by name, and that cognate names in (related) languages do not always apply to exactly the same parts of the plant.

In chapter 4.3.1 examples have been given of generic musa names that are used for other plants too. Here we shall see that this may also be the case with names of the musa plant or stem (see ***-kinda** and ***-tinde**). Moreover, the names of certain (groups of) musa cultivars may have been drawn from a part of the musa plant (see ***tu(m)ba** and ***-kanga**, chapter 4.3.2).

Another point is the areal spread of certain synonyms. For instance, in the Bantu and Ubangi languages of northern Congo(-K.), the musa bunch is usually called 'head', whereas musa leaves are called 'ears' in Kenyan languages. Widespread also is the etymological relation between verbs for 'cutting' and names of the musa stem, or between verbs for tying and names of the musa hand.

In spite of the aforementioned continuum where the names of the different parts of the musa plant are concerned, one division seems to be relatively stable in all languages. This division is between names for the vegetative parts and names for the generative parts of the plant, i.e. between corm, pseudo-stem and leaves on the one hand and the bunch, hands and male bud on the other hand.

Following is an overview of the main ways in which the parts of the musa plant are labelled in Bantu languages.

Names of the vegetative parts of the musa plant:

Musa suckers are called 'child' in Nyoro (J11; **munyana**), Tooro (J11; **ebyana**), Rwanda (J61; **umutoto**), Chaga (E62; **kyana** or **iana**) and Nyamwezi (F22; **nyana**), or 'young calf' in Gikuyu (E51; **moori**) and some other languages.

The use of the ***-tumba** name for the young musa plant, and by extension for the pseudo-stem (and the stem fibres), the leaves or the entire musa plant, can be understood by the image of the spear-like young plants (suckers) emerging from the mother corm (cf. CS 1832 ***-tùmb-** 'to swell' and CS 1837 ***-tùmbud-** 'to pierce'). Examples are Duruma (E74d) **humba** (***t** > **h**) 'sucker', Nyoro/Nkole/Kiga (J11) and Rwanda/Rundi (J61) **omutumba** 'plant', **ikitumbatumba** 'cut stem' and **ubutumba** 'stem fibres', Pare (G22) **ubutumba** 'fibres' and **mtumburuju** 'sucker', Shambala (G23) **lutumba** 'young leaf, leaf bud or sucker' (also 'flower bud' of any plant), Lokele (C55) **-tumba** 'pseudo-stem' and kiMbundu (H21) **kitumba** 'plant'. Kony (SN) **matumwet** 'ensete' must be a Bantu loan. In Basaa (A43) and Bankon (A15g) ***ntòm*** (****-tumba***) *means* 'sucker' (*cf.* Basaa ***-tomob-*** 'to sprout, shoot up'), but in the other Bafo dialects (A15) **-tòm** has become the generic name of plantain.

Similarly, Kerebe (J24) and Kwaya (J25) **lituba** and Mongo (C61) **bòtúwá** `stem' can be related to CS 1814(a) **-túb(ud)-** `to pierce'. Both ***-tumba** and ***-tuba** are found as names for the French Giant Green/Green-Red/Red cultivars in several languages in Gabon, Congo and Congo(-K.) (see appendix B). In some languages also, the generative parts of the plant are indicated with a ***-tumba** or a ***-tuba** name (see below).

Sometimes, (parts of) palm trees and musa plants also share names in Bantu languages. The first example is ***-dàdá**, which has been reconstructed as `palm species' (CS 457) or `palm frond' (CS 458) by Guthrie, and which mainly refers to *Hyphaene* spp. (Palmae), or sometimes also to the leaves or plants of tall Gramineae. The leaves of these palm trees are used in bedsteads or made into sleeping mats. Musa leaves are used for similar purposes, which is why they are called likewise in some languages, e.g. Bodo (D35) **madada** and Nyamwezi (F22) **madala**. Logoli (E41) **malala** and Gikuyu (E51) **itharara** explicitly refer to dry musa leaves used as bedding. When ***-dada** is part of a compound name, this name usually refers to the entire musa plant, e.g. Nyamwezi **musambalala**, or **nsambala** in Fipa (F13) and in languages of the Rungu (M10) and Nyika-Safwa (M20) groups (see also Schadeberg 1994, on the subject of **-ad-** "extensive extensions"). Similarly, Kinga ((G65), Malila (M24) and Nyakyusa (M31) have **-ßangalala** `ensete'.

The second example is found in northern Tanzania, where ***-kinda** is the name of the musa plant or stem in for instance Chaga (E60) **-(k)i(n)da**, Tubeta (G21) **nginda** (***nk** > **ng** in Tubeta and northern Pare), (southern?) Pare (G22) **nkìndà**, Daiso (E56) **ngenda** or **nginda** (a loan from Pare according to Nurse 1979:552), Ongamo (EN) **ong'indai** or **nang'indai** and Mbugu/Ma'a (Bantu and/or Cushitic?) **ikinda** or **makindeno** (**-eno** is considered to be a Southern Cushitic plural suffix by Ehret 1980:56, but see Mous forthcoming). This name is borrowed from *Phoenix reclinata* Jacq. (Palmae), the wild (dwarf) date palm (cf. CS 1066 ***-kìndú** `kind of palm tree', e.g. D32 **enkinu**, J11,15,31/G42/E74b **-kindu**, or E51,55 **-kendo**). Copi (S61) **ingenda** is either used for this date palm or for a young coconut tree before bearing fruit. The cultivated date palm, *Phoenix dactylifera* L., is called **mtende** `date-palm' in Swahili (see below). Musa and palm trees are often used in the same kind of rituals or ceremonies (see chapter 2.2), which is why in Mongo (C61) **nkinda** is either a musa plant or a palm tree that has been planted by a magician.

In Zone J languages, the dry leaves of musa are named after (the dry leaves of) *Phoenix reclinata*. This tree, of which the leaves are used for mats, is called **lusansa** in Soga (J16), which can be related to CS 282 ***-cànj-** `to spread, put across'. Matching names for dry musa leaves are **essanja** in Ganda (J15), **isansa** in Nyoro (J11), **-shansha** in Haya (J22), **lisàànzà** in Gisu (J31a) and **achanya** in Lotuko (WN; a loan from Bantu).

In the same way, Chaga (E62) **masaa** or **masaho** (°**masagho**), Pare (G22) **isago**, Shambala (G23) **shwagho**, Bondei (G24) **swago** and Arusa (EN) **ilmasako** (a Bantu

loan) 'dry musa leaves' can be related to Pemba (G43) **sago** 'plaited leaves of the wild date palm' (see also Philippson 1984:147).

Kiga (J11; Uganda) **entende** 'musa bunch' and UMbundu (R11; Angola) **ócilendé** 'musa plant or stem' are probably borrowed from a palm tree too (cf. CS 1712 ***-téndé** 'kind of palm tree'). The voiced first stem-consonant in the UMbundu form is irregular, but the name may have originated more to the north-east, for instance in the KiMbundu (H12) dialect of the Malange area which has **ndende** 'oilpalm fruits'. Other possibilities are languages where ***t** > **r** or **l**, such as Boma (B74b/82), or some Zone C language higher up the Congo river where ***t** > **l** (e.g. Ngombe (C41) or Doko (C31); see Motingea 1996:56). Ngombe also has a musa cultivar called **boténdé** (°**bo-ntende**) as well as an unidentified (red-coloured palm?)fruit called **moténdé** (cf. **-ndende** 'ripe musa fruits/banana' in northern Congo). All this points to an area on the Congo river (around the "Pool" near Kinshasa, east of the Bateke Plateau), from where these names spread to northern Congo and to north Angola.

Shambala (G23), Bondei (G24), Zigula (G31) and Comoros (G44) **tindi** 'musa plant' can probably be related, in one way or the other, to Chaga (E62c) and Njuani (G44b) °**-tindi** 'taro plant or tuber' (*Colocasia* sp. (Araceae)).

A common name for (parts of) the pseudo-stem of musa is ***-tínd-**, e.g. Myene (B11) **otindi** 'musa stem(-fibres)', Shi (J53) **míntînda** 'pieces of cut musa stem, Tonga (N15) **citindizi** 'musa stem' and Matumbi (P13) **lindinda** (***nt** > **nd**) 'musa plant'. In Gesogo (C53) **-tinda** means 'to cut down a musa plant' and this verb is used by the Lokele (C55) in the talking drum phrase for 'plantain' (**likondo libotindela**).

Widespread also are ***-tína** names (cf. CS 1756 ***-tínà** 'base of tree trunk'). Examples of this are **-sina** 'musa stem' in Mbede and Ndumu (B61,63), Kerewe (J25), Taita (E74; 'musa clump'), Kaguru (G12) and Zaramo (G33), **-tsina** in Rwanda (J61) and possibly also Basaa (A43) **títin** and Bulu (A74) **atin** or **tine** (°**ntína**?) 'musa clump which remains after the stem has been cut'.

Southern Gisu (J31) **lusinzi** '(boundary of) musa plantation' (cf. **khisinza** 'piece' < **-sinza** 'to slice, slaughter') and Kerewe (J25) **sinja** (***-cinja**) 'piece of musa stem that has been cut down' probably refer to the fact that musa plants are cut down after harvest (cf. CS 341 ***-cínj-** 'to butcher').

Similarly, the musa plant is called **nsenge** or **musenge** in Ronga (S54), **musenge** or **ntsenge** in Copi (S61), while in Nyakyusa (M31) the musa corm is called **isenge(ra)** (cf. CS 321 ***-cèng-** 'to cut').

Plant leaves are called ***-tu** 'ears' in the E40 and E50 languages in Kenya (cf. CS 1801 ***-tú** and CS 1813 ***-túí**, 'ear'). Musa leaves are called likewise in Taveta (G21; **ijitu**), Embu and Meru (E52/53; **eto**), Kamba (E55; **matu**), Dabida (E74a; **ndundu**; cf. **ku-du** 'ear') and in Gisu, Kusu and Hanga (J31a,c,32; **matú** or **marú**), while in Kamba (E55) ensete is called **makulutui** 'big ears/leaves'.

Names of the generative parts of the musa plant:
As with names for the vegetative parts of the musa plant, the names for the different parts of the musa bunch do not always correspond in a one-to-one way between languages, although regional trends can be observed.

Not only the young musa plant (see above), but also the musa bunch is found with a ***-tumba** or ***-tuba** name in some languages, e.g. Nande (J42) **omutumba**, Kamba (E55) **nthumba** and Nyakyusa (M31) **ntumbura**. This name is probably motivated by the fact that the young inflorescence has to pierce its way upwards through the centre of the pseudo-stem in order to come out at the top, after which the fruits swell up and develop into a full bunch.

The emergence of the bunch from the pseudo-stem is reflected in the ***-túka** name, which is derived from a verb with the meaning `to come out' (cf. CS 1828 **\*túúk-**, D25 **-tuk-** `to come from' and D43 **ituka** `to come out'). The musa bunch is called **ketuka** in Boma (B74b/82) and **ètúkà** in Bolia (C35), Lingala (C36d; dialectal), Ngombe (C41) and Mongo (C61). In Mongo, the bunches of palm and other trees are also called **etuka**.

Another name for the musa bunch refers to the bent form of the peduncle (cf. CS 1160 ***-kòtam-** `to become bent', G42d **-kota** `bend, crookedness', J10 **-goda** or **-gota** `to bend, fold' and E51 **-gogota** `to bend down'). The underlying form of Gikuyu (E51) **ngoti**, Gusii (E42) **engote**, Luyia (J32) **ngota**, Luo (WN) **ngota/ngoti** (a Bantu loan) and Ganda (J15) **enkota** is °**-kota** (or °**-gota**; Dahl's law!), but °**-goda** in Tooro (J11; **omugora**) and Meru (E53; **kigaro**; a metathesis?).

The male bud is called **kiongoro** or **mukoro** in Gikuyu (E51), **ngoo** in Kamba (E55) and **ng'o** in Ganda (J15), which means `heart' (cf. CS 1115 **\*-kódò** `heart').

The musa bunch is called ***-kungu** in many languages of Zones E,F,G,J,M,N and P. This name conveys a meaning of `something gathered up' (cf. CS 1227 **\*kúng-** `to assemble') and refers to the fact that the bunch is made up of several hands and fingers (cf. Indo-Malaysian **pisang** `musa' < Austronesian **\*pisan** `united, joined'; Blust 1989:157).

The hands of musa are positioned around the axis of the bunch in a more or less spiraloid way, and this is reflected in the ***-dinga** name (see chapter 4.3.1).

Most names of the hands of musa can be glossed as `collection', `assemblance', `unity', `bundle', `branch', `fruit stalk' or `bunch'. We saw above that **-kanga** means `musa hand' in Monokutuba (H16), NTandu (H16g), Iboko (C36d), Mbuunda (K15) and Mbala (K51) and that these forms can be related to CS 785 ***-gàng-** and CS 1007 ***-kàng-** `to tie up, seize'. In Bulu (A74) and Fang (A75) **ekang'** is a bunch of fruits, especially of palm trees, and in north Congo and Congo(-K.) we can find that the name is used for the Horn Medium Green plantain.

The musa hand is called **eka** in Nen (A44), **ke** (with a central vowel) in Makina (A75), **èká'** or **èkák(é)** in Njem (A84), **lekaka** in Kele (B22), and **kaa** in Mbama (B62). These forms correspond to the word for the human hand (e.g. Sangu (B42)

díkáké, Punu (B43) **díkàkè**, Ndumu (B63) **kàhá** and Kaningi (B66) **ngághà**). Punu (B43) **mughagha** (***k** > **gh**) refers to the musa bunch, as well as to maize cobs (cf. ps 276 ***-kàk-** and ps 204 ***-gáág-** `to tie up'). In A80 languages ***ng$_2$** > **k**, **'** or **Ø**, and in several B60-80 languages ***ng$_2$** > **Ø**, so Njem (A84) **eka'** and Mbama (B62) **kaa** can be related to either ***-kaka** or ***-kanga**.

The musa hand is called ***-cang-** in an area ranging from south Cameroon to Malawi (cf. CS 285 ***-càng-** `to assemble'). Examples are Benga (A34) **ehangi** (***c** > **h**), Kukuya (B77a) **kìnsàà** (***ng$_2$** > **Ø**), Aka (C14) **èsàngì**, Luba (L31) **cìsángì** or **cìsáángá**, Bemba (M42) and Tonga (N15) **cisangu**. Bulu (A74a) **nsàng'** is a string or bunch of objects held together with a cord, **ésàng'** a cluster of fruits and **àsàng'** a musa hand, while Bemba (M42) and Tonga (N15) **cisangu** also stands for things that form a cluster (such as musa hands, corn cobs tied in a bunch or a string of fishes). Yaswa (Ub) **seng'** and Gbaya (Ub1) **sang'** were probably borrowed from neighbouring A80 languages (cf. Bekwil (A85b) **-sang'** or **seng'** and Mpiemo (A86c) **sang'**).

Another widespread name is ***-caga** `musa bunch', e.g. A70 **nsá'**, **nsákh** or **nsàk** (`big bunch'), A80 **nsaa**, **nsagaa**, **ságé**, **sa'a** or **sa'o** and Mbama (B62) **nca**. In several languages also, the musa hand is called ***-caga**, e.g. Babongo (B73b) **yitsa**, Beembe (H11a) **nsàká** (***g** > **k**), Nyole (J33) **esaka** (***g** > **k**), Safwa (M25) **isagasa** and Yao (P21) **cisagwa**. Nkomi (B11e) **esaga** means `bundle', whereas Punu (B43) **isaga** (***-caka**?) is a cluster of fruits or a group of objects attached to each other.

The musa bunch is called `head' in Makonde (P23; **mutwe**), Luyia (J32; **umutwe**) and Gisu (J31a; **kumurwe**), and possibly also in Elwana or Malankote (E71; see table 4.5, below). In Ubangi languages all fruit bunches (whether of musa or of other plants, e.g. of palm trees) are called this way, e.g. Yaswa (Ub) **yu**, Gbaya (Ub1) **zu**, Ngbandi and Sango (Ub2b) **li(ti)**, Gbanziri Ub2c) **le** or **nju**, Baka/Ngombe (Ub2c) **njo(njo)**, Monzombo (Ub2c) **njo** or **nzo** and Ngbaka **nzu** (Ub2c). The Bantu languages in this area also call the musa bunch `head', e.g. Makaa (A83) **lu**, Bekwil (A85b) **lo**, Bakum (A91) **tulo**, Pomo (A92) **lo**, Kako (A93) **to**, Ngom and Kola (B22b) **tu(le)**, Aka (C14) **mosoko**, Bokiba (C15) **moto** (a loan from Lingala) and Lingala (C36d) **moto**.

Nurse & Hinnebusch (1993:632, 638) reconstructed both ***kica** and ***ncana** `musa bunch' for Proto-Sabaki (E71-3, G40). They suspected a relation between the first and ***nca** `point', because reflexes of both stems are homophoneous. However, these names do not refer to the bunch but to the hands of musa (cf. Pokomo (E71) **ica** `bunch of small fruits'). Also, as can be seen in the table below, some ***kica** forms, such as Elwana (E71) **getwa** and Lower Pokomo (E71) **kitswa**, are very similar to reflexes of ***kicwa** `head' (see above), whereas others are homophoneous to those of ***kicana** `comb'. Possible (folk-etymological?) motivations for these two names could be that the male bud of musa has the form of a pointed cone, or that the hand of musa resembles a comb (and is called likewise e.g. in Dutch). More likely is a

relation to the verb **-canua** `to open out', of plants or of the bracts of the flower bud of musa. These bracts open one by one and each of them covers a hand of flowers or of young musa fruits. The male bud of musa consists of bracts and male flowers and is called **kichanana** (*-**chan-ana**?) in Tubeta (G21) and **cana** (*-**ca-na**?) in Tonga (N15), whereby **-(a)na** could be a derivational suffix with the meaning `young, not fullgrown' (cf. CS 1922 *-**yánà**, CS 336½ *-**ná** `child', Pokomo **-anana** `unripe', or Swahili **mtoto** which means both `child' and `male bud of musa').

The fingers of musa are called **c(h)ala** in Mijikenda (E72), Digo (E73) and Swahili (G42), **iala** in Sukuma (F21) and **msele** in Chaga (E62) (cf. CS 920 *-**jádá**, CS 1893 *-**yádá** and Proto-Sabaki ***kyala** `human finger'). In some Swahili dialects we find **dole**, which has the same meaning, and the same is the case with Tubeta (G21) **mnoa** and Amba/Isi (D32) **monoe** or **munwe** (cf. ps 360 \*-**nò** and CS 1372 \*-**nùè** `finger'). Rendille (EC) **farole** `musa' also comes from the word for `human finger' (**faro**).

Lingala (C36d) and Iboko (C31) **mùntóbó** and Bongili, Bokiba, Mikaya, Luma and Benjele (C15) **motobo(lo)** `musa finger' can probably be related to CS 1772(a) \*-**tób(ud)-** `to pierce' (with finger?).

Finally, in Tooro, Kiga, Nyoro (J11) and Rwanda (J61) the musa finger is called **iwere** or **ibe(e)re** `breast'.

Table 4.8 Names for `musa hand' in Sabaki languages and possible (folk-?) etymological relations

Language	*musa hand*	*(to) comb* [+]	*musa hand*	*point*	*head*
P-Sabaki	***ncana**	***kicana**	***kica**	***nCa**	***kicwa**
E71[elwana]			**getwa**		**kecwa**
E71[upper]			**kica**		**kitswa**
E71[lower]	**ntsana**		**kitsa**	**ntsa**	**kitswa**
E71[lower]	**nsana**		**kitswa**		
E72a[giryama]			**kitsa**	**tsha**	**kitswa**
E72d[duruma]	**tsana** [#]	**-tsana**			**kyitswa**
E73[digo]	**tsana**				
G41[mwiini]		**tana?**		**ntha**	**cita**
G42[north]	**tana** [#]	**-tana**	**kita**	**ntha**	**kitwa**
G42[south]	**chana** [#]	**ki-cana**	**kica**	**ncha**	**kicwa**
G44[comoros]		**n-tsana**		**ntsa**	**-tswa**

[+] *-**can-** [#] Proto-Bantu ***c** > southern Swahili **c**, Mijikenda **ts** and northern Swahili **t**

4.3.5 Spread of musa names in West-Central Africa

The patterns of distribution of musa names may not only provide us with clues about the history of musa in Africa, but possibly also about the history of the peoples speaking the languages in which these names occur. We shall test this supposition on different levels, i.e. on that of a *dialect* group (Bekwil, A85b), a *language* group (Makaa-Njem, A80), a *socio-economic* or *ethnic* group (hunter-gatherers or pygmies: Benjele, Mikaya and Luma (C10), Kola (B22b) and Baka/Ngombe (Ub2c)) and, finally, on the level of a *geographical* group (northern Congo and Gabon: A87, C10-20, B10-60).

Dialect group:

The Bekwil (A85b) language consists of a group of dialects which are spoken in the border areas of Cameroon, Gabon and Congo. The Esel or northern Bekwil ("Bekwil-Ca") live in south-east Cameroon, the Mabeza or western Bekwil ("Bekwil-Ga") in north-east Gabon and the Ebaa, Mekuob and Zalage or eastern Bekwil ("Bekwil-Co") in the north-western part of north Congo (see also Siroto 1972:59). Another small group, called Bokaka, was reported from the area between the Motaba and Likouala-aux-Herbes rivers in the eastern part of north Congo at the beginning of this century (Periquet 1915), but nothing more is known about them. The generic plantain name **kwado** recorded by Periquet is indeed Bekwil and the rest of his word-list strongly resembles Bekwil too.

According to oral tradition, the Bekwil-Co chased the Kota (B25), who were the former inhabitants of the western part of north Congo, out of that area. The use of the names **zigdieb** or **zigediam** for the French Medium Green cultivar and ***-biki** 'musa bunch' (see below) that Bekwil-Co shares with Ngom/Kola (B22b) and Kota (B25), and the distribution of the latter name in the C15 languages in the area, suggests that the Bekwil-Co borrowed these names from B20 languages upon their arrival in north Congo.

Where the distribution of cultivar names in the Bekwil dialects is concerned, these are either widespread in West-Central Africa, more or less restricted to the group of A80 languages, borrowed from A70, B20 or B30 languages, or found in just one of the Bekwil dialects. As can be seen in the following overview, names that are found only and in all Bekwil dialects do not exist:

Cultivar names found in Bekwil and in other languages in the area:

- Bekwil Ca/Ga/Co **baa** (False Horn Green): belongs to a widespread name (***banga**) in Western Bantu, but is found in this form (i.e. with **ng** > **Ø**, which is regular in Njem and Bekwil) only in Njem (A84), Bomwali (A87), Pomo (A92) and Sake (B25).
- Bekwil Ca/Ga/Co **biye** (French Small Green): a ***-bidi** name (widespread in Congo and Gabon) is found in this form (i.e. with ***d** > **Ø**, regular in B30 languages) only in A80 languages and in Pomo (A92).

- Bekwil Ca/Ga/Co **nazika** (French, fused pedicels): comes from the widely-used ***seluka** name in west Congo(-K.), Congo and Gabon, but is found in this form only in Konabe (A85a) and Kako (A93).
- Bekwil Ca/Co **seseez** or **sisiiz** (False Horn Medium Green-Chimaera): common in Zone B (***-sendi**), but found in this form only in A80 languages.
- Bekwil-Ga/Co **dum(u)** (Horn Medium Green): also found in some neighbouring languages in south-east Cameroon, e.g. in Bulu (A74a), Bajue (A84) and Kako (A93).

Cultivar names only found in A80 languages:

- Bekwil-Ca/Co **pilapila** (French, spiraloid): common in A80 languages.
- Bekwil-Ca/Co **meduma** (French, blunt): common in A85-87 languages.
- Bekwil-Co **na eguluk** (French, brown): corresponds to Njem (A84) **bejuluk** and Mpiemo (A86c) **abivigilu**.
- Bekwil-Ca **medoõ** (Horn Medium Green): only shared with Mpiemo (A86c).
- BekwilCa/Co **-bilo** (French Medium Dark-Green): also found in Njem (A84).

Cultivars with different names in the three dialects:

- French Giant Green:
  - . Bekwil-Ca **zok**: shared with the A85-86 languages in the area.
  - . Bekwil-Ga **elanga** (French, generic): probably a loan-translation of Kota (B25) **injedi** ('light-coloured').
  - . Bekwil-Co **ngobo**: corresponds to Benjele (C10) **mobo** and Ngom (B22b) **ngombe** (see chapter 4.3.2).
- French Medium Green or French generic:
  - . Bekwil-Ca **bee** (for French Medium Green) and Bekwil-Co **bee** (for French Giant Green-Red): probably borrowed from a B30 language where ***d** > **Ø** (for French generic/French Small Green).
  - . Bekwil-Co **zigdieb**: corresponds to Ngom, Kola (B22b) and Kota (B25) **zigediam**, **zyodyambe** or **zyitambo**.
- False Horn, blunt:
  - . Bekwil-Ga **baa bikulu**: corresponds to Kota (B25) **ebanga bekulu**, but differs from Bekwil-Co **zwom** (False Horn, blunt and Horn, blunt).

The names of the French Giant Green and French Medium Green cultivars seem to have been adopted separately, by the three Bekwil dialects, from their present and previous neighbours (A80, B20, B30). Names of other common and widespread cultivars are shared with the other A80 languages, or even with most other languages in West-Central Africa. Names that are only shared by the three Bekwil dialects were not found (the use of the word **lo** 'head' for the musa bunch is a habit commonly found in Ubangi languages, see chapter 4.3.4). As in so many other languages, the names of the French Medium Green cultivar are also used generically.

The absence of proper Bekwil cultivar names and the origin of the names for the French Medium Green cultivar suggests that the Bekwil adopted the cultivation of

plantain only in their present habitat. This seems to be confirmed by a study of Robineau (1971:118), who states that the Bekwil near Souanke in North Congo mainly grow cassava, contrary to the neighbouring Njem (A84), who's staple is plantain. The same is the case with the Kako (A93) who, traditionally, were not plantain growers either and who are known to have migrated westwards into the rain forest. They came from the savannah-area in the C.A.R., where mainly Ubangi languages are spoken and where cassava constitutes the staple crop.

Language group:
With respect to cultivar names, the group of A80 languages consists of a central or core group (A84-86) and of three periphere languages. The latter are spoken by the Makaa (A83) in the north (living mainly in a savannah environment in east Cameroon), by the Bomwali (A87) in the south-east (living along the Sangha river in north Congo), and by the Bekwil in the south-west. Unfortunately, information is lacking about the Ngumba (A81) near the coast in south Cameroon, who are the most outlying member of this group.

The Makaa name **ntamenjie**~ (°**-ta maje** 'like teeth'?) for French plantains is not found elsewhere (the core languages have **ekpal**), but may be a synonym of **esong** 'teeth' for the same cultivars in A70 languages (and of **(d)ina** in Benga (A34) and Myene (B11)?). The name was said to refer to the row of fingers that form the hands of these plantains and which resemble a denture. Makaa also shares (the sense of) its name for the Horn Medium Green cultivar, **melank** 'horn' with A70 languages only, e.g. Yebekolo (A70) **nlak mvoe** 'horns of ruminant sp.' or Fang (A75) **nyat** 'buffalo'. Apart from these, all other cultivar names agree with the core group.

In Bomwali (A87) and Mpiemo (A86c), the French Medium Green cultivar is called **mbongi**, a name also found in northern Congo(-K.) and Gabon. Furthermore, Bomwali has **ngolongo** French, red sap (< Yakinga (A93?); the core languages have **-kia**), **mombombo** French Small (< Lingala (C36d); the core languages have **bi(y)e**), **nganga** Horn Medium Green (< Lingala; found with various names in the core languages), and **banga yembe** False Horn Green-Chimaera (< Yakinga (A93?); the core languages have ***-sendi**).

The fact that the two typical Makaa names concern the French Giant Green, the French Medium Green and the Horn Medium Green cultivars could mean that these are the older cultivars. The other cultivar names in Makaa are also found elsewhere in A80 languages and may have arrived later. Bomwali (A87) differs from the other A80 languages in that it shares several names with languages of Zone C (especially Lingala, C36d), with languages spoken by the hunter-gatherer groups in the area (C10), and probably also with Yakinga (A93?).

Socio-economic or ethnic group:
Hunter-gatherer groups, also called "pygmies" (see Blench, forthcoming), may be interesting for our purposes because of their mobility and the associative character of their relations with neighbouring cultivating peoples. Although such groups usually adopt the language of their neighbours, they may have preserved elements (e.g. musa names) of former neighbouring languages, and these elements may give us clues about their history.

The region we are concerned with here is the border area of north Congo, south-west C.A.R., south-east Cameroon and north-east Gabon. In this area live five or six different groups of hunter-gatherers, along and between the Sangha, Ngoko and Ivindo rivers (see Sato 1992:206, 208-210). These groups are called Baka or (Ba)Ngombe, (Ba)Benjele, Mikaya, (Ba)Luma and (Ba)Kola.

The Ngombe (not to be confused with a Bantu group (C41) of that name in north Congo(-K.)) are situated in the upper Sangha region, on the northern edge of the Cuvette area (an area of rivers and marshes that covers most of northern Congo). From there they dispersed, in the last century or so, westwards into Cameroon and Gabon, where they are called Baka and live alongside speakers of different Bantu (mainly A80) languages. According to Bekwil (A85b) oral tradition, one such Baka group accompanied them when they moved from south-east Cameroon to north Congo. In spite of their present association with speakers of Bantu languages, the Ngombe/Baka still speak an Ubangi language. This language is very close to Bomassa (Ub2c), a language spoken near Bomassa town in northern Congo (on the upper Sangha river and near the borders with Cameroon and the C.A.R.; Klieman 1994).

The Benjele and Mikaya speak a Bantu language of the C10 (C15?) group and live, at present, with different linguistic neighbours in the Ouesso area, often near forestry or oilpalm exploitations. According to Robineau (1973:26), the Benjele were associated with the Bomwali (A87) near Ouesso, while Brisson (1979) identified them also near Nola-Lijombo on the upper Sangha river in the C.A.R., i.e. north of Bomassa, whence they followed (around 1870) a Ngundi (C11) family to Ouesso (Thuret 1995:14-18). Descendants of these Benjele still live near Ouesso, together with speakers of Pomo (A92) and Bomwali (A87). Julien (1953:160, 242-3, 248) encountered the Benjele, Mikaya and Luma along the Sangha between Ouesso and Ikelemba, and the Mikaya in the forest between the Sangha and the Ouesso-Makoua road, as well as on the road to Sembe. Julien found the Benjele associated with the Bomwali (A87), and the Mikaya and Luma with the Bomwali (A87) and Bongili (C15). Nowadays, the Luma live together with the Bongili. Oral tradition has it that the Bongili passed through the Likouala area (in the central Cuvette area) before they arrived in their present villages, Pikounda and Bokiba, on the Sangha river. The Luma stated that they first stayed with the Bokiba (C15) and that they (were) associated later with the Bongili.

A few decades ago, a group of Kola (B22b) hunter-gatherers accompanied a Ngom (B22b) family from Mbomo (on the western edge of the Cuvette area, near the Gabonese border), to Sembe. Other Kola groups are found near Mekambo and Okondja in north-east and east Gabon (and in south-Cameroon, see below). Their new neighbours in Sembe speak Bekwil (A85b) and Baka (Ub2c). Sato (1992) also found a Kola group on the Ouesso-Makoua road.

Tables 4.6 and 4.7 present an overview of the distribution and origin of musa names used by the Baka in *Ca*meroon, *Ga*bon, *Co*ngo, and by the Ngombe, Benjele, Mikaya, Luma and Kola in north Congo. The distributions of names of some other crops have been added for comparative reasons, since the introduction of these crops is more or less datable (the Ngombe and Bomassa names were collected by Klieman 1994).

Table 4.9 Distribution and origin of generic names of musa, maize, cassava and groundnut in Baka (*Ca*meroon, *Ga*bon, *Co*ngo), Ngombe, Benjele, Mikaya, Luma and Kola (See also chapters 4.3.1 and 4.3.4. Ubangi languages are underlined.)

Language	*Name*	*Distribution*	*Origin*
Plantain			
Baka, Ngombe	**ndo** #	Bomassa, Monzombo, Gbanziri	
Benjele	**ngondo**	C14[aka,ngando]	
Mikaya	**diko**	C11,20,32, A93[yakinga], B50,60	< B70,80
Luma	**ikondo**	general	
Kola	**akondo**	B22b	

cf. Baka **ko ndo ko** (French Medium Green), chapter 4.3.1.

Banana			
Baka, Ngombe }	**taabu**	Bomassa, C30	< H12
Benjele }			
Benjele	**laki** #	A87	< C15
Mikaya	**ekongo**		
Luma	**bokomo** ##	C11,14[aka],31-5	
Kola	**ditotu**	B22b, B, A30,70,80	< H11

< Bongili (C15) **etelaki** 'red'. ## < C10,30 **-komo** 'ripe musa'.

Musa bunch ('head')			
Baka, Ngombe	**njo**	Bomassa?, Monzombo, Gbanziri	
Benjele	**mosoko**	C14[aka]	
Mikaya, Luma	**m(o)beke**	B20,30,50,60, (C15[bongili])	
Luma	**motu**	C15, C36d	
Kola	**tu(le)**	B22ab,25	

table 4.9 continued

Language	*Name*	*Distribution*	*Origin*
Musa hand			
Baka	**i-**		
Ngombe	**mokpolo**		
Benjele }	**esangi**	C15,14[aka],32, B	
Mikaya, Luma }			
Kola	**dikaka**	B22b, B22a,43,62	
Musa finger			
Baka	**mukpolo**		
Ngombe	**pode**		
Benjele }	**motobo(lo)**	C15,36d	
Mikaya, Luma }			
Kola	**lambasi**	B22b	
Ripe musa			
Baka, Ngombe }			
Benjele }	**mundende**[#]	Bomassa, C14[aka], C15	< C41
Mikaya, Luma }			
Maize			
Baka, Ngombe}	**mbombo**[#]	Bomassa, C11,12,14[aka]	< Zone C
Benjele }			
Mikaya, Luma	**esangu**	C15	< Zone H
Kola	**-potye**[##]	B22b	< Zone B
Cassava			
Baka, Ngombe }	**boma**[#]	Bomassa, C14[aka], A81[gyeli]	< B20?
Benjele }			
Benjele, Mikaya	**bala**[##]	A86b,87, C15,36d, Yaswa	< H10
Luma	**ngota**[###]	A87	< H16
Kola	**numbwe**	B22b	

[#] C25 **andende** 'greenish' (the colour of an immature cola nut); see also chapter 4.3.4.

[#] < CS 162 ***-bòmbò** 'bundle'? (or 'roll' or (rolled) 'packet' in Bobangi (C32), So (C52), Mongo (C61a); this name may allude to the form of the maize cob.

[##] cf. **-putu** (lit. 'Portuguese') in the other Zone B languages.

[#] sweet cassava (Baka/Bomassa **boma**, Aka **boma**, **buma**, Gyeli (A81) **bu**); from the name of *Ceiba*

[##] The name of sweet potato < Kongo (H10) **mbala** 'tuber'.

[###] cf. Kongo (H16) **mbala mvunguta** 'sweet potato' and (in western Kongo) **nguti** 'kind of cassava' (also in Njebi (B52) according to Klieman).

table 4.9 continued

Language	*Name*	*Distribution*	*Origin*
Groundnut			
Baka-Ca	**owondo** #	A85b	< A72
Baka-Ga	**wunu**	A75	< A72
Baka-Co	**leka kwengbe** ##		
Ngombe, Luma }	**nguba** ###	A85b,87, C15	< C36d
Mikaya, Benjele }			
Kola	**nzyol** ####	B22b,25, A92	

\# < Bulu (A74a) **yawondo** 'Ewondo' (Yaounde). ## 'fruits for francolins'.

<< Kongo (H10) **nguba** 'bambara/voandzou groundnut'.

nzol in Pomo (A92; Ouesso), **nzyoal** in Ngom (B22b), **nzole** in Kota (B25) and **z(y)el bwas** 'the beard that grows on the ground' in Bekwil (A85b; the source of the Pomo and Ngom forms, or a folk-etymology?).

Table 4.10 Distribution and origin of musa cultivar names in Baka (*Cameroon, Gabon, Congo*), Ngombe, Benjele, Mikaya, Luma and Kola (see appendices B, D)

Language	*Name*	*Distribution*	*Origin*
French Giant			
Baka-Ca	**zok**	A85a,86b,91	
Baka-Co	**ngobo**	A85b,84	
Ngombe, Benjele }	**mbonji**	C15,45, B40,50, A87,86, Yaswa	
Mikaya }			< C36d,41, D
Mikaya, Luma	**tobo**	C15[bongili],20,36d	
Kola	**mobela**	B20	< C36d
French Medium			
Baka-Ca	**bee**	A84,85b	< C36d
Baka-Co	**(ko) ndo (ko)**		< Bantu
Ngombe, Benjele }	**mbongi**	A87,86, Yaswa, C45, B40,50	
Mikaya }			< C36d,41, D
Luma	**moboko**	C15[bongili]	< C41
Kola	**zigediam**	B22b,25, A85b	
French, blunt			
Baka-Ca/Ga	**le ekpa ebobo**	A75	
Baka-Ga/Co	**ebulu, (eduma)**	A85b, (84-7,93)	
Benjele	**etoaka**		
Kola	**meduma**	A85b,84-7,93	

table 4.10 continued

Language	*Name*	*Distribution*	*Origin*
French, spiraloid			
Baka-Ca	**pilepile**	A86c, 83-86b	
Baka-Co, Ngombe }		A92	
Benjele }			
Mikaya	**dingadinga**	A87, Yaswa	
Kola	**sasakye**	B22b,31,33?	
French, fused			
Baka, Ngombe }	**ekoaja**	A86	
Benjele }			
Mikaya, Luma	**seleko**	C15	< H, B, C
Kola	**selukwe**	B25	
French, red sap			
Baka-Ca/Ga }	**malongo**	A87, C15[bongili]	<A93[yakinga]
Mikaya }			
Baka-Co, Ngombe	**nagia**	A85b	
Benjele	**angia**	C15, A93, Yaswa, Bangandu, Yangiri	
Kola	**manging**	B22b	
French Small			
Baka-Ca	**bobie**	A84	
Ngombe	**mombombo**	A87, C15[bokiba]	< C36d
Baka-Ga/Co }			
Benjele, Mikaya }	**-bele**	general, C15[bongili]	< C36d
Luma, Kola }			
False Horn Medium			
Baka-Co	**ebaa**	A84,85b,87	< A85b
Ngombe, Benjele }	**ebanga**	general	< Zone C?
Mikaya, Luma }			
Kola }			
False Horn, blunt			
Baka-Ca	**nkumo** }	A80,85b	
	bongoli }		
Baka-Co	**ngumo**	A80	
Mikaya	**ebanga**	C15	< general
Kola	**abange**	B22b	< general

table 4.10 continued

Language	*Name*	*Distribution*	*Origin*
False Horn Green-chimaera			
Baka-Ca/Co } Mikaya, Luma }	**-yembe**	A87, C15[bongili]	< A93[yakinga]
Kola	**akondo je**	A85b (a loan translation)	
Horn Medium			
Baka-Ca/Co} Ngombe}	**dum**	A85b,74a,84,87,93	
Baka-Ga	**noo**	A84,83,75	
Ngombe, Benjele} Mikaya, Kola }	**nganga**	A87	< C36d, H16
Luma	**mosato**	C15[bongili],32, Sango	< C36d
AAB 'Pome'			
Baka-Ca, Mikaya	**atono**	A85-7	< A70
Baka-Co/Ga} Ngombe }	**taabu**	Bomassa, Yaswa, C36d,41	< Zone H
Kola	**ndenge**	B22b	< B20
AAA 'Gros Michel'			
Baka-Ca	**nombawan**	A80	< Pidgin
Baka-Co	**ngboko**	A85b	
Benjele	**banana laki**	A87	< C15[bongili]
Kola	**saleong**	A85b	< A74a
AAA 'Red'			
Baka-Co	**taabu a ediyo**	Bangandu	
Mikaya	**gbelema**	C15[bongili]	
Benjele	**tetete**	A80	
Kola	**mesyudi**	B22	
AAA 'Dwarf Cavendish'			
Baka } Mikaya, Luma }	**ekongo**		
Kola	**sima**	B20,50,60	< A75

The Benjele, Luma, Kola and Mikaya names for `plantain', **-kondo** and **-ko** are widespread in Bantu (see chapter 4.3.1). Baka/Ngombe **ndo** is only found in Bomassa, Gbanziri and Monzombo (Ub2c), but can be retraced to Bantu ***-kondo** (see chapter 4.3.1).

The name for `banana' **(taabu)** in Baka/Ngombe as well as in Benjele comes from Bantu C30 languages along the Congo river, e.g. Doko (C31) **-taba**, Bobangi (C32) **-tabi** or Lingala (C36d) **-tabe**. However, the name originates further downstreams, in western Kongo (H12; see chapter 4.3.1), where it is also used for the first banana that was introduced by the Portuguese, i.e. the AAB 'Pome' or 'Prata' cultivar. This distribution of **taabu** in Ngombe/Baka and Benjele, versus **ekongo** in Mikaya and Luma is matched by the distribution of the generic name for `maize' **mbombo** (common in Ubangi languages but originating in Bantu Zone C) in Baka/Ngombe and Benjele, versus Mikaya and Luma **esangu** (borrowed from Bongili or Bokiba (C15) but originating in Zone H). Maize was, like the 'Pome' banana, introduced to the coast of West-Central Africa by the Portuguese, some five centuries ago.

The names of parts of the musa plant also show an Ubangi-Bantu division. All names for the musa bunch literally mean `head', which is typical of Ubangi languages, but is found in the neighbouring Bantu languages too. The Bomassa name for the musa bunch is not known, but Baka/Ngombe **njo** matches the Monzombo and Gbanziri (Ub2c) forms, like the generic plantain name. The Benjele call the musa bunch **mosoko** and this name is also found in Aka (C14), a related group of hunter-gatherers who live among speakers of Ubangi languages further east, in the C.A.R. Mikaya has **mobeke** (as do most B20-30 and B50-60 languages). Luma and Bongili, however, use both **mobeke** (like Mikaya) and **mutu** (like Bokiba (C15) and Lingala (C36d)). Kola **tule** is also found in Ngom (B22b) and Mahongwe (B25). Names for the hands and fingers of musa are shared by Benjele, Mikaya and Luma and by other languages of Zone C (C10,30). Kola and Ngom names for musa hands are also found in some other Zone B languages. Baka and Ngombe, however, go their own way where the naming of musa hands and fingers is concerned.

The names of `maize' and `cassava' in Luma and Mikaya, as in Bongili and Bokiba, correspond to the central and southern Congo (Bantu) forms **isangu** `maize' and **bala**, **mungota** or **ekuo** `cassava'. Bomwali (A87) also has **bala** or **ngota** `cassava', but **mbusa** `maize' (lit. `Hausa'). The latter name is common in A80 languages and points to an introduction of maize from north to east Cameroon. Maize came to Cameroon from the coast (the soft or dent type) and from the north (the hard or flint type) and the name **mbusa** in east Cameroon refers to the latter (see Rossel 1987:87-88; cf. the hard maize cultivar called **garoua** `Garoua' or **aladji** `el Hadji' in Mezime and Bageto (A86a)). Baka/Ngombe and Benjele share their name for maize (**mbombo**; of Bantu origin) with Bomassa and with some other languages further

east (i.e. Ngundi, Pande and Aka (C11,12,14)). They call cassava **boma**, as the Bomassa and Aka (C14) do.

The Baka-Ca borrowed their name for groundnuts from Bekwil (**owondo**), the Baka-Ga borrowed from Fang (**wunu**), but the Baka-Co created their own name (**leka kwengbe**). Luma, Mikaya, Benjele and Ngombe **nguba** (< Kongo (H16); see Rossel 1987:225-226, 249) has become widespread in Congo and Congo(-K.), via Lingala (C36d). Kola **nzyol** is not only found in Ngom, but also in Kota (B25), Pomo (A92) and Bekwil (A85b).

The conclusion that can be drawn from these distributions is that Baka and Ngombe names are almost identical, as expected. The fact that Benjele sometimes sides with Baka/Ngombe (banana, maize, cassava) can be explained by the vicinity of the Benjele to the Ngombe (near Nola and Bomassa) before they descended to Ouesso. Benjele, Mikaya and Luma have the same names for musa hand and musa finger, but these names are widespread in C10 and C30 languages. More significant is that Benjele shares the names for plantain and musa bunch only with Aka (C14), who are situated much further east. Mikaya and Luma differ more than would be expected in view of their present location. The Kola (and Ngom, B22b) are clearly newcomers to the area.

With cultivar names the situation is far more complicated because every cultivar has a different distribution pattern. The reason for this is that the musa cultivars were spread at different periods in time and via different pathways (both geographical and linguistic). Some cultivars came from the east via and between the Upper Congo and Ubangi rivers, while others came from the south or west. Also, the constellation of peoples and languages differed in time, and thus the linguistic pathways of spread of musa names.

Some widespread names concern important and old cultivars whereas others belong to newer cultivars that spread more or less quickly over large areas. In fact, every cultivar and cultivar name has its own history, to which can be added the histories of the peoples using them. Moreover, cultivar names may be more prone to change than generic names. An example of this is Baka-Ca **malongo**, which was abandoned in favour of **nagia** (a loan from Bekwil) in Baka-Co; only one old Baka-Co woman remembered the **malongo** name (this Baka group came with the Bekwil from the Cameroon side of the Sangha river, in her lifetime). The Baka in Cameroon and Gabon still use **malongo**, a name that originated in some Bantu language (Yakinga?), much further east. Names of plantain cultivars in Baka and Ngombe originated mostly in A80 languages and were also borrowed by their present neighbours, the Bekwil (A85b) and Bomassa (Ub2c), from that direction.

The names of the French, fused cultivar are distributed in a similar way as the `banana' and `maize' names. On the right bank of the Sangha we find **ekoaja**, in Baka/Ngombe and Benjele, while **seleko** is used on the left bank, in Mikaya and Luma (and Kola, which has **selukwe**). The similar distribution patterns of these

names is an indication that the Baka/Ngombe and Benjele were installed closer to each other than to the Mikaya and Luma at the time they adopted the names in question.

The Mikaya, Luma and Benjele have many cultivar names in common, but the latter also share some names with the Ngombe. The Benjele further share the names of the musa bunch (**mosoko** lit. 'head') and of maize (**mbombo**) with the Aka (C14) pygmies in the C.A.R., but no cultivar names. This points to a relatively (from a hunter-gatherer perspective) long period of separation. On the other end of the time scale we see that the short period of contact between Kola and Bekwil (and Baka) has led to only one or two shared cultivar names. This can be explained by the fact that, in spite of the present proximity between Kola and Bekwil, the Kola are not associated with the latter.

Benjele names show influences of A86,87 languages (e.g. **mbonji** French Giant/Medium Green, **nganga** Horn Medium Green and **ekoaja** French, fused) and of A90 languages (e.g. **lingalinga** French, spiraloid and **angia** French, red sap). Mikaya shares the important cultivar names with Bomwali (A87), i.e. **mbonji** (French Medium Green), **dingadinga** (French, spiraloid) and **nganga** (Horn Medium Green). Luma names, on the other hand, are more typical of the languages closer to the Congo river (e.g. **moboko** French Medium Green) and **mosato** (Horn Medium Green). The word for 'musa finger' **motobolo** is shared by all these languages as well as by Bongili and Bokiba (C15) and the same is the case with the term for 'ripe musa' **mundende**, which is also found in Bomassa (Ub2c) and Aka (C14).

Some of the cultivar names in these languages are also found (in a scattered way) further east, in Congo(-K.) (e.g. **tobo** French Giant Green, **mbongi** and **moboko** French Medium Green and **mosato** Horn Medium Green). Other names are even more widespread (and generalized), e.g. **eseleko** (French, fused), **ibele** (French Small Green) and **ebanga** (False Horn Medium Green). The names for the French, red sap (**-longo**) and False Horn Green-Chimaera (**ebanga yembe**) cultivars probably originate in the Motaba region, where matching words are found in Yakinga (A93?), i.e. **malongo** 'blood' and **yembe** 'white'. According to Periquet (1915) the Yakinga were formerly widespread in the region of the upper Motaba and its affluents, before they were decimated by wars and sleeping sickness. The fact that some, in northern Congo rare cultivars like French Medium Red (with the south-Congolese name **mololo**) and French Medium Black (without a commonly accepted name) were found with the Bongili and Luma can be ascribed to the fact that their village, Pikounda, has been of some importance in colonial times (due to its rather strategic position on the Sangha river). Nevertheless, the Bongili are a riparian people and do not seem to be (or have been) great plantain cultivators.

The Kola, although living with the Ngom (B22b), share some of their cultivar names with Gabonese languages, for instance **mobela** French Giant Green (cf. Fang

(A75) **obela** French Small Green), or **sasakye** French, spiraloid (cf. Pinji (B33) **gesaka**). The Kola name **selukwe** for the French, fused cultivar is more in accordance with Shamaye and Mahongwe (B25) **solukwe** than with Ngom **alata**. Moreover, their name for the Horn Medium Green cultivar, **aoti**, matches forms in the B20 and B30 languages in Gabon, contrary to Ngom, which has **nganga**. Kola also has **ndenge** 'banana', a name generally found in the other B20 languages, whereas Ngom has **ditotu** (we shall see below that the peoples that speak B20 languages, especially the Kele (B22a), are widely dispersed and found in many parts of Gabon; Raponda-Walker 1960:132-3).

Near the coast in south Cameroon live two other groups of hunter-gatherers, the (Ba)Gyele and the (Ba)Kola, and both groups speak Ngumba (A81). The Gyele name for plantain is **kwando**, as in Ngumba, but the Kola say **nkondo** (Biesbrouck 1997). The only nearby language with a **-kondo** form is Basaa (A43), so the Kola might have borrowed this name from Basaa and not from Ngumba. This then, would point to a former association of the Kola with the Basaa, before they joined the Ngumba. The name **-gyele** by which the pygmies are indicated is typical for the westernmost A80 languages (i.e. Mabea-Ngumba (A81) **bògyel(è)** and Bikele-Bajue (A83,84) **bedjel**, **odjiel**) and thus is a proper Ngumba name. The name ***-koda** for pygmies, on the other hand, is found in littoral Cameroon (e.g. Duala (A24) **bako**, Kombe (A33b) **bikoya** and Basaa (A43) **bako**). It is also used in northern Gabon (e.g. Mpongwe (B11a) **ako(w)a**, Sekyani (B21) **-koyo**, Kele (B22a) **bakoda**, Ngom (B22b) **bakola** and Kota (B25) **bakola**) and, according to Loung (1967:81-92) and Joiris (1994), also by the Gyele/Kola themselves. What may have happened is that the Gyele more closely adopted the Ngumba language than the Kola did, and that the latter preserved their original ethnonym as well as their name for plantain. This implies that the plantain was already known to the Kola before they met the Ngumba/Mabea. Since the forms **bakola** 'pygmies' and **-kondo** 'plantain' only co-occur in B22 and B25 languages (and in Isongo (C13) in the C.A.R.), we may assume that the Kola in south Cameroon and northern Gabon originally were (and some still are) associated with speakers of these languages. (This association might go back to a time when they lived more to the east, possibly in northern Congo-southwestern C.A.R.; cf. the distribution of the cassava and kapok name ***boma**, above).

Geographical group:

Historical relations between languages in the geographical area of north Congo (C10, A87) and Gabon (B20,30,42,50,60) may be inferred from the distribution of the names of the musa bunch and that of the French Medium Green cultivar. The first **(m(o)biki)** is found in Benjele, Mikaya (C10) (and alternatively in Luma (C10) and Bongili (C15) too) in north Congo, as well as in many Gabonese languages (B25, B31/33, B42, B52, B62/63). The second **(*-bongo)** originated in northern

Congo(K.) (in some Zone C language along the Congo river; see chapter 4.3.2) and spread westwards to north Congo (C10, A87, A86c) and Gabon (B50). It was transmitted via Njebi (B52) to Yaa (B73c) in west Congo (Yaa also shares another widespread cultivar name, **-tuba** French Giant Green, with some Njebi (B52) and Sangu (B42) dialects and with Pinji (B33) in central Gabon, as well as with Akwa (C22) and Bongili (C15) in northern Congo). The Bongili and Bokiba (C15) names for the musa bunch and the French Medium Green cultivar, on the other hand, differ from their neighbours in north Congo but agree with Lingala (C36d) and Ngombe (C41) in Congo(-K.) (e.g. **mutu** `bunch', as in Lingala, and **moboko** French Medium Green, as in Ngombe). This could mean that the Bongili, Bokiba (and Luma?) arrived later in the area than the Mikaya and Benjele (C10). (According to oral tradition, the Bongili and Bokiba migrated from the left bank side of the Congo river, via the Likouala area to north Congo.)

Contrary to the names of the French Medium Green and French Giant Green cultivars, which are found scattered over more or less large areas, the name of the French Small Green plantain (***-bidi**) is only found in northern Congo and Gabon. Its spread must have taken place (from Congo to Gabon) in a not too distant past because the name is very uniform and found in all the languages of Gabon. Another name with an equally uniform distribution is **-banga** (False Horn Medium Green). The way these names are distributed suggests a rapid and relatively recent spread of the cultivars in question.

The B40 languages have borrowed a number of cultivar names from Njebi (B52). This, at least, can be concluded from the distribution of the **tse(gh)i** name for the French Giant Green cultivar in Vungu (B40), Sangu (B42), Punu (B43) and Lumbu (B44), which must have come to them via Njebi (B52). The name derives from ***(N)caga** `bunch' (cf. Punu **isagha** `fruit cluster', see chapter 4.3.4) and is inspired by the giant bunch of this plantain. Where Duma (B51) has **tsyaka** or **tsyaghi**, we find **itseghe** in Njebi (the umlauting of the stem-vowel is the result of a regular rule in Njebi). Punu then borrowed **tsyei** from Njebi, and Lumbu borrowed **tsei** from Punu.

The name of the French plantains in B11 languages, **(d)ina**, is also found in Benga (A34) in north-west Gabon and in Eviya (B30) and the (northern) Sira (B41) dialect of Fougamou. Eviya is known to contain a certain amount of Myene (B11) words (Blanchon 1988:55), and the Sira of Fougamou are intermixed with the Eviya (Raponda-Walker 1960:103). There is possibly a relation with the names **esong** (`tooth') and **ntamenjie~** (`like teeth'?) in A70 languages and Makaa (A83), for the same (French Giant/Medium Green) cultivars.

In all, names for the musa bunch and for the French Medium Green cultivar point to closer historical contacts between the B20, B30, B42, B50 and B60 languages in Gabon and the A87, A86c, C10, C20 languages in neighbouring Congo, than between the former group and the B11 and B40 languages in Gabon.

These contacts probably date from the time that the plantain was introduced to the peoples speaking these languages. The B11 languages use very different names, whereas the B40 languages, except Sangu (B42) and northern Sira (B42), borrowed from Njebi (B52).

The latter can be explained by the fact that the Njebi are very dedicated farmers and also one of the most numerous groups in Gabon. This has led to the expansion of their territory in a southwestward direction, into west Congo. According to Jean (1975:97-8), the Njebi came to south Gabon, from the east or south-east, about the same time as the Sangu, and found only pygmies upon their arrival. As for the other linguistic groups, peoples speaking B20 languages are extremely dispersed in Gabon (some of them are also found in Congo, both north and west), the Tsogo (B30) group is believed to have descended along the Ivindo river from north-east to central Gabon some centuries ago (ca. 1600 AD? see Van der Veen 1988:275), whereas the Mbede (B60) group also moved from east to west and is nowadays situated at both sides of the border between central Congo and east Gabon. The Myene (B11) group probably preceded the others and came from an area where they had some contact with A70 or western A80 languages, i.e. Ngumba (A81) and Makaa (A83). At least part of the B40 group must have been late-comers (or have remained in a savannah area where they did not grow plantains (like the Teke (B70) group).

To summarize, the names of the French Medium Green cultivar are often used in a more or less inclusive (generic) way. This means that this cultivar is likely to have been the first plantain that arrived in this part of West-Central Africa. Considering the spread of names and the diversification of certain cultivar groups, especially that of the French type (see chapter 3.2), a diffusion route may be postulated for a number of cultivars along the Congo and Ubangi rivers and their affluents (via the C40-10 languages) to north Congo and south-east Cameroon, as well as via central Congo (north of the BaTeke Plateau) to Gabon.

Going by the distribution of plantain names, especially of the French Medium Green cultivar, the Bekwil (A85) migrated from a savannah region into the forest, where they adopted the cultivation of plantain. By the same token, the A80 language group can be divided in a central or core group (Njem, Konabem, Mpiemo, A84-86; forest) and outlying languages, i.e. northern (Makaa, A83; savannah), south-western (Bekwil, A85; savannah > forest) and south-eastern (Bomwali, A87; riverside). The Makaa and speakers of A70 languages obtained plantains when they lived in each other's vicinity.

The various hunter-gatherer groups in north Congo consist of a northern, a southern and a western group. The northern group is formed by the Baka/Ngombe and the Benjele on the right bank of the Sangha. The Baka were formerly associated with the nearby Bomassa (and other Ubangi groups in the C.A.R.), and part of the Ngombe still are. The Benjele shared their earlier history with the Aka (C14), further

east in the C.A.R., and their later history with peoples speaking A80 and A90 languages. The southern group is formed by the Mikaya on the left bank of the Sangha. They were later joined by the Luma, who came from the south. The Kola came last, from the west. Kola groups in northern Gabon and southern Cameroon originally were (and some of them still are) associated with speakers of B20 languages (and possibly also, in a more distant past, with the ancestors of the Isongo (C13)).

Of the linguistic groups in Gabon, the B11 languages stand apart because of their isolated position in the past. The B20, B30, B42, B50 and B60 languages were in more or less close contact with each other and with C10 (and C20) languages in Congo, but much less so (or much later) with most groups that speak languages of group B40. Yaa (B73c) in west Congo, on the other hand, has more cultivar names in common with Punu (B43) than with the more closely related languages Tsaayi (B73a) and Laali (B73b). Since all these three languages agree in their generic plantain name (**-ko**; common in B70 languages), Yaa must have been influenced by Punu only in a later stage.

Part V
SYNTHESIS

The taxonomical, historical and linguistic findings of Parts II-IV will be discussed in chapters 5.1 - 5.3 and concluded in chapter 5.4.

5.1 Taxonomical evidence

Chapter 5.1.1 summarises the data on which the taxonomical part of this study is based. The synoptical form chosen to present these data enables us to visualise the totality of plantain diversity and the distribution of this diversity. On the background of this picture of diversity and distribution, we shall discuss the main aspects of the expansion of plantain in Africa in chapter 5.1.2.

5.1.1 Synopsis of plantain cultivars

Although the more recent and random introductions of cultivars have blurred the picture of the earlier diffusion of plantain over the African continent, we can still discern the greater outlines of this diffusion from the distribution patterns as depicted in table 5.1.

This table is a compilation of the African plantain cultivars described so far (see tables 3.4, 3.7 and appendices A and B). The identification of the Indian cultivars is based on descriptions by Simmonds (1966:88-89, 112), Bose (1985:130), Singh (1990:167) and Singh & Chadha (1993:132). The identification of cultivars reported from La Réunion and the Seychelles is based on Dupont (1913:229-30) and Foucque (1923:204), and of those pertaining to Zanzibar and Pemba on Baker & Simmonds (1952:68, 71), Shepherd (1957:280) and Simmonds (1966:88, 117).

Major descriptors and their abbreviations (see also table 3.3):

Type: Bunch type		*Size: Pseudo-stem size*		*B.o.: Bunch orientation*	
Fr	French	G	Giant	P	Pendulous
FrH	French Horn	M	Medium	Sh	Subhorizontal
FH	False Horn	S	Small		
H	Horn	Sd	Semi-dwarf		
		D	Dwarf		

Stem colour

Green	Red	Black
Green-Red	Red-Green	Black-Green
Green-Yellow	Light-Red	Violet-Black
Light-Green	Wine-Red	
Dark-Green	Wine-R(ed) Chim(aera)	
Yellow-Red	Red Chim(aera)	
Green(-White)Chim(aera)	Red-Green Chim(aera)	
Yell(ow)-Br(own)-fl(amed)		

Minor descriptors (underlined features are default and left unmarked):

bunch: hands, spiraloid or repetitive (serial).

hands: biserial with normal number of fingers, or monoserial with lower number of fingers.

fingers: (semi-)erect, sub-pendulous or pendulous.

pedicels: separate or fused.

apices: salient, gradual, faint or blunt(ish).

peel: green, light green, dark green, grey-violet, reddish (when young), red-brown (when mature), brown (when mature), yellow (when immmature), white-striped, black-striped, brown-striped, dark-striped, red-striped or red flamed.

sap #: watery or (orange-)red (# sap in peel).

Abbreviations of minor descriptors:

yell.pend. & grad.: yellow and pendulous fingers with gradual apices.

bl.striped & blunt: black-striped fingers with blunt apices.

f.ped. & dehisc.: fused pedicels and dehiscent male bud.

n.flow.part.dec.: neutral flowers partly deciduous.

< 7 f/upper hands: upper hands with less than 7 fingers.

subpend. & nfnp: subpendulous fingers and non-persistent neutral flowers.

subp. & nfp: subpendulous fingers and persistent neutral flowers.

3-5 h; 5-6 f/h: 3-5 hands and 5-6 fingers/hand.

f.1st hand erect: fingers of first hand erect.

pet.m wine-red: petiole margins wine-red.

{ , }: the same cultivar? (taking into account personal information provided by the authors, differences in the expression of descriptors due to ecological circumstances, as well as vagueness of description in the published sources).

Abbreviations of countries:

West/Central Africa		*Eastern Africa*		*India(n Ocean)*	
Gh	Ghana	U	Uganda	Md	Madagascar
Ni	Nigeria	K	Kenya	C	Comoros
Ca	Cameroon	T	Tanzania	Z/P	Zanzibar/Pemba
Ga	Gabon	Ml	Malawi	R	La Réunion
Co	Congo	Mz	Mozambique	S	Seychelles
Cok	Congo(-K.)			I	India

No: numbers:
1-60: see appendix B.
a-t : see appendix A.

Table 5.1 Distribution of plantain cultivars in Africa, Madagascar, some islands in the Indian Ocean and India

No.	*Type*	*Size*	*Colour*	*B.o., fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
	Fr}	G	Green-Red	P						Cok											
1;	a Fr}	G	Green	P	Gh	Ni	Ca	Ga	Co		U										I
	b Fr	G	Green	P , conical bunch										Ml				Z/P			
	Fr}	G	Green-Red	P , faint & plump						Cok											
	Fr}	G	Green	P , faint		Ni	Ca														
	{Fr	G	Green-Red	P , bluntish						Cok											
	{Fr	G	Green	P , blunt			Ca														
	Fr	G	Green	P , red			Ca														
2	Fr	G	Light-Green	P				Ga													
	{Fr	G/M	Dark-Green	P						Cok											
3	{Fr	G	Dark-Green	P				Ga													
	Fr	G	Yellow-Red	P						Cok											
4	Fr	G	Green-Red	P				Ga													
	Fr	G	Green-Red	P , red			Ca														
5	Fr	G	Red	P		Ni	Ca	Ga	Co	Cok											
	Fr	G	Red	P , gradual			Ca			Cok											
	Fr	G	Red	P , reddish			Ca														
	Fr	G/M	Red	P , reddish & blunt			Ca														
	Fr}	G	Violet-Black	P						Cok											
6	Fr}	G	Black	P			Ca	Ga	Co												
	Fr	G	Black	P , blunt				Ga													

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o.,fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
7	Fr	G/Sd?	Green	P					Co												
8;	c Fr	M	Green	P/Sh	Gh	Ni	Ca	Ga	Co	Cok	U		T	Ml	Mz	Md					I
9;	d Fr	M	Green-Red	P/Sh		Ni	Ca	Ga	Co	Cok	U	K	T	Ml			C	Z/P	R	S	I
	e Fr	M	Green	P/Sh,white flesh												Md					
	Fr	M	Green	P , extra-long fingers																	I
	Fr	M	Green	P , yell.pend. & grad.			Ca														
10	Fr	M	Green	P , red-flamed				Ga													
11	Fr	M	Green	P , red-striped				Ga													
12	Fr	M	Green	P , bl.striped & blunt				Ga													
	i Fr}	G/M	Green	P , spiraloid						Cok	U										
13	Fr}	M	Green	P , spiraloid & blunt		Ni	Ca	Ga	Co												
14	Fr	M	Green	P , red sap			Ca	Ga	Co												
15	Fr	M	Green	P , f.ped. & dehisc.			Ca	Ga													
	{Fr	M/S	Green-Red	P , gradual						Cok											
16	{Fr	M	Green	P , fused pedicels	Gh		Ca	Ga	Co												
	h Fr	M	Green	P , n.flow.part.dec.			Ca						T								
17	Fr	M	Green	P , lightgreen & faint				Ga													
	Fr	G/M	Green	P , < 7 fingers/hand						Cok											
18	Fr	M	Green	P , < 7 f/upper hands			Ca														
19	Fr	M	Green	P , 2-3 fingers/hand				Ga													
	Fr	M	Green-Chim.	P , brown-striped						Cok											

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o.fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
f	Fr}	M	Green	P , reddish (young)									T								
20; g	Fr}	M	Green	P , brown(ish)		Ni	Ca	Ga	Co					Ml							
	{Fr	M	Green-Red	P , bluntish						Cok											
	{Fr	M	Green-Red	Sh , bluntish						Cok											
21; j	{Fr	M	Green	P , blunt	Gh	Ni	Ca	Ga	Co		U		T								I
	Fr	M	Yell.-Br.flam.	P						Cok											
	Fr	M	Green-Yellow	P , pink male bud			Ca														
22	Fr	M	Green(-Red)	P , brown & blunt				Ga													
	Fr	M	Green-Red	P , faint		Ni															
23	Fr	M	Dark-Green	P , faint		Ni	Ca	Ga	Co												
24; k	Fr	M	Red-Chim.	P			Ca														
	Fr	M	Red	P , reddish			Ca														
	{Fr	G/M	Red	P , blunt						Cok											
25	{Fr	M	Red	P , blunt		Ni	Ca														
26	Fr	M	Red	P , dark-striped					Co												
27	Fr	M	Red	P , grey-violet					Co												
28; l	Fr	M	Violet-Black	P/Sh		Ni			Co	Cok	U					Md					
29	Fr	M	Black	P		Ni	Ca	Ga	Co												I
	Fr	M	Violet-Black	P , blunt						Cok											
	Fr}	M/S	Violet-Black	P , gradual						Cok											
30	Fr}	M/S	Black	P , fused pedicels			Ca		Co												

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o.fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
	{Fr	M/S	Green	P						Cok											
31	{Fr	S	Green	P/Sh		Ni	Ca	Ga	Co												
32	Fr	S	Green	Sh , reddish					Co												
33	Fr	S	Green-Red	Sh				Ga													
	Fr}	Sd	Green-Red	Sh , gradual						Cok											
34; m	Fr}	Sd	Green(-Red)	Sh			Ca						T								
	Fr	Sd	Green	Sh , swollen styles						Cok											
	Fr	Sd	Green-Red	Sh , bluntish						Cok											
	Fr	Sd	Green-Chim.	Sh , white-striped			Ca														I
	Fr	Sd	Dark-Green	Sh , bluntish						Cok											
	Fr	Sd	Red	Sh			Ca														
	Fr	Sd	Red	Sh , bluntish						Cok											
	Fr	D	Green-Red	P , gradual			Ca			Cok											
	Fr	D	Dark-Green	Sh						Cok											
	Fr	D	Red	Sh			Ca														
	FrH	G	Green	Sh			Ca		Co												
35	FrH	M	Green	Sh			Ca	Ga													
	FrH	M	Green	P , many h. & erect f.		Ni															
	FrH	G/M	Green-Red	Sh , brown		Ni		Ga													
	FrH	M	Light-Red	Sh		Ni															

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o.fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
	FrH	S	Green	Sh	Gh																
	FrH	Sd	Green-Red	Sh , faint						Cok											
36	FrFH	G/M	Red-Gr.Chim.	Sh		Ni		Ga													
37	FH	G	Green	Sh		Ni	Ca	Ga	Co												
	FH	G	Light-Red	Sh , reddish (young)		Ni															
38	FH	G	Light-Green	Sh				Ga													
39	FH	G	Black	Sh		Ni	Ca		Co												
	FH	M	Green	P , erect						Cok											
	FH}	M	Green-Red	Sh						Cok											
40; n	FH}	M	Green	Sh	Gh	Ni	Ca	Ga	Co		U		T					Z/P			
	{FH	M	Green	P , subpend. & nfnp		Ni															
41	{FH	M	Green	Sh , subpendulous				Ga	Co												
	FH	M	Green	P , subpend. & nfp.		Ni															
42	FH	M	Green	Sh , pendulous					Co												
	FH}	G	Green	P , yellow &pend.						Cok											
43	FH}	M	Green	P , yellow & pend.	Gh	Ni	Ca	Ga	Co												
	FH	M	Green	P , blunt & pend.						Cok											
	FH}	M	Green-Red	Sh , blunt						Cok											
44	FH}	M	Green	Sh , blunt		Ni	Ca	Ga	Co												

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o. fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*Co*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
45	FH	M	Green-Chim.	Sh , white-striped			Ca	Ga	Co												
46	FH	M	Green	Sh , brown		Ni	Ca	Ga	Co												
	FH}	G/M	Green-Red	Sh , < 4 fingers/hand						Cok											
47	FH}	M	Green	Sh , 1-4 fingers/hand					Co												
48	FH	M	Green	Sh , undeveloped				Ga													
49	FH	M	Green-Red	Sh		Ni		Ga													
	FH	G/M	Red	Sh		Ni				Cok											
50	FH	M	Red	Sh	Gh	Ni	Ca	Ga	Co												
	FH	M	Wine-R.Chim.	Sh , red-brown					Co												
	FH}	G/M	Wine-Red	Sh						Cok											
	FH}	M	Wine-Red	Sh , reddish			Ca		Co												
51	FH	M	Red	Sh , brown				Ga													
52	FH	M	Black-Green	Sh				Ga													
	FH}	M	Violet-Black	Sh	Gh					Cok											
53; o	FH}	M	Black	Sh		Ni		Ga	Co		U										
	FH	M	Black	Sh , blunt					Co												
54	FH	M	Black	Sh , black-striped				Ga	Co												
	FH	S	Green	P , blunt						Cok											
55	FH	S	Green	Sh			Ca	Ga													
p	FH	S?	Green	Sh , 3-5 h. & 5-6 f/h							U		T								
	FH	D	Green	Sh , blunt						Cok											

table 5.1 continued

No.	*Type*	*Size*	*Colour*	*B.o.fruits*	*Gh*	*Ni*	*Ca*	*Ga*	*C o*	*Cok*	*U*	*K*	*T*	*Ml*	*Mz*	*Md*	*C*	*Z/P*	*R*	*S*	*I*
	FH	D	Green	Sh						Cok											
	FH	Sd?	Green	Sh			Ca														
	H	M	Green-Red	P						Cok											
	H	M	Green	P , f.1st hand erect		Ni															
	H}	G	Green-Red	Sh						Cok											
56; q	H}	M	Green	Sh , 0-5 hands	Gh	Ni	Ca	Ga	Co		U	K	T	Ml		Md	C	Z/P	R	S	I
57; r	H	M	Green	Sh , appendices				Ga	Co		U		T								
58	H	M	Green	Sh , blunt					Co												
	H	G/M	Green-Red	Sh , yellow & pendulous						Cok											
	H	M	Green-Red	Sh , pet.margins wine-red		Ni															
	H	M	Green-Red	Sh , reddish (young)		Ni															
	H	M	Red	P						Cok											
	H}	G	Red	Sh						Cok											
59; s	H}	M	Red	Sh			Ca	Ga	Co		U										
60	H	M	Red	Sh , yellow & pendulous					Co												
	H	G	Violet-Black	Sh						Cok											
	H	S	Green	P						Cok											
	H	D	Green	Sh			Ca														
t	H	M	Green	Sh , unstable									T	Ml		Md					

5.1.2 Plantain expansion in Africa.

The expansion of plantain has a geographical, a numerical and a genetic dimension. The first dimension concerns the geographical *distribution*, the second dimension the *incidence* (i.e. the numbers of plants cultivated) and the third dimension the genetic *diversity* of the crop (i.e. the types and numbers of cultivars). Since representations on paper can only be two-dimensional, and also because it is impossible to know the numbers of plants that were and are being cultivated, the numerical dimension can not be represented in this way. Nevertheless, this dimension may be inferred, in part, from the patterns of diversity (taking into consideration other factors such as the genetic behaviour of cultivar groups).

Distribution:

Looking at the distribution of plantain cultivars (see also table 3.10), some conspicuous facts deserve attention. Firstly, all South American plantains, and all but one of the Indian plantains listed are also found in (West-)Central Africa. Secondly, plantain diversity varies between low in East Africa, high in Central Africa and moderate in West Africa. Also, in East and (West-)Central Africa the French cultivars outnumber by far those of the other cultivar types, while in West Africa, the numbers of French and False Horn cultivars are more balanced than in (West-)Central Africa. Finally, the French Medium Green cultivar is not only the most basic, but also the most widely distributed plantain, followed closely by the Horn Medium Green and, at some distance, by the French Medium Red cultivar.

Whereas the total group of French plantains is most numerous in Cameroon, the largest sub-group among them, i.e. those with Medium-sized and Green(-Red) pseudo-stems, is present with the highest number of cultivars in Gabon. The slight variation that exists among the French Small plantains is only found in the area of northern Congo and north-eastern Gabon. As for the Horn plantains, their greatest variety has been reported from Congo(-K.). In spite of a more balanced ratio of False Horn and French cultivars in West Africa, the absolute number of False Horn cultivars is highest in Congo and Gabon. Although False Horn plantains also occur in South-East Asia, for instance in Malaysia, none have been reported so far from India, and their absence from eastern Africa (except for some recent introductions) is also noteworthy.

A high plantain diversity in a given area may depend on several factors, ecological, cultural and demographical. For instance, in Gabon we find relatively large numbers of cultivars near Okondja (fertile soil, forest area), near Koulamoutou (forest; dedicated Njebi (B52) farmers) and near Ndougou (many immigrant farmers on a plantain development scheme). Another point, of course, is that the present regional cultivar inventories depend, at least in part, on the thoroughness of exploration.

The nature and relative importance of factors contributing to plantain diversity in south-east Nigeria is unclear, but may be historical, cultural and/or ecological. Where in each of the different (linguistic and ecological) areas in west Cameroon (Kwiri (A22), Koose (A15b), Ejagham (Ekd), Kenyang and Grassfields) c. 15 plantain cultivars have been recorded (and conserved in the Nyombe and Ekona musa collections), the numbers diminish gradually when crossing the border into Nigeria. In the Efik (LCr) area 11 cultivars have been reported, the neighbouring Ibibio (LCr) have 8 and the Anaang (LCr) 7 cultivars, while even smaller numbers were recorded in the Niger delta, in spite of ample collection possibilities by researchers from the Onne musa collection situated in this area. Notwithstanding the favourable conditions for the cultivation of plantain, the crop probably had less time to diversify in this area than it had in West-Central Africa (see chapter 5.3).

Nevertheless, both in western Cameroon and eastern Nigeria cultivars with non-Green pseudo-stems are relatively numerous (see Appendix B), contrary to the situation in east Cameroon, north Congo and north-east Gabon. (Semi-)Dwarf cultivars, or cultivars with yellow (when immature) & pendulous fruits seem to originate for the greater part in the Grassfields areas of west Cameroon, possibly because of high altitude stress (cf. the similar Horn, yellow & pendulous cultivar, called **igihobe**, in mountainous Burundi).

Incidence:

A study of the numbers of plants of the cultivars and cultivar groups actually grown in the different areas, in conjunction with extensive interviewing of farmers would, if feasible, probably provide us with more insight into the distribution and selection mechanisms of plantain. Estimating the relative numbers of plants of the four bunch types grown in the various areas has proven to be impossible; nevertheless some regional differences are striking and therefore worth mentioning.

In east Cameroon, for instance, the French Giant Green, the French Medium Green and the Horn Medium Green cultivars are the most commonly grown plantains, but their numbers vary locally. The dominant cultivar in Mbang (forest) is the Horn Medium Green and in Abong Mbang (savannah) the French Medium Green, blunt cultivar. The place taken by the False Horn Medium Green cultivar in east Cameroon, although present everywhere, is rather modest. Also, cultivars with non-Green (i.e. Red or Black) pseudo-stems are very rare here and seem to have been introduced only recently. The highest number of cultivars in east Cameroon was found in Mouloundou (forest) on the border with Congo. This might be due to the more favourable ecological conditions in this area (higher minimum temperatures and shorter/less intense dry season; see Génieux, map III-IV) or, according to farmers remarks, to introductions from Congo, e.g. by workers in the local logging industry.

In Sembe (forest) in north Congo, plants of the French Small Green cultivar are relatively numerous (compared to other regions). The same is the case with the Horn

Medium Green, appendices and the French Giant Green cultivars in Okondja (forest) both in east Gabon and near Sibiti (forest) in south-west Congo. Elsewhere in Gabon, relatively high numbers of plants with Red pseudostems are to be found in Oyem and Bitam (forest) and also in Mouila (savannah), while blunt-fruited cultivars are a relatively common feature of the landscape of Koulamoutou (forest). In Mayumba (coastal, sandy peninsula) and Mbigou (cold, windy climate on top of a mountain at 850 m alt.) the French Medium Green and False Horn Medium Green cultivars are dominant, but in Tchibanga (savannah) we find mainly False Horn Medium Green plants.

There may be several causes of these local variations. For instance, some cultivars are preferred for ritual (e.g. those with Red stems) or for culinary purposes (e.g. the False Horn, yellow & pendulous cultivar in east Cameroon and the various blunt-fruited cultivars in Koulamoutou). Some cultivars thrive only under favourable ecological conditions (e.g. the French Giant and Horn cultivars on the fertile soils of Okondja), while others are more resistant when conditions are unfavourable (e.g. the False Horn plantains). Subsequently, such cultivars may have become part of the plantain traditions of a people (as seems to have been the case with the Mbama, who continued to favour French Giant and Horn plantains after they had migrated from Okondja to Sibiti). Also, agronomical factors such as length of growing cycle or suckering behaviour may determine the incidence of certain cultivars. According to De Wildeman (1920:345), Robert (1990) as well as farmers' comments, the False Horn Medium Green, French Small Green and French Medium Green, fused pedicels cultivars are very precocious. This agronomical advantage must have contributed to the rapid spread of these cultivars in West-Central Africa, which not only follows from their (developing) diversity but also from the uniform spread of their names in this area (see chapter 5.2).

The rate of multiplication is another important factor contributing to plantain diversity. The further westwards we go from East to West-Central Africa, the more plantain is grown and the more multiplication cycles the crop has gone through. The chance for mutations therefore increased too, which is why plantain diversity is highest at the western end of the rain forest. Here we find a higher variation in bunch type (not only French and Horn, but also False Horn and French Horn types) as well as in other descriptors (e.g. stem or fruit colours).

A similar case is presented by the East African highland banana, notwithstanding the fact that that its cultivation system is very different from that of plantain. Where plantain, as part of a shifting cultivation system, is planted every season, the highland banana is grown in permanent groves that may last for decades. Both crops are represented by a very high number of cultivars. At the present state of knowledge, there are c. 115 plantain cultivars and about half that number of highland banana cultivars in Africa, but the latter are grown in a much smaller area than the former. Of course, plantain (AAB) and highland banana (AAA) have different genomes and thus

may have different mutation rates. Nevertheless, the high diversity of both crops in Africa, as compared to plantain diversity in India, must be largely due to the high number of plants cultivated. Like the highland banana in East Africa, plantain is (or rather was, before the advent of cassava; see Rossel 1987: 93-103 and Vansina 1997) the main staple crop in (West-)Central Africa, and therefore cultivated in large quantities. Contrary to the highland banana, plantain has never been grown intensively in East Africa, and this has neither been the case in India, being the reason why their diversity in these two, otherwise quite different areas, remained low.

Diversity:

The majority of plantain cultivars listed in table 5.1 are characterized by Pendulous bunches of the French type and by Medium-sized pseudo-stems with a Green(-Red) colour. In addition to the default fruit characteristics (see list of minor descriptors, above), it can be assumed that the "mother of all plantains" presented these four characteristics. Also, the French Medium Green Pendulous cultivar (Linnaeus' *M. paradisiaca*?) can be taken to represent the entire plantain subgroup as well as the French plantains. The majority of False Horn, French Horn and Horn plantains have similar-sized and -coloured pseudo-stems, but Subhorizontal bunches (due to their reduced weight, see chapter 2.1). The False Horn Medium Green Subhorizontal, French Horn Medium Green Subhorizontal and Horn Medium Green Subhorizontal cultivars therefore represent their respective bunch types.

Although the Horn type of plantain is almost as widespread as its French counterpart, and despite its early appearance in historical sources, the diversity of Horn plantains is low compared to that of the French and False Horn plantains. One could ascribe this to negative "human" selection pressures (because of the small bunches), but these are counter-balanced by positive selection pressures, both "human" (the fruits are bigger and have a more favourable flesh/peel ratio) and "botanical" (fast and prolific suckering due to reduced apical dominance). Moreover, even in areas where Horn cultivars are popular, their numbers remain low in comparison to French or False Horn cultivars. This suggests that Horn plantains are genetically more stable than those of the other bunch types. Results from in-vitro experiments, on the other hand, showed that bunch type variations only occurred among False Horn and Horn cultivars, and that the genomes of the French plantains were most stable, not only where bunch type variation is concerned, but also for other characters (see chapter 2.3 and Vuylsteke et al. 1990:321-323).

Even if these results also reflect the mutational behaviour under in-situ conditions (see chapter 3.2), they do not account for two other important factors that co-determined the actual existing variation (apart from possible different genetic backgrounds), i.e. that of number (of plants cultivated) and of time. We do not know when the three main bunch types of plantain came into existence, nor in how far (at that moment) they were outnumbered already by plants and cultivars of a/the pre-

existing bunch type(s). The ratios of French : False Horn : Horn in India and (West-) Central Africa are resp. 8:0:1 (n = 9) and 4:2:1 (n = c. 115). In view of the above-mentioned mutational behaviour (and, of course, of the fact that French-type bunches most closely resemble those of wild *Musa* species), these numbers suggest that the French type preceded by far the Horn type. The high mutation rate of False Horn cultivars under in-vitro conditions, the relatively high number of False Horn cultivars in West-Central Africa and the more balanced ratio of French and False Horn cultivars in West Africa (see chapter 3.2 and appendix B) are indications that False Horn diversity is catching up fast with that of the French type. This means that the False Horn plantains (on the African continent) must be much younger than the French and the Horn plantains.

A few plantains are very unstable where bunch type is concerned. These are the Horn Medium Green, unstable cultivar **ngego** (Tanzania-Malawi, Madagascar), which produces Horn, False Horn as well as French bunches, the French Horn Medium Green, many hands & erect fingers cultivar **bise egome 2** (Nigeria), which varies between the different bunch types too, and possibly also the French(/False) Horn Medium Red-Chimaera cultivar **motuka** (Gabon), which seems to vary between the False Horn and the French Horn type. Besides these inherently unstable cultivars we sometimes also find so-called "French-reversions", whereby a False Horn or a Horn plantain reverts to the French bunch-type. This was found with the False Horn Medium Green cultivar (Uganda, Gabon) and reportedly also with the Horn Medium Green cultivar **liberal** > **maqueño** (Colombia; Simmonds 1966:122).

As for the French Horn plantains, this type probably came into existence relatively recently, in western Africa. Although the number of cultivars is too small to draw conclusions as to their origin, the fact that they have False Horn rather than French counterparts, and in view of the general direction of reversions, suggests that French Horn plantains resulted from reversions of False Horn cultivars.

Small-sized plantain cultivars are rare, but found with French, False Horn and Horn type bunches and, interestingly enough, in a similar ratio (c. 4:2:1) to that of the Medium-sized, or indeed, to the total number of cultivars of these three bunch types. Moreover, the same ratio also holds for the Green(-Red) cultivars of the French, False Horn and Horn types. This ratio is not found with other descriptors, such as Giant pseudo-stem size or non-Green(-Red) pseudo-stem colours. For example, Red and (Violet-)Black plantains are predominantly of the French type, whereas Dark-Green pseudo-stems are only found with French cultivars, and Wine-Red pseudo-stems only with False Horn cultivars. The case of the Giant plantains is not clear. Firstly, most Horn plantains are intermediate in size between Medium and Giant. Also, Giant False Horn plants are easily mistaken for being Medium-sized, especially under less favourable growing conditions. Moreover, because of their impressive bunches, French Giant plantains are more often distinguished (by name) by the farmers than False Horn Giant plantains. Finally, there may have been a

(human) selection as well as a collection bias in favour of Giant French plantains. Giant plantains are very prone to wind-damage and therefore more suitable for backyard, where they can be propped up, than for field conditions. Moreover, the high weight of the bunches that have to be carried from the fields to the village may be a reason to plant the French Giant cultivars in the village. Thus, while the more modestly-sized plantains are planted in the fields, French Giant plants might be preferred for planting in backyards, to the greater pride of their owners and in clear view of a passing banana researcher.

To conclude, the botanical information suggests that, in addition to factors such as genetic (in)stability, external selection pressures (ecological, agro-botanical, cultural), time and chance, it is the geographical and numerical expansion of the crop and its cultivar(group)s that contributed most to plantain diversity. This can be deduced from the fact that the highest diversity is found at the western end of the Central-African rain forest, to where the furthest expansion of plantain reached before the arrival of the Europeans. In West Africa and the New World plantain was introduced later, by the Europeans (see chapter 5.3). The diversity found in the latter two regions mirrors, albeit to a lesser extent, that of West-Central Africa. In Asia and East Africa plantain was never cultivated in equally high densities as in Central Africa, among other things because of ecological conditions and the importance of other food crops (see chapter 5.3). Therefore, plantain diversity remained low in these regions, both in bunch types and in numbers of cultivars.

5.2 Historical evidence

The historical evidence for the introduction of musa to Africa, and its spread over the continent, has three aspects. The first concerns information about the historical contacts between Asia and Africa, and the perspective in which the history of musa has to be placed. The other two aspects concern the actual references to the presence of musa in Africa (and on neighbouring islands in the Indian Ocean) in historical sources. Among these, we can distinguish between references to musa in general and references to specific (groups of) cultivars, as well as between four historical periods (for literature, see chapter 2.3).

From the first period there is only a 9th century copy of Cosmas' manuscript, which was written in the 6th century. From the second period, which covers a period ranging from the 9th to the 14th century, we have a number of Arabic sources. The older European sources of the third period begin with the opening of the maritime trade routes to Asia in the 15th century, and last until the onset of the colonisation of Africa. Finally, the more recent sources of the fourth period cover the colonial as well as the post-colonial period. These periods and sources can be outlined as follows:

1. Cosmas (6th/9th century).
   a. Reference to musa or ensete on the Ethiopian coast.
2. Arabic sources (9-14th century).
   a. References to musa in the Arabic world, including East Africa.
   b. Enumeration of musa cultivars on Zanzibar.
3. Old European sources (15-18th century).
   a. References to musa (cultivars) in India, Africa and adjacent islands.
   b. Records of the introduction of musa cultivars to botanical gardens in Africa and some islands in the Indian Ocean.
4. Recent sources (19-20th century).
   a. Miscellaneous references to the distribution and occurrences of musa (diversity) in Africa and adjacent islands.
   b. Reports on the regional occurrences of musa diversity and records of the introduction of cultivars to botanical gardens, experimental stations, commercial plantations and local farmers.
   c. Regional surveys and collections of musa diversity.

1 Cosmas (6/9th century).

a. Reference to musa or ensete on the Ethiopian coast:

As for the first period, it was concluded in chapter 2.3 that the value of Cosmas' manuscript is debatable. The reason is that we do not know if his remarks really concern musa or if he was confusing Ethiopian ensete with the musa plants he saw in Sri Lanka. We do not know either to what extent additions or changes have been made in the copied manuscript, which dates from about three centuries after Cosmas' death (there are indications that the illustration of a musa plant - or was it ensete, or a palm tree? - on a loose leaf in the manuscript have been misplaced or were added later). Nevertheless, the use of the Arabic name **moz** in this text might be an indication that musa was already known to the Arabs at that time. Also, the description of the plant as the "Indian fig" strongly reminds of the use of this name for bananas that was adopted a millennium later by the Portuguese in India or Sri Lanka (see chapters 2.3 and 4.3.1), after the local habit of the people (see Hedrick 1972:374).

2 Arabic sources (9-14th century).

a. References to musa in the Arabic world, including East Africa:

Although the information from the second period does not provide us with actual information on the introduction of musa to Africa, it gives an idea about the spread of musa in the western part of the Islamic world, and also about the period in which musa already must have been a relatively common plant there. The oldest of these sources is Abu Hanifa in 895, who mentions that the plant was grown in Oman.

Some twenty years later (c. 915), al-Mas'udi states that musa was grown as abundantly in East Africa as in India.

The cultivation of musa in most of the Arabic world (i.e. in the Middle East, northern Africa and southern Spain) mainly took place under protected (i.e. irrigated) conditions. This means that these bananas were used as a luxury (dessert) fruit, not as a staple food. We shall see below that the latter only could be the case in areas where the ecological conditions were more favourable and where there was little competition with other food crops.

b. Enumeration of musa cultivars on Zanzibar:

The first cultivar names from Africa were reported by al-Idrisi in the 12th century, and pertain to Zanzibar. These names are **muriani** (`Muriyani'; = ?), **sukari** (`sweet'; AB 'Sukari'), **fiilii** (`elephant'; AAB Horn), **omani** (`Omani'; = ?) and **alqnd** (< Bantu **kundu** `ripe musa'). Because of their large fruits, the Horn plantains always were easy to distinguish, which is why they were already mentioned in the earliest record of musa. References to "bananas with fruits as big as elephants' tusks" were made as early as the 2nd or 3rd century BC, in India, similar to al-Idrisi's **fiilii** (note that in present-day Swahili this cultivar is called **mkono wa tembo** `hand/trunk of elephant').

3 Old European sources (15-18th century).

a. References to musa (cultivars) in India, Africa and adjacent islands:

The earliest reference to musa (called **avalaneira**) on Africa's western coast and nearby islands, in the third period, dates from the first decade of the 16th century, and refers to Sao Tomé. This previously uninhabited island was colonised by the Portuguese after they discovered it some twenty years earlier. The first introduction of musa (called **platanos**) to the New World was probably recorded a decade later by Oviedo, who wrote that in 1516 plants were taken from the Canary Islands to the Caribbean island of Hispaniola or Dominica (Hedrick 1972:376).

The first source referring to musa cultivars in India that can be linked (i.e. by description or by name) to cultivar (group)s in Africa is Varthema (1511), who visited Calicut on the Malabar coast. Unfortunately, the only cultivar for which Varthema did not provide a local name was one described as being bitter (Badger 1863:162). Another reference to a bitter banana, in Ceylon (Sri Lanka) this time, was made three centuries later by Moon (1824), who provided a local name (**titta-kadali** `bitter banana'). It would be interesting to know if there is a relation between either, or both of these bitter bananas and the bitter highland beer bananas in East Africa (see Simmonds 1966:111, who refers to an Indian AAA cultivar with affinities to the "Lujugira" - AAA EA - group in East Africa).

Van Linschoten, who also visited Malabar, wrote in 1585 about "thick bananas of a span (22.5 cm) long, which are reddish-coloured inside, dried and exported

throughout India, but fried when ripe because somewhat more difficult to swallow when unripe than other bananas" (Kern 1910:227). This is clearly a reference to a Horn plantain.

Van Linschoten and before him Garcia de Orta in 1567, also mentioned a banana with small, tasty fruits, called **senorijns** or **cenorins** in Malabar. This may have been the AB 'Ney poovan' cultivar, nowadays called **sonery** in Maharashtra, west India. These names are reminiscent of the Zanzibari name **msinyore** for the False Horn plantain (see chapter 3.2).

Whereas Dutch seafarers already mentioned bananas on Madagascar in 1595, it is De Flacourt who, in 1658 (p.119), described the Horn plantain on this island ("**(f)ontsi**.... as thick and long as an arm"). Almost two centuries later Copland (1822:308) also wrote about bananas "as long and as thick as a man's arm, called **ontzi**". Nowadays, the Horn Medium Green cultivar, called **likalika**, is still the only plantain found in east Madagsacar. On the Comoros this cultivar is called **fu(n)ti**, which is now one of the Malagasy names for `musa', but on La Réunion it is called **banane malgache**, suggesting that the Horn plantain was introduced from Madagascar to this island.

b. Records of the introduction of musa cultivars to botanical gardens in Africa and some islands in the Indian Ocean:

This brings us to the important rôle that was played by the Europeans in the dispersal of musa cultivars over the world. Even a quick glance at some of the literature available reveals that such introductions already took place at an early date.This was especially the case with the islands in the Indian Ocean that were uninhabited before the arrival of the Europeans. More study, for instance of archival material from botanical gardens, will undoubtedly provide a more complete picture of these introductions. Examples concerning these islands, such as Mauritius and La Réunion, show that from the 17th century onwards, the Dutch, British and French introduced all kinds of economical and ornamental plants, which were mainly brought from Asia (see for instance Bojer 1837, Copland 1822, Fouque et al. 1923, Ly-Tio-Fane 1970, Rouillard 1983, Sauer 1967, Toussaint 1972, Simmonds 1991; see also chapter 3.3).

4 Recent sources (19-20th century).

a. Miscellaneous references to the distribution and occurrences of musa (diversity) in Africa and adjacent islands:

From the earlier part of the fourth period there are numerous (travel) reports of explorers, missionaries or colonial agents with references to the presence or absence of musa in the various areas. A good example of the use of such sources is provided by Langlands (1966:39-62), who attempted to reconstruct the expansion of musa

cultivation (especially from southern Uganda to other areas) in Uganda between 1860 and 1920.

An overview of musa diversity in East Africa at the beginning of this century was made by Stuhlmann (1909:37-62), whereas more detailed information can be found in colonial archives (see for instance the Annual Reports of the Department of Agriculture in Uganda), or in colonial periodicals. An example of the latter is the German magazine "Der Tropenpflanzer", which reported in 1903 that the two cultivars mainly grown around Dar es Salaam (Tanzania) were **sukari** (AB 'Sukari') and **mzuzu** (French plantain), while the main cultivars in the Kilwa area, further south, were **mzuzu** (French plantain), **mkoko tembo** (Horn plantain), **kisukari** (AB 'Sukari'), **kinguruwe** (AAA 'Dwarf Cavendish'), **makonde** (AAB 'Mysore') and **kizungu** (AAA 'Red').

Good examples from the west side of the continent are a study of De Briey on musa cultivars in west Congo(-K.) (De Wildeman 1920), and several publications of (Raponda-)Walker on musa cultivars in Gabon (Walker 1930 and 1931, Walker & Sillans 1961). In spite of his extended knowledge, (Raponda-)Walker did have some difficulty with the complexity of the matter, as evidenced by discrepancies between his first (1930) and second (1931) publication. There is also a study by Tisserant (1953:227) in which the author reported that the **banane sango** (French plantain) was the widest grown and oldest plantain in the C.A.R., followed, at some distance, by the **banane corne** (Horn plantain).

b. Reports on the regional occurrences of musa diversity and records of the introduction of cultivars to botanical gardens, experimental stations, commercial plantations and local farmers:

References to occurrences and introductions of specific cultivars are mainly found in specialised botanical or agronomical sources (see Rossel 1992:20-24, 1994:71-2, 1995:41-43, and appendices A-D). Another source of such information are the archives of botanical gardens and other institutions dealing with tropical agriculture or botany, in Europe as well as in Africa.

Most of the initial introductions took place to botanical gardens (e.g. in Victoria/Limbe, Cameroon), agronomical research stations (e.g. in Amani, Tanzania), commercial banana plantations (e.g. near Tiko in Cameroon, Juba in Somalia or Malindi in Kenya) and missionary institutions (e.g. in Gabon). The names of some cultivars still refer to these introductions, e.g. **tiko** (Cameroon), **juba** (Somalia) and **kimalindi** (Kenya-Tanzania) are all names of the AAA 'Dwarf (or the very similar Giant) Cavendish' cultivar. Many of these introductions, also, passed via institutes in the colonial motherlands, for instance via Kew Gardens near London, the Jardin Colonial in Nogent-sur-Marne and the Museum d'Histoire Naturelle in Paris, or the Zentralstelle und Kolonial Wirtschaftliches Komittee in Berlin.

It is clear that, apart from agronomical institutions (e.g. in the West Indies) or religious and diplomatic missions (see Rossel 1992:24, 1994:42, 45, 71 and 1995:30, 43), botanical gardens played a most important rôle in this world-wide dispersal of musa cultivars, not only at the receiving, but also at the sending end (e.g. those of Calcutta in India, Buitenzorg/Bogor in Indonesia or Victoria in Australia).

And finally, local administrative officials and, of course, the population itself, took care of the further dispersal of musa cultivars within the African continent. For instance, much of the spread of bananas to the northern and south-western parts of Uganda has been attributed to BaGanda officials in colonial service (Langlands 1966:42, 46, 49-51, 56-57, Serubiri 1979). This spread can also be inferred from the use of Ganda (J15) names for these bananas in many of the other Ugandese languages (Rossel 1995:31).

Efforts to introduce new cultivars to the farming populations were made by colonial extension services in several areas. For instance, in the 1950's, a special campaign was carried out in BuNyoro (west Uganda) in order to encourage the planting of cooking bananas (AAA EA), as a counteraction to the fast spread of beer cultivars (see Uganda Dept. Agr. 1955, 2:144). Another example is provided by the imposition, by the French colonial administration in Gabon, of the cultivation of the AAB 'Pome' banana, as a safeguard against food shortages. This cultivar, as well as the backyard garden in which this banana is usually grown, is therefore still called **fala** 'Frenchmen' in some areas (Rossel 1994:39).

We saw above that because of its conspicuous features, the Horn plantain is easily recognized and therefore often mentioned in historical sources, throughout the ages. Another musa cultivar which is easily recognized and therefore often referred to is the AAA 'Dwarf Cavendish' banana. This banana is said to have been introduced by Charles Telfair in 1826 from southern China to the botanical garden on Mauritius (Simmonds 1966:80). Its introduction to the African continent and the adjacent islands has been relatively well-documented. Therefore, we know that this mostly took place in the last century. The first records of shipments of *Musa cavendish* or *Musa chinensis* from Kew Gardens (UK) to Africa date from 1849 (West Africa), 1852 (Liberia), 1855 ("Cameroons river") and 1862 (West Africa). In 1858 plants were also sent to eastern Africa, along with the expedition of Dr. Livingstone. This banana was also among the cultivars that were introduced by missionaries from the island of Fernando Po to Gabon in 1854 (Anonymous 1922, Bojer 1837, Chévalier 1912, 1944:117, 121 and 1951, Copland 1822, Hedrick 1972:372, Houtkamp 1996:55, 63, 80, Kervégant, 1933:342-343; Kew Gardens 1805-1906, Simmonds 1966:80, Walker & Sillans 1961:306).

An inevitable result of the world-wide dispersal of banana cultivars has been the spread of pests and diseases (Rossel 1994:72). Their appearances in certain areas can also be traced in literature, albeit with some more difficulty. For instance, in 1904

the banana weevil (*Cosmopolites sordidus*) was reported from Sao Tomé (Der Tropenpflanzer 8,5). From here infected plants were probably taken to the Mayombe area in western Congo(-K.), where the first attacks were observed in 1913-1914. In the following ten years the spread of the pest through the country is reported by various authors (Mayné 1916, Anonymous 1956:103, Ghesquiere 1924:171-172). The first outbreak of weevils in Uganda is reported to have taken place in 1918, near Entebbe. However, its introduction is suspected to have taken place prior to 1908, via infected musa plants that were introduced to the botanical garden of Entebbe (Gowdey 1918:39). After this, the occurrences of weevils in the various parts of Uganda are reported in the Annual Reports of the Department of Agriculture, and in various other sources (e.g. Tothill 1940 or Winter 1956:6).

This highlights the contribution of botanical gardens, musa collections and commercial banana plantations, not only to the dispersal of musa cultivars, but also to that of pests and diseases. Even today, with all the phyto-sanitary precautions taken (e.g. through quarantine, by screening and the use of in-vitro plants), this cannot be totally avoided (see Buddenhagen 1996:5).

c. Regional surveys and collections of musa diversity:
Specialised surveys of regional musa diversity and subsequent evaluation in collections became important only after World War II. Examples of these are Baker & Simmonds (1951-1952) and Shepherd (1957) for East Africa, Rossel & Mbwana (1991) for Tanzania, Semajeje (1986) and Sebasigari (1990) for Rwanda, Burundi and east Congo(-K.), Müller (1947) and De Langhe (1961) for central Congo(-K.), Tezenas du Montcel (1979) for Cameroon, and Devos (1978) and Swennen (1990) for Nigeria. Recently however, these efforts appear to have come almost to a standstill, in favour of biotechnological research. The question is, of course, whether the latter will not obscure our view on the natural developments that took place in musa. Especially the high rate of somatic mutations among in-vitro multiplied plants would seem to make this method less well suited for the collection and maintaining of the existing genetic variation. Also, the nature of these mutations is such that its outcomes, for instance with the aim of arriving at phylogenetical or historical conclusions, should be considered with some caution (see chapter 3.2).

To conclude, the information obtained from the available historical sources is that, firstly, most banana cultivars have been spread only relatively recently. This explains the high diversity of so-called "alien" cultivars (as opposed to "traditional"; see Baker & Simmonds 1951) near the coasts, both in East and in West-Central Africa. For instance, the presence of the AA cultivars in north-east Tanzania is most likely due to German introductions, around the turn of this century, to the research stations at Lushoto, Kwai and Amani in the Usambara mountains (see chapter 3.3 and Rossel 1995:42-43). Secondly, the relatively recent spread of many musa cultivars, "alien"

or not, has considerably blurred the picture of older distribution patterns. Thirdly, the French (**izu** or **mzuzu**; see chapter 5.3) and Horn (**fiilii** or **mkono wa tembo**) plantains and the AB 'Sukari' (**sukari**) banana have been present in Africa at least since the 12th century (it is not known if the latter can be historically linked to the unclassified **sakari** cultivar in present-day northeastern India; see Bhat & Jarret 1995:108). At that time also, musa cultivars that were consumed in a ripe and raw state (**al-qnd**) were distinguished from cultivars that had to be prepared first. The latter were cooked in milk, as described by Ibn Battuta in 1331, according to whom the people in Mogadishu boiled unripe bananas in fresh milk and served them as a sauce (Freeman-Grenville 1962:29).

The use of milk is an indication that the people in this area had a pastoralist tradition. This seems to be in line with archaeological evidence from the northern part of the East African coast suggesting that, from the 8th century, pastoral people became sedentary and established themselves as Swahili merchants (Juma 1996:154). This implies that the adoption of musa as a food crop was made easy by the absence of an important local food crop. We shall see below (in chapter 5.4.3) what implications this cultural background must have had, together with the favourable ecological conditions that prevailed in the area, for the early history of musa in East Africa.

This leads us back to the significance of the possible earliest source on musa in Africa, i.e. the *Christian Topography* of Cosmas Indicopleustis ('the Indian navigator'), which dates from the fifth century. It is known that contacts between Asia and Africa (via the so-called "Sabaean Lane", see Burkill 1953:31-33, Murdock 1959:183, Watson 1983:181-182) go back a very long time. The fact that Cosmas (probably) travelled himself from Egypt and Ethiopia to Sri Lanka is proof of the relative "commonness" of such contacts at that time. An introduction of musa cultivars from India and Sri Lanka to (the northern part of) the East African coast in the middle of the first millennium, or even earlier, is therefore very well likely.

However, we also have to take into account the receiving structure, both cultural and ecological, on this part of the coast. These determined which cultivars were maintained and in what numbers they were multiplied. As shown by the huge differences in plantain diversity between the eastern and the central/western part of the continent, it becomes clear that it is the factor density rather than the factor time that determined plantain diversity. Both density and diversity, of course, depended on the ecological conditions, and in relation to that, on the cultures and economies of the people.

5.3 Linguistic evidence

The study of musa names in African languages is not a straight-forward affair, based on single items with single meanings that were spread once and from language to language. On the contrary, more often than not, these names are phonologically irregular and semantically variable between languages (for theoretical considerations on the subjects of loan words in relation to ethnohistory, "travel words", shifts in semantic categorisation, botanical classification systems in languages, folk classification of bananas in a single language or ethnobotanical linguistics in general, see for instance Möhlig 1980, Knappert 1970, Ehret 1975, Berlin et al. 1974, Yoshida 1981 and Verheijen 1984).

In chapter 4 we saw that the more important aspects of, what Blakney (1963) called, the "linguistic footprints" of the spread of musa over the African continent that have to be considered are:

- ethnobotanical classification or folk taxonomy (various divisions of the musa domain: generic, cultivar groupings, cultivars, parts of the musa plant).
- links between musa- and non-musa-specific terminology (transfers from other semantic fields such as similar plants, useful or conspicuous parts of the plant, quality of the fruits, various themes).
- form (morpho-phonological shape of musa names).
- origin (African or introduced from other continents; creation, borrowing, loan translation, folk etymology).
- distribution (localized or widespread, scattered, uniform or recurrent, in linguistic groups or geographical areas).
- spread (via linguistic and geographical pathways).
- time (of coinage and spread).

However, since this study is mainly concerned with the place of introduction and the subsequent pathways of spread of plantain in Africa, the linguistic outcomes of chapter 4 have to be translated into the geographical and temporal terms of introduction and spread.

The picture presented by the distribution of musa in Africa is scattered in eastern Africa (high rainfall highlands), diffuse in Central Africa (equatorial rain forest lowland), and coastal in West Africa (rain forest). The cultivation of musa could come to its fullest development in these areas because of suitable ecological conditions. In order to retrace the initial area(s) of introduction and the subsequent pathways of spread of musa and musa names, we shall break up this vast area in the following sections:

- north-eastern coast and islands
- south-eastern coast
- north-eastern highlands
- north-eastern interior
- south-eastern interior
- Central African rain forest
- West African coast

North-eastern coast and islands:
The earliest Arab sources that mentioned musa in East Africa, like Cosmas some centuries before them, all used the Arabic name **mwz**. Earlier attestations of this name, in India, are **moça** in a Pali Buddhist text (dating from the first or second century BC?) and Sanskrit **moça** or its adjectival form **mauça** in a 4th century AD medicinal treatise (Reynolds, 1951:9). The name is still used in northern India, for instance in Punjabi (**muz**), Hindi **maoz**, Deccan (**mouz** or **maoz**) and Bengali (**moca**) (see Watt 1891:811 and Sukumar Sen 1971:781). However, most widespread in the Indian sub-continent and Sri Lanka are names derived from Sanskrit **kadali**, and such names are also found in other areas in South-East Asia that were once subjected to Hindu culture (e.g. in Javanese).

As for East Africa, speakers of South Semitic languages usually borrowed the Arabic name as such (e.g. Amharic **mouz** or Harari **muuz**). Speakers of East Cushitic and Bantu languages, on the other hand, adapted it to their tongue (e.g. Oromo **muusa** or northern Swahili **mazu**).

The name **mazu**, or its singular form **izu**, is used generically ('musa') in northern Swahili (G41,42[nd]), Comoros (G44), Pokomo (E71), Mijikenda (E72) and Digo (E73). In Comoros it is a generic name (**dzu**) as well as the name for French plantains, but in southern Swahili (G42[sd]) and Pemba (G43) it is only the name (**mzuzu**) of French plantains. As can be seen in the following table, there are several ways in which the French and Horn plantains are distinguished (by name) in the Sabaki (E70, G40) languages and dialects (keeping in mind that the Horn type is only represented in East Africa by the Horn Medium Green cultivar, and that the most common French plantain is the French Medium Green cultivar).

Table 5.2 Names for French and Horn plantains in the Sabaki languages (E70, G40)

Language	*French plantain*	*Horn plantain*
N. Swahili	**(izu) kiume** #	**mkono wa tembo**
	`male (banana)'	`trunk of elephant'
Digo	**kilume**	**mkono wa tembo**
	`male'	
Mijikenda	**izu riche**	**izu lume**
	`female banana'	`male banana'
S. Swahili	***mkono wa tembo wa kike***	***mkono wa tembo wa kiume***
(Digo area)	`female mkono wa tembo'	`male mkono wa tembo'
S. Swahili	**mzuzu**	**mkono wa tembo** ##
	`the real mzu'	`trunk of elephant'
Comores	**dzu mwenye**	**fu(n)ti** ###
	`dzu itself'	
Malagasy	**katakata lahy**	**tsimananyamboko**
(north)	`male katakata' ####	`has no male bud'

Izu is the generic name of musa. ## **Mkono wa tembo** is a southern Swahili form, because the northern Swahili word for `elephant' is **ndovu**. ### the eastern Malagasy name for `musa'. #### the name **katakata** is only used for French plantains.

The likely sequence of events that resulted in the distribution of these names is as follows:

- The French Medium Green cultivar was the first kind of musa to be introduced to the northern Swahili coast, and its name of introduction(**mwz**) therefore acquired a generic meaning. Plant and name then spread further southwards along the coast, and also to the Comoros.
- After this, other bananas (e.g. AB 'Sukari') were introduced and the French plantain was distinguished as the `male banana', because of its bigger and/or harder fruits. At this time it was probably also taken from Mozambique to north Madagascar.
- The Horn plantain was brought by Malagasy people from east Madagascar to the Comoros, where it is still known under its Malagasy name (**fontsy**). The Comorians, who already possessed the French plantain, added the epithet **mwenye** (`itself', i.e. "the real one") to the name of the latter, in order to distinguish it from the Horn plantain. The Horn cultivar was introduced to the northern part of the southern Swahili coast (Zanzibar?), where it received the name **mkono wa tembo**.
- Those Digo (E73), for whom (southern) Swahili has become the first language, call both types of plantains **mkono wa tembo**, the bigger (Horn) ones are `male' and the smaller (French) ones `female'. In neighbouring Mijikenda (E72), **izu** has

retained its generic sense, but here too the French plantain is `female' and the Horn plantain `male'.

- Since **tembo** is the southern Swahili word for `elephant', the Horn plantain must have been introduced first to the southern Swahili area (after Swahili had already differentiated into different dialects?). Hereafter the name of French plantain was reduplicated in order to emphasise that it was the real or original plantain. The Horn cultivar spread with its southern Swahili name to northern Swahili.
- At this point we have to consider the fact that the Taita (E74) name of the (original) highland banana (cultivar) became the generic name (**ndizi**) for musa fruits in southern Swahili (it remained a cultivar name in the highland areas of Taita and Kilimanjaro), and that the name of the musa plant (***-gomba**) was borrowed from the indigenous ensete plant, which grows in these highlands. The same cultivar was probably the first to arrive in Mozambique and KwaZulu-Natal (or to have been the only one to survive the occasional spells of cool weather: Natal is at 29° South!), because its name (***-gomba**) in the latter area is also used generically in Zulu, as well as in many Mozambican languages. Moreover, the French Medium Green cultivar, the only plantain found in Mozambique, is called **-elu** `white' (also in Malawi). The people here (i.e. in the highlands of Gurue, with a mean altitude of 1600 m) may have been inspired by its light-green stem, contrasting with the blackish stem of the previously introduced highland banana. Another Comorian name that points to an introduction from the Kenyan coast is **-tovi** `cooking banana'. In northern Swahili (G41,42nd) this name is used to indicate ripe bananas (< ***-toba** `to ripen') and sometimes also the AB 'Sukari' cultivar. In Elwana (E71), however, it is the name of a dish of sliced and cooked bananas. The name must stem from Southern Swahili (G42), Pokomo (E71) or Mijikenda (E72), because only these languages have a rule whereby ***b** > **v/--*i*** (i.e. **-toba** > **-tov*i***). This rule does not exist in Comoros (G44), nor in Northern Swahili or Tikuu (G41).

Non-Bantu musa names:

It is often easier to detect loan words between languages of very distinct affiliation than between closely related languages. Also, the majority of bananas and plantains in Africa is cultivated by Bantu-speaking peoples, because these are mainly agriculturists and (therefore) occupy most of the ecologically suitable areas. It can be assumed that most musa names in non-Bantu languages were borrowed from former or present Bantu-speaking neighbours. In the case of the islands in the Indian Ocean, borrowing might have taken place from several directions, from the African coast, from neighbouring islands, or from the Asian continent. Such names may therefore reveal something about the time, place or direction of borrowing.

For instance, the Horn (Medium Green) plantain is called **funti** on the Comoros. This name derives from **funtsy**, which is the generic musa name in

eastern Madagascar. On the Mascarene islands of Mauritius and La Réunion the same cultivar is called **banane malgache**, but on the Seychelles it is the French plantain which is called likewise. This suggests that the Horn Medium Green cultivar was introduced from eastern Madagascar (where only this plantain cultivar is found) to the Comoros and the Mascarenes. The French plantain, on the other hand, was brought by immigrants from northern Madagascar (where the plantains are mainly of the French type) to the Seychelles. Both the Comoros and the Seychelles have a sizable (immigrant) Malagasy population, and the Mascarenes were formerly uninhabited, so these introductions must have taken place after the arrival of the Europeans.

The question is how this peculiar distribution of plantain types in Madagascar (i.e. French cultivars in the north and the Horn cultivar in the east) can be explained. The ecological conditions are equally well-suited in both areas (even more so in the past, when there were still more forests). The difference may be due to the (large) Arabic, Swahili or muslim population in the northern part of Madagascar. Elsewhere on the East African coast these people are known to be very fond of the firm texture of French plantains, which are used in a special dish called "futari" eaten during Ramadan (Zoebl 1987:18, Ngeze 1994:14). Similarly, it may have been for culinary reasons that on the eastern side of the island the Horn plantain was preferred.

Apart from **fontsy** (< Austronesian ***punti**), which is also the Malagasy name of *Ravenala madagascariensis* Adans. (Strelitziaceae), a number of other generic musa names are used in Madagascar. Examples of these are **kida** (< Bengali **keda**) and **akondro** (pronounced as **akundru**; < Comoros **-kundu** 'ripe banana'). French plantains are called **katakata** in northern Madagascar, which might be related to Cuabo (P34; Mozambique) **ika(ra)da** 'musa hand' (cf. Swahili **-kata** 'to cut (off) and **- katakata** 'to chop up'), and/or to the (Swahili?) cultivar names **mkatha** and **lukata** that have been reported from Mijikenda (E72, Kenya) and Bembe (D54; north-west of Lake Tanganyika) respectively.

South-eastern coast:

The name **mgomba** 'musa plant' has been spread via Swahili to the interior of Tanzania (F20, G30) and also further down the coast, to Makonde (P23) and Yao (P21) in Mozambique, as far south as Zulu (S42) in South Africa. The Yao took the name to Malawi, where it was adopted by the Nyanja (N31).

On the northern coast of Mozambique we also find cultivar names that originated in north-east Tanzania. Examples of this are Makonde **indichi** (< Chaga **ndishi**), **cisukali** (< Swahili **kisukari** AB 'Sukari'), **njagasi** (< Swahili **kijakazi** AAB 'Pome') and **ntopwa** (< Bondei/G24 **kitombo** an AAA EA cultivar, probably obtained via Makua), Makua (P31) **mwithi** (< Swahili **ndizi**), **nakhorodhi** (< Swahili **nakojozi** ABB 'Bluggoe') and **munenele** (cf. Chaga/E62 **nyenyele**, an AA cultivar), or Lomwe (P32) **itentera** an AAA EA cultivar (cf. Chaga **itendera**). Another example is the name °**indinga**, which relates to Chaga **-dingo** 'musa hand',

and which was reported from some Southern Swahili dialects such as Mwani (Ibo island) **-inga** `musa (hand)' and from Makua and Lomwe (P31,32) **inika**, Cuabo (P34) **mulinga** `musa (hand)' and Nsenga (N41) **mulinga** `musa bunch'.

North-eastern highlands:

As concluded above, the initial foothold of musa in Africa was situated on the northern Swahili coast of present-day Somalia and Kenya and adjacent islands (e.g. Lamu, where the earliest ships arrived on the trade winds). Considering the ecological requirements (or rather tolerances) of the highland bananas and the spread of the ***-digo** names, it may be assumed that this cultivar group gained some importance when it reached the (south-)central Kenyan highlands and from there the Kilimanjaro, Pare and Taita mountains. Tubeta (G21) and Pare (G22) in the Pare mountains probably borrowed their **idio** name from Central Kenyan or Thagicu (E50) languages (which have **irigu**, **irigo**, **digo** or **ndigu**) and so did Chaga (E62; °**irigu** > **irughu**), from which Taita and Daiso (E56) borrowed their - **ru(g)u** form.

Strangely enough, the Shambala (G23) in the Usambara mountains, who are great banana cultivators and who live closer to the coast than the Chaga or the Pare, went their own way where musa names are concerned, and with them the Bondei (G24), Zigula (G31) and Ngulu (G34). The name **huti** in these languages is used more or less generically for green, mostly sweet bananas (comparable to **-tovi** in Comoros) and **mboko** for cooking bananas (like Duruma (E72d), which has **mazu ga boko**). However, at the beginning of the 20th century **huti** was still recognised as a(n AA) cultivar name (see Eichhorn 1911:176), and **mboko** (AAA EA) still is.

According to Warburg (1894:175), the climatological conditions in this area were such that the banana plantations had to be irrigated in the dry season. Warburg also remarked that musa did not seem to have a Shambala name, the fruits were called **ndizi**, French plantains (the most common "flour bananas" in the area at that time) **muhoye** and Horn plantain **mikono ya timbo**. All these names are of Swahili origin, not only **ndizi** and **mikono ya timbo**, but also **muhoye** `the one that bends' (**\*-pode**; **\*p** > **h** and **\*d** > **Ø**). A similar name, **mporomoka** `the one that falls down' (< **-poromoka** `to descend with a rush') is used in Unguja (G42d) on Zanzibar for the French Giant Green, conical cultivar. Moreover, the Chaga (E62) name for the French Medium Green cultivar, **mbo** or **mbwe** (***mp** > **mb** and ***d** > **Ø**) has the same etymological background. The direction of spread was probably from the coast (Swahili **mporomoka**) to Usambara (Shambala **muhoye**) and Kilimanjaro (Chaga **mbo** or **mbwe**), i.e. from east to west. The French, conical cultivar is also found in the Morogoro area further south, as well as in Malawi where it has a similar name in Tonga (N15), i.e. **nyamkwawa** `fallen' (due to the heavy bunch).

Another indication of this direction of introduction of plantains to this area is the name for dry musa leaves. These are called **isagho**, **shwagho** or **swago** in Pare, Shambala, Bondei (G20) and **masaa**, **masaho** or **masaw** (**gh** > **Ø**) in Chaga dialects

(E60). According to Philippson (1984:147) Arusa (EN) borrowed **ilmasako** from Chaga at a time when **gh** was still realised as **k** in western Chaga. Philippson further related this word to Pemba (G43) **sago** `braid of the leaves of the wild date tree'.

The ecological conditions in the Usambara and Kilimanjaro areas are not ideal for plantains, which also follows from the fact that only one cultivar (French Medium Green) was found to be grown in the latter area. These ecological circumstances may have been an obstacle for an early expansion of musa (i.e. plantain), especially in the Usambaras. It is therefore likely that, at some time, the highland banana spread from central Kenya to the Kilimanjaro, but that the plantain arrived only later in this area, from the coast (or Zanzibar/Pemba), via Usambara.

North-eastern interior:

Recapitulating table 4.1 in chapter 4.3.1, we can reconstruct the following pathways of spread of plantain names in East Africa:

Table 5.3 Pathways of spread of plantain names in East Africa (north-eastern interior

west Nyanza > mt.Elgon > r.Nile > BuNyoro > BwAmba > Ituri > r.Congo
(konja) ***(konde)***

>> north-east Congo(-K.)
(buku)

>> north Victoria > Tooro
(gonja) > Ankole
> west Victoria

The plantain was called **izu** on the northern Swahili coast, from where it reached central Kenya via the Tana and Sabaki rivers and speakers of Sabaki (G40, E70) languages. From here the crop must have been transmitted to west Kenya by speakers of Central Kenyan or Thagicu (E50) languages, because the name **KONJA**, used in the West Nyanza and Mount Elgon area, comes from the name of (certain) fibrous plants in Sabaki and Thagicu languages. This shows that, apart from the coastal (Swahili) dwellers, the people in east and central Kenya initially classified the plant with other bark-fibre plants. The stepping-stone or entrance gate into Uganda was probably the Mt. Elgon area (BuGisu) on both sides of the Kenya-Uganda border. From here the crop was carried (with this name) southwards to the northern shores of Lake Victoria (BuSoga, BuGanda), and westwards via Lake Kyoga along the river Nile to Lake Albert (BuNyoro). Further spread took place south of Lake Albert (BwAmba) through the Ituri forest to the Congo river, but now with a **KONDE** name. The **BUKU** name probably came into existence in the nearby savannah areas,

where pastoralism formed a more important part of the economy and where non-Bantu influences were stronger.

Non-Bantu musa names:

Most peoples speaking non-Bantu languages in East Africa are pastoralists, and some (Boni, So, Hadza) are hunter-gatherers. Moreover, they often live in areas that are less suitable for the cultivation of musa. As can be seen in table 5.4, the borrowed names not only give an indication of the direction of borrowing of the crop, i.e. from the coast (Arabic, G40, E70) and the highlands (E40,50,60, G20, J10,30), but sometimes also of the cultivars that were involved, or of the parts of the musa plant that were of interest to (some of) these people.

Table 5.4 Musa names in non-Bantu East African languages

Group	*Language*	*Musa name*	*Origin*
Kenya:			
SC	Dahalo	**warak'e**	Ethiopian Oromo **waraqe** `ensete' and `ficus'
EC	Rendille	**farr'ole**	**farr'o** `human fingers'
	Somali }	**muusa**	Arabic **mwz**
	Oromo }		
	Oromo	**ndisi**	G42 **ndizi**
	Boni	**maadu**	G41, E72 **madhu, mazu**
EN	Bari	**rabolo**	**BOLO** [1]
	Chamus	**lmasuri, lmasiri**	**SORO** [2]
	Karimojong	**gesirga**	**SORO**
	S.Karimojong	**emototo**	E51 **mototo**, a soft AAA EA cultivar
	Maasai	**olmaisuri**	**SORO**
	Maasai	**olmarikoi**	E50 **marigo**
	Turkana	**edis**	G42 **ndizi**
SN	Pokot	**sasuurwa**	**SORO**
	So	**seus**	**SORO**
	Camus	**lmasuri**	**SORO**
	Kalenjin	**indisiot**	G42 **ndizi**
	Kalenjin	**mogomiat**	E42 **-gom(i)a**
	Nandi	**mokom(y)ek**	E41-**komye**
	Nandi	**motot**	E51 **mutoto**, a cultivar
SN	Pokot	**mototiyo**	E51 **mutot(iy)o**, a cultivar
	Pokot	**ntiisyon**	G42 **ndizi**
	Kony	**ntotyantet**	E51 **mutot(iy)o**, a cultivar
WN	Luo	**rabolo**	**BOLO**
EN	Bari	**rabolotot**	**BOLO-toto**?
	Karimojong	**emototo**	E51 **mutoto**, a cultivar

table 5.4 continued

Group	*Language*	*Musa name*	*Origin*
Uganda:			
EN	Teso	**alaboro**	**BOLO**
	Teso	**adiisi**	G42 **ndizi**
	Teso	**amepu**	J15,16 **amenvu** `ripe banana'
	Teso	**amugogot**	J15,16 **mugogo** `musa stem'
SN	So	**emototo**	E51 **mutoto**, a cultivar
	Sapiny	**ndootek**	J31 **edoote**
WN	Acoli	**labolo**	**BOLO**
	Luo	**labolo**	**BOLO**
	Lotuko	**labolo**	**BOLO**
	Alur	**labalu**	**BOLO**
CS	Madi	**ravolo**	**BOLO**
	Lugbara	**abua**	**BUKU**[3]
Tanzania:			
SC	Iraqw	**aruwo, aru('i)**	E56 **aruo**
	Ma'a	**ligeru**	E42 **-rego**
	Ma'a[4]	**isuruma**	SC ***sir-** `to cook' (`be ripe')
	Mbugu[4]	**idio**	G21,22 **idio**
	Mbugu	**itoti**	G23 **matote** a cultivar
EN	Arusa	**olmakundui**	E62b **makundu** `ripe banana'
	Arusa	**olmusalala**	E51 **-tharara** `musa leaves'
	Parakuyo	**ol-kitawi**	E62c **itaBa** `musa leaves'
	Maasai	**olmaisuri**	**SORO**
	Maasai	**olmarigo**	E40,50, G22 **-rigo**
	Maasai	**mlali**	E55 **mulalu** and G42 **mlali (maua)** an AA cv., or E41 **malala** `dry musa leaves' > beds
	Ongamo	**omarishi**	E62 **ndishi** an AAA EA cultivar
Kh	Hadza	**shumuw-ako**	E62b **isumu** `musa corm'; cf. E65 **-suma** `to dig'

[1] **BOLO** is a ficus name in Western and Eastern Nilotic languages and the name of other bark-fibre plants in Ubangi and Bantu languages in north-east Congo(-K.). [2] **SORO** is the name of ensete (seeds) in several Eastern/Southern Nilotic and Eastern Bantu languages. [3] **BUKU** is a ficus name in J10-30 (Bantu) languages and the name of other bark-fibre plants in Bantu, Ubangi, Central Sudanic and Nilotic languages (especially in the area where these languages meet, in north-east Congo(-K.)). [4] for the classification of Ma'a and Mbugu see Mous (1994).

Table 5.4 shows that many of these names originated in neighbouring Bantu languages that are at present spoken in "suitable musa areas". This means that they were adopted relatively recently. The Dahalo name **warak'e** is a surprise. The language is spoken in east Kenya, but the name derives from **warqe**, a name for

ensete (and for ficus) in some South Semitic (Amharic, Gurage) and East Cushitic (Baiso, Oromo) languages in southern Ethiopia. The name is said to be Amharic in origin and to have been coined by emperor Menelik in the 19th century (Johnson & Anderson 1990:52). According to Ehret (1975:14), Dahalo borrowed all agricultural words from Bantu and all words related to livestock from Oromo. Since the Dahalo are believed to have lived in the area for a very long time (Nurse 1985:272), this name might have been borrowed from Oromo together with ensete fibre products, which until recently were an important item of trade from Ethiopia.

The soft highland banana cultivar **-toto** is popular with the Gikuyu (E51) as baby food. The spread of names suggests an introduction from the (central Kenyan) Gikuyu area to several Nilotic peoples in northern and western Kenya and eastern Uganda.

Apparently, the Arusa and Parakuyo, who are pastoralists, saw musa mainly as a provider of leaves for bedding and as cattle fodder, since they borrowed the Gikuyu and Chaga (E60) names for musa leaves. The hunting and gathering Hadza, on the other hand, may have been digging out the corm of ensete for food, at a time when they lived in the vicinity of the Chaga, on or near the Kilimanjaro.

Finally, **SORO** names are used both for ensete and musa in the languages listed, **BOLO** names originated in the area where Nilotic and Central Sudanic languages meet, while **BUKU** spread as a musa name from an area where Bantu (Zone J), Ubangi (Zande?) and Central Sudanic languages meet.

South-eastern interior:

The distribution and direction of spread of musa names in western and southern Tanzania, Malawi and Zambia, as schematised in tables 5.5 - 5.7, shows that the most inclusive and widespread names (**KOBO, KOMBWE**) may also refer (or have referred) to ensete (bark). The **KONJA** and **TOOKE** names, on the other hand, refer to the plantains and the highland bananas, which spread from the western Lake Victoria region southwards. The **KONDE** names, for plantain, spread along the Congo river southwards to Zambia and to western Tanzania.

Table 5.5 Relative time-scale and direction of spread of musa names in Tanzania's interior

Time:	*Relatively recent:*		*Older:*
Spread:	*< west*	*< north(-west)*	*< north(-east?)*
North West:		*TOOKE*, **KONJA**	
West:	**KONDE**	*TOOKE*, **KONJA**	
South West:		**TOOKE**	KOMBWE
Central:			KOBO

Italics: highland bananas. **Bold**: plantains. Plain: all-inclusive.

Table 5.6 Distribution and spread of musa names in western, central and southern Tanzania

Name	*Distribution*	*Direction of spread*
KOBO	- Hehe (G62), Bena (G63)	< widespread name for ensete or musa (bark) from S.W. Ethiopia to N. Mozambique
KOMBWE	- Bungu (F25), Doe, Zaramo (G33), Wanda (M21), Nyiha (M23)	< local ensete names
KONJA	- Haya, Ziba (J22)	< Uganda (<< J10)
	- Sukuma (F21), Nyamwezi (F22)	< N.W. Tanzania (<< J20)
KONDE	- Tongwe (F11), Fipa (F13), Mambwe (M15)	< Congo(-K.) or Zambia (<< Zones D, L or M)
TOOKE	- Zone J languages (J21-5, J61, J64)	< Uganda (<< J10)
	- Holoholo (D28), Sukuma (F21), Nyamwezi (F22), Sumbwa (F23), Rimi (F32), Gogo (G11), Safwa (M25), Nyakyusa (M31)	< N.W. Tanzania (<< J20)
	- Matengo (N13), Ngindo (P14), Hehe (G62), Bena (G63)	< S.W. Tanzania (<< M31)

Plain: all-inclusive **Bold**: plantains. ***Italics/Bold***: highland bananas or plantains..

Table 5.7 Distribution and spread of musa names in Zambia

Name	*Distribution*	*Direction of spread*
KONDE	- General	< Congo(-K.) (< Zone L)
TOOKE	- Rungu (M14), Bisa (M51), Lala (M52), Lamba (M54)	< S.W. Tanzania (< M31) and Malawi (< N31)
KOMBWE	- Mwanga (M22), Ambo (M52), Tumbuka (N21)	< local ensete names

Bold: plantains. Plain: all-inclusive.

The highland bananas (AAA EA) used for cooking are called ***-tooke** in the Zone J languages around Lake Victoria. From here the name spread to south-west Tanzania, possibly via Rwanda/Rundi (J61) or Haya (J22). However, in Nyakyusa (M31) the name does not refer to highland bananas but to French plantains. Another name, for what is considered to be the "traditional" highland cultivar in the area, and which came from the same direction, is **ndifu**. This name is borrowed from Rwanda/Rundi (J61) **ndibu** `ensete' (in Nyakyusa (***b > f/--u**). The Nyakyusa name of another highland cultivar, **sirya**, comes from the Lungu (M14) and Mambwe (M15) word for

'salt' and must be a loan-translation of Rwanda, Rundi and Haya names for highland bananas (**-nyamushanga** or **-nyamunyu** 'salty').

Although their area is well-suited for the cultivation of musa, there are indications that the Nyakyusa adopted the crop relatively late (for instance, the generic musa name in the other languages in the area, **-ko(m)bwe** or **°-kobo**, is not known in Nyakyusa). This late introduction of musa is probably due to the isolated geographical position of the area (see Wilson 1951:8 and Moffet 1958:291).

From Nyakyusa the ***-tooke** name spread further in southern Tanzania, to Ndali (M21), Safwa (M25) and other languages of Zone M20, as well as to Matengo (N12), Ngoni (N13) and Ngindo (P14). It also spread to Konde (M31), Tonga (N15) and Tumbuka (N21) in northern Malawi and to Nyanja (N31) in southern Malawi. In Zambia, where mainly ***-konde** names are used (see below), ***-tooke** is the name of the fruits of plantain in Rungu (M14), Mambwe (M15), Bisa (M51), Lala (M52) and Lamba (M54). The name probably reached Zambia via two routes, one via Nyakyusa-Konde (M31) in south-west Tanzania and northern Malawi, and the other via Nyanja (N31) in central Malawi.

Central African rain forest:

We saw in chapter 4.3.1 how the most widespread name for plantain, ***-konde**, spread from the Ituri forest in north-east Congo(-K.) along the Congo river southwards into Zambia, Zimbabwe and even Botswana.

The Central Cuvette area in Congo(-K.) was also skirted along its northern side, via the Congo river, until the sandy and dry Bateke Plateau was reached, which is situated at both sides of the lower Congo river. The ***-konde** name (and the crop) reached Angola via pathways south of this Plateau. The peoples on the Plateau and also north of it (in south-east Gabon and central Congo) use ***-kongo** names, but other and faster pathways to northern Gabon and southern Cameroon passed via northern Congo. This is not only witnessed by the further spread of the ***-konde** names here, but also by the spread of certain cultivar names (see chapter 4.3.3). The various tributaries of the Congo, such as the Ubangi, also played a rôle in the dispersal of the crop.

Another unfavourable area for the cultivation of plantain (insufficient rainfall), and therefore also an obstacle in its spread to the Atlantic coast, was formed by the Mayombe mountain range behind the coast, in both Congoes. Here too, the generic plantain name (**-TIBA**) differs from that in the surrounding languages (which all have ***-konde**).

Finally, the north-westernmost Bantu(-phone) peoples (A10,20) on the Atlantic coast in south-west Cameroon might have been reached via two pathways, one through the forest in south-east and one via the savannah-forest ecotone in central Cameroon. This would explain the co-existence of **°-konde** and **°-kwende** (***-konde**) names for the musa plant and the musa fruits in a number of A10, A20 and A50

languages respectively. The °**-kwende** forms originated in central Cameroon, in A50 languages and/or in neighbouring Tikar, whereas further south, in the forest, we find °**-konde** forms only.

Non-Bantu musa names:
Plantain was taken from central to northern Cameroon via the Fulbe (alias Fulani or Peul) and Hausa trade networks, and probably not before the 19th century. This can be concluded from the time of settlement of these people in central Cameroon and the distribution of the **-kondong** names (< Bantu ***-kondo**) in Fulfulde (A), Tikar and Vute (Btd) as well as in the southern Eastern Grassfields (Btd) and Adamawa (Ad) languages.

The origin and distribution of ***-gomba** names are an indication that plantain spread from the Grassfields area in west Cameroon to east and central Nigeria. The coastal area of south-east Nigeria was reached when the Efik (LCr), who were attracted by the Atlantic trade, moved down the Cross River to Calabar (Rossel 1987:89-90).

A further advance of plantain in Nigeria may have been impeded because of several factors, historical, (agri)cultural or ecological. The direction of an east-west spread of the crop in most of the country follows from the origin and spread, not only of ***-gomba** (Rossel 1991:138-140), but also of other musa names, especially in southern Nigeria. For instance, a number of musa names in Igbo (Igbd) and Ijo (Ijd) seem to be indicating the geographical or ethnic origin of the introducers of the crop.

The first example is the generic name **akinima** in Ikwere (Igbd) and in a number of Igbo dialects which most probably refers to the town of Akinima in the Engenni (DE) area (near Ahoada and Okordia).

Another example is the generic name **ji oko** `yam/food from Oko' for plantain in Igbo. This name can probably be linked to Oko, a trading town at the west bank of the Imo river, on the border between the Ibibio (LCr), Ogoni (CrR), Ijo and Igbo areas (the reason why most musa names in Igbo differ from the other linguistic groups in the area could be that the Igbo are fervent yam-cultivators and therefore adopted plantain relatively late).

The origin of the generic name **beriba** in western and northern Ijo dialects is not clear (see Williamson 1970:160 and Rossel 1989:58, 80-81), but might have been **aberiba**. The Aberiba were a group of (eastern) Igbo smiths who obtained their iron from the Ibibio area to their east (see Sonpie 1990). Like iron, they are likely to have obtained plantain from the Ibibio area too, where it is an important food crop.

The meaning of Ibibio **mbirinyong**, and related forms in Anaang (LCr) and Eket (LCr) is, to all likeliness, `(water)yam of the Anyong'. The "Anyong" are the Ejagham or Ekin (Ekd), who were the former inhabitants of the Calabar region, before the arrival of the Efik. Nowadays, the Ejagham live at both sides of the border between Nigeria and Cameroon. In south-west Cameroon the name "(B)anyong" refers to the inhabitants of the highlands or Grassfields, among which the Ekoid can

be counted. The reference made by the **mbirinyong** name to the Ekoid and other Grassfields people in west Cameroon is in accordance with the origin and spread of the ***-gomba** name for plantain in the other Cross River languages in this area.

Musa names found on the central part of the Nigerian coast point to introductions after the arrival of the first Europeans, via the sea. For instance, the central Ijo name °**-banga** is of Bantu origin and comes from (the name of the False Horn Medium Green cultivar in) coastal Gabon and Cameroon.

Coastal contacts also brought the plantain to south-west Nigeria, for instance to the Itsekiri (Dfd), who live to the west of the Ijo and who founded the slave port of Warri at the end of the 15th century (see Crowder 1973:88). Their plantain name **attaã** resembles the Efik-Ibibio (LCr) name **ntanga** for the French plantains, and their banana name **obobo** comes closest to Defaka (Ijd) **obobono** 'plantain of the Boni people'. The Aladagbe (K), further west, moved into this area from the Benin coast and share their musa name (**avlã**) with the Gã (K) in coastal Ghana (**evla**). These names were probably borrowed from Portuguese **avalan(-eira)**, which was used at the beginning of the 16th century on Sao Tomé (see chapter 4.3.1).

All linguistic indicators point to a diffusion of plantain from south-west Cameroon to eastern and central Nigeria via the northern part of south-west Cameroon. A major pathway must have been the Cross River valley, where to date plantain density as well as plantain diversity are relatively high. The introduction of plantain to the central and western coastal areas of Nigeria, however, took only place in post-Columbian times.

West African coast:

The general belief that musa was already grown in West Africa when the first Europeans arrived, was refuted in chapter 4.3.1. This conclusion is based on the fact that most generic musa names in the various language groups of the area are of "foreign" origin (e.g. Bantu ***-konde**, Amerindian **KOBE** or Portuguese (< Indian?) **plata** and **avalaneira**), or make reference to the foreign origin of the plant (e.g. Twi °**boro ode** 'european yam'). These introductions were made by the Europeans, especially the Portuguese, and/or by their African slaves and agents, mostly from West-Central Africa (via Sao Tomé).

Summing up, the linguistic "footprints" of the spread of musa can be traced (1) from southern Somalia and northern Kenya to the "Swahili" islands and along the Swahili coast southwards (plantain and highland banana), (2) from Zanzibar/Pemba via the coast and the Usambara mountains to the Kilimanjaro (plantain), (3) via the Tana and Sabaki rivers and the central Kenyan highlands to the Kilimanjaro, Pare and Taita mountains (highland banana) and (4) from central Kenya via Uganda to Central Africa, reaching eastern Nigeria before the first Europeans arrived on the Atlantic coast (plantain). Important ecological stepping-stones were formed by rivers, highlands and (lee-sides of) mountains. Coastal traffic as well as the islands at both sides of the

continent also played an important rôle in the dispersal of musa. Circumvented in the first instance were areas that were either ecologically unsuitable (central Tanzania, Bateke Plateau, Mayombe mountains) or difficult to pass and/or uninhabited by cultivating peoples (Central Cuvette in Congo(-K.)).

In short, this picture of the origin and spread of generic musa names, and the cultivar groups they originally referred to (see chapter 4.3.2 and ill. 5a-c), reveals the following movements of musa in Africa:

East Africa

IZU: Somalian-Kenyan coast (G41,42nd, E71,72) > Comoros (G44) (French plantain).

KONJA: West Kenya (E40) > south and west Uganda (J10/D32) >north-west Tanzania (J20) (French plantain).

DIGO: Mt. Kenya (E50) > Pare and Kilimanjaro (E60) Mts >Taita Mts (E74) >> elsewhere (G42nd) (highland banana).

GOMBA: Tanzanian coast/islands (G42nd) > Mozambican coast (P20,30, S50,60) > KwaZulu-Natal (S20,40) (highland banana).

TOOKE: North Victoria (J10) > west Victoria (J20,60) (highland banana) > Lake Nyasa (M30) >> elsewhere (French plantain).

Central Africa

BUKU: West Rift (Zone J) > N.E. Congo(-K.) (Ubangi, Central Sudanic, northern Zones D and C) (plantain).

KONDE: East Ituri (J10/D30) > Congo river; (southern Zones D and C) >> Botswana (plantain); (Zones C,H,B,A) >> Congo, Gabon, Cameroon (French plantain).

GOMBA: West Cameroon (non-Bantu Bantoid) > Nigeria (other Benue-Congo languages) (False Horn plantain).

KONGO: Bateke Plateau (B70,80) > south-east Gabon and central Congo (B50,60, C20,30, H10) (plantain).

TIBA: Mayombe (H12) (plantain) > Gabon (Zone B) and along the river Congo (western Zone C) (banana).

West Africa

AVLÅ: South Benin (Kwa) < Portuguese << India (?).

PLATA: West Africa < Portuguese << India? (banana, plantain).

BORODE: Togo - Sierra Leone < Twi (Kwa) (False Horn plantain).

KOBE: Ivory Coast (Kru) < Portuguese << Amerindian (plantain).

KONDE: Togo - Guinea < Portuguese << Bantu (French plantain, banana).

BANA: Sierra Leone - Guinea < Atlantic (Sierra Leone) (False Horn plantain).

Fig. 5a Bantu languages and their generic names for plantain

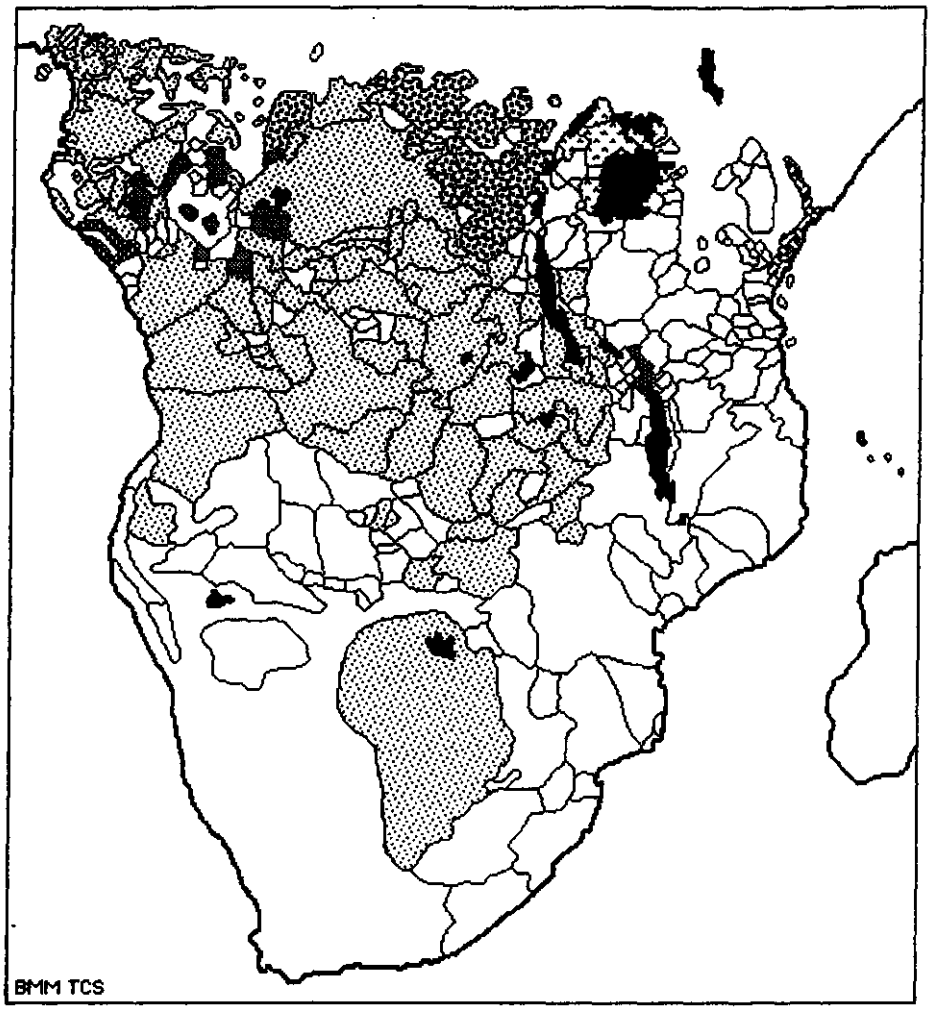


Fig. 5b Generic plantain names and their distribution

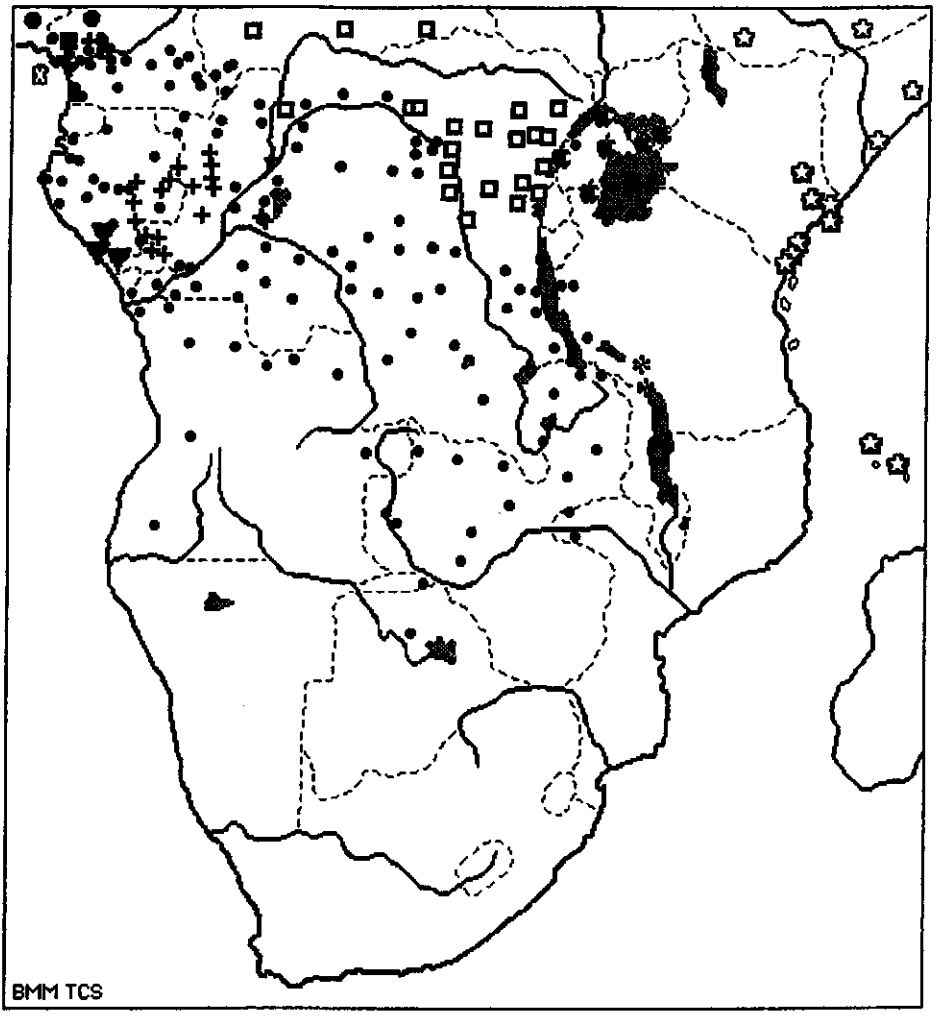
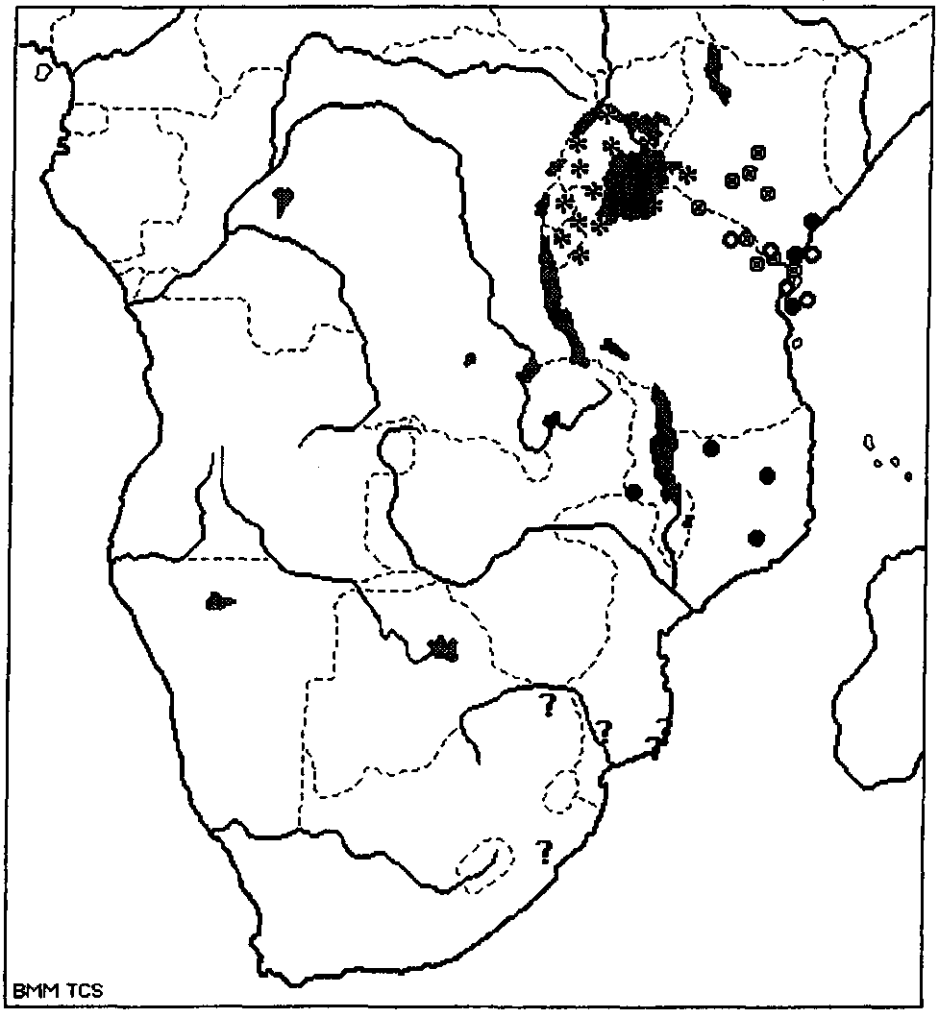


Fig. 5c Generic names for highland bananas and their distribution



5.4 Conclusions

The conclusions arrived at in former chapters will be summarised, integrated and discussed in paragraph 5.4.1. The present study will be concluded by recommendations for further research in chapter 5.4.2.

5.4.1 Summary

The questions asked at the beginning of this study, concerning the history of plantain in Africa, mainly touched on three processes:

- Introduction: origin, place, time, agent, botanical identity.
- Spread: pathways, time.
- Diversification: areas, factors (ecological, cultural, agronomical).

In the course of the study these processes were approached from the viewpoint of various disciplines, yielding an array of indications and evidence pertaining to these disciplines:

Historical	- Trans-oceanic contacts: . Western India > southern Arabia > East Africa. . West Central Africa > West Africa. . West Africa > New World.
Economical	- East African coast: urban traders, pastoralists. - East and Central African interior: fibre plant and food crop. - West Africa: provisions (ships, slaves).
Cultural	- East African coast: culinary preferences. - Interior: uses/functions of ensete and palm species.
Ecological	- Webi Shebelle/Juba/Tana gallery forests: plantain. - East African lowland (along waterways): plantain. - East African highlands: highland banana and plantain. - Central and West African rain forests: plantain.
Botanical	- East African Zone I ((north)eastern and Comoros): French Medium Green and Horn Medium Green. - East African Zone II (central and Madagascar): French cultivars, Horn Medium Green and Horn, unstable. - East African Zone III (western): approaching the Central African diversity. - Central Africa: French, Horn and False Horn plantains. - West-Central Africa: French, False Horn, Horn and French Horn plantains. - West Africa: False Horn, French, Horn and French Horn cultivars.

Linguistic
- Northern Indian Ocean > northern Swahili coast: French Medium Green.
- Northern Swahili > Comoros: French Medium Green.
- Zanzibar/Pemba > Usambara > Kilimanjaro: French Giant Green.
- Mozambique > north Madagascar: French plantain.
- Northern Indian Ocean > Swahili islands and/or southern Swahili coast: Horn Medium Green.
- Southern Swahili > Northern Swahili: Horn Medium Green.
- East Madagascar > Comoros, Mascarenes: Horn Medium Green.
- Kenya > Uganda > Central Africa: (first) French and (later) Horn plantains.
- Central Kenyan highlands > Kilimanjaro > Taita: highland banana.
- Southern Swahili > southeastern coast: highland banana.
- Uganda > western Tanzania: highland banana and French plantain.
- Central > West-Central Africa: (first) French and Horn, (later) False Horn plantains
- West-Central > West Africa: False Horn, French and Horn plantains.

Many of the aspects mentioned above are inter-connected. Therefore, the vicissitudes of plantain in the African continent are best brought to light by integrating these aspects. In doing so we shall try to follow the trail of the crop from India to and through Africa, as far as the New World.

The French bunch type of plantain is believed to have originated in southwestern India, where several of its cultivars are growing all along the coast of Malabar, in spite of the fact that the crop usually needs some irrigation during the dry season. The Horn bunch type, on the other hand, is said to be represented only by the Horn Medium Green cultivar in India. This cultivar is mainly found in the southern part of the country (Howes 1928:328, Nayar et al. 1957:69-71, Singh & Chadha 1993:132-133). In Kerala, south India, dishes made of French plantains are considered to be delicacies and the fruits are very much in demand during festive seasons (Singh 1990:167). This is also the case in coastal Kenya and Tanzania, where Arabic influence has been strong and muslim people use this type of plantain to prepare a dish called "*futari*" during Ramadan.

The name by which the French Medium Green cultivar was introduced to Africa (Arabic **mwz** < Sanskrit **moça** or **mauça**) is used both for this cultivar and as a generic musa name in Sabaki (E70, G40) languages and Swahili (G40) dialects (**izu, dzu, mzuzu**). This allows us to assume that the French Medium Green cultivar was the first musa cultivar to become well established on the northern Swahili coast. There is no information about the distribution of musa cultivar groups in ancient

India, nor about the geographical origin of the plants that were taken by the traders that visited the East African coast. One can therefore only guess at the reasons for the early dominance of this French plantain in East Africa. It may have been the only, or the most important musa cultivar grown near the ports of departure of these traders. Another possibility is that it was introduced at the same time as other bananas (e.g. AB 'Sukari'), but that it had the distinctive advantage of being best-suited for cooking, in addition to being well suited to the ecological conditions of the area. Even so, it usually takes some time before people accept a new staple food (as was for instance the case with the potato in Europe and with cassava in West-Central Africa; see Braudel 1982:163-164, 171; Goody 1982:117, 127-128; Vansina 1997:255-256), and this might also have been the case with plantain on the East African coast.

The importance of the culinary aspect can be inferred from a preference for French plantains in the above-mentioned "futari" dish, the cooking of musa in milk (also of coconuts) along the Swahili coast, similar dishes in India, and the habit of the Comorian people to consume the fruits of all musa cultivars in a cooked state.

The use of milk points to people with a pastoralist background, which, according to archaeological evidence, established themselves as Swahili merchants on the northern part of the East African coast from the 8th century onwards (Juma 1996:154). Also, the initial acceptance and subsequent establishment of plantain as a staple food may have been enhanced by the absence of a traditionally important food crop (due to the pastoralist background of these people). Of course, the suitable ecological conditions for the cultivation of plantain in the Webi Shebelle, Juba and Tana river valleys, which were covered with gallery forests, was of prime importance too (we shall see below that the Tana and Sabaki rivers subsequently served as pathways for the spread of plantain to the interior). Moreover, at this period in time only the northern part of the East African coast had regular overseas contacts.

Introductions of musa to Africa could have taken place at a very early date already, considering that references to the presence of Indian merchants on Socotra island go back as far as the 4th century BC (Pankhurst 1974:185) and that the climate on this island off the Somali coast was formerly (i.e. two millennia ago) much more humid than is the case nowadays (Kingdon 1993:115). However, the waiting was for a "recipient" structure to develop before plantain could become established as a food crop. This structure can be understood to have consisted of an interaction between urban traders (who had cultural and culinary roots in the Indian Ocean) and the pastoralist societies of the area (who lacked an important local food crop). Both these trading and pastoral communities may subsequently have interacted with (an influx of?) peoples with an agricultural background who would be growing plantains for the urban consumers (cf. the population movements to the coasts of western Africa after the arrival of the Europeans and the development of the Atlantic trade).

Another inland route of the French plantain, from a more southernly part of the coast (e.g. from Zanzibar/Pemba to the coast and via the Usambara mountains to the Kilimanjaro) occurred only later, after the highland banana had already arrived in the Kilimanjaro area. This, at least, is suggested by the direction of spread of the ***-pode** name for (a certain cultivar of) French plantain from Unguja (G42d; **mporomoka**) to Shambala (G23; **muhoye**) and Chaga (E62; **mbo(e)**) and the fact that the generic musa name (***-digo**) in Chaga is connected to the highland banana. Ecologically, the Usambara and Kilimanjaro mountains are less than well-suited for the cultivation of plantain and the plants need to be irrigated in these areas (in the dry season), which explains this later spread.

Going by its name, the Horn Medium Green cultivar was introduced to the southern part of the Swahili coast (or to the adjacent islands) and therefore must have arrived later. Its name, **mkono wa tembo**, only acquired a generic meaning (including all plantains) in the Digo area in south-east Kenya. Elsewhere, from East to West-Central Africa, it is usually the names of the French Medium Green cultivar that are used with a generic sense (e.g. ***-konja** or ***-konde**), apart from parts of Congo and Gabon, where the name of the French Small Green cultivar (***-bidi**) became a generic plantain name. An exception to this can be found in north-east Congo(-K.), where the Ngbandi (Ub2b) name **gbeke** for the Horn plantain was adopted as a generic plantain name by a number of other (Ubangi and Central Sudanic) languages in the area.

The generic names for plantain in West Africa have in many cases been drawn from those of the False Horn Medium Green cultivar (e.g. **borode** in Ghana and ***-gomba** in Nigeria). The universality and uniformity of the **ebanga** name for the False Horn Medium Green cultivar in West-Central Africa suggests a rapid and not too ancient spread through Cameroon and Gabon (in all of Zones A and B, except coastal B40), southwestern C.A.R. and northern Congo (C10,22,24), as well as along the Congo river (C32,35,41,54) in Congo(-K.), as far as Kisangani. Apart from some relatively recent introductions, and in spite of its apparent tolerance of less favourable ecological conditions, the False Horn type is absent from East Africa and, allegedly, also from India (Singh 1997). Considering that most bunch type variations are so-called "reversions" (i.e. from a less to a more complete inflorescence), it is likely that the False Horn plantain came into being as a reversion of a Horn plantain in an area where the density and diversity of the latter type is highest, i.e. in Congo(-K.). This area happens to coincide more or less with that of linguistic groups in which generic names of plantain are derived from the names of the Horn or False Horn types of plantain, e.g. Ngbandi (Ub2b) **gbeke** and Lingala (C36d) **-kemba** (note that these two names are loan-translations of each other). In Zande (Ub3) several plantain cultivars are named after the teeth of animal species, as an indication of the length of the fruits. Also, the Barambu (Ub3) name for the Horn plantain, **pembe nasuku** `tusk of elephant', is borrowed from a Bantu language (where it might or

might not have been a loan translation of Swahili (G42) **mkono wa tembo**). Also, in this area of high diversity of Horn plantains we find the generic musa name **BUKU** (see Vansina 1990:63-4, who believed that the name originally referred to Horn plantains, and that this type of plantain was later superseded by the French plantain and its ***-konde** name).

Although the origin of the **ebanga** ('tusk') name for the False Horn bunch type of plantain is difficult to ascertain, Zone C seems to have the best cards. Each of the indications mentioned (i.e. the highest diversity of the Horn type, the use of (False) Horn names as generic plantain names, the (regional?) habit of naming cultivars after animal teeth and the phonological form of the **ebanga** name) may seem unconvincing. Considered in conjunction, however, they suggest that the False Horn type of plantain came into being in the inter-Ubangi-Congo region.

The French Horn bunch type of plantain mainly occurs in West-Central Africa, from Gabon to Nigeria. The fact that French Horn cultivars have False Horn rather than French counterparts could mean that they too are the result of reversions, i.e. from False Horn > French Horn. Since the diversity of the False Horn type is highest in the same part of the continent where these French Horn cultivars occur, we can assume that it was here that the French Horn type arose.

Factors to consider when trying to explain the high diversity of plantain in Africa are complex and diverse (e.g. not only numbers of plants cultivated, but also numbers of cultivars introduced, time-span of cultivation, agro-botanical properties or ecological circumstances). Complex also are the human factors to be taken into account. On the one hand there are the very high number of population groups growing plantain and an apparently collection-eager mentality of the people. On the other hand there also seems to exist a certain maximum to the number of cultivars (c. 20?) per population unit (village). This number must be, at least in part, defined by farm sizes or numbers of plants grown and the exchange of suckers within a village. Also, in the older plantain-growing regions some degree of standardisation is likely to have been reached, whereas in the more recent plantain-growing regions there might still be room for new cultivars to be adopted (also depending on the numbers of plants grown per consumption unit (family) and, related to that, on the importance of other food crops, such as yam in Nigeria).

Lescot's observations on the distribution of plantain types in Colombia (1993:110) suggest that there is a correlation between ecology and the type of plantain grown, at least in Colombia. The African situation, however, points to a combination of historical (introductions, mutations), agronomical (growers considerations), cultural (consumers preferences), ecological (selection and densities) and botanical (density > diversity) factors that has led to the present patterns of distribution of the four bunch types. As for India, French cultivars are grown both in the western and southern part of the country, whereas the Horn Medium Green cultivar is said to be mainly confined to the south and the False Horn type is absent

altogether. However, the latter type is found further afield in South-East Asia (e.g. **pisang lang** in Malaysia). As yet, no mention has been made of French Horn plantains in Asia. Contrary to Africa, which probably only received French and Horn cultivars, all four types were introduced to South America, where in some areas the distribution patterns may indeed be largely due to ecological circumstances. The present high diversity that resulted from the originally introduced French and Horn cultivars in Africa is mainly due to the (high densities of) plants grown in the central-western part of the continent. In India, with its monsoon climate, plantain fields usually have to be irrigated in the dry season, as in parts of East Africa. This must be one of the main reasons why the densities and the ensuing diversity remained low in these areas. Parallel to the Central African situation, the more humid and tropical climate in the rain forest areas of other parts of South-East Asia may also have led to higher densities and thus to a higher diversity of plantain. Unfortunately, however, information about (the distribution of) plantain diversity in these areas is scarce. The fact that, generally speaking, tropical forest ecosystems are characterised by small numbers of individuals of plant or animal species but by very many different species (McElroy & Townsend 1985:146) suggests that it is here that we should look for plantain diversity. It also explains why it is so hard to find close relatives of cultivar groups such as the plantain-like AAB bananas found in Madagascar, or the East African highland bananas. These relatives, if still existent, may be like the proverbial needles in a haystack.

The plantain name (***-konja**) in West Uganda has a generic connotation (i.e. 'musa'), contrary to that of the highland banana (***-tooke**). This implies that the latter cultivar group arrived later. Like ***-tooke**, the generic ***-toote** name around Mt. Elgon and the ***-digo** name in the Kilimanjaro and Taita mountains (for highland bananas) originated in central Kenya. Musa names along the southern parts of the eastern African coast, i.e. in Mozambique and KwaZulu-Natal, suggest that the highland banana arrived first here. Moreover, the generic musa name (***-gomba**) used in these areas, as well as several cultivar names found in Mozambique, originated in north-east Tanzania. As for the Asian origin of the highland banana, this is still unknown (Shepherd 1997), in spite of suggestions made by Simmonds (1966:111) about similar cultivars in south India. The highland banana supposedly introduced first to Africa (on grounds of its name and its distribution), is called **-DIGI** in the Taita-Kilimanjaro area and belongs to the so-called "Lujugira" group of cultivars. This cultivar is found all along Africa's coasts (east and west) and also in South America. In West-Central Africa it is planted for medicinal/ritual purposes only and used, for instance, in treatments of epileptic fits of children. This reminds of similar medicinal uses of musa, as mentioned in old Chinese literature. We might therefore suspect an introduction of the cultivar in question by Europeans (Portuguese?), who had become acquainted with this use of musa somewhere in Asia.

From the above emerges a picture of the French Medium Green cultivar being introduced to the northern Swahili coast by Arabic-speaking people, who had obtained the plant in (northern?) India. Although such introductions might have occurred already at a very early date (between the 4th century BC and the 6th century AD?), the establishment of plantain as a food crop in the area would probably not have taken place before the 8th century. The Horn plantain was introduced only after the emergence of a distinct Southern Swahili dialect. The French plantain spread from the gallery forests along the Webi Shebelle, Juba and Tana rivers, via ecological stepping-stones formed by moist valley bottoms, for instance along the Tana and Sabaki rivers. (Nowadays the banks of the Tana, called **kyanda** by the Kamba (E55), are planted with Asian crops such as sugar cane, taro/colocasia and plantain; Ndeti 1970:30; see also Fitzgerald 1898, map facing p. 339.) Further pathways along which the crop spread westwards from East to Central Africa were formed by lakes (Victoria, Kyoga, Albert) and rivers (Nile, Rwenzori, Ituri). The humid and hot lowland rain forest conditions prevailing in Central Africa are ideal for plantains and allow for the crop to be grown in sufficient large quantities to sustain the people. The result was diversification, while demographic and cultural factors subsequently contributed to the preservation of this diversity. These factors are for instance a multitude of relatively mobile populations groups with preferences for plants with specific cooking qualities, short growing cycles or conspicuous features (such as Red pseudostems, in connection with ritual habits).

The same must have been the case with the highland banana in East Africa, of which about half as many cultivars are known as of plantain, in spite of the fact that their area of cultivation is relatively small. The cultivation of highland bananas has enormously increased during the last century, because of demographic, political and socio-economic developments. Factors that contributed to this expansion were for instance:

- Ecological suitability and a more favourable yield to labour ratio than root or cereal crops. This argument also holds for the plantain in Central and West Africa (see Rossel 1987:41-7).
- Diseases, pests, weeds, high rainfall or cold weather sensitivity, including bird damage, of the traditional grain crops such as finger millet and sorghum (see Purseglove 1972:146-147, 277-281). The importance of bird damage can be inferred from the fact that in the Kagera region in north-west Tanzania, where the highland banana is grown as a staple, there are more bird species than in the whole of Europe (Bosch 1991).
- Micro-climatological conditions. In the grass savannahs of the East African highlands, where air humidity is lower than in the rain forests of Central and West Africa, high densities of the crop resulted from the need to grow the plants close together in order to create a favourable micro-climate. This is why farmers

in Ankole, south-west Uganda, preferably plant their bananas next to those of their neighbours (Kreuer 1979:50).

- Mixed farming methods, allowing for permanent banana gardens that require relatively little maintenance and can last for many decades.
- Beer production. Contrary to beer that is made of cereals (and by lack of good storage facilities), banana beer can be made during all seasons, and also in larger quantities (Gotanègre 1983:328).
- Food and income security provided by beer bananas (Champion 1970:165, Lopez 1981:142, Gotanègre 1983:342).
- Colonial pressures, not only with the intention of diverting labour to the production of foreign-demanded cash crops (Museveni 1986:49), but also aimed at counteracting the fast spread of beer bananas, which threatened the maintenance of cooking bananas in several areas (Uganda Department of Agriculture 1955).
- Improved infrastructure, better transport facilities and faster marketing of perishable goods such as bananas resulted in an expansion of their cultivation in more remote areas of Kenya and Uganda (Hecklau 1987:53).

The cultivation of plantain has increased too in some areas, for instance in south-west Tanzania, and so did the mobility of the people and the diffusion of new cultivars. This has somewhat blurred the original picture of spread of plantain, because some cultivars spread "back" eastwards from Congo(-K.) to Uganda, while others moved, together with their owners or via research stations, between the various regions.

Where the time-scale is concerned, the first musa cultivar to become established in East Africa, after introduction to the northern Swahili coast, was the French Medium Green plantain. Although the time of introduction is unknown, its establishment as a food crop probably took off from the 8th century onwards. The Horn (Medium Green) plantain was introduced to the southern Swahili coast after the emergence of a distinct Southern Swahili dialect, at least before the 12th century. The East African highland banana arrived or spread later. The False Horn plantain probably originated in Central Africa, as the result of a reversion of a Horn plantain, after the latter type had developed a certain degree of diversity in the area. Likewise, French Horn cultivars developed in West-Central Africa from False Horn plants, but probably not before the last couple of centuries. The Europeans were responsible for the introduction of French, (French Horn?), False Horn and Horn plantains from West-Central to West Africa and from the latter area to the New World. These introductions took place in the early decades of the 16th century.

5.4.2 Recommendations

The recommendations for further research by which the present study will be concluded concern the following three aspects:

- Areas, cultivar groups and cultivars of plantain.
- Classification and nomenclature of plantain cultivars.
- Crop history in general.

Areas, cultivar groups, cultivars:

It may be clear that, in spite of some intensive studies and extensive surveys, our knowledge about plantain diversity in Africa is still incomplete. For instance, little is known about the plantains that are grown on one of the main pathways of spread of the crop, along and between the Congo and Ubangi rivers and their tributaries. The number of cultivar names (c. 30) that were collected by Rood (1958) among the Ngombe (C41), a people situated near the confluence of both great rivers, suggests that the diversity is very high in this area. Since we have no information on the morphological details of these cultivars, a survey of the area would be commendable. Other potential interesting areas for further exploration are:

- Okondja, east Gabon: high diversity and unusual cultivars (Horn, appendices, False Horn Small and False Horn Black- Green).
- Central Gabon: high diversity and off-colour (i.e. non-Green) cultivars.
- Southern Gabon, i.e. Koulamoutou-Mimongo, Mouila-Tchibanga and Ndougou (former Fernan Vaz plantain project, immigrant farmers, many cultivars introduced from other areas): high diversity.
- Sibiti-Zanaga-Mossendjo, west Congo: high diversity.

More is also to be learned about (the causes of) the distribution of the four bunch types of plantain, as well as about the distribution of the diversity within these types. A comparison on a global scale could bring to light interesting aspects of the spread and diversification of plantain. We can think, for instance, of the parallels that possibly exist between India and eastern Africa (early centres of diffusion), between some areas in South East Asia and (West-)Central Africa (later centres of diversity), or between West Africa and the New World (post-Columbian and random introductions). Moreover, further study of local variations within such areas might also be revealing in this respect. As for (West-)Central Africa, relative high diversities of the four bunch types can be found in the following regions:

- Congo(-K.): Horn plantains.
- Northern Congo/Gabon: French Small plantains.
- Gabon: False Horn plantains.
- Cameroon: French plantains.
- Nigeria: French Horn plantains.

Apart from the normal and "stable" cultivars, of all four bunch-types, there are also cultivars that switch between bunch-types. These are the French Horn, unstable

(Nigeria; **mbise egome 2**), the French/False Horn, unstable (Gabon; **mutuka**) and the Horn, unstable (Tanzania; **ngego**) cultivars. Moreover, one-time reversions of plantains (that "switch back" to a more complete, i.e. French bunch type) are found among False Horn and Horn cultivars.

The variable positions taken by these plantains along the "plantain inflorescence degeneration line" seem to contradict suggestions that the French type may have a different genetic background than the (False) Horn types (see chapter 2). Therefore, it would be interesting to know if such switches and reversions also occur in similar cultivars, i.e. without male axes, that belong to other groups of musa cultivars (some of which are suspected to be related to plantain; Hory & Jay 1988:2671, Tezenas du Montcel 1990:217-218). Examples of the latter are some AA cultivars both in Papua New Guinea (e.g. **navaradam**; Tezenas du Montcel 1990:216) and on the Comoros (**samba nkarobe**; Horry 1993:3), as well as AB and AAB cultivars in respectively India (e.g. **thattila kunnan**; Singh & Chada 1993:131) and Sri Lanka (**randombe**; Simmonds 1966:115), and one Ugandan highland banana (**endirira**; Mukasa & Rubaihayo 1993).

Apart from plantain, some other groups of musa cultivars in Africa also deserve more attention. The most important of these is, of course, the East African highland banana (AAA), of which the highest diversity can be found north and west of Lake Victoria. For instance, not much is known yet about the (origin, agent and time of) distribution of one of the most characteristic cultivars of this group, neither in nor outside Africa. This cultivar, which belongs to the so-called "Lujugira" sub-group of highland bananas (see Shepherd 1957:282-283), is found in the following regions: south-east Kenya (**endiji**), north-east Tanzania (**ndishi**), Uganda (**lujugira**), central Mozambique (**nasikaro**), KwaZulu-Natal (**khova**), Seychelles (**banane noire**?), West-Central Africa (see appendix D), Egypt (**moz baladi**?), Venezuela (**cambur negro**), Colombia (**guineo preto**) and Brazil (**sao tome**). Other cultivars of which little is known are the AA bananas in the Comoros, on Zanzibar/Pemba and in north-east Tanzania. The latter may only have been introduced by Europeans at the end of the 19th and the beginning of the 20th century. (According to Shepherd (1997) there is cytological evidence that links two Zanzibari cultivars, AA **paka** and AA **sikuzani**, with northern Malaysia/southern Thailand, but this does not necessarily have to be the case with the other AA cultivars too.) In view of the agronomical importance of these bananas in the Kilimanjaro area, as well as of the profusion of vernacular names in the numerous Chaga dialects, desynonymisation of this group of cultivars is in order.

Classification and nomenclature of plantains:

In 1961, De Langhe published a determination key of plantain cultivars that were collected in central-east Congo(-K.). This first effort was followed by Tezenas du Montcel (1983), who attempted to match the plantain cultivars he studied in

Cameroon to the cultivars that were described by De Langhe. Swennen (1990), finally, joined all the West and Central African plantain cultivars described so far in one key, and added a list of names and presumed synonyms of plantain cultivars from East Africa, Asia and South America. Regrettably, his key was misprinted in some places, so that it can not be used without consulting the author.

In order to facilitate the communication between scientists, and considering the variations in both the expression and the use of the morpho-taxonomical descriptors, recommendations for a standardisation of the description of plantain cultivars were already made as early as 1978 by Tezenas du Montcel & Devos. In spite of later appeals and propositions to reduce the number of synonyms (Tezenas du Montcel 1979:83, Tezenas du Montcel et al. 1983:472, Swennen 1990), the situation has not much improved ever since and the various scientists continue to use the vernacular names of the localities where they conduct their research (see for instance Swennen & Vuylsteke 1990:254-255, Lescot 1993:110, Singh & Chadha 1993:132-133, Ortiz & Vuylsteke 1996:1-2, Tomekpe et al. 1996:167).

Unfortunately, it is not always clear which cultivars are implied by these vernacular names, since there is no published reference key for all the plantain cultivars described so far. Moreover, of many cultivars, especially the Asian and South-American ones, no published descriptions are available at all.

It is therefore recommended that decisions are made in order to standardise both the classification and the nomenclature of plantain cultivars. In view of the high number of vernacular names involved and the arguments put forward in chapters 2.1 and 5.1, the system used in the present study (i.e. that of phrase names consisting of the essential descriptors and arranged in a synoptical key) is proposed here as the most practical solution. The institution best placed to take such a decision would, of course, be IPGRI-INIBAP.

Also, in order to gain more insight in the early botanical as well as non-botanical history of musa in general and of plantain in particular, a comprehensive study of (the distribution of) both diversity and names in Asia, e.g. in India, Sri Lanka, Malaysia, Indonesia and the Philippines, would be needed (note that the main generic musa name in Indian languages, **kadali**, is also the name of an important AA cultivar in southern India; see Singh & Uma 1996:39).

Crop history:

This leads us to the last objective of the present study, which was also meant to be an exploration of the possibilities for a new and more comprehensive approach of crop history.

The analysis of the etymological and semantical aspects of musa names drew the attention to the importance of ethno-botanical information in the study of the history of food crops in Africa. The reason for this is that plants usually have multiple uses, not only for nutritional, but also for medicinal, ritual or technical purposes.

Moreover, these uses may be shared with other plants, related or not, that have similar properties or similar morphological characteristics. It is not surprising, therefore, to find that the names for such plants often refer to their useful parts or to the uses and products made of them. Added information, for instance about the linguistic origin of a name that is shared by an introduced crop and similar or related wild plants, as well as about the ecological zone where the latter occur, may help to localise the area where the crop name was originally coined.

Apart from semantics, other linguistic information, for instance about the phonology and morphology of languages, is also needed when tracing the spread of a name in the languages concerned. Many names, at least those that are most inclusive (generic names), are loan-words, and therefore often irregular according to the phonological systems of the languages in which they occur. This means that the (semantical/etymological) origin of a name might be difficult to assess. However, the fact that most generic names do not behave "idiosyncratically", but tend to follow general trends in linguistic groups as well as geographical areas, allows us to decide on plausible semantic groups to which these names belong, and to draw the outlines of their distribution.

As for names covering a more limited domain (cultivar names), things are far more complicated. Not only are such names usually based on miscellaneous semantical themes, they are also more prone to change. Nevertheless, we often can detect certain patterns in their distribution and these may help us to make deductions, for instance about the relative age of spread of a name, or about its origin.

A complicating factor is that most cultivars were introduced to or came into being at various places and also that they spread via various pathways, all at various periods in time. Especially the more recent (20th century) and widescale spread of cultivars may have partly blurred the picture of previous patterns of spread of a crop and of its older cultivars. Therefore, historical information on a crop is of great importance too. This means that various sources have to be consulted in order to be able to reconstruct with reasonable accuracy the movements of a crop on a continent- or even on a world-wide scale. Important sources for such information are for instance the records kept by agronomical, botanical or other research institutes, archives of administrative and religious institutions, travel accounts, or early lexicons and other linguistic works. DNA comparison may be used to identify duplicates and near-duplicates (parent cultivars and mutants) and thus highlight another aspect of the history of plantain.

Other useful information on the spread of a crop and its diversity is provided by the agronomical, culinary and cultural considerations of the farmers. Agronomical considerations are for instance the importance of other food crops and of other means of subsistence (e.g. pastoralism), or the botanical properties of the cultivars (e.g. yields, precocity, propagation modalities, resistances to pests and diseases and

hardiness). Examples of culinary and cultural considerations are the cooking qualities and the uses for other than food purposes of the cultivars available to the farmers.

Obviously, the history of crops and of their diversity has many aspects. These aspects are both intrinsic (the genetics and evolution of crops) and extrinsic (the environments in which crops developed and the people that handled them). The self-evident conclusion therefore is that these very diverse aspects are to be approached with the help of the various disciplines they pertain to and which can be as diverse as taxonomy, history, linguistics, ethnobotany, agronomy or archaeology. In spite of this, the study of the history of crops has mostly taken place along the sideline of other disciplines.

It is therefore hoped that the present study may serve as a stimulant to a more integrated approach of crop history, and that crop history, in its turn, will be an even more valuable addition to such economically relevant disciplines as agronomy and plant breeding.

LITERATURE

Abu Bai-Sheka.
1987. 'Le fonctionnement du système des classes de lexèmes en Temne,' *Afrikanistische Arbeits Papiere* 12:53-61.

Abbiw, D.K.
1990. *Useful plants of Ghana. West African uses of wild and cultivated plants.* Kew: Royal Botanical Gardens. 337 p.

Abella, A.
1979. *The total banana. The illustrated banana, anecdotes, history, recipes and more.* New York: Harcourt, Brace & Jovanovich Inc. 176 p.

Acquier, J.L.
1981. *Les Bashi du Kivu. Une société agraire traditionelle en milieu montagnard,* pp. 271-287. Bordeaux: Centre d'Etudes de Géographie Tropicale. (Travaux et Documents de Géographie Tropicale 42). 307 p.

A.D.F.T.
1934. 'The uses of the banana,' *Uganda Journal* 2, 2:116-119.

Allan, W.
1965. *The African husbandman.* London: Oliver & Boyd. 505 p.

Andreae, B.
1980. *The economics of tropical agriculture.* Slough: Commonwealth Agricultural Bureau. 178 p.

Ankei, T.
1990. 'Cookbook of the Songola,' *African Studies Monographs* (Kyoto) 13 Suppl., Part 4:1-174.

Anonymous.
1892. 'Agricultural resources of Zanzibar,' *Kew Bulletin of Miscellaneous Information*: 87.

Anonymous.
1894. 'Species and principal varieties of *Musa*,' *Kew Bulletin of Miscellaneous Information* 92:229-314.

Anonymous.
1896. 'Botanical enterprise in East Africa,' *Kew Bulletin of Miscellaneous Information*: 80-86.

Anonymous.
1912. '*Musa* seeds from the East Africa Protectorate,' *Bulletin of the Imperial Institute* 10:569-571.

Anonymous.
1922. 'The useful plants of Nigeria,' IV, *Kew Bulletin of Miscellaneous Information*, Additional Series IX, 94.

Anonymous.
1939. *Elimu ya mugomba. Aina ya migomba katika Wilaya wa Bukoba.* ('Knowledge of the banana. Banana cultivars in Bukoba district'.) (Unpublished manuscript.)

Anonymous.
1956. 'Un ennemi dangereux du bananier: *Cosmopolites sordidus*,' *Bulletin Agricole du Congo Belge*) :47,2:103-111. (Bulletin de l'Information de l'INEAC 5, 2).

Anonymous.
1969. *Yemen.* Amsterdam: Koninklijk Instituut voor de Tropen. (Landendocumentatie no. 115). 27 p.

Anonymous.
1976. *Banana Files.* Mbeya (Tanzania): Regional Agricultural Office. (Unpublished files.)

Anonymous.
1986. *Ejedepang-Koge*. Yaounde: SOPECAM.

Armstrong, W.E.
1928. *Rossel island. An ethnological study.* London: Cambridge University Press. 302 p.

Ashe, R.P.
1970 (1889). *Two kings of Uganda.* London: Frank Cass & Co. Ltd. 354 p.

Augustiny, J.
1929. 'Laut- und Formenlehre der Sukuma,' *Mitteilungen des Seminars für Orientalische Sprachen* 32:93-157.

Azeb, A.
1997. Personal communication.

Badger, G.P. (ed.).
1863. *The travels of Ludovico di Varthema in Egypt, Syria, Arabia Deserta and Arabia Felix, in Persia, India and Ethiopia. AD 1503-1508* (Translated from the original Italian version of 1510). London: Hakluyt Society. 320 p.

Baker, R.E.D. & N.W. Simmonds.
1951. 'Bananas in East Africa. The botanical and agricultural status of the crop,' *The Empire Journal of Experimental Agriculture* 19, 76:283-290.

Baker, R.E.D. & N.W. Simmonds.
1952. Bananas in East Africa. Annotated list of varieties,' *The Empire Journal of Experimental Agriculture* 20:66-76.

Baker, R.E.D. & N.W. Simmonds.
1953. 'The genus *Ensete* in Africa,' *Kew Bulletin* 3:405-16.
Bakshi, T.S.
1963. 'Bananas of southern Sierra Leone,' *Economic Botany* 17, 4:252-262.
Bal, W. (transl.).
1965 *Filippo Pigafetta et Duarte Lopez (1591). Description du Royaume de Congo et des contrées environnantes.* Louvain: E. Nauwelaerts. 253 p.
Baron, R.
1880. 'Jottings on some of the plants of Imerina,' *The Antananarivo Annual and Madagascar Magazine* 4:106-114.
Barrau, J. (ed.).
1961. *Plants and the migrations of the Pacific peoples.* Tenth Pacific Science Congress, 21 Aug.-6 Sept. 1961, Honolulu, Hawaii. Honolulu: Bishop Museum Press. 136 p.
Barreteau, D. (ed.).
1978. *Inventaire des études linguistiques sur les pays d'Afrique noire d'expression française et sur Madagascar.* Paris: Conseil International de la langue française. 624 p.
Bascom, W.R.
1951. 'Yoruba food,' *Africa* 21:41-53.
Bastin, Y.
1978. 'Les langues bantoues.' In: Barreteau, D, pp. 123-186. Paris: Conseil International de la langue française. 624 p.
Bates, G.L.
1926. *Handbook of Bulu.* Elat (Cameroon): The Halsey Memorial Press. 176 p.
Baudet, G.
1947. *Elements de grammaire Kinande.* Bruxelles: Etablissements Généraux d'Imprimerie. 186 p.
Baudon, A.
1909. 'La flore et les plantes économiques du Bas Congo,' *Annales du Musée Coloniale de Marseille* 17, Série 2, Vol. 7.
Beattie, J.H.M.
1960. 'On the Nyoro concept of "Mahano",' *African Studies* 19, 3:145-150.
Beavon, K. & M.
1989. *Lexique Français-Koozime.* Yaounde: Société Internationale de Linguistique.

Bender, L.
1988. 'Proto-Omotic phonology and lexicon.' In: M. Bechhaus-Gerst & F. Serzisko (eds.). *Cushitic-Omotic*, pp. 121-159. Papers from the International Symposium on Cushitic and Omotic languages, Cologne, January 6-9, 1986. Hamburg: Helmut Buske Verlag. 636 p.

Bendor-Samuel, J.
1989. *The Niger-Congo languages. A classification and description of Africa's largest langue family.* Lanham (US): University Press of America. 505 p.

Bennett, F.J.
1965. 'An inventory of Kiganda foods,' *Uganda Journal* 29, 1:45-53.

Benson, T.G.
1964. *Kikuyu-English dictionary.* Oxford: The Clarendon Press. 562 p.

Benson, T.G. (ed.).
1975. *English-Kikuyu dictionary.* Oxford: Clarendon Press. 332 p.

Berchem, J.
1989-90. 'Sprachbeziehungen im Bereich des Kulturwort-schatzes zwischen den Bantusprachen und dem Malagasy,' *Sprache und Geschichte in Afrika* 10-11:9-169.

Berlin, B., D.E. Breedlove & P.H. Raven.
1974. *Principles of Tzeltal plant classification. An introduction to the botanical ethnography of a Mayan-speaking community in Highland Chiapas.* New York: Academic Press. 660 p.

Berlin, B. & P. Kay.
1969. *Basic colour terms. Their universality and evolution.* Berkeley: University of California Press. 178 p.

Bernard, F.E.
1972. *East of Mount Kenya. Meru agriculture in transition.* München: Weltforum Verlag. 176 p.

Bezuneh, T. & A. Feleke.
1966. 'The production and utilization of the genus *Ensete* in Ethiopia,' *Economic Botany* 20, 1:65-70.

Bhat, K.V. & R.L. Jarret.
1995. 'Random amplified polymorphic DNA and genetic diversity in Indian *Musa* germplasm,' *Genetic Resources and Crop Evolution* 42:107-118.

Bieber, F.J.
1920. *Kaffa, ein altkuschitisches Volkstum in Inner-Afrika.* Münster: Verlag der Aschendorffschen Verlagsbuchhandlung. 500 p.

Biebuyck, D.
1956. 'Organisation politique des Nyanga. La chefferie Ihana,' *Kongo Overzee* 22:301-341.
Biebuyck, D.
1973. *Lega culture*. Los Angeles: University of California Press. 333 p.
Biesbrouck, K.
1997. Personal communication.
Biton, A. & J. Adam.
1969. *Dictionnaire Ndumu-Mbede-Français et Français-Ndumu-Mbede. Avec petite flore de la region de Franceville (Gabon) et grammaire Ndumu-Mbede*. Libreville: Archevêché. 656 p.
Blake, J.W.
1967. *Europeans in West Africa, 1450-1560*, Vol. 1. London: Hakluyt Society. 246 p.
Blakney, C.P.
1963. 'On 'banana' and 'iron', linguistic footprints in African history,' *Hartford Studies in Linguistics* 13:1-125.
Blanchard, Y. & P.A. Noss.
1982. *Dictionnaire Gbaya-Français*. Meiganga (Cameroun): Centre de Traduction Gbaya. 553 p.
Blanchon, J.
1988. 'Une langue mixte en voie de disparition. Le Geviya,' *Pholia* 3:53-69.
Blench, R.
1987. Personal communication.
Blench, R.
(forthcoming) 'Are the African pygmies an ethnographic fiction?' In: K. Biesbrouck, S. Elders & G. Rossel (eds.). Proceedings of an international colloquium on hunter-gatherers in Equatorial Africa held at Leiden, 7-9 October 1996. Leiden: Research School CNWS for Asian, African and Amerindian Studies.
Blust, R.
1989. 'Austronesian etymologies,' *Oceanic Linguistics* 28, 2: 111-180.
Bodinga bwa Bodinga, S.
1969. *Traditions orales de la race Eviya*. Paris: TMT. 56 p.
Bojer, W.
1837. *"Hortus Mauritianus", ou énumération des plantes exotiques et indigènes qui croissent à l'île Maurice*. Port Louis (Mauritius). 456 p.

Borges, L. & F. Orangel,
1972. 'Taxonomia y descripcion de clones del genero *Musa* (platanos y cambures) cultivados en Venezuela,' *Revista de la Facultad de Agronomia de la Universidad Central de Venezuela (Maracay)* 6, 3:17-64.

Bosch, C.
1991. Personal communication.

Bose, T.K. (ed.).
1985. *Fruits of India.* Calcutta: Naya Prokash. 637 p.

Botne, R.
1992. 'Double reflexes in Bantu,' *Afrikanistische Arbeits Papiere* 29:131-148.

Bouquet, A.
1969. *Féticheurs et médecines traditionnelles du Congo (Brazzaville).* (Mémoire no. 36). Brazzaville: ORSTOM. 304 p.

Bouquiaux, L.
1971-1972. 'Les noms de plantes chez les Birom,' *Afrika und Übersee* 55:97-114.

Bouquiaux,L. & J. M. C.Thomas.
1994. 'Quelques problèmes comparatifs de langues Bantoues C10 des confins Oubanguiens. Le cas du Mbati, du Ngando et de l'Aka.' In: T. Geider & R. Kastenholz (eds.), *Sprachen und Sprachzeugnisse in Afrika,* pp. 87-106. Köln: Rüdiger Koppe Verlag. 471 p.

Bourgeois, R.
1957. *Banyarwanda et Barundi. Ethnographie.* Bruxelles: Académie Royale des Sciences Coloniales Nouvelle Série 15. (Sci. M & P). 792 p.

Boyd, R.
1989. 'Adamawa-Ubangi.' In: J. Bendor-Samuel (ed.), *The Niger-Congo languages,* pp. 178-216. Lanham (US): University of America Press. 505 p.

Brandt, S.A.
1984. 'New perspectives on the origins of food production in Ethiopia.' In: J.D. Clark & S.A. Brandt (eds.), *From hunters to farmers,* pp. 173-190. Berkeley: University of California Press. 433 p.

Braudel, F.
1982. *Civilization and capitalism, 15th-18th century.* Vol. 1. New York: Harper & Row. 623 p.

Breedveld, A. & C. Angenent.
1996. Personal communication.

Brisson, R.
1979. *Petit dictionnaire Baka-Français.* Douala: Mission Catholique. 505 p.

Bruce, J.
1790. *Travels to discover the source of the Nile in the years 1768-1773.* 5 Vols. London.

Bruel, G.
1935. *L'Afrique Equatoriale Française.* Paris: Larose. 558 p.

Buddenhagen, I.W.
1996. 'Banana research needs and opportunities.' In: G.J. Persley & P. George (eds.), *Banana improvement. Research challenges and opportunities,* pp. 1-20. Washington D.C.: The World Bank. 47 p.

Bullen, H.B. (ed.).
1952. *Zande and English dictionary.* London: The Sheldon Press. 288 p.

Burkill, I.H.
1953. 'Habits of man and the origins of the cultivated plants of the Old World,' *Proceedings of the Linnean Society of London* 164:12-41.

Burssens, H.
1958. *Ethnographical survey of Africa. Central Africa. Les peuplades de l'Entre-Congo-Ubangi.* London: IAI. 220 p.

Burtt-Davy, J.
1908. 'Notes on some Transvaal trees and shrubs. Musaceae,' *Kew Bulletin of Miscellaneous Information* 4:145-175.

Busse.
1902-1911. 'Reiseberichte über Land- und Forstwirtschaft in Deutsch Ostafrika,' *Der Tropenpflanzer.*

Busse, J.
1949-1950. 'Aus dem Leben von Asyukile Malango,' *Zeitschrift für Eingeborenen Sprachen* 35:191-227.

Bylin, E.
1966. *Basakata. Le peuple du pays de l'entre-fleuves Lukenie-Kasal.* Lund: Berlingska Boktryckeriet. (Ph.D. Thesis, University of Uppsala. Studia Ethnographica Upsaliensis 25). 286 p.

Calloc'h, J.
1911. *Vocabulaire Français-Gmbwaga, Gbanziri, Monjombo.* Paris: Geuthner. 204 p.

Calloc'h, J.
1911. *VocabulaireFrançais-Ifumu.*Paris:Geuthner. 346 p.

Capon, M.
1953. 'Les noms vernaculaires des principales essences forestières à Yangambi (Turumbu),' *Bulletin Agricole du Congo Belge* 44:91-119.

Carrington, J.F.
1983. 'Linguistic pit-falls in Upper Zairean folk-taxonomy research,' *Journal d'Agriculture Tropicale et de Botanique Appliquée* 30, 2:149-158.

Chabuovie Menizibeya Songwe.
1990. *A history of Epie-Atissa. Oral and ethnographic dimension.* (Ph.D. Thesis, University of Port Harcourt, Nigeria).

Chamanga, M.A.
1992. *Lexique Comorien (Shindzouani)-Français.* Paris: L'Harmattan. 240 p.

Champion, J.
1967. *Notes et documents sur les bananiers et leur culture.* Paris: Institut Français de Recherches Fruitières d'Outre-Mer. 214 p.

Champion, J.
1970. 'Culture du bananier au Rwanda,' *Fruits* 25, 3: 161-168.

Chasin, D.
1912. *Die Wirtschaft der Bantuneger in Kamerun.* (Ph.D. Thesis, University of Leipzig.) 113 p.

Cheesman, E.E.
1947. 'Classification of the bananas. The genus *Musa* L.,' *Kew Bulletin* 1:106-17.

Cheesman, E.E.
1948, 1949. 'Classification of the bananas. Critical notes on species,' *Kew Bulletin* 1-3:11-28, 145-156, 323-327; 1-4: 23-27, 133-136, 265-272, 445-451.

Chevalier, A.
1912. 'Enumération des plantes cultivées par les indigènes en Afrique tropicale,' *Bulletin de la Société Nationale d'Acclimatisation de France* 8.

Chevalier, A.
1931. 'Progrès de la culture du bananier en Guinée Française,' *Revue de Botanique Appliquée et d'Agriculture Tropicale* 11, 117:335-342.

Chevalier, A.
1937. 'Les plantes magiques cultivées par les Noirs d'Afrique et leur origine,' *Journal de la Société des Africanistes* 7, 1:93-105.

Chévalier, A.
1944. 'Contribution à l'histoire de l'introduction des bananes en France et à l'histoire de la culture bananière dans les Colonies françaises,' *Revue de Botanique Appliquée et d'Agriculture Tropicale* 24, 269-271:116-127.

Chizala, C.T.
1994. Personal communication.

Chrétien, J.P.
1979. 'Les années de l'eleusine, du sorgho et du haricot dans l'ancien Burundi. Ecologie et idéologie,' *African Economic History* 7:75-92.

Christaller, J.G.
1933. *Dictionary of the Asante and Fante language called Tshi (Twi).* Basel: Basel Evangelical Missionary Society. 607 p.

Clark, J.D.
1988. 'A review of the archaeological evidence for the origins of food production in Ethiopia.' In: T. Beyene (ed.), *Proceedings of the eighth international conference of Ethiopian Studies*, pp. 55-69. Vol. I. Frankfurt am Main: Goethe Universität. 847 p.

Colla, L.
1820. *Memoria sul Genere Musa.* Torino: Reale Accademia delle Scienze. 67 p.

Copland, S.
1970 (1822). *A history of the island of Madagascar.* London: Burton & Smith. (Westport, Connecticut: Negroes University Press). 369 p.

Coupez, A.
1991. Personal communication.

Crazzolara, J.P.
1960. *A study of the Logbara (Madi) language.* London: Oxford University Press. 373 p.

Crazzolara, J.P.
1978. *A study of the Pokot (Suk) language.* Bologna: Editrice Missionaria Italiana. 372 p.

Crepeau, P. & S. Bizimana.
1979. *Proverbes du Rwanda.* Tervuren: Musée Royal d'Afrique Centrale (Sci. Hum. 97). 800 p.

Crowder, M.
1973. *The story of Nigeria.* London: Faber & Faber. 307 p.

Cuypers, J.B.
1970. *L'alimentation chez les Shi.* Tervuren: Musée Royal d'Afrique Centrale (Sci. Hum. 67). 249 p.

Daeleman, J. & L. Pauwels.
1983. *Notes d'ethnobotanie Ntandu (Kongo).* Tervuren: Musée Royal d'Afrique Centrale (Africana Linguistica 9). 255 p.

Dahl, E.
1915. *Nyamwezi Wörterbuch.* Hamburg: L. Friedrichsen & Co. 696 p.

Dale, I.R. & P.J. Greenway.
1961. *Kenya trees and shrubs.* Nairobi: Buchanan's Kenya Estates Ltd. 654 p.

Dalziel, J.M.
1948. *The useful plants of West Tropical Africa.* London: Crown Agents for the Colonies. 612 p.

Davis, M.B.
1952. *A Lunyoro-Lunyankole-English and English-Lunyoro-Lunyankole dictionary.* London: MacMillan & Co. Ltd. 332 p.

De Barbot, J.
1732. 'A description of the coasts of North and South Guinea and Ethiopia Inferior.' Vol. 5. In: A. Churchill (ed.), *A collection of voyages and travels.* London.

Debray, M., H. Jacquemin & R. Razafindrambao.
1971. *Contribution à l'inventaire des plantes medicinales de Madagascar.* Paris: Office de Recherches Scientifiques et Techniques d'Outre-Mer. (Travaux et Documents de l'ORSTOM 8). 150 p.

Decary, R.
1946. 'Plantes et animaux utiles de Madagascar,' *Annales du Musée Colonial de Marseille* 41, 4:1-234.

De Clerq, F.S.A. & A. Pulle.
1927. *Nieuw plantkundig woordenboek voor Nederlandsch Indië.* Amsterdam: J.H. De Bussy. 443 p.

De Cort, Liaudet & Van Goethem.
1912. *Vocabulaire Français-Ababua et Ababua-Français.* Bruxelles: Veuve Monnom. 64 p.

De Flacourt.
1658. *Histoire de la Grande Isle Madagascar.* Paris: Guilaume de Luyne. 384 p.

De Greef, G.
1916. 'L'agriculture indigène dans la région du Haut-Ituri,' *Bulletin de l'Agriculture au Congo Belge* 7, 1-2:1-113.

De Greef, G.
1919. 'Monographie agricole de la région de l'Urundi,' *Bulletin de l'Agriculture au Congo Belge* 10, 1-4.

De Langhe, E.
1961. 'La taxonomie du bananier plantain en Afrique Equatoriale,' *Journal d'Agriculture Tropicale et de Botanique Appliquée* 8:417-449.

De Langhe, E.
1964. 'The origin of variation in the plantain banana,' *Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent* 29, 1:45-80.

De Langhe, E.
1976. 'Pourquoi l'amélioration génétique du plantain n'est elle pas actuellement réalisable,' *Fruits* 31:537-9.

De Langhe, E.
1987a. 'Summary of discussions and recommendations.' In: Persley & De Langhe, pp. 9-17.

De Langhe, E.
1987b. 'Towards an international strategy for genetic improvement in the genus Musa.'In: Persley & De Langhe, pp. 19-23.

De Langhe, E.
1992. Personal communication.

De Langhe, E., R. Swennen & D. Vuylsteke.
1996. 'Plantain in the early Bantu world.' In: Sutton, pp. 147-160. (Also in *Azania* 1994-1995, 24-30:147-160).

De Marees, P. see L'Honoré Naber.

Demesse, L.
1980. *Techniques et économie des pygmées Babinga.* Paris: l'Institut d'Ethnologie. (Mémoires, 20). 301 p.

Denis, L.
1937. 'Jeux des enfants Bakongo,' *Congo* 2, 4:412-426.

Descamps.
1909. 'Notes sur les cultures des indigènes au Congo,' *L'Agronomie Tropicale (Bruxelles)* 1, 5: 76-78.

Desvaux, N.A.
1814. 'Essai sur l'histoire botanique, médicale et économique des bananiers,' *Journal de Botanique* Juillet:5-45.

Devos, P.
1978. *Research on plantain at I.I.T.A. Final report.* Ibadan: International Institute for Tropical Agriculture. 17 p.

De Wildeman, E.
1920. *Mission forestière et agricole du Comte Jacques De Briey au Mayumbe (Congo Belge),* pp. 289-370. Bruxelles: Ministère des Colonies.

De Wolff, P.P.
1971. *The noun class system of Proto-Benue-Congo.* The Hague: Mouton. 200 p.

Dickens, P.
1984. 'The history of so-called strengthening in Tswana,' *Journal of African Languages and Linguistics* 6:97-125.

Dimmendaal, G.
1988. *Aspects du Basaa.* Paris: Société d'Etudes Linguistiques et Anthropologiques de France. (Bibliothèque de la SELAF 96).

Doke, C.M.
1938. 'The earliest records of Bantu,' *Bantu Studies* 12:1-7.

Doke, C.M. & B.W. Vilakazi.
1964. *Zulu-English dictionary.* Johannesburg: Witwatersrand University Press. 919 p.

Dorsch, H.
1911-1912. 'Vocabularium der Nkosi-Sprache (Kamerun),' *Zeitschrift für Kolonial Sprachen* 2:161-193, 324-330.

Dubowski, M.J.
1900. 'Note sur un bananier du Congo Français,' *Bulletin du Museum National d'Histoire Naturel (Paris)* 6:135-137.

Dupont, P.R.
1913. 'Varieties of plantains and bananas cultivated in Seychelles,' *Kew Bulletin*:229-231.

Dupuis, L.
1981 (1895). *Dictionnaire Tamoul-Français.* 2 Vols. New Delhi: Asian Educational Services (Pondichéry: Imprimérie de la Mission).

Eggert, M.K.H.
1992. 'The Central African rain forest: historical speculation and archaeological facts,' *World Archaeology* 24, 1:1-24.

Ehret, C.
1971. *Southern Nilotic history.* Evanston (Illinois): Northwestern University Press. 200 p.

Ehret, C.
1975. 'Linguistic evidence and its correlation with archaeology,' *World Archaeology* 8, 1:5-18.

Ehret, C.
1979. 'On the antiquity of agriculture in Ethiopia,' *Journal of African History* 20:161-177.

Ehret, C.
1980. *The historical reconstruction of Southern Cushitic phonology and vocabulary.* Berlin: Dietrich Reimer Verlag. 407 p.

Ehret, C.
1983. 'Historical/linguistic evidence for early African food production.' In: D. Clark, & S.A. Brandt (eds.), *From hunters to farmers*, pp. 26-35. Berkeley: University of California Press. 433 p.

Ehret, C.
1988. 'The East-African interior.' In: M. Elfasi (ed.), *UNESCO General history of Africa*, Vol. 3, pp. 617-42. Berkeley: University of California Press. 869 p.

Eichhorn, A. (ed.).
1918-1922. 'Beiträge zur Kenntnis der Waschambaa,' *Bässler Archiv* 7:56-98.

Ekandem, M.J.
1957. 'Ibibio farmers and some of their customs,' *Nigerian Field* 22, 4:169-175.

Elias, P., J. Leroy, J. & Voorhoeve.
1984. 'Mbam-Nkam or Eastern Grassfields,' *Afrika und Übersee* 67:31-107.

Engler, A.
1905. 'Über neuere Ergebnisse der botanischen Erforschung von Afrika' *Botanische Jahrbücher für Systematik und Pflanzen-geographie* 34, Beiblatt 79: 2-19. 34

Evans-Pritchard, E.E.
1960. 'A contribution to the study of Zande culture,' *Africa* 30, 4:309-24.

Even, A.
1936. 'Le caractère sacré des chefs chez les Babamba et les Mindassa d'Okondja (Moyen-Congo),' *Journal de la Société des Africanistes* 6, 2.

Even, A.
1938. 'La grossesse, la naissance et la prime enfance chez les Bakota du Haute-Ogooué et du nord de Mossendjo, '*Bulletin de la Société des Recherches Congolaises* 26.

Everaerts, E.
1939. 'Monographie agricole du Ruanda-Urundi,' *Bulletin Agricole du Congo Belge* 30, 3:341-396, 581-618.

FAO.
1988. *Traditional food plants.* Rome: Food and Agriculture Organisation. (Food and Nutrition Paper no. 42). 593 p.

Farsi, S.S.
1958. *Swahili sayings from Zanzibar. Riddles and superstitions.* Dar es Salaam: East African Publications. 32 p.

Feakin, S.D. (ed.).
1971. *Pest control in bananas.* London: Centre for Overseas Research. (Pan's manual no. 1). 126 p.

Felkin, R.W.
1885-1886. 'Notes on the Waganda tribe of Central Africa,' *Proceedings of the Royal Society of Edinburgh* 13, 2:699-770.

Fitzgerald, W.W.A.
1970 (1898). *Travels in the coastlands of British East Africa and the islands of Zanzibar and Pemba. Their agricultural resources and general characteristics.* London: Chapman & Hall, Ltd. (Dawsons of Pall Mall). 774 p.

Fleuret, A.
1980. 'Nonfood uses of plants in Usambara,' *Economic Botany* 34, 4:320-334.

Fortune, G.
1955. *An analytical grammar of Shona.* London: Longmans, Green & Co. 443 p.

Foskett, R. (ed.).
1965. *The Zambesi journal and letters of Dr. John Kirk.* 2 Vols. Edinburgh: Oliver & Boyd.

Foucque, H., R. Barquissau & H.J. De Cordemoy.
1923. *L'Ile de la Réunion (ancienne Ile Bourbon).* Paris: Emile Larose. 242 p.

Fraas, P.A.
1961. *A Nande-English and English-Nande dictionary.* Washington.

Freeman-Grenville, G.S.P.
1959. 'Medieval evidences for Swahili,' *Swahili* 29, 1:10-23.

Freeman-Grenville, G.S.P.
1962. *The East-African coast.* Oxford: Clarendon Press. 314 p.

Friederici, G.
1934. 'Lehnwörter exotiser Herkunft in europäischen Sprachen,' *Zeitschrift für französische Sprache und Literatur* 58: 135-55.

Frison, E.A., J.P. Horry & D. De Waele (eds.).
1996. *New frontiers in resistance breeding for nematode, Fusarium and Sigatoka.* Proceedings of the workshop held in Kuala Lumpur, Malaysia, 2-5 October 1995. Montpellier: INIBAP. 242 p.

Frossard, P.
1980. 'Apparition d'une nouvelle et grave maladie foliaire des bananiers et plantains au Gabon. La maladie des raies noires, '*Mycosphaerella fijiensis* Morelet, *Fruits* 35, 9:519-527.

Fullerton, R.A. & R.H. Stover (eds.).
1990. *Sigatoka leaf spot diseases of bananas*, Proceedings of an international workshop, San José, Costa Rica, March 28-April 1, 1989. INIBAP, Montpellier. 374 p.

Gachathi, F.N.
1989. *Kikuyu botanical dictionary.* AMREF, Nairobi.

Gaisser, K.
1912. 'Die Produktion der Eingeborenen des Bezirkes Sokode-Bassari (Schutzgebiet Togo),' *Mitteilungen aus den Deutschen Schutzgebieten* 25:239-318.

Galley, S.
1964. *Dictionnaire Fang-Français et Français-Fang.* Neuchâtel. 591 p.

Garcia de Orta.
1964 (1567). *Aromatum et simplicium aliquot medicamentorum apud Indus nascentium historiae de Carlos Clusio. Versao Portuguesa do epitome Latino dos colloquios dos simples de Garcia de Orta.* Lisboa: Junta de Investigacoes do Ultramar. 271 p.

Génieux, M.
s.d. 'Climatologie du Cameroun.' In: IRSC, *Atlas du Cameroun.* Yaounde: Institut de Recherches Scientifiques du Cameroun.

Gérard.
1924. *La langue Lebeo. Grammaire et vocabulaire.* (Bibliothèque-Congo 13). Bruxelles: Vromant. 223 p.

Gerhardt, L.
1982. 'Jarawan Bantu. The mistaken identity of the Bantu who turned North,' *Afrika und Übersee* 65:75-95.

Gerstner, J.
1938, 1939. 'Zulu names of plants,' *Bantu Studies* 12: 215-236, 321-342, 13:49-64, 131-149, 307-342.

Ghesquiere, M.J.
1924. 'La maladie des bananiers dans le Bas-Congo,' *Bulletin Agricole du Congo Belge* 15, 2:171-175.

Gill, M.G.
1971. 'Annotated list of plantain cultivars in Ghana,' *The Ghana Farmer* 15, 2:88-93.

Gillet, J. & E. Pâque.
1910. *Notes botaniques sur la région du Bas- et Moyen-Congo. Plantes principales de la région de Kisantu, leur nom indigène, leur nom scientifique, leurs usages.* Bruxelles: Musée Colonial du Congo-Belge. (Annales du Musée Colonial du Congo Belge. Botanique. Série V, Bas- et Moyen-Congo. Vol. IV, fasc. 1). 120 p.

Gleiss, F.
1912. *Wörterbuch Schambala-Deutsch und Deutsch-Schambala.* Berlin: Druck und Kommissionsverlag Georg Reimer. (Archiv für das Studium deutscher Kolonialsprachen 13). 134 p.

Gningone, Y.
1951. 'La première sortie du nouveau-né chez les Fangs d'autrefois,' *Liaison* 15:25.

Godfrey-Sam-Aggrey, W. & B.T. Tuku (eds.).
1985. *Proceedings of the first Ethiopian Horticultural Workshop*, Febr. 20-22, 1985, Addis Abeba.

Goldie, H.
1964 (1864). *Dictionary of the Efik language.* Farnborough: Gregg Press (Glasgow: Dunn & Wright). 42 p.

Good, A.I.
1934. *Bulu handbook supplement.* Elat, Ebolowa (Cameroon): Halsey Memorial Press. 131 p.

Goody, J.
1982. *Cooking, cuisine and class. A study in comparative sociology.* Cambridge: Cambridge University Press. 253 p.

Gotanègre, J.F.
1983. 'La banane au Rwanda,' *Les Cahiers d'Outre-Mer* 36, 144:311-342.

Gourou, P.
1966. 'L'Ethiopie,' *Les Cahiers d'Outre-Mer* 19, 75:209-233.

Gowen, S.R. (ed.).
1995a. *Bananas and plantains.* London: Chapman & Hall. 612 p.

Gowen, S.R.
1995b. 'Pests.' In: Gowen 1995a, pp. 382-402.

Gowdey.
1918-1919. Untitled report. In: *Uganda Department of Agriculture. Annual Reports.* Entebbe: Government Printer.

Greenberg, J.
1970. *The languages of Africa.* The Hague (Netherlands): Mouton. 180 p.

Greenway, P.J.
1944. 'Origins of some East African food crops,' *East African Agricultural Journal* 10, I:34-39, 10, II:115-119.

Grimaldi, J. & A. Bikia.
1985. *Le grand livre de la cuisine camerounaise.* Yaounde: Editions SOPECAM. 258 p.

Guthrie, M.
1967-1971. *Comparative Bantu. An introduction to the comparative linguistics and prehistory of Bantu languages.* 4 Vols. Farnborough (UK): Gregg Press.

H, A.W.
1922. 'Sir John Kirk,' *Kew Bulletin of Miscellaneous Information* 2:49-63.

Haddad, O. & O.L. Borges.
1971. 'Identificacion de clones de bananos (cambures y platanos) en Venezuela,' *Agronomia Tropicale* 21, 4: 277 -286.

Hagendorens, J.
1975. *Dictionnaire Otetela-Francais.* Bandundu (Congo-K.): CEEBA Publications. 419 p.

Hair, P.E.H.
1969. 'Ethnolinguistic inventory of the Lower Guinea coast before 1700,' *African Language Review* 8:225-256.

Hair, P.E.H.
1969. 'The earliest vocabularies of Cameroons Bantu,' *African Studies* 28, 1:49-54.

Hannan, M.
1984. *Standard Shona dictionary.* (Revised edition). Harare: The College Press. 1002 p.

Harlan, J.R.
1971. 'Agricultural origins: centers and noncenters.' *Science* 174: 468-474.

Harries, L.
1942. 'Some riddles of the Makua people,' *African Studies* 1, 2:275-291.

Harries, L.
1958. 'Kumu, a sub-Bantu language,' *Kongo-Overzee* 24:265-296.

Harrison Church, R.J.
1961. *West Africa.* London: Longmans. 547 p.

Heckel, E.
1910. 'Les plantes utiles de Madagascar,' *Annales du Musée Colonial de Marseille* II, 18, 8:1-372.

Hecklau, H.
1978. *Agrargeographie-Ostafrika (2°N - 2°S, 32°-38°E).* Berlin & Stuttgart: Gebrüder Borntträger. (Afrika-Kartenwerk. Serie E, Beiheft zu Blatt 11). 273 p.

Hecq, I., A. Lefebre, E. Vercruysse & A. Van Wambeke.
1963. *Agriculture et structures economiques d'une société traditionnelle au Kivu (Congo).* Bruxelles: Institut National pour l'Etude Agronomique du Congo (INEAC, Sér. Sc. 103.) 230 p.

Hedrick, U.P. (ed.).
1972 (1919). *Sturtevant's edible plants of the world.* New York: Dover Publications Inc. 686 p.

Heine, B.
1979. *Classification of the Chaga dialects.* Hamburg: Buske. 548 p.

Heine, B.
1980. *Language and dialect atlas of Kenya,* Vol. 1. Berlin: Reimer. 118 p.

Heine, B. & M. Brenzinger.
1988. *Plants of the Borana (Ethiopia and Kenya).* Saarbrücken: Verlag Breitenbach. (Plant Concepts and Plant Use IV). 294 p.

Heine, B. & C. König.
1988. *Plants of the So (Uganda).* Saarbrücken: Verlag Breitenbach. (Plant Concepts and Plant Use II). 140 p.

Heine, B. & K. Legère.
1995. *Swahili plants.* Köln: Rüdiger Köppe Verlag. 376 p.

Heine, B., T.C. Schadeberg & E. Wolff.
1981. *Die Sprachen Afrikas.* Hamburg: Helmut Buske Verlag. 665 p.

Helmlinger, P.
1972. *Dictionnaire Duala-Francais suivi d'un lexique Français-Duala.* Paris: Editions Klincksieck. 666 p.

Herrmann, C.
1904. 'Lusiba, die Sprache der Länder Kisiba, Bugabu, Kjamtwara, Kjanja und Uhangiro, speziell der Dialekt der "Bayossa" im Lande Kjamtwara,' *Mitteilungen des Seminars für Orientalische Sprachen* 7:150-200.

Hetherwick, A.
1889. *Introductory handbook of the Yao language.* London: Society for the Promotion of Christian Knowledge. 281 p.

Hiernaux, C.R.
1948. 'Les aspects géographique de la production bananière de la Côte d'Ivoire,' *Les Cahiers d'Outre-Mer* 1, 1: 68-84.

Higgins, J.W.
1904. 'The banana in Hawai,' *Hawaii Agricultural Experimental Station Bulletin* 7.

Hilberth, J.
1952. *Vocabulaire Gbaya-Francais.* Örebro.

Hill, J.F.R. & J.P. Moffet (eds.).
1955. *Tanganyika, a review of its resources and their development.* Dar es Salaam: Government of Tanganyika. 924 p.

Hinnebusch, T.J. & D. Nurse,
1993. *Swahili and Sabaki. A linguistic history.* Berkeley: University of California Press. 780 p.

Hobley, C.W.
1910. *Ethnology of A-Kamba and other East African tribes.* Cambridge: Cambridge University Press. 172 p.

Hollis, A.C.
1910. 'Taveta enigmas,' *Journal of the African Society* 10:200-212.

Horry, J.P.
1993. *Observations sur les bananiers introduites des Comores.* Guadeloupe: CIRAD-FHLOR. (Unpublished manuscript).

Horry, J.P. & M. Jay.
1988. 'Distribution of anthocyanins in wild and cultivated banana varieties,' *Phytochemistry* 27, 8:2667-2672.

Houtkamp, J.A.
1996. *Tropical Africa's emergence as a banana supplier in the inter-war period.* Leiden (Netherlands): African Studies Centre. 144 p.

Hubert, P.
1907. *Le bananier.* Paris: Dunod. 222 p.

Hulstaert, G.
1966. *Notes de botanique Mongo.* Bruxelles: ARSOM. (Mémoires de l'Institut Colonial Belge, Sci. Nat. Med., N^elle Série 15, 3). 213 p.

Huntingford, G.W.B.
1929. 'Modern hunters. Some accounts of the Komelilo-Kapchepkendi Dorobo (Okiek) of Kenya Colony,' *Journal of the Royal Anthropological Institute* 59:333-378.

Huntingford, G.W.B.
1955. 'The economic life of the Dorobo,' *Anthropos* 50:602-634.

Hurel, E.
1909. 'La langue Kikerewe,' *Mitteilungen des Seminars für Orientalische Sprachen* 12:1-113.

Hurel, E.
1911. 'Religion et vie domestique des Bakerewe,' *Anthropos* 6:62-94, 276-301.

IPGRI-INIBAP/CIRAD.
1996. *Descriptors for banana (Musa spp.).* Rome and Montpellier: International Plant Genetic Resources Institute/International Network for the Improvement of Banana and Plantain/Centre de Coopération Internationale en recherche Agronomique pour le Développement. 55 p.

Irizarry, H.
1985. 'Selection and evaluation of high-yielding Horn-type plantain clones in Puerto Rico. An explanation for their behaviour,' *Journal of Agriculture of the University of Puerto Rico* 69, 3: 407-420.

Irvine, F.R.
1930. *Plants of the Gold Coast.* London: Oxford University Press. 512 p.

Isaac, D.
1964. *Dicionario Portugues-Cinyanya.* Lisboa: Junta de Investigacoes do Ultramar. 266 p.

Ittmann, J.
1953. 'Volkskundliche und religiöse Begriffe im Nördlichen Waldland von Kamerun,' *Afrika und Übersee*, Beiheft 26. 68 p.

Ittmann, J.
1956. 'Rezepte aus dem Waldland von Kamerun,' *Afrika und Übersee* 40:141-162.

Ittmann, J.
1976. 'Wörterbuch der Duala Sprache, '*Afrika und Übersee*, Beiheft 30. 675 p.

Jacobson-Widding, A.
1979. *Red-white-black as a mode of thought.* (Uppsala Studies in Cultural Anthropology 1). 396 p.

Jacquot, A.
1978. *Textes Laadi (Koongo).* Paris: ORSTOM. (Travaux et Documents de l'ORSTOM 97.) 520 p.

Janssens, B.
1993. *Double reflexes consonantiques. Quatre études sur le Bantou de Zone A (Bubi, Nen, Bafia, Ewondo).* (Ph.D. Thesis, Université Libre de Bruxelles.) 358 p.

Jarret R.L. (ed.).
1990. *Identification of genetic diversity in the genus Musa.* Proceedings of an international workshop, Los Baños, Philippines 5-10 September 1988. INIBAP, Montpellier. 218 p.

Jarret, R.L. & N. Gawel.
1995. 'Molecular markers, genetic diversity and systematics *in Musa*.' In: S. Gowen 1995a, pp. 66-83.

Jean, S.
1975. *Les jachères en Afrique tropicale*. Paris: Institut de l'Ethnologie, Musée de l'Homme. 168 p.

Jeffreys, M.D.W.
1960. 'Cordage among the Ibo,' *Nigerian Field* 25, 1: 42-44.

Jeger, M.J., S. Eden-Green, J.M. Thresh, A. Johanson, J.M. Waller & A.E. Brown.
1995. 'Banana diseases.' In: S.R. Gowen 1995a, pp. 317-381.

Johnson, D.H. & D.M. Anderson.
1990. *The ecology of survival. Case studies from Northeast African history*. London: Lester Crook Academic Publications. 339 p.

Johnston, B.F.
1958. *The staple food economies of west Tropical Africa*. Stanford: Stanford University Press. 305 p.

Johnston, H.H.
1886. *Der Kilima-Ndjaro*. Leipzig: F.A. Brockhaus. 572 p.

Johnston, H.
1897. *British Central Africa*. London: Methuen & Co. 544 p.

Johnston, H.
1902. *The Uganda Protectorate*. London: Hutchinson & Co. 470 p.

Johnston, H.
1908. *George Grenfell and the Congo*. 2 Vols. London: Hutchinson & Co.

Joiris, D.V.
1994. 'Elements of techno-economic changes among the sedentarised Bagyeli pygmies (S.W. Cameroon),' *African Studies Monographs* 15, 2: 83-95.

Jones, A.
1983. *German sources for West African history 1599-1669*. Wiesbaden: Franz Steiner Verlag. 417 p.

Joret, C.
1904. *Les plantes dans l'antiquité et au Moyen Age*. 2 Vols. Paris: Librairie Emile Bouillon.

Julien, P.
1953. *Pygmeeën*. Amsterdam: Scheltens & Giltay. 256 p.

Juma, A.M.
1996. 'The Swahili and the Mediterranean worlds: pottery of the late Roman period from Zanzibar,' *Antiquity* 70:148-54.

Junker, W.
1888-1889. 'Verzeichnis von Wörtern zentralafrikanischer Sprachen,' *Zeitschrift für Afrikanische Sprachen* 2:35-108.

Kaemmer, D., R. Afza, K. Wesing, G. Kahl & F.J. Novak.
1992. 'Oligo-nucleotide and amplification fingerprinting of wild species and cultivars of banana (*Musa* spp.),' *Bio/Technology* 10:1030-5.

Kamtedza, J.G.
1963. *Dicionario Portugues-Cinyanja et Cinyanja-Portugues.* Lisboa: Junta de Investigacoes do Ultramar. 291 p.

Karamura, D.A. & E.B. Karamura.
1994. *A provisional checklist of banana cultivars in Uganda.* Montpellier: INIBAP. 28 p.

Karikari, S.K.
1971. 'A note on plantain (*Musa* AAB group) and banana (*Musa* AAA group) cultivars in Ghana,' *Ghana Journal of Agricultural Science* 4:79-85.

Karikari, S.K.
1973. 'Some taxonomic assessment of contribution of *Musa acuminata* and *Musa balbisiana* to the origins of plantains and bananas in Ghana, '*Ghana Journal of Agricultural Science* 6:9-19.

Karikari, S.K. & A.K. Abakah-Gyenin.
1976. 'Some guidelines in the classification of Ghanaian plantains (*Musa* AAB Group),' *Fruits* 31, 11:658-660.

Karugire, S.R.
1971. *A history of the kingdom of Nkore in western Uganda to 1896.* London: Clarendon Press. 291 p.

Katupha, J.M.M.
1983. *A preliminary description of sentence structure in the e-Saaka dialect of e-Makhuwa.* (Ph.D. Thesis, SOAS, London.) 317 p.

Kavurtirwaki, K.
1975. *Contes folkloriques Nande.* Vol. I. Tervuren: Musée Royale d'Afrique Centrale. 563 p.

Keenam, B.C.
1989. *A historical survey of Nama: Ogoni cradleland.* (M.A. Thesis, University of Port Harcourt, Nigeria).

Kern, H. (ed.).
1910. *Itinerario, voyage ofte schipvaert van Jan Huygen Van Linschoten naer Oost ofte Portugaels Indien, 1579-1592,* Vol. 1. Den Haag: Martinus Nijhoff. 238 p.

Kervégant, D.
1933. 'Introduction à l'étude des variétés de bananiers à fruits comestibles de la Martinique,' *Revue de Botanique Appliquée et d'Agriculture Tropicale* 13, 140:251-276; 141:337-346; 142:415-420.

Kervégant, D.
1935. *Le bananier et son exploitation.* Paris: Société d'Editions Géographiques, Maritimes et Coloniales. 578 p.

Kew Gardens.
1805-1906. *Records kept on introductions and exportations of plants.* (Unpublished records. Courtesy N.S. Price).

Kimble, G.H.T. (ed.).
1937. *Pacheco Pereira. De esmeraldo de situ orbis.* London: Hakluyt Society. 193 p.

Kingdon, J.
1993. *Self-made man and his undoing.* London: Simon and Schuster. 369 p.

Klieman, K.
1994. Personal communication.

Knappert, J.
1972-1973. 'The study of loanwords in African languages,' *Afrika und Übersee* 56:283-308.

Kokwaro, J.O.
1976. *Medicinal plants of East Africa.* Nairobi, Kampala, Dar es Salaam: East African Literature Bureau. 384 p.

Korse, P.
1984. 'Mongo proverbs of Basankusu,' *Annales Aequatoria* 5: 139-150.

Kouba, B.
1987. *Les problèmes de production et de commercialisation de la banane douce dans la région du Mayombe (cas du District de Mvouti).* (Unpublished manuscript. Université de Brazzaville, Marien Ngouabi.)

Krapf, L.
1882. *A dictionary of the Suaheli language.* London: Trübner & Co. 433 p.

Krapf, L. & J. Rebmann.
1887. *A Nika-English dictionary.* London: Society for the Promotion of Christian Knowledge. 391 p.

Kreuer, W.
1979. *Ankole. Bevölkerung. Siedlung-Wirtschaft eines Entwicklungsraum in Uganda.* Wiesbaden: Franz Steiner Verlag. 128 p.

Kutsch Lojenga, C.
1994. Personal communication.
Laburthe-Tolra, P.
1981. *Les seigneurs de la forêt.* Paris: Publications de la Sorbonne. 490 p.
Lacomblez, M.
1917a. 'Notes sur les cultures des Arabisés. Region de Bafwaboli, Bafwasende, Avakubi et Penghe (Districts de Stanleyville et de l'Ituri,' *Bulletin Agricole du Congo Belge* 8, 1-2:40-51.
Lacomblez, M.
1917b. 'Monographie agricole des populations Babira de la région forestière du territoire d'Irumu,' *Bulletin Agricole du Congo Belge* 8, 1-2:52-74.
Lains e Silva, H.
1959. 'Nomes vulgares de algumas plantas de Sao Tomé e Principé,' *Garcia de Orta* 7, 2:293-323.
Laman, K.E.
1964 (1936). *Dictionnaire Kikongo-Français.* 2 Vols. Ridgewood: Gregg Press Inc.
Lanaud, C., H. Tezenas du Montcel, M.P. Jolivot, J.C. Glaszmann & D. Gonzalez De Leon.
1992. 'Variation of ribosomal gene spacer length among wild and cultivated banana,' *Heredity* 68: 147-156.
Langdon, R.
1993. 'The banana as a key to early American and Polynesian history,' *The Journal of Pacific History* 28, 1:15-35.
LangHeinrich, F.
1921. *Schambala-Wörterbuch.* Hamburg: L. Friedrichsen & Co. 502 p.
Langlands, B.W.
1966. 'The banana in Uganda: 1860-1920,' *Uganda Journal* 30, 1:39-62.
Lassen, C.
1874. *Indische Altertumkunde.* Bd. II. Leipzig: L.A. Kittler. 1238 p.
Laurent-Täckholm, V.
1951. 'The plant of Naqada,' *Annales du Service des Antiquites de l'Egypte*, 51:299-312.
Laurent-Täckholm, V & M. Drar.
1954. *Students' flora of Egypt*, Vol. 3. Cairo: Anglo-Egyptian Bookshop. 649 p.

Leakey, L.S.B.
1977. *The southern Kikuyu before 1903*, Vol. 3. London: Academic Press.

Lekens, B.
1958. *Ngbandi-Idioticon*, Vol. 3, Band 1-3. Tervuren: Koninklijk Museum van Belgisch-Congo.

Lemb, P. & F. de Gastines.
1973. *Dictionnaire Basaa-Français.* Douala: Collège Libermann. 544 p.

Lenselaer, A.
1983. *Dictionnaire Swahili-Français.* Paris: Editions Karthala. 646 p.

Leroy, J.
1979. 'A la recherche de tons perdus. Structure du nom en Ngemba,' *Journal of African Languages and Linguistics* 1, 1:55-72.

Lescot, T.
1993. 'La culture du bananier plantain en Colombie et dans les pays andins,' *Fruits* 48, 2:107-114.

Lescot, T.
1994. Personal communication.

Leslau, W.
1958. 'Moca, a tone language of the Kafa group in South-Western Ethiopia,' *Africa* 28:135-147.

Lestrade, A.
1972. *Notes d'ethnographie du Rwanda.* Tervuren: Musée Royal d'Afrique Centrale. 367 p.

Le Testu, M.G.
1940. 'Notes sur les cultures indigènes dans l'interieur du Gabon,' *Revue de Botanique Appliquée et de l'Agriculture Tropicale* 20:540-556.

Letouzey, R.
1976. *Contribution de la botanique au problème d'une éventuelle langue pygmée.* Paris: Société d'Etudes Linguistiques et Anthropologiques de France. (Bibliothèque de la SELAF 57-58). 145 p.

Le Veux, R.P.
1917. *Premier essai de vocabulaire Luganda-Français.* Alger: Maison Carrée. 1047 p.

L'Honoré Naber, S.P.
1912. *P. De Marees (1602). Beschryvinghe ende historische verhael van het Gout Koninckrijck van Gunea, anders de Gout-custe de Mina genaemt.* Den Haag: Nijhof. 314 p.

Linnaeus, C.
1736. *Musa Cliffortiana. Florens Hartecampi prope Harlemum.* Lugdunum Batavorum. 46 p.

Lock, G.W.
1962. *Sisal.* London: Longmans. 355 p.

Lopez, A.
1981. 'La bananeraie burundaise.' In: *Recherches sur les hautes terres d'Afrique Centrale (Rwanda, Burundi, Kivu),* pp. 133-144Bordeaux: Centre d'Etudes de Géographie Tropicale. (Travaux et Documents de Géographie Tropicale, 42.) 307 p.

Lossois, P.
1964. 'Rapport sur l'activité de l'IFAC à la station fruitière de Loudima, Republique Congo-Brazzaville, de 1953 à 1964.' In: Institut de Recherches Fruitières. *Quinze ans de travaux et de Recherches dans les pays du Niari, 1949-1964.* Paris: Institut de Recherches Fruitières d'Outre-Mer (IFAC).

Louango, P.
1989. *Esquisse phonologique du Likwala (langue bantu du Groupe C).* (Mémoire de l'Université Marien Ngouabi, Brazzaville, Congo).

Loung, J.F.
1967. 'Le nom authentique du groupe pygmée de la région côtière camerounaise,' *Revue de Géographie du Cameroun*: 81-94.

Louw, J.A.
1964. 'The consonant phonemes of the lexical root in Zulu,' *Afrika und Übersee* 48:127-52.

Lowe, J.B. & T.C. Schadeberg.
1996. *Bantu MapMaker.* Version 3.1. Berkeley: University of California (US) & University of Leiden (Netherlands). (Software).

Ly-Tio-Fane, M.
1970. *The triumph of Jean Nicolas Ceré and his Isle Bourbon collaborators (Mauritius and the spice trade).* Paris: Mouton & Co.. 302 p.

Mackenzie, D.R.
1925. *The spirit-ridden Konde.* London: Seeley, Service & Co. Ltd. 318 p.

MacMaster, D.N.
1962. 'Speculations on the coming of the banana to Uganda,' *Journal of Tropical Geography* 16:67-69.

Maddox, H.E.
1902. *An elementary Lunyoro grammar.* London: Society for the Promotion of Christian Knowledge. 158 p.

Mair, L.
1933-1935. 'Linguistics without sociology: some notes on the standard Luganda dictionary,' *Bulletin of the School for Oriental and African Studies* 7:913-921.

Malasi, N.
1988. 'Kakwe, ou code de gestation de la société traditionelle Lega,' *Journal of Asian and African Studies* (Tokyo) 36:213-217.

Mamet, M.
1960. *Le langage des Bolia.* Tervuren: Musée Royal du Congo Belge. 268 p.

Martrou, L.
1924. *Lexique Fang-Français.* Paris: Procure Générale, Mission Catholique. 139 p.

Masefield, G.B.
1944. 'Some recent observations on the plantain crop in Buganda,' *East African Agriculture Journal* 10:12-17.

Massal, E. & J. Barreau.
1973. *Food plants of the South Sea Islands.* (Technical Paper no. 94). Nouméa: South Pacific Committee. 51 p.

Mateene, K.
1972. 'Trois poèmes Hunde chantés par les Fatuma wa Bacira,' *Journal of African Languages* 11, 2:21-44.

Mauny, R. (ed.).
1956. *Duarte Pacheco Pereira. Esmeraldo de situ orbis (Côte occidentale d'Afrique du Sud Marocain au Gabon. Vers 1506-1508).* Bissau: Centro de Estudos da Guiné Portuguesa. 226 p.

Mauny, R.
1961. *Tableau géographique de l'Ouest Africain au Moyen Age, d'après les sources écrites, la tradition et l'archéologie.* Dakar: Institut Français d'Afrique Noire. (Mémoires de l'IFAN, 61). 587 p.

Mayer, R.
1987. 'Langues des groupes pygmées au Gabon.' Un état des lieux, *Pholia* 2:111-124.

Mayné.
1916. 'Rapport sur une maladie des bananiers au Mayombe (Bas Congo),' *Bulletin Agricole du Congo Belge* 7, 1-2:236-239.

Mazenot, G.
1970. *La Likouala-Mossaka: histoire de pénétration du Haut Congo, 1878-1920.* Paris: Mouton. 456 p.

Mbida, M.C.
1996. *L'émergence de communautés villageoises au Cameroun meridional.* (Ph.D. Thesis. Université Libre de Bruxelles.) 721 p.

Mbida, M.C.
1997. Personal communication.

McCrindle, J.W. (ed.).
1897. *The Christian topography of Cosmas, an Egyptian monk.* London: Hakluyt Society. 398 p.

McElroy, A. & P.K. Townsend.
1985. *Medical anthropology in ecological perspective.* Boulder (US): Westview Press. 482 p.

Meeussen, A.E.
1980. *Bantu lexical reconstructions.* Tervuren: Musée Royal de l'Afrique Centrale. 55 p.

Melzian, H.
1937. *A concise dictionary of the Bini language of South Nigeria.* London: Kegan Paul, Trench, Trübner and Co.. 233 p.

Mengho, B.M.
1978. 'L'agriculture traditionnelle chez les Bakouele et les Djem du Congo,' *Les Cahiers d'Outre-Mer* 32, 121:48-84.

Merkies, H.C.G.
1980. *Ganda classification.* (Ph.D. Thesis, Catholic University of Nijmegen, Netherlands.) 335 p.

Messing, S.D.
1985. *Highland Plateau Amhara of Ethiopia,* Vol. 1. New Haven (Connecticut): Human Relations Area Files Inc.

Meyerhof, M.
1944. 'Sur un traité d'agriculture composé par un sultan Yéménite du XIV^{e} siècle,' *Bulletin de l'Institut d'Egypte,* 26:51-65.

Minker, G.
1986. *Burji, Konso-Gidole, Dullay. Materialen zur Demographie, Landwirtschaft und Siedlungsstruktur eines sud-äthiopischen Kulturareals.* Bremen: Übersee Museum. (Bremer Afrika Archiv, Band 22.) 275 p.

Möhlig, W.J.G.
1980. 'Lehnwortforschung und Ethnohistorie,' *Paideuma* 26:7-20.

Möhlig, W.J.G.
1989. 'Sprachgeschichte, Kulturgeschichte und Archäologie. Die Kongruenz der Forschungsergebnisse als methodologisches Problem,' *Paideuma* 35:189-196.

Moffet, J.P.
1958. *Handbook of Tanganyika.* Dar es Salaam: Government of Tanganyika. 703 p.

Monod, Th., A. Texeira da Mota & R. Mauny.
1951. *Description de la côte occidentale d'Afrique (Sénégal au Cap de Monte, Archipels) par Valentim Fernandes (1506-1510).* Bissau: Centro de Estudos da Guiné Portuguese. 227 p.

Montagnac, P.
1960. *Les cultures fruitières à Madagascar.* Tananarive: Institut de Recherches Agronomiques de Madagascar.

Monteiro, J.M.
1875. *Angola and the river Congo,* Vol. 2. London: MacMillan.

Moon, A.
1824. *A catalogue of the indigenous and exotic plants growing in Ceylon.* Colombo: Wesleyan Mission Press. 40 p.

Moore, H.E.
1957. '*Musa* and *Ensete.* The cultivated bananas,' *Baileya* 5, 1:167-94.

Motingea, M.
1996. *Etude comparative des langues Ngiri de l'entre Ubangi-Zaire.* (Ph.D. Thesis, University of Leiden, Netherlands.) 280 p.

Mous, M.
1994. 'Ma'a or Mbugu.' In: P. Bakker & M. Mous (eds.). *Mixed languages. Fifteen case studies in language intertwining,* pp. 175-200. Institute for Functional Research into Languages and Language Use (IFOTT), University of Amsterdam. 244 p.

Mous, M.
(forthcoming) 'Die Herkunft grammatikaler und lexikaler Merkmale im Ma'a und deren Bedeutung für die Sprachgeschichte,' *Sprache und Geschichte in Afrika* 16/17.

Mouton, J. & R. Sillans.
1954. 'Les cultures indigènes dans les régions forestières de l'Oubangui-Chari,' *Annales du Musée Coloniale de Marseille* 62, 2:6-112.

Mreta, A.
1997. Personal communication.

Müller, E.
1947. *Wörterbuch der Djaga-Sprache.* Hamburg: Verlag von Eckhardt und Messtdorff. 411 p.

Müller, J.
1947. 'Amélioration du bananier indigène.' *Comptes rendus de la Semaine Agricole de Yangambi, 26 Février au 5 Mars 1947,* Vol. 1, Hors Série. Communication de l'INEAC 21:342-73.

Mukasa, S.B. & R.P. Rubaihayo.
1993. 'Male fertility in Uganda banana germplasm,' *African Crop Science Journal (Makerere)* 1, 2:87-93.

Mukasa S.K. & D.G. Thomas.
1970. 'Staple food crops.' In: J.D. Jameson. *Agriculture in Uganda*, pp. 139-153. London: Oxford University Press. 395 p.

Mulder, C. & G. Rossel.
(forthcoming) (study in progress on musa and ensete phytoliths).

Mulira, E.M.K. & E.G.M. Ndawula. (eds.)
1952. *A Luganda-English and English-Luganda dictionary.* London: Society for the Promotion of Christian Knowledge. 223 p.

Murdock, G.P.
1959. *Africa, its peoples and their culture history.* New York: McGraw-Hill. 456 p.

Murphy, J.D.
1972. *Luganda-English dictionary.* Washington: The Catholic University of America Press. 651 p.

Museveni, Y.
1986. *Selected articles on the Uganda resistance war.* Nairobi: NRM Publication. 87 p.

Museveni, Y.K.
1997. *Sowing the mustard seed.* London: Macmillan. 224 p.

Namaganda, M.J. & J.C.M. Ddungu.
1985. 'Present production, potential and research needs of bananas in Uganda.' In: R.A. Kirkby & D. Ngendahayo (eds.). *Banana production and research in Eastern and Central Africa.* Proceedings of a regional workshop, Bujumbura, Burundi, 11-14 December 1983. Ottawa: International Development Research Centre.

Nayar. T.G., J.S. Sundararaj & V.S. Seshadri.
1957. 'Nendran banana. Its culture and taxonomical status,' *The Indian Journal of Horticulture* 14, 2:69-76.

Ndeti, K.
1970. 'Static linguistic forms in oral literature of the Akamba,' *Journal of the Language Association of East Africa* 1, 2: 28-37.

Ndubizu, T.O.C.
1981. T 'The Nigerian plantain banana,' *Nigerian Field* 46, 3:118-128.

Ngeze,
1994. *Bananas and their management.* Bukoba: Kagera Writers and Publishers Co-operative Society Ltd. 111 p.

Ngoi, P.
1944. 'La grossesse et l'enfantement chez les Nkundo,' *Aequatoria* 7, 3:117-124.

Nordenskiöld, E.
1922. 'Deductions suggested by the geographic distribution of some post-Columbian words used by the Indians of South America,' *Comparative Ethnographical Studies (Göteborg)* 5: 64-85.

Ngcongwane, S.D.
1972. *Aspekte van taalkontak tussen Afrikaans en die Bantoetale met besondere verwysing na die leenwoord.* (B.A. Thesis, Universiteit van Zoeloeland.) 28p.

Nguyen Dang Khoi & R.V. Valmayor.
1995. 'Collection, characterization, evaluation and conservation of the indigenous *Musa* germplasm of Viet Nam. A progress report,' *Infomusa* 4, 1:3-4.

Nout, M.J.R.
1981. *Aspects of the manufacture and consumption of Kenyan traditional fermented beverages.* (Ph.D. Thesis, Agricultural University of Wageningen, Netherlands.) 102 p.

Nurse, D.
1979. *Classification of the Chaga dialects.* Hamburg: Helmut Buske Verlag. 584 p.

Nurse, D.
1985. 'Dentality, areal features and phonological change in Northeastern Bantu,' *Studies in African Linguistics* 16, 3: 243-279.

Nurse, D.
1987. 'Toward a typology of diachronic phonological change in Bantu languages,' *Journal of the Atlantic Provinces Linguistic Association* 9:100-119.

Nurse, D.
1988. 'The diachronic background to the language communities of southwestern Tanzania,' *Sprache und Geschichte in Afrika* 9:15-116.

Nurse, D. & T.J. Hinnebusch.
1993. *Swahili and Sabaki. A linguistic history.* Berkeley: University of California Press. 780 p.

Nurse, D. & G. Philippson.
1977. 'Tones in Old Moshi,' *Studies in African Linguistics* 8, 1:49-80.

Nyakabwa, M.
1990. 'Plantes médicinales utilisées chez les Banyamulenge de Fizi au Sud Kivu (Zaire),' *African Studies Monographs* (Kyoto) 11, 2:101-114.

Nyakabwa, M. & M. Dibaluka.
1990. 'Plantes medicinales cultivées dans la zone de Kabondo à Kisangani (Zaire),' *African Studies Monographs* (Kyoto) 11, 2:87-99.

Odden, D.
1996. *The phonology and morphology of Kimatuumbi.* Oxford: Clarendon Press. 315p.

Oliver, B.
1958. 'Nigeria's useful plants,' *Nigerian Field* 23, 4.

Olmstead, J.
1974. 'The versatile Ensete plant: its use in the Gamu Highland,' *Journal of Ethiopian Studies* 12, 2:147-158.

Ortiz, R.
1997. 'Morphological variation in *Musa* germplasm,' *Genetic Resources and Crop Evolution* 44:393-404.

Ortiz, R. & D. Vuylsteke.
1994. 'Plantain breeding at IITA.' In: Jones (ed.), *The improvement and testing of Musa: a global partnership*, pp. 130-156. Proceedings of the first global conference of the international *Musa* testing program held at FHIA, Honduras, 27-30 April 1994. Montpellier: INIBAP. 303 p.

Ortiz, R. & D. Vuylsteke.
1996. 'Advances in *Musa* genetics,' *IITA Research* 13:1-9.

Ostendorf, F.W. (ed.).
1962. *Nuttige planten en sierplanten van Suriname,* Landbouwproefstation Bulletin (Paramaribo, Surinam) 79: 1-325.

Pages, R.L.
1928. 'Flore domestique du Rwanda,' *Bulletin Agricole du Congo Belge* 19, 1:116-131, 277-294.

Pankhurst, R.
1974. 'The "Banyan" or Indian presence at Massawa, the Dahlak islands and the Horn of Africa,' *Journal of Ethiopian Studies* 12, 1:185-212.

Parker, E.
1990. *Mundani-English lexicon.* Yaounde: Société Internationale de Linguistique. (Research document.)

Parker, E.
1992. Personal communication.
Parker, E. & C. Durrant.
1990. *Mundani-English dictionary*. Yaounde: Société Internationale de Linguistique. (Research document.)
Paulian, C.
1975. *Le Kukuya. Langue Teke du* Congo. Paris: Société d'Etudes Linguistiques et Anthropologiques. (Bibliothèque de la SELAF 49-50.) 222 p.
Pauwels, M.
1954a. 'Description detaillée d'un mariage de montagnard Muhutu,' *Kongo Overzee* 20:31-64.
Pauwels, M.
1954b. 'La divination au Rwanda,' *Kongo Overzee* 20, 1-5: 293-368.
Pellat, C. (ed.).
1961. *Le Calendrier de Cordoue*. Leiden: (Netherl.): E. J. Brill, 197 p.
Périquet, L.
1915. *Rapport général sur la mission de délimination Afrique Equatoriale Française - Cameroun (1912, 1913, 1914). Vocabulaires.* Paris, Ministère des Colonies.
Perrois, L.
1966. *Rapport préliminaire de l'enquête ethnographique sur les Bakota de l'Ivindo*. Libreville: ORSTOM.
Perrois, L.
1968. 'La circoncision Bakota (Gabon),' *Cahiers de l'ORSTOM* (Sci. Hum.) 5, 1:1-109.
Persley, G.J. & E.A. De Langhe (eds.).
1987. *Banana and plantain breeding strategies*. Proceedings of an international workshop, Cairns, Australia, 13-17 October 1986. Canberra: ACIAR. 187 p.
Philippson, G.
1983. 'Glossaire Dabida-Français-Anglais,' *Bulletin des Etudes Africaines de l'INALCO* 3, 5:153-198.
Philippson, G.
1984. *Gens des bananeraies. Contribution linguistique à l'histoire culturelle des Chaga du Kilimanjaro*. Paris: Editions Recherche sur les Civilisations. 314 p.
Philippson. G. & S. Bahuchet,
1996. 'Cultivated crops and Bantu migrations in Central and Eastern Africa: a linguistic approach.' In: Sutton, pp. 103-120. (Also in *Azania* 24-30:103-120.)

Piper, K.
1977. *Elemente des Suku. Zur Phonologie und morphologie einer Bantusprache.* (Ph.D. Thesis, University of Leiden, Netherlands.) 435 p.

Ploetz, R.C. (ed.).
1990. *Fusarium wilt of banana.* St. Paul (Minnesota): APS Press. 140 p.

Portères, R.
1959. 'Les appellations des céréales en Afrique,' *Journal d'Agriculture Tropicale et de Botanique Appliquée* 5:27-9.

Posnansky, M.
1961. 'Bantu genesis,' *Uganda Journal* 25, 1:86-93.

Prata, Pires A.
1990. *Dicionario Macua-Portugues.* Lisboa: Instituto de Investigacao Cientifica Tropical. 508 p.

Price, N.S.
1995. 'The origin and development of banana and plantain cultivation.' In: Gowen, 1995a, pp. 1-14.

Prins, A.H.J.
1952. *The coastal tribes of the North-eastern Bantu (Pokomo, Nyika, Teita).* London: IAI. (Ethnographic Survey of Africa, East Central Africa, 3.) 138 p.

Proyart, L.B.
1776. *Histoire de Loango, Kakongo et autres royaumes d'Afrique.* Paris: C.P. Berton & N. Crapart. 393 p.

Purseglove, J.W.
1972. *Tropical crops. Monocotyledons.* London: Longman. 607 p.

Ramusio, G.B.
1970. *Navigationi et viaggi. Venice, 1563-1606,* Vol. 3. Amsterdam: Theatrum Orbis Terrarum Ltd.

Raponda-Walker, A.
1960. 'Notes d'histoire du Gabon,' *Mémoires de l'Institut d'Études Centrafricaines* 9:1-154.

Raponda-Walker, A. & R. Sillans.
1962. *Rites et croyances des peuples du Gabon.* Paris: Présence Africaine. 378 p.

Rascher, A.
1967-1968. 'Spruchweisheit der Haya,' *Afrika und Übersee* 50-51.

Rechenbach, C.W.
1967. *Swahili-English dictionary.* The Catholic University of Washington. 641 p.

Rehse, H.
1910. *Kiziba, Land und Leute*. Stuttgart: Verlag Strecker & Schröder. 394 p.

Reynolds, P.K.
1951. 'Earliest evidence of banana culture,' *The Journal of the American Oriental Society* Supplement 12:1-28.

Richardson, I. & W.M. Mann.
1966. 'A vocabulary of Sukuma,' *African Language Studies* 7:1-79.

Rietkerk, D.
1990. Personal communication.

Riley, B.W. & D. Brokensha.
1988. *The Mbeere in Kenya. Botanical identities and uses*. 2 Vols. New York: University Press of America.

Robert, P.
1990. *Rapport de fin de mission, 1988-1990*. Libreville: Centre d'Introduction et d'Adaptation de Matériel Végétal,

Robineau, C.
1973. *Evolution économique et sociale en Afrique Centrale. L'example de Souanké*. Paris: ORSTOM. 215 p.

Robinson, C.D.W.
1984. *Phonologie du Gunu. Parler Yambassa*. Paris: Société d'Etudes Linguistiques et Anthropologiques de France. (SELAF 95.) 92 p.

Robinson, J.C.
1996. *Bananas and plantain*. Wallingford (UK): CAB International. 238 p.

Rodegem, F.M.
1970. *Dictionnaire Rundi-Français*. Tervuren: Musée Royal d'Afrique Centrale. 644 p.

Rood, N.
1958. *Ngombe-Nederlands-Frans woordenboek*. Tervuren: Koninklijk Museum van Belgisch Congo. 414 p.

Roscoe, J.
1911. *The Baganda. An account of their native customs and beliefs*. London: MacMillan and Co. 547 p.

Roscoe, J.
1986 (1923). *The Bakitara of Banyoro*. Farnborough: Gregg Press (Cambridge: Cambridge University Press). 370 p.

Rossel, G.
1987. *Gewasinnovaties in Gabon. Van prehistorie tot koloniale tijd*. (Unpublished paper. Department of Agricultural History, Agricultural University of Wageningen, Netherlands.) 259 p.

Rossel, G.
1989. *Namen voor musa in Nigeria als indicatoren van mogelijke diffusiewegen van de plantain.* (Unpublished paper. Department of African Linguistics, University of Leiden, Netherlands). 148 p.

Rossel, G.
1991. 'The diffusion of plantain (*Musa* spp. AAB) and banana (*Musa* sp. AAA) in Africa. A case for linguists, taxonomists and historians, focused on Nigerian crop names.' In: R. Leakey & L.J. Slikkerveer (eds.), *Origins and development of agriculture in East Africa. The ethnosystems approach to the study of early food production in Kenya*, pp. 120-160. Ames (US): Iowa State University. (Studies in Technology and Technical Change, 19.) 302 p.

Rossel, G.
1992. *Taxonomic-linguistic study of plantain cultivars in Africa. Phase I. Fieldwork East Cameroon.* Montpellier: INIBAP. (Unpublished report.) 28 p.

Rossel, G.
1993. *Ensete. A very old useful plant in sub-Saharan Africa.* (Unpublished manuscript.)

Rossel, G.
1994. *Taxonomic-linguistic study of plantain cultivars in Africa. Phase II. Fieldwork Gabon and Congo.* Montpellier: INIBAP. (Unpublished report.) 76 p.

Rossel, G.
1995. *Taxonomic-linguistic study of plantain cultivars in Africa. Phase III. Fieldwork Eastern Africa.* Montpellier: INIBAP. (Unpublished report.) 53 p.

Rossel, G.
1996a. '*Musa* and *Ensete* in Africa. Taxonomy, nomenclature and uses.' In: Sutton, pp. 130-146. (Also in *Azania* 1994-1995, 24-30:130-146).

Rossel, G.
1996b. 'Enset: één van de oudste nuttige planten van Afrika,' *De Baobab* 12, 1:18-21.

Rossel, G. & A.S.S. Mbwana.
1991. *Identification of banana cultivars in the collection of the Maruku Agricultural Research Institute.* Amsterdam: The Royal Tropical Institute. 82 p.

Rottland, F.
1982. *Die Südnilotischen Sprachen.* Berlin: Dietrich Reimer Verlag. 563 p.

Rouillard, G.
1983. *Le jardin des Pamplemousses. 1729-1979. Histoire et botanique.* Les Pailles (Ile Maurice): Henry & Cie, LTEE. 279 p.

Ruete, T.
1909. 'Fibre plants in West Africa, a possible industry, '*Journal of the African Society* 9: 168-175.

Rung, R.
1911. 'Die Bananenkultur geografisch, wirtschaftlich und kunsthistorisch betrachtet,' *Petermann's Mitteilungen*, Ergänzungsheft 169:1-117.

Rusch, W.
1975. *Klassen und Staat in Buganda vor der Kolonialzeit.* Berlin: Akademie-Verlag. 485 p.

Sacleux, C.
1939-1941, 1959. *Dictionnaire Swahili-Francais et Français-Swahili.* 2 Vols. Paris: Institut d'Ethnologie.

Sastry, P.S.N.
1988. *Agrometeorology of the banana crop.* Geneva: World Meteorological Organisation. 85 p.

Sato, H.
1992. 'Notes on the distribution and settlement pattern of hunter-gatherers in Northwestern Congo,' *African Study Monographs* (Kyoto) 13, 4:203-16.

Sauer, J.D.
1967. *Plants and man on the Seychelles coast.* Madison: University of Wisconsin Press. 132 p.

Schadeberg, T.C.
1994. 'Die extensive Extension im Bantu.' In: T. Geider & R. Kastenholz (eds.), *Sprachen und Sprachzeugnisse in Afrika*, pp. 357-366. Köln: Rüdiger Köppe Verlag. 471 p.

Scherer, J.H.
1959. 'The Ha of Tanganyika, '*Anthropos* 54:841-904.

Schoenbrun, D.L.
1993. 'Cattle herds and banana gardens. The historical geography of the western Great Lakes region, ca. AD 800-1500,' *The African Archaeological Review* 11:39-72.

Schumacher, R.P.
1928. 'Les pygmées Bagesera et Bazigabo, '*Congo* 1, 2: 150-180.

Schumacher, P.
1950. *Die Kivu-Pygmäen (Twiden).* 2 Vols. Bruxelles: Institut Royal Colonial Belge.

Schumacher, P.
1956. *Dictionnaire phonetique Français-Runyarwanda et Runyarwanda-Français.* Kabgayi (Rwanda): Vicariat Apostolique. 364 p.

Scott, D.C.
1892. *A cyclopaedic dictionary of the Manganja language.* Foreign Mission Committee of Church of Edinburgh. 737 p.

Sebasigari, K.
1987. 'Morphological taxonomy of *Musa* in Eastern Africa.' In: Persley & De Langhe, pp. 172-176.

Sebasigari, K. 'Principaux caractères de determination dans la charactérisation morphologique des bananiers triploides *acuminata* d'Afrique de l'Est.' In: Jarret, pp. 124-139.

Semajeje, D.
1986. *Essai de classifcation des bananiers de la collection de l'IRAZ.* (M.Sc. Thesis, Université de Bujumbura.) 102 p.

Serubiri, N.K.
1979. *The importance of banana beer in the Ganda society.* (Thesis, University of Kampala, Makerere.)

Shack, W.A.
1966. *The Gurage. A people of the Ensete culture.* Oxford University Press, London. 222 p.

Shepherd, K.
1957. 'Banana cultivars in East Africa,' *Tropical Agriculture* (Trinidad) 34:277-286.

Shepherd, K.
1997. Personal communication.

Shepherd, K.
(forthcoming) *Genetic variability in wild bananas including Calcutta 4.*

Shigeki K.
1985. *Lexique Tembo,* Vol. 1. Tokyo: ILCAA, University of Tokyo.

Shigeta, M.
1990. 'Folk in-situ conservation of *Ensete.* Towards the interpretation of indigenous agricultural science of the Ari, south-western Ethiopia,' *African Studies Monographs* (Kyoto) 10, 3: 93-107.

Shimizu, K.
1980. *Comparative Jukunoid.* Wien: Universität von Wien. 255 p.

Siegenthaler, I.E.
1990. 'Useful plants of Ethiopia,' *Bulletin of the Jima Experimental Station* 14:1-40.

Siertsema, B.
1981. *Masaba wordlist.* Tervuren: Musée Royale d'Afrique Centrale, 225 p.

Simmonds, N.W. & K. Shepherd.
1952. 'An Asian banana (*Musa acuminata*) in Pemba, Zanzibar Protectorate,' *Nature* 4299:507-508.

Simmonds, N.W. & K. Shepherd.
1955. 'Taxonomy and origins of cultivated bananas,' *The Journal of the Linnean Society of London* 55:302-12.

Simmonds, N.W.
1958. '*Ensete* cultivation in the southern highlands of Ethiopia. A review, '*Tropical Agriculture* (Trinidad) 35, 4:302-7.

Simmonds, N.W.
1962. *The evolution of the edible bananas.* London: Longmans. 170 p.

Simmonds, N.W.
1966. *Bananas.* London: Longman. 512 p.

Simmonds, N.W.
1991. 'The earlier British contribution to tropical agricultural research, '*Tropical Agriculture Newsletter* 11, 2:2-7.

Simmonds, N.W.
1995. 'Bananas.' In: J. Smartt & N.W. Simmonds (eds.), *Evolution of crop plants*, pp. 370-375. Harlow: Longman Scientific and Technical. 531 p.

Simon, P.
1987. *Ny fiteny fahizany. Reconstitition de la langue ancienne et essai de peridisation du Malgache jusqu'au XIVème siecle.* (Thèse de Doctorat, Université de la Sorbonne Nouvelle, Paris III.) 361 p.

Simoons, F.J.
1965. 'Some questions on the economic prehistory of Ethiopia,' *Journal of African History* 6:1-13.

Sims, A.
1886. *A vocabulary of Kibangi as spoken by the Babangi (commonly called Bayansi) on the Upper Congo from Kwa mouth (Kasao) to Liboko (Bangala).* London: East London Institute for Home and Foreign Missions. 111 p.

Singh, H.P.
1990. 'Country paper report on banana and plantain. India.' In: R. V. Valmayor (ed.), *Banana and plantain R & D in Asia and the Pacific*, pp. 161-185. Proceedings of a regional consultation on banana and plantain R & D networking, Manila and Davao, 20-24 November 1989. INIBAP, Montpellier. 189 p.

Singh, H.P.
1997. Personal communication.
Singh, H.P. & K.L. Chadha.
1993. 'Genetic resources of banana.' In: K.L. Chadha & O.P. Pareek (eds.), *Advances in Horticulture. Fruit Crops* Part 1, pp. 123-142. New Delhi: Malhotra Publishing House.
Singh, H.P. & S. Uma.
1996. *Banana cultivation in India.* New Delhi: Ministry of Agriculture. 102 p.
Siroto, L.
1972. '"Gon", a mask used in competition for leadership among the Bakwele.' In: D. Fraser & H.M. Cole (eds.), *African art and leadership*, pp. 59-78. Madison: University of Wisconsin Press. 332 p.
Slikkerveer, L.J.
1990. *Plural medical systems in the Horn of Africa. The legacy of "Sheikh" Hippocrates.* London: Kegan Paul International. (Monographs from the African Studies Centre, Leiden, Netherlands.) 324 p.
Smeds, H.
1955. 'The *Ensete* planting culture of Eastern Sidamo, Ethiopia,' *Acta Geographica* (Helsingfors) 13, 4:1-40.
Snoxall, R.A.
1967. *Luganda-English dictionary.* Oxford: The Clarendon Press. 357 p.
Sonpie Kpone-Tonwe.
1990. *The Ogoni of the eastern Niger Delta mainland; an economic and political history from the earliest times to about 1900.* (Ph.D. Thesis, University of Port Harcourt, Nigeria.)
Southall, A.W.
1956. *Alur society. A study in processes and types of domination.* Cambridge: W. Heffer & Sons Ltd. 97 p.
Spreda, K.W.
1991. *A Meta-English lexicon.* Yaounde: Société Internationale de Linguistique.
Stamberg, Fr.
1949-1950. 'Rätsel der Djaga,' *Zeitschrift für Eingeborenen Sprachen* 35:146-157.
Stanford, R. & L.
1970. *Collected field reports on the phonology and grammar of Chakosi.* Chereponi: Institute of African Studies, University of Ghana,. 70 p.

Stapf, O.
1913. 'A new banana from the Transvaal,' *Kew Bulletin, Miscellaneous Information* 3:102-103.

Stapleton, W.H.
1903. *Comparative handbook of Congo languages.* London: Baptist Missionary Society. 552 p.

Stappers, L.
1967. *Het passief suffix -u- in de Bantoe talen.* Tervuren: Koninklijk Museum voor Midden Afrika. (Africana Linguistica 61:139-45.)

Staschewski, F.
1917. 'Die Banjangi,' *Bässler-Archiv,* Beiheft VIII: 1-66.

Stern, R.
1906. *Eine Kinyamwezi Grammatik, Mitteilungen des Seminars für Orientalische Sprachen* 9:129-258.

Stiehler, W.
1948. 'Studien zur Landwirtschaft- und Siedlungs-geographie Aethiopiens,' *Erdkunde* 2.

Stigand, C.H.
1907. 'Notes on the natives of Nyassaland, N.E. Rhodesia and Portuguese Zambesia, their arts, customs and modes of subsistence,' *Journal of the Royal Anthropological Society* 37:119-132.

Stover, R.H. & N.W. Simmonds.
1987. *Bananas.* Harlow (UK): Longman Scientific & Technical. 468 p.

Straube, H.
1963. *Westkuschitische Völker Süd-Aethiopiens. Ergebnisse der Frobenius-Expeditionen 1950-1952 & 1954-1956.* Stuttgart: W. Kohlhammer Verlag. 411 p.

Streicher, Bishop.
1902. *Education in Uganda.* Report to the British High Commission.

Stuhlmann, F.
1909. 'Bananen.' In: *Beiträge zur Kulturgeschichte von Ostafrika. Deutsch-Ostafrika. Wissenschaftliche Forschungsresultate,* Band X, pp. 37-62. Berlin:. Dietrich Reimer (Ernst Vohsen).

Sukumar Se.
1971. *An etymological dictionary of Bengali: c. 1000-1800 AD.* 2 Vols. Calcutta: Eastern Publishers.

Sutton J.E.G. (ed.).
1996. *The growth of farming communities in Africa from the Equator southwards.* Proceedings of a conference of the British Institute in Eastern Africa and the African Studies Centre of Cambridge University, Cambridge, 4-8 July 1994. Nairobi: BIEA. 338 p. (Also in *Azania* 24-30, 1994-1995. 338 p.)

Swai, R.E.A.
1991. *Banana research programme at Horti-Tengeru.* Paper presented at the Banana Research Coordinating Committee Meeting at Moshi, February 23rd, 1991.

Swartenbroeckx, P.
1948. *Dictionnaire Kiyansi, ou Kiyey. Language des Bayansi ou Bayey du Territoire de Baningville (district du Lac Leopold) du Congo Belge.* 2 Vols. Bruxelles.

Swartenbroeckx, P.
1973. *Dictionnaire Kikongo et Kituba-Français.* Bandundu (Congo-K.): CEEBA. 815 p.

Swennen, R. & D. Vuylsteke.
1987. 'Morphological taxonomy of plantain (*Musa* cultivars AAB) in West Africa.' In: Persley & De Langhe, pp. 165-171.

Swennen, R.
1990. 'Limits of morphotaxonomy: names and synonyms of plantain in Africa and elsewhere.' In: Jarret, pp. 172-210.

Swennen, R.
1991. Personal communication.

Swennen, R. & D. Vuylsteke.
1990. 'Aspects of plantain breeding at IITA.' In: Fullerton & Stover, pp. 252-266.

Swennen, R. & D. Vuylsteke.
1991. 'Bananas in Africa. Diversity, uses and prospects for improvement. 'In: N.Q. Ng, P. Perrinno, F. Attere & H. Zeddan (eds.), *Crop genetic resources of Africa*, Vol. 2, pp. 151-159. Proceedings of an international conference on crops genetic resources of Africa. 17-20 October 1988, Ibadan, Nigeria. IITA/IBPGR/UNEP, Ibadan, Nairobi, Rome. 231 p.

Swennen, R., D. Vuylsteke & R. Ortiz.
1995. 'Phenotypic diversity and patterns of variation in West and Central African plantains. (*Musa* spp., AAB Group Musaceae),' *Economic Botany* 49, 3:320-7.

Tai, E.A.
1977. 'Banana.' In: P. de T. Alvim & T.T. Kozlowski (eds.), *Ecophysiology of tropical crops*, pp. 441-460. New York: Academic Press. 502 p.

Talbot, P.A.
1929. *The peoples of southern Nigeria*. 4 Vols. London: Frank Cass and Cy. Ltd.

Taylor, C. & T. Scruggs.
1985. *Aloka-lexique Nomaante-Français*. Yaounde: Société Internationale de Linguistique.

Terashima, H., S. Kalala & N. Malasi.
1991. 'Ethnobotany of the Lega in the tropical rainforest of eastern Zaire,' *African Studies Monographs* (Kyoto) Supplement 15:1-61.

Tessmann, G.
1913. *Die Pangwe*. 2 Vols. Berlin: Ernst Wasmuth A.G.

Tezenas du Montcel, H.
1979. 'Les plantains du Cameroun. Propositions pour leur classification et dénominations vernaculaires,' *Fruits* 34, 2:83-96.

Tezenas du Montcel, H.
1987. *Plantain bananas*. Paris: Maisonneuve & Larose and London: Macmillan Publishers Ltd. 106 p.

Tezenas du Montcel, H.
1990. '*Musa acuminata* ssp. *banksii*. Status and diversity.' In: Jarret, pp. 211-218.

Tezenas du Montcel, H.
1991. Personal communication.

Tezenas du Montcel, H., F. Careel & F. Bakry.
1996. 'Improve the diploids. The key for banana breeding.' In: Frison et al., pp. 119-128.

Tezenas du Montcel, H., E. De Langhe & R. Swennen.
1983. 'Essai de classification des bananiers plantains (AAB),' *Fruits* 38, 6:461-74.

Tezenas du Montcel, H. & P. Devos
1978. 'Proposal for establishing a plantain determination card,' *Paradisiaca* 3:14-17.

Tharin.
1915. 'L'agriculture indigène dans la Province orientale du Congo Belge,' *Bulletin Agricole du Congo Belge* 6, 3-4:145-213.

Thomas, A.S.
1954. 'The coming of the banana to Uganda,' *Uganda Journal* 19, 1:211

Thuret, M.
1995. *Enquête d'identité. Une étude de cas chez les Mbenzele du Nord-Congo.* (M.A Thesis, Department of Ethnology, University of Paris X, Nanterre.) 151 p.

Tihon, L.
1934. 'A propos de quelques boissons fermentées indigènes,' *Bulletin Agricole du Congo Belge* 25, 1:128-134.

Tisserant, C.
1930. 'Plantes à filasse employées par les Bandas du Haute-Oubangui,' *Revue de Botanique Appliquée et de l'Agriculture Tropicale* 10, 101:10-15.

Tisserant, C.
1931. *Dictionnaire Banda-Français.* Institut d'Ethnologie, Paris. 611 p.

Tisserant, C.
1953. 'L'agriculture dans les savanes de l'Oubangui,' *Bulletin de l'Institut d'Etudes Centrafricaines* 6:209-273.

Tomekpe, F., P. Rowe, H. Tezenas du Montcel & D. Vuylsteke.
1996. 'Plantain and Popoulou/Maia maoli breeding. Current approaches and future opportunities.' In: Frison et al., pp. 164-172.

Tomlinson, P.B.
1957. 'An anatomical approach to the classification of the Musaceae.' *Journal of the Linnean Society* 55:779-809.

Torday, E. & T.A. Joyce.
1922. *Notes ethnographiques sur les populations habitant les bassins du Kasai et du Kwango Oriental.* Annales du Musée Royal d'Afrique Centrale, Tervuren. 359 p.

Toreton, M.A.
1977. *Makaa-manual.* Nguelemendouka (Cameroun): Mission Catholique.

Tothill, J.D.
1940. *Agriculture in Uganda.* London: Oxford University Press, London.

Toussaint, A.
1972. *Histoire des Iles Mascareignes.* Paris: Editions Berger-Levrault. 351 p.

Trehane, P. (ed.).
1995. *International code of nomenclature for cultivated plants.* Wimborne (UK): Quarterjack Publishing. 175 p.

Trezenem, E.
1936. 'Notes ethnographiques sur les tribus Fan du Moyen Ogooué (Gabon),' *Journal de la Société des Africanistes* 6, 1.

Trowell, M. & K.P. Wachsmann.
1953. *Tribal crafts of Uganda.* London: Oxford University Press, London. 422 p.

Tsala, T.
1976. *Dictionnaire Beti-Français*, Vol. 1. Yaounde: Mission Catholique.

Uganda Department of Agriculture.
1912-1958. *Annual Reports.* Entebbe: Government Printer.

Ukoko, J, J. Knappert & M. Van Spaandonck.
1964. *Proeve van Dho-Alur woordenboek.* Rijksuniversiteit Gent. 436 p.

Van Acker, A.
1907. *Dictionnaire Kitabwa-Français et Français-Kitabwa.* Tervuren: Annales du Musée Royal du Congo Belge. 170 p.

Van der Burgt, J.M.M.
1904. *Un grand peuple de l'Afrique Equatoriale. Elements d'une monographie sur l'Urundi et Warundl.* Bois-le-Duc: Société l'Illustration Catholique. 197 p.

Van der Burgt, J.M.M.
1902. 'Elements de grammaire KiRundi,' *Mitteilungen des Seminars für Orientalische Sprachen* 5, 3:1-108.

Van der Veen, L.
1988. 'Caractéristiques principales du groupe B.30 (Gabon),' *Pholia* 3:271-290.

Van Donselaar, J.
1976. *Woordenboek van het Surinaams-Nederlands.* Universiteit van Utrecht (Netherlands). 232 p.

Van Everbroeck, R.
1956. *Lingala woordenboek. Lingala-Nederlands en Nederlands-Lingala.* Brussel: Scheut Edities. 444 p.

Van Geluwe, H.
1956. *Les Bira et les peuplades limitrophes.* Tervuren: Musée Royal du Congo Belge, Tervuren. 165 p.

Van Geluwe, H.
1960. *Central Africa.(Ethnographic survey of Africa V.) Les Bali et les peuplades apparantées.* London: IAI. 130 p.

Van Moesieke, D.
1929. 'Monographie agricole du district de la Lulonga (Equateur),' *Bulletin Agricole du Congo Belge* 20, 1-4: 397-554.

Vansina, J.
1990. *Paths in the rainforests. Towards a history of political tradition in Equatorial Africa.* London: James Currey. 428 p.

Vansina, J.
1997. 'Histoire du manioc en Afrique Centrale avant 1850,' *Paideuma* 43:255-279.

Van Spaandonck, M.
1971. 'On the so-called reversing tonal system of CiLuba. A case for restructuring,' *Studies in African Linguistics* 2, 2: 131-44.

Vavilov, N.I.
1926. *Studies on the origin of cultivated plants*. Leningrad: Institute of Applied Botany and Plant Breeding. 248 p.

Velten, C.
1904. 'Hundert Suaheli-Rätsel,' *Mitteilungen des Seminars für Orientalische Sprachen* 7, 3:1-11.

Velten, C.
1933. *Suaheli Wörterbuch*, Vol. 2. Kommissionsverlag von Magliaso: Otto Har.

Vennetier, P.
1968. *Pointe Noire et la façade maritime du Congo-Brazzaville*. Paris: ORSTOM. (Mémoire 26.) 459 p.

Verheijen, J.A.J.
1984. *Plant names in Austronesian linguistics*. Universitas Katolik Indonesia, Atma Jaya (Jakarta). 97 p.

Viana, M.J.
1961. *Dicinario de Portugues-Chiyao et Chiyao-Portugues*. Lourenço Marques: Instituto de Investigacao Cientifico. 172 p.

Voltz, M.
1990. 'Carte linguistique du Gabon,' *Revue Gabonaise des Sciences de l'Homme* 2:53.

Vuylsteke, D.
1989. *Shoot-tip culture for the propagation, conservation and exchange of Musa germplasm*. Rome: International Board for Plant genetic Resources. 55 p.

Vuylsteke, D. & R. Swennen.
1990. 'Somaclonal variation in African plantains,' *IITA Research* 1, 1:4-10.

Vuylsteke, D., R. Swennen & E. De Langhe.
1990. 'Tissue culture technology for the improvement of African plantains.' In: Fullerton & Stover, pp. 316-337.

Vuylsteke, D., R. Swennen & E. De Langhe.
1991. 'Somaclonal variation in plantains (*Musa* spp., AAB group) derived from shoot-tip culture,' *Fruits* 46, 4:429-38.

Vuylsteke, D., R. Swennen, G.F. Wilson & E. De Langhe.
1988. 'Phenotypic variation among in-vitro propagated plantain (*Musa* sp. cultivar `AAB)',' *Scientia Horticulturae* 36:79-88.

Wainwright, G.A.
1952. 'The coming of the banana to Uganda,' *Uganda Journal* 16, 1:145-7.

Walker, A.
1930. 'Le bananier (variétés, usages),' *Bulletin de la Société des Recherches Congolaises* 12:131-143.

Walker, A.
1931. 'Le bananier plantain au Gabon,' *Revue de Botanique Appliquée* 11:18-27

Walker, A.
1935. 'A propos de plantes utilisees par les Noirs du Gabon.' *Revue de Botanique Appliquée* 15, 162:94-98.

Walker, A.
1939. 'Les plantes à sel au Gabon,' *Revue de Botanique Appliquée* 19, 210:121-123.

Walker, A.
1940. 'Enquête sur l'agriculture noire au Gabon et sur certaines techniques utilisant des produits vegetaux,' *Revue de Botanique Appliquée et d'Agriculture Tropicale* 20:722-745.

Walker, A.
1952-1953. 'Usages pharmaceutiques des plantes spontanées du Gabon,' *Bulletin de l'Institut d'Etudes Centrafricaines* 4-6: 275-330.

Walker, A.
1953. 'Coutumes gabonaises,' *Liaison* 31:30-32.

Walker, A.
1959. 'La parenté entre les clans familiaux de tribus différentes,' *Liaison* 69:45-48.

Walker, A.& R. Sillans.
1961. *Les plantes utiles du Gabon.* Paris: Editions Lechevalier. 614 p.

Warburg, O.
1894. 'Die Kulturpflanzen Usambaras,' *Mitteilungen von Forschungsreisenden und Gelehrten aus den Deutschen Schutzgebieten* 7:131-199.

Warburg, O.
1895. 'Die Bananen Ostafrikas und ihre Verwertung.' In: A. Engler, *Pflanzenwelt Ost-Afrikas und der Nachbargebiete*. 433 p.

Warburg, O.
1904. 'Beschreibung der ostafrikanischen Bastbanane,' *Der Tropenpflanzer* 8, 5:116-119.

Watson, A.M.
1983. *Agricultural innovation in the early Islamic world. The diffusion of crops and farming techniques, 700-1100.* Cambridge: Cambridge University Press. 260 p.

Watt, G.
1891. *Dictionary of economic products of India,* Vol. 5. London: The Indian Office. 676 p.

Werner, A.
1901. 'A vocabulary of the Lomwe dialect of Makua,' *Journal of the African Society* 1:236-251.

Werner, A.
1910-1911. 'The native races of German East Africa,' *Journal of the African Society* 10:53-63.

Westphal, E.
1975. *Agricultural systems in Ethiopia.* Wageningen: Centre for Agricultural Publishing and Documentation. 278 p.

Whitehead, J.
1964 (1899). *Grammar and dictionary of the Bobangi languages as spoken over a part of the Upper Congo, West Central Africa.* London: Gregg, Westmead (Kegan Paul, Trench, Trübner & Co.). 499 p.

Whiteley, W.H.
1958. *The dialects and verse of Pemba.* Kampala: East African Swahili Committee, Makerere University College. (Studies in Swahili dialect, 4.) 61 p.

Whiteley, W.H.
1960. 'An introduction to rural dialects of Zanzibar,' *Journal of the East African Swahili Committee* 31, New Series 1, 2: 200-218.

Widemann, A.
1899. 'Die Kilimandscharo-Bevölkerung,' *Petermann's Mitteilungen,* Ergänzungsheft 129:1-104.

Wiet, G. (ed.)
1955. *Les atours précieux.* Le Caire: Société de Géographie d'Egypte. 319 p.

Williams, R.D.
1949. *The useful and ornamental plants in Zanzibar and Pemba.* Zanzibar: St. Ann's Press. 497 p.

Williamson, J.
1955. *Useful plants of Nyasaland.* Zomba (Malawi): The Government Printer. 168 p.

Williamson, K.
1970. 'Some food plant names in the Niger delta,' *International Journal of African Linguistics* 36: 156-167.

Williamson. K.
1991. Personal communication.

Wilson, G.F.
1987. 'Status of bananas and plantains in West Africa.' In: Persley & De Langhe, pp. 29-36.

Wilson, M.
1951. *Good company. A study of Nyakyusa age-villages.* London. 278 p.

Wilson, M.
1957. *Rituals of kinship among the Nyakyusa.* London: Oxford University Press. 268 p.

Winter, E.H.
1956. *Bwamba economy. The development of a primitive subsistence economy in Uganda.* Kampala: East African Institute of Social Research. 44 p.

Wis, M.
1958. 'Fructus in quo Adam peccavit. Über frühe Bezeichnungen der Banane in Europa und insbesondere in Deutschland,' *Neuphilologische Mitteilungen* 59:1-62.

Wrigley, C.C.
1989. 'Bananas in Buganda,' *Azania* 24:64-70.

Wrigley, C.C.
1997. 'The Periplus and related matters,' *Azania* 32: 118-123.

Wynant, D.
1926. 'Het Doko volk in hun handel en wandel,' *Congo* 1, 4.

Yanes, S. & M. Eyinga Essam.
1987. *Dictionnaire Boulou-Francais et Français-Boulou avec grammaire.* Sangmelima (Cameroon): Editions P. Monti.

Yoshida, S.
1981. *Folk classification of bananas among the Galela people in North Halmahera.* Paper presented at the Seminar Halmahera dan Raja Ampat, Jakarta, 15 June 1981. Jakarta: Lembaga Ekonomi dan Kemasyarakatan Nasional, Lipi. 17 p.

Zoebl, D.
1987. 'Bananas' potential in Lower Tana,' *Kenya Farmer,* February: 18-19.

Zuure, B.
1929. *Croyances et pratiques réligieuses des Barundi.* Bruxelles: Editions l'Essorial. 208 p.

CURRICULUM VITAE

Gerda Rossel werd geboren op 25 November 1951 in De Wildenborch (gemeente Vorden, Gelderland). Na een drie-jarige H.B.S. opleiding te Lochem doorliep zij van 1967 tot 1971 de Rijks Hogere School voor Tropische Landbouw te Deventer. Ze trouwde in 1972 en werd van 1973 tot 1977 met haar echtgenoot uitgezonden naar Kameroen door de Stichting Nederlandse Vrijwilligers. In 1977 volgde zij de 7e Internationale Groenteteelt Cursus aan het Internationaal Agrarisch Centrum te Wageningen en was van 1978 tot 1982 werkzaam in Gabon als assistent-deskundige in dienst van de FAO. In 1983 ging zij Afrikaanse Taalkunde studeren aan de Rijksuniversiteit te Leiden, met bijvakken Plantentaxonomie en Agrarische Geschiedenis aan de Landbouwuniversiteit te Wageningen, en studeerde cum laude af in 1989. Hierna voerde ze consultancies uit in Afrika, in opdracht van het Koninklijk Instituut voor de Tropen (KIT, Amsterdam) en van het International Network for the Improvement of Banana and Plantain (INIBAP, Montpellier) en werkte van 1995 tot 1998 aan haar proefschrift.

APPENDICES

Musa cultivars in eastern and West-Central Africa.
Fieldwork data (Rossel, 1992, 1994, 1995; see also chapters III-IV and tables 3.4, 3.7 and 5.1).

Order of presentation:
no.) Cultivar
cultivar description
.....Country:
Language (Group) **Vernacular name** @ `gloss'
@ comments.

APPENDIX A
PLANTAIN CULTIVARS IN EASTERN AFRICA

a) French Giant Green Pendulous
.....West Uganda:
Konzo (J41) **kikonze**
.....South Uganda:
Ganda-S,K (J15) **nakatansese** @ `from Ssese'
@ s.t. Medium, or Green-Red.
.....East Uganda:
Gisu (J31a) **gonja** #
all cultivars are called by the Ganda name **gonja**, suggesting a recent introduction.

b) French Giant Green Pendulous, conical bunch
The lower hands are smaller than upper hands.
.....Central-East Tanzania:
Kaguru (G12)} **mzuzu kilundila** @ `mzuzu from Kilundila'
Luguru G35)}
@- Baker & Simmonds (1952) described a similar cultivar from Bukoba (**nkonjwa**; Haya, J22) and from Zanzibar (**mporomoka**; Unguja, G42d).
- see also Gillet & Paque (1910) (**kimvungu**; Ntandu, H16g) and Lekens (1958) (**zeke**; Ngbandi, Ub2b), resp. in west and north Congo(-K.).
- Tezenas du Montcel et al. (1983) reported a similar cultivar (**lysoka**), from West Cameroon (the cultivar with this name in the IITA collection in Nigeria, however, is a Horn plantain).

.....North-East Malawi:

Tonga	(N15)	**nyamkwawa #**	`fallen'

the name is a loan from Nyanja (N31) and refers to the heavy bunch.

c) French Medium Green Pendulous (or Subhorizontal)

.....East Uganda:

Soga	(J16)	**wete**	
Gisu	(J31a)	**gonja #**	

.....South Uganda:

Ganda-S	(J15)	**majaga #**	
Ganda-M		**muganda @**	

sometimes Giant.

@ - said to be the original cultivar, and used in rituals.

- sometimes a mutation of False Horn.

.....West Uganda:

Kiga	(J11)	**gonja**	
Tooro		**gonja (ekitooro)**	`Tooro gonja'
Konzo	(J41)	**ekinzabo**	
Isi-Amba	(D32)	**kikonjakonje, kikonjekonje**	

.....North-West Tanzania:

Haya	(J22)	**n.n.**	

.....North-East Tanzania:

Chaga	(E62)	**mbo**	

.....Central-East Tanzania:

Kaguru	(G12)}	**mzuzu**	
Luguru	(G35)}		

.....North Malawi:

Konde	(M31)	**ndoki itolo**	`ordinary ndoki'

.....North-Central Mozambique:

Lomwe	(P32)	**mwelu? #**	

.....North-West Madagascar:

north. Sakalava		**katakata lahy $ @**	`male katakata'
		menaluki lahy @	`male menaluki'

no bunches seen (dry season).

$ cf. Cuabo (P34) **ikada** `musa hand' and **ikarada** `musa bunch'. Mozambicans (called "Makoa" < "Makua" (P31)) are known to have come to Madagascar during the time of the slave trade.

@ a generic term for plantains?

d) French Medium Green-Red Pendulous (or Subhorizontal)

.....South-East Kenya:

Taveta	(G21)	**imangi @**	

Digo (E73) **chilume, kilume** `male'

@ on Zanzibar **mzo manga** `Arabic **mzo**' is the French Medium Red cultivar (a loan, the Unguja form would have been **mzuzu manga**). The adjective manga `Arabic' is also used in East African cassava and maize names (both introduced from South America). In the Zambezi area **manga** means `Indian' or `European', from a more general meaning of `light-skinned ("red") stranger'. The Zanzibari name **mzo manga** is probably motivated by the Red colour of the cultivar in question (comparable to the AAA 'Red' cultivar, called **paji manga** in the Comoros).

.....West Uganda:

Isi-Amba (D32) **kinjabo, kajabo**

.....South-West Tanzania:

Nyakyusa (M31) **itoke, sogoso, (e)sege/segi**

.....North Malawi:

Tonga (N15) **zeru** @ `cleverness'

.....South Malawi:

Nyanja (N31) **zeru**

.....Comoros:

Ngazija (G44a) **dzu**

@ - literally 'brightness' (cf. English "enlightened" and Njebi (B52) **buyedi** `wisdom').

- cognate to Lomwe **mwelu** (see above) and Makua (P31) **mweli** (an unidentified cultivar).
- this group of names can be connected to Common Bantu ***-yed(u)** or ***-jedu** `white, lightcoloured'.
- see also similar names for the French Giant/Medium Green cultivars in West-Central Africa.

e) French Medium Green Pendulous (or Subh.), white flesh

.....North-West Madagascar:

north. Sakalava **katakatalahy futsy** # `white katakatalahy'

flesh white after cooking.

f) French Medium Green Pendulous, young fruits reddish

.....South-West Tanzania:

Nyakyusa (M31) **ruifi**

g) French Medium Green Pendulous, young fruits brown(ish)

.....North Malawi:

Konde (M31) **ndoki iwole** @ `rotten plantain'

@ young fruits brownish (Chizala, 1994); no bunches seen; same as Nyakyusa **ruifi**?

.....South Malawi:

Nyanja (N31) **khazanga wa mng'ono** `small khazanga'

h) French Medium Green Pendulous, neutral flowers partly deciduous

.....North-West Tanzania:

Haya (J22) **kagoye #**

also the name of trees that produce fibres, used for making strings (< CS 860 ***-goye** and CS 861 ***-goyi** 'string').

i) French Medium Green Pendulous, spiraloid

.....South Uganda:

Ganda-S (J15) **kamtwara, kamtwalo** 'bundle, load'

Ganda-M **kiriga** @

.....West Uganda:

Isi-Amba (D32) **kinakabira, kinantura**

@ - < ***-dinga** 'to turn'; **kiriga** is probably a loan because the Ganda form would have been **-zinga** (cf. Nkole-Kiga (J11) **-ziga** 'to surround').

- also called **mmamba** according to some sources (Merkies 1980 and Snoxall 1967).
- this cultivar is taboo for members of the Mamba clan. The name **mamba** is not only used for the Horn plantain (see below), but in some languages (Ganda, Haya) also for a highland banana with spiraloid bunches.

j) French Medium Green Pendulous, blunt

.....West Uganda:

Konzo (J41) **mutobisi**

Isi-Amba (D32) **kinamutobisa, namutobiso**

.....South Uganda:

Ganda-S (J15) **nakonde** 'like a fist'

Ganda-M **nakakongo**? @

@ cf. Rwisi (D32) **kakongo** 'musa sucker'.

.....North-West Tanzania:

Haya (J22) **n.n.**

.....South-West Tanzania:

Nyakyusa (M31) **mbundya**

k) French Medium Red Pendulous

.....South Uganda:

Ganda-S (J15) **n.n.**

.....Central-East Tanzania:

Kaguru (G12)} **mzuzu**

Luguru (G35)}

.....South-West Tanzania:

Nyakyusa (M31) **fuwira**

.....North Malawi:
Konde (M31) **fuwira #**
cf. Nyanja (N31a) **fi(l)ra** 'red, yellow'.

l) French Medium Violet-Black Pendulous (or Subhorizontal)
.....West Uganda:
Isi-Amba (D32) **kambiya**
.....North-West Madagascar:
north. Sakalava **katakatalahy heriki** `rusty katakatalahy'

m) French Semi-Dwarf Green(-Red) Subhorizontal
.....Central-East Tanzania:
Kaguru (G12)} **mzuzu**
Luguru (G35)}

n) False Horn Medium Green Subhorizontal
.....East Uganda:
Gisu (J31a) **gonja**
.....South Uganda:
Ganda-S (J15) **manjaya**
Ganda-M **manjaya**
Ganda-K **kakira**
.....West Uganda:
Konzo (J41) **n.n.**
Isi-Amba (D32) **ki(m)beda,**
kimaja(m)baga
.....North-West Tanzania:
Haya (J22) **n.n.**

o) False Horn Medium Black Subhorizontal
.....South Uganda:
Ganda-M (J15) **n.n.**
.....West Uganda:
Isi-Amba (D32) **n.n.**

p) False Horn Small? Green Subhorizontal, 3-5 hands & 5-6 fingers/hand
.....West Uganda:
Isi-Amba (D32) **kawapuru @**
@ recently introduced from Congo(-K.), according to the owner.

.....North-West Tanzania:
Haya (J22) **n.n.**

q) Horn Medium Green Subhorizontal, 0-5 hands
.....Kenya:
Taveta (G21) **mwamkono**
Digo (E73) **mkono wa tembo** `trunk of elephant'
.....East Uganda:
Gisu (J31a) **gonja**
.....South Uganda:
Ganda-K (J15) **manjaya**
Ganda-S **mamba** `lungfish'
Ganda-M **mamba**
Ganda-M (J15) **solabesazala** @ `I do not rear'
@ when the floral axis bears no fruits (0 hands).
.....West Uganda:
Kiga (J11) **gonja chayaya/kyayaya**
Tooro **gonja chayaya/kyayaya** $
Konzo (J41) **ecingalu/ekingalu**
$- said to have been introduced from Ankole.
- distribution: Kiga/Nkole/Tooro/Nyoro (J11) and Ziba/Haya (J22).
.....North-West Tanzania:
Haya (J22) **n.n.**
.....South-West Tanzania:
Nyakyusa (M31) **ngego** `(elephant) teeth'
.....North Malawi:
Konde (M31) **ndoki kanyenga** `ndoki which comes out without male bud'
.....North-West Madagascar:
north. Sakalava **tsimananyamboko** @ `without cow's heart'
@ i.e. without male bud.
.....East Madagascar:
Betsimisaraka **akondro likalika, tsiamiaroa** `hands two'
.....Comoros:
Ngazija (G44a) **fu(n)ti** #
< Malagasy **funtsy** `musa' (<< `*Ravenala madagascariensis*').

r) Horn Medium Green Subhorizontal, appendices
Has a spritty appendix in every hand.
.....West Uganda:
Isi-Amba (D32) **(e)kingalu, kingaruwa** `without flowers'?
.....Central-East Tanzania:
Kaguru (G12)} **mkono wa tembo**
Luguru (G35)}

s) Horn Medium Red Subhorizontal
.....South Uganda:
Ganda-M (J15) **mamba**

t) Horn Medium Green Subhorizontal, unstable
Switches between the French, False Horn and Horn bunch types, has 1-9 hands per bunch and 1-3 fingers per hand (if hands are numerous, the first one may contain more, e.g. 10, fingers) with pendulous, often light-coloured fruits, swollen pedicel bases, last fingers often undeveloped and number of neutral flowers varying from few to many. Sometimes two bunch types in one stool.
.....South-West Tanzania:
Nyakyusa (M31) **ngego #** `teeth'
see Ngbandi (Ub2b) **mbufi benza** (`white **benza**'), a cultivar with big whitish fruits and four fingers per hand (Lekens, 1958).
.....Central-East Tanzania:
Kaguru (G12)} **mzuzu**
Luguru (G35)}
.....North Malawi:
Konde (M31) **ng(w)ewo**
.....North-East Malawi:
Tonga (N15) **ng(w)ewo #**
or: **ambele ga bazungu** `european's breasts' (Williamson, 1955).
.....South Malawi:
Nyanja (N31) **khazanga wa mkulu** `big khazanga'
.....North-West Madagascar:
north. Sakalava **katakatalahy vangimbwe $** `plantain-caiman tooth'
$ no bunches seen; according to the owner this cultivar has a long bunch, widely spaced hands with 3 very long fingers, and a male bud.

APPENDIX B
PLANTAIN CULTIVARS IN WEST-CENTRAL AFRICA

French plantains (generic)

.....East Cameroon:

Makaa	(A83)	**ntamenjie~** @	`like teeth'?
Koozime	(A84)	**ekpal**	

@ see the **esong** names in A70 languages (below); these names are probably motivated by the relatively small fruits of the French plantains, which resemble a denture (e.g. of a leopard).

.....North Congo:

Bekwil	(A85b)	**zigdieb**	

.....Gabon:

Benga	(A34)	**dina** #	
Bekwil	(A85b)	**elanga**	
Fang 3	(A75)	**njere** $	
Fang 1,2,4,5		**esong** @	`teeth'
Galoa	(B11c)	**ina**	
Nkomi	(B11e)	**ina**	
Mahongwe	(B25)	**edipwa**	
Shamamye 1,2		**edipwa**	
Puvi 3	(B30)	**ebee** ^	
Eviya		**ina**	
Tsogo 1	(B31)	**ebee**	
Vungu 1	(B40)	**nzoangu**? &	
Sira 1	(B41)	**dina**	
Sira 2		**nzoangu**	
Sangu	(B42)	**dibiri**? ^	
Punu 1,4	(B43)	**biri**	
Punu 3,4		**dina, nzoangu**	
Punu 4		**(dighondi) dibale** %	`male plantain'
Lumbu 1,2	(B44)	**(itebi) iba(ghe)le, ibala**	`male musa'
Njebi 5	(B52)	**bidi**	
Vili	(H12a)	**bakala? , biri**?	

.....South-West Congo:

Mbama	(B62)	**bili**?
Yombe	(H12b)	**dibidi**

see Kongo (H16) **zina** (an unidentified cultivar. The original form was probably ***Ø-dina** (because ***d** > **Ø** in Myene, B11, whereas in Kongo ***d** > **z** /--*i*) and not ***di-na** (because this would have resulted in Myene ***in-na** and Kongo ***di-na**). Makaa **ntamenjie~** contains the same element (**-jie~** < **-jina** << ***-dina**?) (cf. **-ta** `to resemble' and **meje** `teeth').

$ - < *-**jedi** 'white'; this name (see French Giant Green, below) is quite localized; it also occurs in Mahongwe and Kota (**injedi**) and Fang (**njere**) in the same area and, surprisingly, also in Njebi 5 (**nyedi**).

- cf. similar names in Malawi and Mozambique.

@ cf. Ewondo **mesong me ze** 'small, undeveloped plantain fruits' (lit. 'teeth of leopard'). Fang **mesonge me nze** is the name of a different cultivar (False Horn Medium Green, yellow & pendulous).

^ see the French Small Green cultivar.

&- Eviya **nzongo** (< Orungu/Nkomi (B11b,e) **azongo** 'pygmy', i.e. 'light-coloured person'?) is an unidentified cultivar (with a light-coloured or Green pseudostem?).

- this is a generic name for small-fruited (i.e. French) plantains that can be put in the pot entire, without having to be cut in halves or pieces first.

% the previous argument also holds for the names **bakala** (Vili) and **dighondi dibale** 'male plantain' (Punu-4, Lumbu).

1) French Giant Green Pendulous

.....Southern Nigeria:			
Ejagham	(Ekd)	**ebara egome**	'white plantain'
Efik	(LCr)	**enen ukom**	'elephant plantain'
Ibibio		**o(do)roso,**	
		adusuuk,	(-**suuk** 'to draw down')
		oyoho/oyoko akpan	'fill basket'
Ibuno		**oroso**	'to draw down'
Oron		**oni akam**	'elephant plantain'
Eket		**eni mnayong**	
Yoruba	(Dfd)	**olomo yoyo**	'has children plenty'
.....West Cameroon:			
Kwiri	(A22)	**kama liko**	
Koose	(A15b)	**kebong**	
Kenyang		**brocaca**	'to break (harvest) cocoa'
.....South Cameroon:			
Mangisa	(A71)	**isong**	
Ewondo	(A72)	**esong**	'teeth'
Bane	(A74b)	**esong**	
.....East Cameroon:			
Makaa	(A83)	**ntamenjie~**	
Bikele		**ntamnjie**	
Bajue	(A84)	**ntaminjia**	
Koozime		**ngoba,**	
		ekpal	
Konabembe	(A85a)	**zok #**	'elephant'

Bekwil	(A85b)	**zok**	
Mezime	(A86a)	**ekpal**	
Mpompo	(A86b)	**zok**	
Mbimu	(A86c)	**tsyoge**	
Bomwali	(A87)	**njoku**	
Bakum	(A91)	**zok**	
Kako	(A93)	**ndoko, ndogo #**	'big'
Bangandu	(Ub1)	**njoku**	'elephant'
Yangiri		**ndoko**	
Baka	(Ub2c)	**njoku,**	
		ekpale	

because of the large size of the plant and the bunch.

.....North Congo:

Njem	(A84)	**nzo'**	'elephant'
Bekwil	(A85b)	**ngobo, @**	
Bomwali	(A87)	**mbonji %**	
Ngom	(B22b)	**ngombe @**	
Kola	(B22b)	**mobela**	
Kota	(B25)	**zitambo?**	
Bongili	(C15)	**tobo/bo-tobo $**	
Luma		**botobo**	
Mikaya		**mobo,**	
		tobo,	
		mbonji	
Benjele		**mbonji**	
Baka	(Ub2c)	**ngobo**	
Ngombe	(B22b)	**mbonji**	
Yaswa	(Ub)	**mbonji**	
Bangandu	(Ub1)	**mbay**	

@ - In Kota this name is used for the French Small Green-Red cultivar.

- Ngombe (C41) and Bua (C44) in N. Congo(-K.) have resp. **mongobe** and **ngova** (unidentified cultivars).
- see Koozime **ngoba** (in Konabembe/Bekwil ***mb** > **b**).

% < **mbongi** (see French Medium Green).

$ see Kongo (H16) **-tuba** (French Giant Red) and Mongo (C61) **botomba**, Tetela (C71) **lotomba**; Gbaya (Ub1) **tobo**, and Kombe (A33b) **motobo** (unidentified cultivars).

.....Gabon:

Benga	(A34)	**dina**	
Fang 1b	(A75)	**mfang**	'large charge of plantains'
Fang 1a,4,5,1		**esong**	
Fang 3		**njere**	

Makina		**giri**	
Bekwil	(A85b)	**elanga** &	
Galoa	(B11c)	**(nyogwe) ina**	`indigenous ina'
Nkomi	(B11e)	**nyogho**	
Kele 1	(B22a)	**utumba, otombe**	
Kele		**asanje(lako)?**	
Kota 1	(B25)	**(i)njedi**	
Mahongwe		**injedi**	
Puvi 1-3	(B30)	**tsambadi** ^	
Puvi 3		**motebo**	
Tsogo	(B31)	**(le)kokwe**	
Pinji	(B33)	**motobu**	
Vungu 1	(B40)	**tseghi**	`musa bunch'
Sira 1 (B41)		**koku**	
Sira 2		**motubu**	
Sangu 1	(B42)	**mutubu**	
Sangu 4		**tseghe**	
Punu 1,3,4	(B43)	**tsyei**	
Lumbu 1,2	(B44)	**iba(ghe)le, bala**	
Lumbu 2		**tsei**	
Duma	(B51)	**tsyaka?, sasa?**	
Njebi 1	(B52)	**tsasafuku** &	`white tsasa'
Njebi 3,4		**motuba, motubu**	
Njebi 3		**itseghe**	
Njebi 5		**nyedi**	
Mbama	(B62)	**odigha**	
Vili	(H12a)	**bakala**	

& see French Giant Red.

^ see French Medium Green.

.....South-West Congo:

Mbama	(B62)	**olyeme**	`finger'
Laali	(B73b)	**mukama**	
Babongo-Laali		**mogama**	
Yaa	(B73c)	**tsie,**	
		mutuba?,	
		mukama	
Babongo-Yaa		**mokama,**	
		tubutubu?	
Bembe	(H11a)	**ndongolo** @	
Yombe	(H12b)	**nkama** #	`hundred'

@ - < CS 659 ***-dongid-** `to pack carefully' (cf. CS 657/658 ***-dong-** `to arrange, heap up').

- the French Giant Green cultivar is called **ndongela** in Ntandu (H16g), **ndongila** in Yombe (H12b) and **ndongalala** in Kituba (H16).

See Ntandu (H16g) **munkama**.

(French Giant/Medium Green Pendulous, repetitive bunch)

The bunch is followed, on the same axis, by a smaller second one, with smaller fruits. This condition probably occurs only occasionally among these (and other?) cultivars.

.....East Cameroon:

Koozime (A84) **karkar**? @

@ cf. Fang -kara 'to stick, adhere'.

.....North Congo:

Bekwil (A85b) **nadedeng** 'echo'

.....Gabon:

Fang 1 (A75) **mfang** #
Puvi 3 (B30) **dzendzele**?
Sangu 1 (B42) **kibu**?, **sasi**?
Sangu 3 **sesi**?
Mbama (B62) **njenie**? #

this must be Walker's (1931) cultivar no. XX (*Mpongwe* **esage djola**, *Fang* **saga** or ***misag misag***, Sira **tsesilaga**, Kele **manama ng'ang'e**, Tsogo **ndjendjee** and Ivea **twangani**).

.....South-West Congo:

Bembe (H11a) **pirebakulu**?

2) French Giant Lightgreen Pendulous

.....Gabon:

Eviya (B30) **mpembe** 'kaolin'
Sira 1 (B41) **pembi**
Punu 4 (B43) **pembi**

3) French Giant Dark-Green Pendulous

Giant pseudostem but Medium bunch.

.....Gabon:

Kele 3 (B22a) **lebilu**? 'black'
Puvi 3 (B30) **mumbi**?
Eviya **mbilu**
Tsogo 2 (B31) **mbilu**
Vungu 1 (B40) **mbilu**
Sira 1 (B41) **mbilu**
Punu 1,3 (B43) **mbilu** @
Duma (B51) **mbidu**?, **tibidu**

Njebi 5 (B52) **mumbi**

@ Yombe (H12b) has **biku**.

4) French Giant Green-Red Pendulous

.....Gabon:

Bekwil	(A85b)	**bee**	
Ngom	(B22b)	**tomba**	
Kola		**tombo, tumbwe**	

5) French Giant Red Pendulous

.....Southern Nigeria:

Ibibio	(LCr)	**ndandan ntanga**?	

.....West Cameroon:

Kwiri	(A22)	**muena liko**	
Koose	(A15b)	**muende**	
Kenyang		**ahung nyenyong,**	
		manou ekwa,	
		kiyam kerebiam	

.....North Congo:

Bekwil	(A85b)	**min**	

.....Gabon:

Fang 3	(A75)	**nko(n)ghe dange**	`nko(n)ghe-red'
Kota 1	(B25)	**eloba, indoba**	`kind of (sheat?)-fish' #
Puvi 3	(B30)	**tsatselanga**	`red French Giant Green'
Eviya		**motebo**?	
Sira 1	(B41)	**tsesilagha**	
Sangu 1	(B42)	**tsase,**	
		mutubu mubenge	`red mutubu'
Punu 3	(B43)	**tsaselanga**	
Njebi}	(B52)	**tsasa**? @	
1,3,4}			
Mbama	(B62)	**odigha**	

Clarias camerunensis (Clariidae)?

@ - See also French Giant Green and French Medium Green-Red.

- Ndumu (B63) **sasaraka** or **sasaraha** is a French Giant and Kongo (H16) **sasa** an unidentified cultivar.

.....South-West Congo:

Ndasa	(B26)	**syubu**	`red antelope sp.'
Mbama	(B62)	**sasalaha**	
Laali	(B73b)	**motsumu**?	
Yaa	(B73c)	**munguli**?	`red camwood powder'

Bembe	(H11a)	**mutsumu**
Yari	(H11)	**mutsumu**
Yombe	(H12b)	**nloolo, loola ***

* see French Medium Red.

6) French Giant Black Pendulous

.....North Congo:

Bekwil	(A85b)	**nagozo**	`kind of (sheat-)fish'
Baka	(Ub2c)	**nagozo**	

.....Gabon:

Fang 1,3	(A75)	**zye~, nzyue**	`civet'
Kele 1	(B22a)	**nzibye**	`black antelope sp.'
Kele 2		**zyiive**	
Kota	(B25)	**ngongo**	
Puvi 3	(B30)	**mungele** @	
Sangu 1	(B42)	**mungiele,**	
		mutubu mupinde	`black mutubu'
Punu 1,4	(B43)	**mungeli**	
Punu 3		**dungeli**	
Njebi 3	(B52)	**mwamba**	

@ see also French Medium Black and False Horn Medium Black.

.....South-West Congo:

Mbama	(B62)	**ngongo** #	`lion'
Laali	(B73b)	**mungele**	
Yaa	(B73c)	**mungele**?	

also reported from Ndumu (B63)

7) French Semi-Dwarf? (< Giant) Green Pendulous

Bunch larger than of French Giant Green, but stem shorter and stout.

.....South-West Congo:

Mbama	(B62)	**olayi**	`sheat-fish'
Laali	(B73b)	**yesoa**?	`fish-trap'

8) French Medium Green Pendulous

One plant was found (in Mayumba, Gabon) with a French Medium Green and a False Horn Medium Green offshoot.

.....Southern Nigeria:

Bekwarra	(Bnd)	**ewara**	
Umon	(Ucr)	**abobot**	
Ibibio	(LCr)	**afia ukom**	`white plantain'
Efik		**ntanga**	

Eleme	(Og)	**obinõ lewai %**	`banana of Ewai'

% **Ewai** is a personal (women's) name.

.....West Cameroon:

Kwiri	(A22)	**inyale**	
Kenyang		**kiyam**	

.....East Cameroon:

Makaa	(A83)	**ntamenjie~**	
Bikele		**etsyal**	
Bajue	(A84)	**ekpal**	
Koozime		**ekpal** @	
Konabembe	(A85a)	**ekpal**	
Bekwil	(A85b)	**bee** #	
Bageto	(A86a)	**ekpal**	
Mezime		**ekpal**	
Mpompo	(A86b)	**ekpal**	
Mbimu	(A86c)	**mbonge, ebongo**?	
Bomwali	(A87)	**mbai**	
Kako	(A93)	**ekpal**	
Bangandu	(Ub1)	**mbai**	
Baka	(Ub2c)	**be(he)**	

@ older people say **[ekpal]** and younger people **[ekwal]** (see Njem, below).

< **-bele** (see French Small Green).

.....North Congo:

Njem	(A84)	**anjühe, lekwal**?	
Bekwil	(A85b)	**zigdieb**,	
		tete le kwaar	`the real plantain'
Mpiemo	(A86c	**bonge**	
Bomwali	(A87)	**bongi**?	
Ngom	(B22b)	**zyodiambe** ^	`tooth of elephant'?
Kola		**zigediam**, $	`horn of antelope sp.'?
		zyimba	
Bongili	(C15)	**moboko**,	
		mosambo	
Luma		**moboko**	
Mikaya		**eleba**,	
		bungi?	
Benjele		**mbongi**	
Baka	(Ub2c)	**zigdieb**,	
		ko ndo ko,	`the real plantain'
		ndo	`plantain'
Yaswa	(Ub)	**mbonge**?	

.....Gabon:

Benga	(A34)	**dina**
Fang 1,2,5	(A75)	**esong**
Bekwil	(A85b)	**elanga**, **biye**?
Galoa	(B11c)	**ina**
Nkomi	(B11e)	**ina**
Kota	(B25)	**zyitambo**?
Eviya	(B30)	**na**
Pinji	(B33)	**tsambale**
Sira 1,2	(B41)	**dina**, **nzoangu**
Sangu 1-3	(B42)	**tse(gh)i**
Punu 3	(B43)	**nzoangu**
Punu 4		**biri (mbongo)**
Duma	(B51)	**mbongo**? %
Wanji		**mbongo**?
Njebi 4-6	(B52)	**mbongo**
Mbama	(B62)	**bili**
Vili	(H12a)	**bakala**

% - see French Giant Green, French Medium Green and False Horn Medium Green.

- Beo (C45) **bongo** and Kongo (H16) **vongo** are unidentified cultivars.

.....South-West Congo:

Mbama	(B62)	**olyeme**?
Laali	(B73b)	**mukama**
Yaa	(B73c)	**mbongo**
Yari	(H11)	**kikolomono**?

9) French Medium Green-Red Pendulous

.....Southern Nigeria:

Ibibio	(LCr)	**ntanga**

.....Gabon:

Galoa	(B11c)	**ina**
Sira 1	(B41)	**biri**
Punu 3	(B43)	**nzoangu**
Punu 4		**biri mbongo**
Duma	(B51)	**mbongo**?
Wanji		**mbongo**?
Njebi } 1,3,4 }	(B52)	**tsasa**

.....South-West Congo:
Yaa (B73c) **n.n.**

10) French Medium Green Pendulous, red-flamed
Broad red bands on distal half of the fruit.
.....Gabon:
Sira 2 (B41) **mukolu**?
Lumbu 2 (B44) **kumbu**

11) French Medium Green Pendulous, red-striped
Small red stripes on distal half of the fruit.
.....Gabon:
Sira 1 (B41) **mundu**?,
moanza? @

@ 'veined'? (cf. Sangu **muanzi** 'vein').

12) French Medium Green Pendulous, black-striped & blunt.
Necrotic stripes on fruits; lower stem green, without traces of pink.
.....Gabon:
Puvi 3 (B30) **ebee makutu** 'short French plantain'

13) French Medium Green Pendulous, spiraloid & blunt
Fingers spirally arranged along the axis, male bracts forming one long spiraloid streamer.
.....Southern Nigeria:
Ejagham (Ekd) **ing'inie** 'spiral'
.....West Cameroon:
Kwiri (A22) **ndingo liko**
.....South Cameroon:
Yebekolo (A70) **kwarren** &
Ewondo (A72) **kue** %

& < Myene (B11) **nkoruma** 'spiral'.

% **kwae** in Bulu (A74a).

.....East Cameroon:
Makaa (A83) **ilefile** 'turn-turn'
Bajue (A84) **pilepile**
Koozime **pilapile**
Konabembe (A85a) **pilpil**(e)
Bekwil (A85b) **pilapila**
Bageto (A86a) **didim**
Mezime **diding** @

Mpompo	(A86b)	**pilpil**
Mbimu	(A86c)	**pilepile**
Bomwali	(A87)	**molingalinge**
Bangandu	(Ub1)	**dingadinga**
Baka	(Ub2c)	**pilepile**

@ < ***-dinga** 'to turn'. This is a very widespread, although not very common cultivar. Similar names are also found in Cameroon, e.g. Kwiri (A22) and Duala (A24) **ndingo**, as well as in Congo(-K.), e.g. Yombe (H12b) **zingazinga**, Kongo (H16) **singasinga, nzelangani** or **mazinga**, Bua (C44) **wolinga**, Lokele (C55) **lolenge**, Mbole (C68) **lolenge**, Ngbaka (Ub2c) **zikiziki** and Ngbandi (Ub2b) **kerekere** 'around'. See also similar names for spiraloid musa cultivars in Uganda and Tanzania.

.....North Congo:

Njem	(A84)	**pilapila**
Bekwil	(A85b)	**pilapila**
Bomwali	(A87)	**dingadinge**
Pomo	(A92)	**lingalinga**
Kola	(B22b)	**sasakye**
Bongili	(C15)	**mojongaka**
Mikaya		**dingadinga**
Benjele		**lingalinga**
Baka	(Ub2c)	**lingalinga**
Ngombe		**lingalinga**
Yaswa	(Ub)	**dingadinga**

.....Gabon:

Fang 1	(A75)	**kweny**	'snail(-shell)'
Fang 2		**ngole** $	
Galoa	(B11c)	**mpizina, koruna**	
Nkomi	(B11e)	***mpizina***	
Kele 1	(B22b)	**endelete, ngore**	
Kele 3		**yapolyo**	
Shamaye 1	(B25)	**mupotsi** %	
Puvi 3	(B30)	**mopote**	
Eviya		**mopoto**	
Tsogo 1	(B31)	**mopoto,**	
Tsogo 2		**mutsingamutsinga**	
Pinji	(B33)	**gesaka**?	
Ngubi	(B40)	**mutsingamutsinga**	
Vungu 1		**mutsingemutsinge**	
Sira 1,2	(B41)	**mutsingemutsinge**	
Sangu 3	(B42)	**mutsinga**	
Punu 1,3	(B43)	**mutsimutsinge**	

Lumbu 2 (B44) **byelebyele**
Njebi 5 (B52) **mupote**

$ < Myene (B11) `snail, `shell'.

% - cf. Punu -**pote** `to twist' and Ndumu (B63) -**poto** `to roll, encircle'.
- see also Mongo (C61) **mpoto** (an unidentified cultivar).

.....South-West Congo:

Mbama (B62) **ompoto**
Yari (H11) **nzinganzinga**

14) French Medium Green Pendulous, red sap in peel and axis

.....East Cameroon:

Makaa (A83) **ancia** @ `blood'
Bajue (A84) **ancia, antia**
Koozime **ankia**
Konabembe (A85a) **atia**
Bekwil (A85b) **najia**
Bageto (A86a) **acia**
Mezime **ajia**
Mpompo (A86b) **atia**
Mbimu (A86c) **ancia**
Bomwali (A87) **ankia**
Bakum (A91) **ankia**
Kako (A93) **angia**
Bangandu (Ub1) **angia**
Yangiri **angia**
Baka (Ub2c) **ankina**,
malongo #

@ elsewhere in Cameroon, such names (e.g. Duala, A24, **atia**) refer to red-stemmed or red-fruited cultivars.

probably a loan from a former neighbouring language (e.g. < Yakinga (A90? **malongo** `blood'). See also False Horn White-Green-Chimaera.

.....North Congo:

Njem (A84) **ancia**
Bekwil (A85b) **nagia**
Mpiemo (A86c) **ankia**
Bomwali (A87) **ngolongo**?
Pomo (A92) **ankia**
Ngom (B22b) **nangina**
Kola **mangia, manging**
Bongili (C15) **bololongo**
Mikaya **angia**,

Mikaya	(C15)	**ngolongo?**	
Bokiba		**anjia**	
Benjele		**angia**	
Baka	(Ub2c)	**nagia**	
Ngombe		**nagia**	
Yaswa	(Ub)	**angia**	
Bangandu	(Ub1)	**nangia**	
.....Gabon:			
Baka	(Ub2c)	**malongo**	
Bekwil	(A85b)	**nagia @**	
Kota	(B25)	**onukwe %**	tree sp.
Mahongwe		**ntoy %**	tree sp.

@ Baudon (1909) reported a similar cultivar (with the cognate name **nadzia**), from the Niari, Alima and Congo (rivers) area in W. Congo, where it was used for medicinal purposes (as is the case in East Cameroon).

% with red bark and red sap.

15) French Medium Green Pendulous, fused pedicels & dehiscent male axis

The male axis drops long before maturity.

.....East Cameroon:			
Ewondo	(A72)	**elar ntanga @**	'elar of the white men'

@ a common cultivar in the Yaounde area and also to be found in Gabon and West Congo(-K.).

.....Gabon:			
Bekwil	(A85b)	**nabako, nazika**	
Mpongwe	(B11a)	**elata ndjogu #**	'elephant's elata'
Kota 1	(B25)	**sokwe**	
Puvi 1,3	(B30)	**gheseleko**	
Sira 1,2,4	(B41)	**(gh)is(y)eruku, iseluku**	
Njebi 6	(B52)	**isyeluku**	
Njebi 1,3,4,8		**rata**	

this is the **elat-1** cultivar in the CIAM collection in NToum (Gabon).

16) French Medium Green Pendulous, fused pedicels

.....South Cameroon:			
Basaa	(A43)	**at, aar**	'to join, unite'
Mangisa	(A71)	**elat %**	'union'
Ewondo	(A72)	**elat**	
Bane	(A74b)	**elat**	

% often planted by Catholic Missions, as a symbol of unity.

.....East Cameroon:			
Makaa	(A83)	**nduenzy**	'palm of hand'

Bikele	(A83)	**duenzy**
Bajue	(A84)	**de**
Koozime		**de**
Konabembe	(A85a)	**asika**
Bekwil	(A85b)	**nazika**
Bageto	(A86a)	**ndonzy**
Mezime		**donzy**
Mpompo	(A86b)	**ndonzy**
Mbimu	(A86c)	**ogolo(n)**
Bomwali	(A87)	**ndonzyi**
Bakum	(A91)	**ndondu**
Kako	(A93)	**ajika**
Bangandu	(Ub1)	**botoko**
Yangiri		**tokolo(n)**?
Baka	(Ub2c)	**koaja**

.....North Congo:

Njem	(A84)	**de**
Bekwil	(A85b)	**nazika**
Bomwali	(A87)	**ndonji**
Ngom	(B22b)	**alata**
Kola		**selukwe**
Bongili	(C15)	**eseleko**
Luma		**eseleko**
Mikaya		**eseleko**
Bokiba		**eseleko**
Benjele		**ekoaja** @
Baka	(Ub2c)	**ekoaja**
Ngombe		**ekoaja**

@ borrowed from an A80 language (cf. Ngumba/Mezime/Mpiemo **-konj(e)** human hand', Makaa **kosu** `musa hand', possibly via Konabembe/Bekwil where the nasal part of prenasalised second stem-consonants has been lost).

.....Gabon:

Baka	(Ub2c)	**ekoaja**?, **akon**	
Benga	(A34)	**elati**	`union'
Fang 1b	(A75)	**akos** @	
Fang 1,2,4,5		**elat, elar ekon**	
Fang 3		**akon** @	
Makina		**solokwe**	
Galoa	(B11c)	**gwazorema** #	`a mother has no heart'
Nkomi		**mpongwe**	`Mpongwe'

Kele 1,3	(B22a)	**alata, arata, arato**
Kota 1	(B25)	**sokwe**
Shamaye		**solokwe $**
Mahongwe		**solukwe**
Eviya	(B30)	**geseleko**
Tsogo 1,2	(B31)	**saka**
Pinji	(B33)	**sasake**
Vungu 1	(B40)	**iseleku**
Sira 4	(B41)	**iseruku**
Sangu}	(B42)	**iseleku**
1,3,4 }		
Punu 1-4	(B43)	**isyeluku**
Lumbu 1,2	(B44)	**iselu**
Duma	(B51)	**rasa**
Wanji		**ndrasa**
Mbama	(B62)	**osele(ghe)**
.....South-West Congo:		
Ndasa	(B26)	**eseleke**
Mbama	(B62)	**esele**
Laali	(B73b)	**ise(ge)le**
Babongo-Laali		**iselele, isegele**
Yaa	(B73c)	**is(y)ele**
Babongo-Yaa		**isyelele**
Bembe	(H11a)	**isekele**
Yari	(H11)	**kisekele**
Yombe	(H12b)	**ntseluka**

@ see Benjele **ekoaja** (above).

\# because the fruits have no visible ovules.

$ - cf. Seke (B22b) **isoluku** 'spine', Duala (A24) **saka**, Njebi **isyeke**, Vili **sekele** and Kongo (H16) **nsekele** 'porcupine', which allude to the spiny aspect of the fingers in the bunch, caused by the fused pedicels.

- this name has also been reported from other areas in the C.A.R. and Congo(-K.), e.g. Isongo (C13) **sekele**, Ngbaka (Ub.2c) **likesse** and Kongo (H16) **tsedika, nseluka, zekele, kiseluka, sekele** or **sela**.
- De Langhe (1961) did not record plantains with fused pedicels, but later (1991) classified two cultivars in Central-Congo(-K.) (one with a Green-Red and one with a Violet-Black pseudostem) with the "fused pedicel" cultivars in W.C. Africa.
- in many parts of Gabon and S.W. Congo the general name for cultivars with fused pedicels is **seluka**, but in N. Gabon we find **elar** or **elat** (< A70 languages). In some areas these names overlap because of later migrations, e.g. of the Kele, Duma and Wandji, who came to the

Lastourville and Koulamoutou area from a northern direction and who brought the **elar** names with them.

- the **seluka** name probably originated in N.W. Gabon, whence it spread to the interior (and was loan-translated). Another indication for this is the Nkomi (B11e) name mpongwe ('Mpongwe' (B11a), which is the name of the inhabitants of the coastal area, near Libreville). The **-konja** and **-donzyi** names originated in Zone A80 languages.
- The origin and spread of these names can be summed up as follows:

Name:	*Origin:*	*Spread:*
mpongwe:	N.W. Gabon	> W. Gabon
-seluka:	N.W. Gabon	> E. and S. Gabon
		> C. and W. Congo
		> N. Congo(-K.)
elat:	N. Gabon	> S.C. Cameroon
		> C. Gabon
-konja, **-donzyi**:	S.E. Cameroon	> N.E. Gabon
		> N. Congo

17) French Medium Green Pendulous, lightgreen & faint

.....Gabon:

Sira 1 (B41) **diba** @ 'mango'

@ a name motivated by the form and colour of the fruits.

18) French Medium Green Pendulous, < 7 fingers/upper hands

Lower hands monoserial.

.....East Cameroon:

@ **n.n.**

@ near Mouloundou. The owner declared that this cultivar came from Congo.

19) French Medium Green Pendulous, 2-3 fingers/hand

Very long male axis, 5 hands, 2-3 fingers/hand, long apex, bases of pedicels swollen, about 38 leaves, pseudostem 4.5 m.

.....Gabon:

Sira 2 (B41) **mutsangu** @

@ - this is the **kubik(il)a** or *M. bidigitalis* reported by De Briey in W. Congo(-K.) (De Wildeman 1920).

- similar cultivars are French Medium Green, 2-3 f/h **libanga liboela bokoj** in C. Congo(-K.), False Horn Small? Green, 1-4 f/h in N. Congo and N.W. Tanzania, as well as the Horn, unstable cultivar in S.W. Tanzania.

20) French Medium Green Pendulous, brown(ish)

.....Southern Nigeria:

Ejagham	(Ekd)	**nta bi?**	`red nta'
Efik	(LCr)	**ebere dia**	`forbidden to eat'

.....South Cameroon:

Basaa	(A43)	**mboi?**	
Bane	(A74b)	**mboe**	
Ewondo	(A72)	**anboe, mbue**	
Bulu	(A74a)	**nkok**	`brown antelope sp.'

.....East Cameroon:

Makaa	(A83)	**bua**	
Bikele		**ebua**	
Bajue	(A84)	**ebuba**	
Mezime	(A86a)	**an ejuluk**	`smoke(-coloured)'
Mpompo	(A86b)}		
Yangiri	(Ub1)	**abivigili** @	
Baka	(Ub2c)	**ngua** #	`smoke'

@ borrowed from Mpiemo.

a loan-translation.

.....North Congo:

Njem	(A84)	**(kwon) bejulu(k)**	`smoke-coloured plantain'
Bekwil	(A85b)	**na eguluk**	
Mpiemo	(A86c)	**abivigilu**	
Bongili	(C15)	**seku**	`chimpanzee'
Luma		**seku**	

.....Gabon:

Fang 3	(A75)	**nkok**	`antelope' *Tragelaphus* sp.
Galoa	(B11c)	**mondo** @	
Nkomi	(B11e)	**mondo**	
Kele 1	(B22a)	**mundu**	
Kele 3		**mbongo mbenge**	`red French Medium Green'
Eviya	(B30)	**mondo**	
Sira 1	(B41)	**mundu**	

@- cf. Bobangi (C32) and Lingala (C36d) **mondo** `red'. However, a Central-Gabonese origin of this cultivar name is likely, considering the relation between the Ngubi clan Imondo and the Tsogo clan Motoka (Walker 1959) (see also the **motuka** name of the French Horn Red-Green Chimaera cultivar).

- see Koose (A15b) **mwende** (French Medium Red).

.....South-West Congo:

Mbama	(B62)	**mundu, mondo**
Laali	(B73b)	**mundu, mundo**

Babongo-Laali		**mundu**
Yaa	(B73c)	**mondo**
Babongo-Yaa		**mundu**
Bembe	(H11a)	**mundu**
Yari	(H11)	**mundu**
Yombe	(H12b)	**nsamvi, ngulu? @**

@ this cultivar is called **ngulu kitebbe** 'the banana of wild pigs' in W. Congo(-K.), because of its reddish-brown colour.

21) French Medium Green Pendulous, blunt

.....Southern Nigeria:

Ejagham	(Ekd)	**egjoga #**

said to have been introduced from Cameroon.

.....West Cameroon:

Koose	(A15b)	**due angue**

.....East Cameroon:

Makaa	(A83)	**ntamnjie~**	
Koozime	(A84)	**biakele @**	'short'
Konabembe	(A85a)	**meduma #**	
Bekwil	(A85b)	**meduma**	
Mpompo	(A86b)	**meduma**	
Mbimu	(A86c)	**meduma**	
Bomwali	(A87)	**meduma**	
Kako	(A93)	**aduma, meduma**	
Bangandu	(Ub1)	**do koko $**	'fingers of gorilla'
Baka	(Ub2c)	**lee ekpa ebobo, ebule %**	'fingers of gorilla'

@ the name for the False Horn, blunt cultivar in Bomwali.

cf. Kongo (H16) **ko dya muduma** 'plantain of **muduma**' (a snake species).

$ known in Ghana as **kwakuo nsa** '(Mona) monkey's fingers'.

% < Bekwil **ewulal** 'short'? (see also False Horn, blunt).

.....North Congo:

Njem	(A84)	**medumo**
Bekwil	(A85b)	**meduma**
Kola	(B22b)	**meduma**
Benjele	(C15)	**etoaka**
Baka	(Ub2c)	**eduma, ebulu**

.....Gabon:

Baka	(Ub2c)	**lee ekpa ebobo, bulu**
Benga	(A34)	**ebule**

Fang 1,4	(A75)	**ununga**	`fingers of gorilla'
Galoa	(B11c)	**ebokolo**? @	`short'
Kota	(B25)	**zyitambo**?	
Puvi 3	(B30)	**ebee makutu**?	`short French plantain'
Tsogo 2	(B31)	**dighilingi**	
Sira 2	(B41)	**dighilingi**	`bell'?

@ in Kongo (H16) **vokolo** is a short-stemmed cultivar, which is planted in places with strong winds (Gillet & Paque 1910).

.....South-West Congo:

Mbama	(B62)	**vindi**	`fish sp.'
Laali	(B73b)	**furmpuu**	`mole'?
Babongo-Laali		**furpu**	
Yaa	(B73c)	**bakusibakusi**	`short'
Babongo-Yaa		**gawakusi**	
Bembe	(H11a)	**mukusimukusi**	
Yari	(H11)	**fulupuku**	

22) French Medium Green(-Red) Pendulous, brown & blunt

.....Gabon:

Puvi 3	(B30)	**ebee**?	
Sangu 4	(B42)	**ebe**?,	
Sangu 4		**mowanji makoto**	`short yellow-musa'
Njebi 6	(B52)	**mbongo makutu**	`short French plantain'

23) French Medium Dark-Green Pendulous, faint

.....Southern Nigeria:

Bette	(Bnd)	**igwaa ishi**	`plantain black'
Ejagham	(Ekd)	**enyaghe**	`black'
Nde		**nyaha**	`black'
Umon	(Ucr)	**ndan(da)**	`ant sp.'?
Efik	(LCr)	**obubit ntanga**	`black ntanga'

.....West Cameroon:

Kwiri	(A22)	**njino lo liko**	`black plantain'
Koose	(A15b)	**mehine**,	
		epube	
Kenyang		**ngri ekwa**,	
		nyam	

.....South Cameroon:

Mangisa	(A71)	**alo vinde** @	`night black'
Ewondo	(A72)	**alu vini**	
Bulu	(A74a)	**mvila**	`charcoal'

Bekwil	(A85b)	**mebil?**	
Bomwali	(A87)	**mombili**	
Bangandu	(Ub1)	**mbidi**	`black'

@ called **eyindo** `black' in Bobangi (C32) and **mbilu** in Yombe (H12b), in Congo(-K.). Similar names are also used for Black-stemmed cultivars.

.....North Congo:

Njem	(A84)	**mempilo**	`charcoal'
Bekwil	(A85b)	**ebilo**	
Kola	(B22b)	**zyibu**	`black antelope sp.'
Baka	(Ub2c)	**mobili, mbilo**	

.....Gabon:

Benga	(A34)	**bikiyambo**	
Fang }	(A75)	**ovina**	`black'
1,2,4,5}			
Galoa	(B11c)	**ikirya, ankirye**	
Nkomi	(B11e)	**ovili?**	
Kele 1	(B22a)	**oyili, beyili,**	
		otomba windi	`black French plantain'
Kota	(B25)	**etaba**	
Shamaye		**etaba**	
Mahongwe		**etaba**	
Sake		**butaba**	
Puvi 3	(B30)	**motaba**	`goat'
Eviya		**taba,**	
		rufi, %	
		matubi #	`excrements'
Tsogo 1-3	(B31)	**taba, motaba, mutaba**	
Pinji	(B33)	**mombi?**	
Ngubi	(B40)	**itaba**	
Vungu 1		**taba**	
Sira 1	(B41)	**rufi**	`excrements'
Sira 2		**taba**	
Sangu 3,4	(B42)	**mutaba**	
Punu 1-4	(B43)	**taba**	
Lumbu 1	(B44)	**kombu @**	`sheep'
Duma	(B51)	**butaba**	
Wanji		**butaba**	
Njebi 5	(B52)	**bidi a betabe**	`French plantain of goats'
Vili	(H12a)	**kombo**	`sheep'

% borrowed from Sira. # a loan translation of **rufi**.

@ a loan translation of **taba** (< the dark colour of this cultivar).

24) French Medium Red Pendulous

.....Southern Nigeria:

Ejagham	(Ekd)	**mbi egome**	
Ibibio	(LCr)	**akpakkpak** @	
Anaang		**akpakpak**	
Efik		**ndandan ntanga**	'red ntanga'

@ cf. **akpakkpak adusuuk** 'hernia' (see also French Giant Green).

.....West Cameroon:

Koose	(A15b)	**mwende**	

.....East Cameroon:

Makaa	(A83)	**commandant** #	

probably a recent introduction.

.....North Congo:

Bongili	(C15)	**mololo**	
Luma		**mokonga**	

.....Gabon:

Eviya	(B30)	**molólo** $	
Tsogo 2	(B31)	**mulolu,**	
		tsyagha	
Vungu 1	(B40)	**mulolu**	
Sira 1	(B41)	**mulolu**	
Sangu }	(B42)	**mulolu**	
1,3,4 }			
Punu 3,4	(B43)	**mulolu, ilolu**	
Punu 1,4		**biri benge**	'red French plantain'
Punu 3		**ibale,**	
		nzoangu	
Njebi 1,3,4,8	(B52)	**mulolo, mulolu**	

$ cf. Kongo (H16) **lolo** 'red' (and the name of reddish fruits such as *Carica papaya* (Caricaceae) and *Annona senegalensis* (Annonaceae)); it is the name of the French Giant Red cultivar in Yombe (H12b). De Briey mentioned **kilolo** in W. Congo(-K.), but this was a chimaeric plant (De Wildeman 1920). Mongo (C61) **bololo** is an unidentified cultivar.

.....South-West Congo:

Mbama	(B62)	**nzenge**? @	
Laali	(B73b)	**mokama wa benge**?	'red French plantain'
Yombe	(H12b)	**n.n.**	

@ < **nzoangu**? (see Punu-3 and French Medium Green).

25) French Medium Red Pendulous, blunt

.....West Cameroon:

Koose	(A15b)	**due angue**	

26) French Medium Red Pendulous, dark-striped

Dark-coloured stripes develop on maturing fruits.

.....South-West Congo:

Mbama	(B62)	**tsyini, mbyende**	`striped squirrel/ratsp.'
Tsaayi	(B73a)	**sinagaka**?	
Laali	(B73b)	**mbende**	`striped rat sp.'
Babongo-Laal		**byene**	
Yaa	(B73c)	**mbende**	
Babongo-Yaa		**mbende**	
Bembe	(H11a)	**mbende**	
Yombe	(H12b)	**lembende**?	

27) French Medium Red Pendulous, grey-violet

The fruits have an ashy-red colour.

.....South-West Congo:

Laali	(B73b)	**ngalefutu**	
Bembe	(H11a)	**ngalefutu** #	`smoky'?
Yari	(H11)	**ngalefuta**?	

cf. Vili **-futa** `to smoke'. The name refers to the colour of the fruits and this cultivar is called **muisitia** `smoke of fire' in western Congo(-K.) (a cultivar name **ngelafuku** has also been reported from Kongo (H16)).

28) French Medium Violet-Black Pendulous

Stem Black-Violet, petioles and midribs Red-Green.

.....Southern Nigeria:

Oron	(LCr)	**ndito akam**	`children', `suckers'
Ibibio		**obubit akpakkpak**	

.....South-West Congo:

Mbama	(B62)	**(e)sibi**	`black antelope sp.'
Babongo-Laali (B73b)	} }	**mosibi**?, **isyibu**?	

29) French Medium Black Pendulous

.....Southern Nigeria:

Ejagham	(Ekd)	**enyahegome**	
Efik	(LCr)	**obubit ntanga**	`black ntanga'

.....West Cameroon:

Koose	(A15b)	**meyene**	
Kenyang		**eyanho**	

.....East Cameroon:

Koozime	(A84)	**ekpal entanga** @	`French of the white men'

Bangandu	(Ub1)	**di kuku**	`spirit of the phantoms'

@ said to have been introduced by an agricultural NGO.

.....North Congo:

Bekwil	(A85b)	**n.n.**	
Luma	(C15)	**boko**?	

.....Gabon:

Kota 1	(B25)	**zibo**, #	`black antelope sp.'
		ngongo	
Njebi 3,4	(B51)	**mungele**	

cf. French Giant Black (Mbama, S.W. Congo).

30) French Medium Black Pendulous, fused pedicels

.....East Cameroon:

Konabembe	(A85a)	**asika**

.....North Congo:

Bekwil	(A85b)	**nazika**
Pomo	(A92)	**n.n.**
Bongili	(C15)	**eseleko**

31) French Small Green Pendulous/Subhorizontal

Small plant with small fruits, many suckers, very precocious (and therefore the first to be planted in a new field).

.....Southern Nigeria:

Ejagham	(Ekd)	**mbi egome**	

.....East Cameroon:

Makaa	(A83)	**bobie** @	
Bikele		**bobie**	
Bajue	(A84)	**bobie**	
Koozime		**bobie (ekpal)**	
Konabembe	(A85a)	**ebie**	
Bekwil	(A85b)	**biye** @	
Bageto	(A86a)	**biye**	
Mezime		**biye**	
Bomwali	(A87)	**bobio**	
Bangandu	(Ub1)	**do kondu**	`short plantain'
Baka	(Ub2c)	**bobie (ekpal)**	

.....North Congo:

Njem	(A84)	**bobio**	
Bekwil	(A85b)	**biye**	
Mpiemo	(A86c)	**bobio**?	
Bomwali	(A87)	**mombombo** #	

Pomo	(A92)	**bobie**
Ngom	(B22b)	**dibelu**
Kola		**dibelu**
Bongili	(C15)	**ibe(le)**
Luma		**ibele**
Mikaya		**ibele**
Bokiba		**(m)o)mbombo**
Benjele		**bele** %
Baka	(Ub2c)	**libele**
Ngombe		**mombombo**?
Yaswa	(Ub)	**ebele**
.....Gabon:		
Baka	(Ub2c)	**ibele**
Fang 2,4	(A75)	**obala**
Fang 1,3,5		**obela**
Bekwil	(A85b	**biye**
Galoa	(B11c	**ibele**
Nkomi	(B11e)	**ibele**
Kele 1-3	(B22a)	**lebele, debere, debiri**
Kota	(B25)	**ibele**
Mahongwe		**ibele**
Puvi 1-3	(B30)	**ebele, nabele**
Eviya		**ebe**
Tsogo 1-4	(B31)	**ebee**
Pinji	(B33)	**bele**
Vungu 1,2	(B40)	**dibiri**
Sira 1,2	(B41)	**biri**
Sangu 1,3,4	(B42)	**dibiri**
Punu 3,4	(B43)	**biri**
Duma	(B51)	**libiri**
Wanji		**mabiri**
Njebi 1-6	(B52)	**bidi**
Mbama	(B62)	**bili**
.....South-West Congo:		
Mbama	(B62)	**bili**
Tsaayi	(B73a)	**kitsyulu**?
Yaa	(B73c)	**n.n.**
Bembe	(H11a)	**inyelanyele**?

@- cf. Makaa **bibiya** 'small', Ndumu/Mbede (B63/61) **bobibobi** or **obobobobo** 'small, badly-growing plant', Benga (A34) **bobe** 'short', Bagiele (A81) **bibo** 'small, little', Kongo (H16g) **-buba** 'short'.

- in Kongo (H16) **bubi** is a(n unidentified) short-stemmed plantain cultivar.

#- often used alongside *-**bele**.

- cf. Ngbaka-Mabo (Ub2c) **bombo** 'small'.
- plantain cultivars with similar names are also found in neighbouring parts of Congo(-K.) and the C.A.R.; e.g. Ngombe (C41) **embo**, Aka (C14) **ebombe**, Monzombo (Ub2c) **kpongbo** and Ngbaka (Ub2c) **bombe**.
- sometimes, these names are used for other cultivars too (see False Horn Small Green, False Horn Medium Black and Black-Green).

%- similar cultivar names are also found in Congo(-K.) and the C.A.R., e.g. Ngombe (C41) **gbili**, Beo (C45) **obebele** (French Small), Isongo (C13), Aka (C14) **ibele**, Ngbaka (Ub2c) **limbele**) and Mamvu (CS) **igbelu**. Yombe (H12b) has **dibidi** (< Njebi?).

- a short-stemmed sugarcane variety is found with similar names in Gabon (e.g. Mpongwe **mbewe**, Sira and Sangu **dibera**, or Njebi **libere**, and Tsogo **mobobe**).
- it is not clear if there is a relation with the (Lingala?) cultivar name **mabele** (**mangondo**) 'breasts (of young girl)', a popular theme in cultivar names (see French Semi-Dwarf, False Horn, yellow & pendulous, and False Horn Medium Green).

32) French Small Green Subhorizontal, reddish

.....North Congo:

Njem	(A84)	**bobio enzimo?/amulo?** @	'bobio of Njem/oily'
Bekwil	(A85b)	**biye namul?**	'oily French Small'
Bomwali	(A87)	**bobio**	
Baka	(Ub2c)	**namul?**	

@ said to be an introduction from the neighbouring Ngoko area in Cameroun (cf. Konabembe **amulemul** 'oily', an unidentified cultivar). The name alludes to the shiny peel, as if oiledwith palm oil.

33) French Small Green-Red Subhorizontal

.....Gabon:

Bekwil	(A85b)	**oguo, koor guo?**	'nut, nutlike plantain'
Kota 1	(B25)	**bongomba, ingomba**	'nut' ^
Sira 1	(B41)	**biri**	
Punu 4	(B43)	**dighundigha, dingundi**	
Mbama	(B62)	**ngomba?**	

^ the name of *Coula edulis* (Olacaceae), or a folk-etymology? (see French Giant Green).

34) French Semi-Dwarf Green Subhorizontal

.....East Cameroon:

Bajue	(A84)	**twan** @
Koozime		**twan,**
		bobie ampia #

Konabembe	(A85a)	**(biye) apisa**
Bageto	(A86a)	**twan**
Mezime		**dwan**
Mpompo	(A86b)	**ntwan,**
		apusa
Baka	(Ub2c)	**twan, abusa**

@ ***u > wa** (common in A80 languages); the underlying form is probably **-tuna** 'to be short' (as in Mpongwe and Fang).

mpi(h)a, apisa, apusa 'maize', referring to tightly-packed short fruits in the bunch, as maize grains in a cob (< **awusa** 'Hausa', traders from N. Cameroon who introduced maize to this region).

35) French Horn Medium Green Subhorizontal

.....West Cameroon:

Kwiri	(A22)	**ngomba liko**	'porcupine plantain'
Koose	(A15b)	**(n)gombe**	

.....Gabon:

Fang 2	(A75)	**idze**	'full, filled'

36) French/False Horn Giant/Medium Red-Green Chimaera Subhorizontal

Many neutral flowers, young fruits reddish, fruits S-form; sometimes Giant (large bunch, over 40 leaves and 6 m. high); sometimes also with a False Horn bunch; pseudostem sometimes all-Red (one chimaeric plant was found with an all-Green offshoot).

.....Gabon:

Fang 1	(A75)	**ntugan**	
Fang 2		**ntsughane**	
Galoa	(B11c)	**otuka,**	
		aghalye	'palm oil'
Nkomi	(B11e)	**otuka**	
Kele 1	(B22a)	**ntuka, ntuko**	
Eviya	(B30)	**motuka**	
Tsogo 1-4	(B31)	**motuka**	
Pinji	(B33)	**motsuka**	
Ngubi	(B40)	**motuka**	
Vungu 1		**motuka,**	
		dighondi di mumbwiri @	'Byeri plantain'
Sira 1-3	(B41)	**mutuka, motuka** #	
Sangu 1,3	(B42)	**mutuka**	
Punu 1,3	(B43)	**(didungu di-)motuka, mutuka**	
Njebi 8	(B52)	**mutuka**	

@ - used in rituals like "Byeri", "Mbwiti" and circumcision. The cultivar probably originated in the area from which the Mbwiti cult spread (Tsogo and Pinji, in S. Gabon), especially in the first half of this century (see Raponda-Walker & Sillans 1962).

- a plant seen in Makokou (N.E. Gabon) was said to have been introduced by the Agricultural Service.

- informants related the name of this cultivar to a clan name, the birth of a child whilst the mother was seated with her back against this plantain and to a story about death and rebirth (initiation?).

- cf. the Tsogo clan "Motoka" (see the French Medium Green, brown cultivar, above).
- cf. CS 1828 ***-tuuk-** `to come out' (after initiation or ritual rebirth?) and **ket(sh)uka** `musa bunch' (coming out of the stem?) in Teke (B74), Tiene (B81) and Boma (B74b/82).

37) False Horn Giant Green Subhorizontal

.....Southern Nigeria:

Ejagham	(Ekd)	**njok egome**	`elephant plantain'
Efik	(LCr)	**ukom**	

.....West Cameroon:

Londo	(A11a)	**ebange**	
Koose	(A15b)	**ebange**	
Kwiri	(A22)	**ebanga**	
Kenyang		**dumuhe, ndum eyoh**	

.....Gabon:

Fang 1	(A75)	**nzoa**?	`elephant'
Galoa	(B11c)	**ewange zi njoghu**	`ewange-elephant'
Kota	(B25)	**ebobo**? @	

@ see French Small Green

.....South-West Congo:

Laali	(B73b)	**ndzya**	`elephant'
Bembe	(H11a)	**zau**	`elephant'

38) False Horn Giant? Lightgreen Subhorizontal

Pseudostem Light-Green, its lower part without any trace of pink.

.....Gabon:

Punu 3	(B43)	**pembi**	`kaolin'

39) False Horn Giant Black Subhorizontal

.....South-West Congo:

Laali	(B73b)	**n.n.**

40) False Horn Medium Green Subhorizontal

.....Southern Nigeria:

Bette	(Bnd)	**enugu**	`Enugu (town)'
Abini	(Ucr)	**garangarang' #**	
Efik	(LCr)	**ukom**	
Oron		**atyantyan, ntangantanga**	`scattered (fingers)'
Anaang		**mbrinyong**	
Ibibio		**mbirinyong**	
Ibuno		**akwaha afinyong**	`big plantain'
Eleme	(Og)	**obinõ eleme?**	`Eleme banana'
Igbo	(Igbd)	**ukom**	
Yoruba	(Dfd)	**agbagba**	

name refers to the space between the fingers.

.....West Cameroon:

Kwiri	(A22)	**ebanga**
Koose	(A15b)	**ebange**
Kenyang		**nemakwa**

.....South Cameroon:

Basaa	(A43)	**bang**
Bulu	(A74a)	**ebang(e)**
Yebekolo	(A70)	**ebang**
Ewondo	(A72)	**ebang**
Bane	(A74b)	**ebang**

.....East Cameroon:

Makaa	(A83)	**bang**
Bikele		**bang**
Bajue	(A84)	**baa**
Koozime		**baa**
Konabembe	(A85a)	**bang**
Bekwil	(A85b)	**baa**
Bageto	(A86a	**bang**
Mezime		**bang**
Mpompo	(A86b)	**bang**
Mbimu	(A86c)	**ba~**
Bomwali	(A87)	**ba**
Bakum	(A91)	**bang**
Kako	(A93)	**bang**
Baka	(Ub2c)	**(e)banga**

.....North Congo:

Njem	(A84)	**baa #**

Bekwil	(A85b)	**baa #**	
Mpiemo	(A86c)	**nkono**	
Bomwali	(A87)	**baa**	
Pomo	(A92)	**baa**	
Ngom	(B22b)	**abang**	
Kola	(B22b)	**abanga**	
Kota	(B25)	**ebanga**	
Bongili	(C15)	**ebanga**	
Luma		**ebanga**	
Mikaya		**ebanga**	
Bokiba		**ebanga**	
Benjele		**ebanga**	
Baka	(Ub2c)	**ebaa,**	
		mgbengbe	`big'
Ngombe		**ebanga**	
Bangandu	(Ub1)	**we kondu**	`male plantain'

 # °-banga (cf. **-gaa** < °**-ganga** 'healer').

.....Gabon:

Benga	(A34)	**ebange**	
Fang 1b	(A75	**some**	
Fang 1a,2-5		**ebang**	
Makina		**bang**	
Bekwil	(A85b)	**baa**	
Galoa	(B11c)	**ewange**	
Nkomi	(B11e)	**ewange**	
Kele 1	(B22a)	**abang**	
Kota	(B25)	**ebanga**	
Shamaye		**ebanga**	
Sake		**ba**	
Mahongwe		**ebanga**	
Puvi 1,3	(B30)	**ghebanga**	
Puvi 2		**ebanga**	
Eviya		**ghebanga**	
Tsogo 1-4	(B31)	**ghebanga**	
Pinji	(B33)	**ghebanga**	
Ngubi	(B40)	**(dikondo di) baghala**	`male plantain'
Vungu 1		**musigha**	
Vungu 2		**didungu**	
Sira 1,2	(B41)	**ghibangi**	
Sangu 1-4	(B42)	**ibanga**	
Punu 1,3,4	B43)	**didungu**	

Lumbu 1,2	(B44)	**didungu**	
Duma	(B51)	**ebanga**	
Wanji		**ebanga**	
Njebi 7	(B52)	**ibanga**	
Njebi 1,3,4		**ledungu**	
Mbama	(B62)	**obanga**	
Vili	(H12a)	**didungu**	
.....South-West Congo:			
Mbama	(B62)	**abiele**	`breasts'
Laali	(B73b)	**munenemunene**	`big'
Yaa	(B73c)	**mbongo**, @	
		mungele #	
Bembe	(H11a)	**wera**	
Yari	(H11)	**wera, were, weri** $	
Yombe	(H12b)	**lidungu**	

@ Yaa uses the same name for the French Medium Green and False Horn Medium Green (and Black) cultivars.

mungele is a loan and originallythe name for the False Horn Medium Black cultivar.

$ said to have been the name of a colonial farmer.

41) False Horn Medium Green Subhorizontal, subpendulous

.....Gabon:		
Sira 2	(B41)	**n.n.**
.....South-West Congo:		
Bembe	(H11a)	**wera**

42) False Horn Medium Green Subhorizontal, pendulous

.....South-West Congo:		
Bembe	(H11a)	**mubumu**
Yari	(H11)	**mubuma**

43) False Horn Medium Green Pendulous, yellow & pendulous

Immature fruits yellow.

.....Southern Nigeria:			
Ejagham	(Ekd)	**msop abeyim**	`breasts of girl'
Agwagwune	(UCr)	**ibi egbuba**?,	`breasts young girl'
Umon		**berekpe** #	`slave'
Efik	(LCr)	**eba oboikpa**,	`breasts of maiden'
		eba nkaiferi	`breasts of girl'
Anaang		**eba abaikpa**?	
Ibibio		**eba oboikpa**	

Igbo	(Igbd)	**unere ocha** @	`banana white'

not a local cultivar.

@ - commonly found in the Ikom area.

- its presence in south-eastern Nigeria (in the Cross River and Igbo areas) is ascribed to an introduction from (western) Cameroon (Ndubizu 1981), where it occurs in the West, North-West and South-West Provinces.
- a French cultivar (**lipfo**) with yellow, pendulous fruits has also been reported from (the area of) West Cameroon, whereas a Horn cultivar of this type (**igihobe**) exists in (highland) Burundi.

.....West Cameroon:

Kwiri	(A22)	**maliwa maliko**	
Koose	(A15b)	**itom ekale**	

.....East Cameroon:

Makaa	(A83)	**gwak** #	
Bikele		**gwak**	
Bajue	(A84)	**gwaga**	
Koozime		**gwak**	
Bageto	(A86a)	**zapi** #	
Konabembe	(A85a)	**amulemul**	`green-yellowish frog sp.'
Mpompo	(A86b)	**meswolpwom**	`ripe-white'
Mbimu	(A86c)	**ndenge** $	`mash of plantains'
Bakum	(A91)	**gwogo**	
Baka	(Ub2c)	**goko, ndenge**	

said to have been introduced to the Makaa area by the ZAPI, an agricultural NGO which was active in East Cameroon in the 1970's.

$ the name of a typical Makaa dish, for which this cultivar is very appropriate. Both Makaa names are commonly used in the area.

.....Gabon:

Fang 1,3-5	(A75)	**mesonge menze** @	`leopard teeth'
Bekwil	(A85a)	**maje magoy** #	`leopard teeth'
Kota	(B25)	**nyoka** $	`*Dendrohyrax* sp.'
Shamaye		**nyoka**	
Mahongwe		**nyoka**	
Puvi 1,3	(B30)	**noka**	
Vungu 1	(B40)	**mbondu**? %	
Sira 2	(B41)	**mbondu**	
Sangu 1	(B42)	**nuka**?	
Duma	(B51)	**noka**	
Wanji		**noka**	

@ said to have been obtained from the Kota.

probably a loan translation of the Fang form, or vice versa.

$ the name for the Horn Medium Green cultivar in A80 languages.

% - see Horn Red, yellow & pendulous.

- cf. Mpongwe **-bonda** 'to become yellow, golden(-coloured), red, ripe'.

.....South-West Congo:

Laali	(B73b)	**mubumu**	
Bembe	(H11a)	**mubumu wa pemba**	'white mubumu'

44) False Horn Medium Green Subhorizontal, blunt

.....Southern Nigeria:

Ejagham	(Ekd)	**ngok egome**	

.....East Cameroon:

Makaa	(A83)	**nkume**?	'short'?
Bikele		**enkumo**	
Bajue	(A84)	**nkumo**	
Koozime		**nkumo**	
Konabembe	(A85a)	**nkumo**	
Bomwali	(A87)	**ba bikili** @	'short False Horn'
Baka	(Ub2c)	**nkumo, bongoli**?	

@cognate to the ***-kudu** forms in Gabon (cf. also the Koozime name for the French, blunt cultivar).

.....Gabon:

Fang 1	(A75)	**ununga,**	'gorilla fingers'
		kome ebang	
Fang 2,4		**(ebange) binzu mingi**	'gorilla fingers'
Fang 3		**(ebange) bingom**	
Bekwil	(A85b)	**(baa) bikulu**	'short (False Horn)'
Galoa	(B11c)	**ebogoto**?	
Nkomi	(B11e)	**bukuru**?	
Kele 3	(B22a)	**kukudu**	
Kota	(B25)	**(ebanga) bekulu**	
Shamaye 2		**(ebanga wa) makudi**	
Puvi 3	(B30)	**kudughu**	
Eviya		**makoduku,**	
		ghebanga sa bukuru #	
Pinji	(B33)	**kuduku**	
Ngubi	(B40)	**bukuru**?	
Vungu 1		**korkufi $**	
Sira 1,2	(B41)	**(ghibangi ghi) kokodu(ghu)**	
Sira 4		**bukuru**?	
Sangu 1,3,4	(B42)	**(ibanga ghi) kuduku %**	
Punu 1	(B43)	**(didungu di) bakoko**	

Punu 3		**korkufi**	
Punu 3,4		**makoku**	
Punu 4		**bukuru**?	
Lumbu 1,2	(B44)	**(didungu di) bukuru, tsa(t)seb(u)r**	
Duma	(B51)	**(ebanga) kuru**	
Mbama	(B62)	**ngogo ondombo**?	mother of Ondombo'
Vili	(H12a)	**tsatsebr &**	

\# Eviya **bukuru** must be a loan as the **/r/** sound is only found in (Sira) loans and the Eviya word for 'short' is **-kuve**.

$ cf. Kongo (H16) **dinkondo diankufi** 'the short plantain' (an unidentified cultivar). A cognate name, **nfufula**, is used for a highland banana with blunt fruits in N.W. Tanzania.

% translated by an informant as `foot of a leper' (a folk-etymlogy?).

& **tsatse-bu(kh)uru > tsatseb(u)r** 'short **tsatse**' (see French Giant).

.....North Congo:

Njem	(A84)	**nkumo, ngumo**	
Bekwil	(A85b)	**zwom**	`buffalo'
Bomwali	(A87	**baa**	
Pomo	(A92)	**nkumo**	
Kola	(B22b)	**abange**	
Bongili	(C15)	**ebanga**	
Mikaya		**ebanga**	
Baka	(Ub2c)	**ngumo**	
Yaswa	(Ub)	**ebanga**	

45) False Horn Medium White-Green Chimaera Subhorizontal, white-striped

.....West Cameroon:

Kwiri	(A22)	**moto ebanga**	

.....South Cameroon:

Basaa	(A43)	**esend** @	`striped squirrel'
Bulu	(A74a)	**osen**	
Bane	(A74b)	**sala** #	`striped field-rat sp.'
Yebekolo	(A70)	**sala, mvot**	

@ *Funisciurus* sp. This (or a similar?) cultivar is called **nseng** in Ejagham and **osen** or **sala** in Ewondo. # *Arvicanthis pulchellus*.

.....East Cameroon:

Makaa	(A83)	**sinsinz, mpot**	`striped squirrel'
Bajue	(A84)	**se, si(n)**	
Koozime	(A84)	**sie**	

Konabembe	(A85a)	**süsüüs, sösööns**	
Bekwil	(A85b)	**seseez**	
Bageto	(A86a)	**sisies**	
Mezime		**sisies**	
Mpompo	(A86b)	**si(si)en(dzy)**	
Mbimu	(A86c)	**syengi**	
Bomwali	(A87)	**banga yembe**	`white False Horn'
Bakum	(A91)	**sendi**	
Kako	(A93)	**senji**	
Bangandu	(Ub1)	**songe**	
Baka	(Ub2c)	**yembe #**	

a loan from Bantu.

.....North Congo:

Njem	(A84)	**(kwon) sühü, süsühe**	
Bekwil	(A85b)	**sisiiz,**	
		baa gee $	`False Horn (like) panther'
Mpiemo	(A86c	**senji**	
Kola	(B22b)	**akondo je $**	`plantain (like) panther'
Kota	(B25)	**mbende? %**	
Bongili	(C15)	**ebanga yembe &**	
Luma		**ebanga yembe**	
Mikaya		**ebanga yembe**	
Baka	(Ub2c)	**liyembe**	

$ striped like a panther.

% in Yombe Bembe and Yari the same name is used for different cultivars (see French Red, dark-striped and False Horn Black, black-striped).

& cf. **yembe** 'white' in Yakinga (A90?), on the upper Motaba river in N.E. Congo (see also French Medium Green, red sap).

.....Gabon:

Benga	(A34)	**ihende?**
Fang 3	(A75)	**mise~**
Fang 1,2,4		**osen(e)**
Nkomi	(B11e)	**ntsyende**
Kele 1	(B22a)	**asenje**
Kele 3		**isyinzyi**
Kota	(B25)	**hende?**
Sake		**syeze?**
Puvi 1,3	(B30)	**tsende?**
Tsogo 2	(B31)	**tsendi?**
Vungu 1	(B40	**tsindi?**
Sangu1,3,4	(B42)	**(mu)tsindi?**

Njebi 4	(B52)	**mutsyitsyindi**?	
Njebi 6		**metsyinda**?	
.....South-West Congo:			
Laali	(B73b)	**ko la njeri**	`white plantain'

46) False Horn Medium Green Subhorizontal, brown

.....Southern Nigeria:			
Efik	(LCr)	**ebere dia**	`forbidden to eat'
Anaang		**abire adia, abit adia**	
.....Gabon:			
Fang 1	(A75)	**eson eyen**	`tree sp. with red bark'
Galoa	(B11c)	**ngowa**?	`pig'
Vungu 1	(B40)	**mukwele**	`light-coloured'
Sira 2	(B41)	**mokweli**	
Punu 1,3	(B43)	**mufubila**	
Njebi 5	(B52)	**ngoye #**	`bush pig'

 # Potamochoerus sp.

47) False Horn Small? Green Subhorizontal, 1-4 fingers/hand

4 hands, 1-4 fingers/hand, plant size ca. 3 m. (and 30 leaves).

.....North Congo:		
Bekwil	(A85b)	**mebobo**? @
Kola	(B22b)	**mombombo**? @

@ see French Small Green.

48) False Horn Medium Green Subhorizontal, undeveloped

Undeveloped fingers like those of 'Madre del platanar'.

.....Gabon:		
Fang 3	(A75)	**n.n.**

49) False Horn Medium Green-Red Subhorizontal

.....Gabon:		
Puvi 1,3	(B30)	**ekwala #**
Duma	(B51)	**n.n.**

< A80 languages? (see French Medium Green).

50) False Horn Medium Red Subhorizontal

.....Southern Nigeria:			
Efik	(LCr)	**okoyo ukom**	`antelope sp.'
Ibibio		**akoyo mmininyong**	`small red antelope'
Oron		**ndito akam**	`children, suckers'

.....North Congo:

Bekwil	(A85b)	**baa na tobola**	`red False Horn'
Yaswa	(Ub)	**ebanga**	

.....Gabon:

Galoa	(B11c)	**oghei, oghenji**	`red'
Sira 2	(B41)	**kumba-nyangi** @	

@ Kumba and Nyangi are women's names, but probably a folk-etymology because in western Kongo (H16) **nyangu** means `green banana' and **kumba mundu** is a cultivar with brown fruits (see French Medium Green, brown). The name refers to the fact that this cultivar has not brown, but green fruits (and points to an introduction from W. Congo(-K.)).

.....South-West Congo:

Yombe	(H12b)	**n.n.**	

51) False Horn Medium Red Subhorizontal, brown @

.....Gabon:

Benga	(A34)	**tede**	
Fang 1	(A75)	**soe, sue**	`antelope sp.'
Tsogo 1,2,4	(B31)	**mokombe**	
Pinji	(B33)	**mokombe**?	

@ called **esang** (< Fang **esang** `*Hibiscus sabdariffa*', a plant with a similar red colour) in the CIAM collection in Ntoum (Gabon); its homonym in the CRBP-Nyombe (Cameroon) collection is Green.

52) False Horn Medium Black-Green Subhorizontal

The stem is heavily blotched and the blotching pattern is very specific, resembling that of highland bananas; the petioles (petiole bases) and midribs are Green.

.....Gabon:

Shamaye 2	(B25)	**mombombo**	
Mbama	(B62)	**ombombo**	

53) False Horn Medium Black Subhorizontal

.....Southern Nigeria:

Efik	(LCr)	**obubit ukom,**	`black ukom'
		ekang ukom	`plantain from Ekang (area)'
Anaang		**obubit ukom**	`black ukom'
Ibibio		**odumana mfiah**?	`second to white'

.....North Congo:

Bekwil	(A85b)	**baa na doo**	`black False Horn'
Kola	(B22b)	**abanga zyibu**	`abanga black antelope sp.'

.....Gabon:

Fang 3	(A75)	**nzye ebang**	`civet-ebang' (*Viverra* sp.)
Kele 3	(B22b)	**nzyibu #**	`black antelope sp.'
Kota	(B25)	**eyinda**	`black'
Vungu 1	(B40)	**mungeli**	
Sira 2	(B41)	**mungeli**	
Sangu 1	(B42)	**ibanga ghipinde**	`black False Horn'
Punu 1	(B43)	**didungu di pinde**	
Duma	(B51)	**ebanga**	
Wanji	(B51)	**ebanga**	
Mbama	(B62)	**ombombo angwala**	

 # Cephalophus sp.

.....South-West Congo:

Mbama	(B62)	**mbongo?**
Laali	(B73b)	**n.n.**
Yaa	(B73c)	**mungele, mbongo**
Bembe	(H11a)	**ngandzaka?**
Yari	(H11)	**ngandzaka**

54) False Horn Medium Black Subhorizontal, black-striped

.....North Congo:

Ngom	(B22b)	**mumbetisye?**
Kola		**mumbeteke? @**
Bongili	(C15)	**monjolo?**
Benjele		**bongwamba**

@ named after the ridged board used for pounding plantains, which is called likewise in Mongo (C61)?

.....Gabon:

Pinji	(B33)	**ghejobo**
Sira 1,2	(B41)	**(ghibangi ghi) tsindi @**
Punu 3	(B43)	**(didungu di) mitsyenji**
Punu 4		**(didungu di) pendi**
Lumbu 1,2	(B44)	**(didungu di) mbendi ***

@ see False Horn Medium White-Green Chimaera.

.....South-West Congo:

Bembe	(H11a)	**mbendekumi**	`ten stripes'
Yari	(H11)	**mbende**	

55) False Horn Small Green Subhorizontal

Small plant, 5 hands, few suckers, 22-24 leaves, ca. 2.30 m. (on very good soil!).

.....Gabon:

Mbama	(B62)	**kaa**?	`hand of musa'

56) Horn Medium Green Subhorizontal, 0-5 hands

Names often differ according to the number of hands: (0) no hands, (1) 1 hand, (>1) more than 1 hand, (H) unspecified, (E) erect bunch.

.....Southern Nigeria:

Ejagham	(Ekd)	**mfang ebae/ewae**,	`hands two'
		ndome egome, ndum	`male (plantain)'
Umon	(Ucr)	**ngubo ifai**	`hands two'
Agwagwune		**ipe evom**?	`horns of cow'
Efik	(LCr)	**ubok iba**,@	`hands two'
		ebat iba #	`hands two'
Anaang		**ubok iba**,	`hands two
		itik/itih isim %	`short, stumpy tail'
Ibibio		**eba(t) iba**,	`hands two'
		abeke akup	`fall off umbilical cord'
Oron		**eba iba, ebiba**	`hands two'
Ibuno		**eba iba**	
Eleme	(Og)	**obinõ beratõ**	`plantain two hands'
Ngwa	(Igbd)	**abirika ipiele**	`plantain horn elephant'
Yoruba	(Dfd)	**olo kemeji**?	`hills two'

@ **ubok** `human hand'

\# **ebat** `musa hand'

% with a pendulous bunch?

.....West Cameroon:

Kwiri	(A22)	**mota mo liko**,	
		itata loba	(E)
Koose	(A15b)	**mbapo**,	
		apohoge	(E)
Kenyang		**echuko ekwa**,	
		monga love	(E)

.....South Cameroon:

Basaa	(A43)	**paa** @	(1,E) `hand (of musa)'
		oro	(>1) `two'?
Yebekolo	(A70)	**asang da**	(1) `hand one'
		nlak mvoe	(>1) `horn of mvoe'
Mangisa	(A71)	**asang mbok** #	(1) `hand one'

Bulu	(A74a)	**sang da**	(1) `hand one'
		ndum	(>1) `male'
Bane	(A74b)	**asang da**	(1) `hand one'

@ see Koose (A15b) **apa(ch)** Horn Medium Green (also meaning `musa hand') and Basaa **pag** `musa bunch'. Corresponding cultivar names are Melong (A15d) **epha**, Eton (A71), **pompa**, Koose (A15b) **mbapo**, Yambetta (A46) **kepapok** (`hand one'), Yabassi (A60) **ihaura** and Kundu (A11c) **epale** (`hands two').

Mbo (A15g) has **sang pok** `hand one'.

.....East Cameroon:

Makaa	(A83)	**aközi lang, (me)lank**	(1) `horn' $
		nyoge %	(>1) `tree dassie'
Bikele		**nwage**	(>1)
Bajue	(A84)	**nyo'o, ntum, nwage?**	(>1)
		epie <>	(E)
Koozime		**be ^**	(1)
		empier <>	(E)
		nyo'o	(>1)
Konabembe	(A85a)	**asoo wat, asoo war**	(1) `hand one'
		epyet, epyer	(E)
		boy, böy, böö	(>1)
Bekwil	(A85b)	**epiat <>**	(E)
		medoo	(>1)
Bageto	(A86a)	**asong wat**	(1)
		epiet	(E)
		boi	(>1)
Mezime	(A86a)	**amling, amlieg**	(1)
		ebiet	(E)
		eboyo	(>1)
Mpompo	(A86b)	**esong gwat**	(1, E)
		e(m)piet	(E)
		boi	(>1)
Mbimu	(A86c)	**asang woro =**	(1) `hand one'
		ampiere	(E)
		medõ	(>1)
Bomwali	(A87)	**empwendo <>**	(E)
		dumu? &	(>1) `male'
Bakum	(A91)	**asang bok**	(1)
		boi	(>1)
Kako	(A93)	**bo wete,**	(1)
		***sang* wete**	(1, E)
		boi, ndum(u),	(>1)

Kako	(A93)	**jagba** @	(>1)	
Bangandu	(Ub1)	**kasa kino** [[	(1)	
		medoo, (n)dum(u)	(>1)	
Yangiri	(Ub1)	**nasang dang**	(1)	
		we kondu	(E,0)	`male plantain'
		boi,	(>1)	
		nasang bwa	(2)	`hands two'
Baka	(Ub2c)	**impier,**	(E)	
		sia bako, \\	(E)	`look up at sun'
Baka	(Ub2c)	**somu ya,** //	(E)	`elephant tail'
		ndo aye,	(E)	`plantain elephant'
		noo, (e)bue, ndumu?	(>1)	

$ called **kashdewok** `hand one' in northern Makaa (near Bertoua).

% named after (the hands of) a nocturnal tree-animal (the tree-dassie, *Dendrohyrax dorsalis/arboreus* (Ewondo **nyog**, Baka **yoka**). The same cultivar is called **nyoko** by the more western Baka near Djoum.

<> A84-87,92 ***empendo**?

^ see Njem (below).

= a loan? The Mbimu word for `hand' is **saya**.

& a loan? a Bomwali name with this meaning would be **-tumu**.

@ a Gbaya (Ub1) name.

[[probably a loan from a Bantu (A70?) language, because the word for `hand' in Yangiri is **ngubu**.

\\ similar names referring to the erect position of the bunch have been reported from Gabon and Congo(-K.), e.g. Myene (B11) **ovona gono**, Sira **gengisi yulu**, Vili **gitala yulu**, Ngbandi (Ub2b) **li mi ndozu** (`face-sky'), Barambu (Ub3) **bangelime** and Zande (Ub3) **bangelekwaliyo** (`he who is looking up at sky').

// cf. Ngbandi (Ub.2b) **sā doli** `tail of elephant' (because of the aspect of the fruits).

.....North Congo:

Njem	(A84)	**nyo'o**	(H)	`tree dassie'
		lempwet	(E)	
		tilim @	(0)	
		behe nyo'o #	(1)	`hand of tree dassie'
		ngodi, nkodi?	(1)	
Bekwil	(A85b)	**dum**	(H)	
		ebiat,	(E)	
		kwaar bi	(E)	`palm-like plantain'
		ngum kwaar	(0)	`husband of plantain'
Mpiemo	(A86c)	**medõ**	(H)	
Bomwali	(A87)	**nganga**	(H)	
		mbwili?	(E?)	`palmtree'

Pomo	(A92)	**nyo'o**	(H)
		empwer	(E)
Ngom	(B22b)	**nganga**	(>1)
Kola		**akondo asangwe**	(0) `plantain-no hands'
		lambasi lawutu	(1) `finger-one'
		aoti	(E)
		nganga	(>1)
Bongili	(C15)	**mosatu, (nganga)**	(>1)
		iseke? %	(E) `horns'
Luma		**mosato** <>	(>1,E?) `three'
Mikaya		**nganga**	(H)
		ekeka ekolo	(E) `looking up at sky'
Benjele		**nganga**	(>1)
Baka	(Ub2c)	**gaga, edumu**	(H)
		labako &	(E)
		mokondo	(0)
Ngombe	(Ub2c)	**dumu, nganga**	(H)
Yaswa	(Ub)	**ganga**	(H)
Bangandu	(Ub1)	**dumu**	(H)

@ see Koozime **tilenkom** and western Baka (near Djoum) **cilenkom**; the fruits are said to contain "seeds" (i.e. aborted ovules).

\# **behe** `slap with an open hand' (i.e. with spread fingers).

% cf. Lingala (C36d) and Likuba (C27) **liseke** `horn (of animals)'.

<> this name is also found in Bobangi (C32) **moncato**, Lingala (C36d) **misato**, Ngbandi (Ub.2b) **sato** and Sango (Ub.2b) **mosantu** (< the word for `three', e.g. in Mbati (C10), Bongili (C15), Bobangi (C32) and Lokele (C55)).

& cf. **sia bako** in Baka-Cameroon.

.....Gabon:

Baka	(Ub2c)	**nyo'o**	(H)
		mokondo,	(E?)
		ndo aye	(E?) `plantain-up'
Benga	(A34)	**bowoto** $	(H)
Fang 1	(A75)	**abo nyok**	(H) `hand of tree dassie'
		nyat, nyar, nyet	(>1) `buffalo'
Fang 2,4		**nyoghe** #	(1)
Fang 3,5		**nyo'o, nyo'e**	(1)
Bekwil	(A85b)	**tulup**	(0)
		(e)dum	(>1)
Galoa	(B11c)	**olembo** %	(1)
		owoto	(>1)
		ompangwe ^	(E?)

Nkomi	(B11e)	**ompango**	(0)
		owoto	(1)
Nkomi		**ghele**	(>1)
Kele 1	(B22a)	**nyuke**	(H)
Kele 2		**asanze laka**	(H1)
Kele 3		**kile**	(>1)
		lekake uwute?	(1) `hand-one'
		akonde isangwe?	(0) `no plantains'
Kota 1	(B25)	**(e)oto**	(H)
Kota 2		**mbuji**	(1)
Shamaye 1		**baka @**	(0)
Shamaye 1,2		**eoto**	(1,>1)
Sake		**wotsyo**	(H)
Mahongwe		**eoto**	(H)
Puvi 1	(B30)	**odinzoka**	(0)
		ghelepa &	(>1)
Puvi 2		**owoto**	(H)
Puvi 1,3		**molembo**	(H)
Puvi 3		**ghelepa**	(1)
		woto	(>1)
Eviya		**pongore**	(0)
		ghelepa	(1)
		ghewoto	(>1)
Tsogo 1	(B31)	**ghevoto**	(1)
Tsogo 2		**pongodo**	(0)
Tsogo 2,3		**baka**	(H)
Tsogo 3		**gheepa**	(H)
Pinji	(B33)	**ghepa**	(H)
Ngubi	(B40)	**molembo**	(1) `finger'
Vungu 1		**punguri**	(0)
Vungu 1,2		**(le)baka**	(>1)
Sira 1,2	(B41)	**punguri**	(0)
		ghilipa	(1)
		baka	(>1)
Sangu 1	(B42)	**ibaghala**	(0) `man'
		baka	(1)
Sangu 3		**ighoghele**	(>1)
Punu 1	(B43)	**baka**	(1)
		mulembu	(E) `human finger'
Punu 1,3,4		**punguri, pungiri**	(0)
Punu 3		**ghilipa**	(1)

Punu 4		**mulembu**	(1)	`finger'
Punu 3,4		**baka**	(>1)	
Punu 1,4		**vuvu**	(>1)	
Lumbu 1		**baka**	(H)	
Lumbu 2	(B44)	**muvungu**	(0)	`female axis'
Lumbu 2		**muvangi**	(H)	
Duma/Wanji	(B51)	**mubungu**	(0)	
		elepa	(1)	
		iwutu	(>1)	
Njebi 1,4	(B52)	**mulembu**	(1)	
Njebi 2,4		**bakaa**	(>1)	
Njebi 5		**baka**	(1)	
Njebi 5		**muwungu**	(0)	
Njebi 3-6		**iwutu**	(>1)	
Mbama	(B62)	**owoa, owua**	(H)	
Vili	(H12a)	**baka**	(H)	
		mulembu	(H)	
Vili		**ghilipa**	(1)	

$- **woto**: Horn, 1 (>1) `(only) one (hand)'. Also a generic name for Horn cultivars. See Ndumu **ghiwutu**, Mbede **howudu** or **givutu** and Mpongwe **ovoto**.

- the only languages in Gabon with a corresponding word meaning `one' are Kele (B22a) **iwutu**, Seke (B21) **iwoto**, Mbangwe (B23) **ngwutu** and Ndumu (B63) **wu** or **wu-tu** `one-only'.

#- **nyoko**: Fang ***k -> k**, **'**, **gh** or **Ø** in certain environments (Voltz1990).

- see Isongo (C13), Monzombo and Ngbaka (Ub2c, N. Congo-K.) **bo yoko** `plantain-tree dassie' and Ngombe (C41) **emboye** (an unidentified cultivar; the source of the ***(e)boy(o)*** *names in S.E.* Cameroon?).

% - **mulembu**: Horn, 1 finger `(human) finger'.

- Galoa **olembo** and Njebi **mulembu** are probably loans, as their own words for `musa finger' are resp. **omengo** and **mupeli**.

^ **pongore, pungurt**: Horn, 0 (sometimes only a few fingers).

@ - **baka**: Horn, 0, 1, > 1 `hand(s)' (a generic name for Horn culivars).

- see Benjele (C15), Lingala (C36d), Ngombe (C41) and Ngbaka (Ub2c) **(e)baka**, Tio (B75) **iba** and Yanzi (B85) **eba** `musa hand' (cf. Proto-Gbaya (Ub1) **baka** `human hand' and Bantu CS 35 ***-baka** `to get, catch').

& **ghelepa**: Horn, 1 hand (< CS 542 ***-deep-** `long'?).

.....South-West Congo:

Mbama	(B62)	**olumi**	(0)	`male'
		elepa	(1)	
		ewutu, ewoto	(>1)	
Laali	(B73b)	**muhaangi**	(>1)	
		koyi/itangi mosi	(1)	`hand-one'

Laali	(B73b)	**idibi, singigi**	(0)
Yaa	(B73c)	**ilipa**	(H)
		ikata	(E) `paralytic'
		k(w)oyi/itsangi mosi	(1) `hand-one'
Bembe	(H11a)	**muhangi, kidibi**	(>1)
		kidibi	(1)
		indzandza, #	(H)
		mulyeme $	(1,18f/h)
Yari	(H11)	**kidibu, muhanga**	(1, >1)
		mantsakmantsak	(>1) `many suckers'
		muyari	(1)
Yombe	(H12b)	**kiala** @	(>1)

#- cf. Vili and Lumbu **disanza** 'musa hand'.

- in a Bembe village a Horn Medium Green plant was found with a few tiny spiny outgrowths on the ribs of the fruits (similar to **enyamawa** 'having spines', an AAA EA cultivar in the Maruku banana collection in N.W. Tanzania).

$ according to a Bembe informant, the fruits become light-coloured at maturity (see De Briey's description of a cultivar called **mbomo**; however, his "filament" at the end of the rachis was not observed.

@ - < **kiala mooko** 'to stretch hands, begging'. kiMbundu (H21) has **kiala kiango**.

- De Briey distinguished in the Mayombe area (Congo-K.) three Horn cultivars: **lomba** (one hand), **kiala** (two hands) and **zengani** (three or four hands) (De Wildeman 1920).

57) Horn Medium Green Subhorizontal, appendices

Most hands have thin, green spritty appendix of 5-10 cm's long.

.....Gabon:

Mbama	(B62)	**oworo, wuru**	(3,4)

.....South-West Congo:

Bembe	(H11a)	**ikokolo**?, **muhangi** @	(1,5)

@ this cultivar was probably introduced to this area by the Mbama, who migrated from E. Gabon to S.W. Congo.

58) Horn Medium Green Subhorizontal, blunt

.....North Congo:

Njem	(A84)	**nyo'o meduma** @	
Bekwil	(A85b)	**zwom** #	
Kola	(B22b)	**zom**?	
Baka	(Ub2c)	**mboko**	`buffalo'

@ **nyo'o** is the Horn Medium Green cultivar and **meduma** the French Medium Green, blunt cultivar.

see False Horn Medium Green, blunt.

59) Horn Medium Red Subhorizontal

Young fruits reddish.

.....East Cameroon:

Koozime (A84) **n.n.**

.....North Congo:

Bekwil (A85b) **dum**

.....Gabon:

Kota	(B25)	**(e)oto**	(H)
Sira 1	(B41)	**baka**	(1)
Punu 3	(B43)	**baka**	(>1)
Duma	(B51)	**iwutu**	(3)

.....South-West Congo:

Mbama	(B62)	**n.n.**	
Yari	(H11)	**mundeledinga**	`white men's neck'

60) Horn Medium Red Subhorizontal, yellow & pendulous @

.....South-West Congo:

Mbama	(B62)	**mbondo** #	
Tsaayi	(B73a)	**mbondo**	
Laali	(B73b)	**iini langa**	`teeth-squirrel sp.'
Yari	(H11)	**mulyemu**	`finger'?

@ a similar cultivar, with a Green pseudostem, is called **igihobe** in Burundi (see also False Horn Medium Green, yellow & pendulous).

\# < Myene (B11) **-bonda** `yellow, red, gold-coloured, to ripen, redden become yellow'.

APPENDIX C
BANANA CULTIVARS IN EASTERN AFRICA.

AA 'Sucrier'

.....East Madagascar:

Betsimisaraka **akundru ranjaliha**

.....North Madagascar:

north. Sakalava **malamarivana** 'smooth leaves'

AA 'Mshale'

Tall plant, rather thin fruits, green when ripe, the bunch resembles a poor 'Gros Michel'; often with an acyanic male bud.

.....South-East Kenya:

Sagala (E74b) **mujaja**

Taveta (G21) **ijighu** #

.....Central Kenya:

Gikuyu (E51) **muraru**

.....West Kenya:

Gusii (E42) **(m)orwaru**

Logoli (E41) **mulalu**

Luyia (J32) **mularu**

.....North-East Tanzania:

Chaga (E62) **mshale, mshare** @

\# Chasu (G22) has ijighu (Mreta 1997).

@ - the name **mshale** is also used generically for a group of cultivarsin Wunjo, Machame and Bosho (E62b), and a synonym of Rombo (E62c) **mlaali** and Gikuyu **muraru**. According to informants Bosho **nyenyele** belongs to this group too, whereas Rombo **mnyenyele** is the same as Macame **llaali** or Wunyo **mrarao**. However, the correspondences between names and the "local" AA cultivars are often confused between the various Chaga dialects and identification and nomenclature would require a separate study.

- the more recent introductions of bananas in this region have Swahili names. Part of these AA cultivars were probabaly introduced to the area around the turn of the century via the German banana collections at Amani and Moshi. Also, in 1951 banana cultivars from all over East Africa, including Zanzibar, were planted at Moshi, in order to find cultivars resistant to Panama disease (Hill and Moffet 1955).
- the name may be related to the common Bantu form ***-jada** 'human finger', e.g. **tsyala** in Sagala (E74b) and **tsyale** in Shambala (G23). Indeed, the banana finger is called **chala** in Mijikenda (E72) and Digo (E73), and **chala** in (part of) Swahili (G42). Another possibility is that **mchale** is a skewed form of the name "(Gros) Michel". In Taveta (G21) this cultivar is called gross or **gross mishale** (and an introduction from Amani, see above). People in the Mombasa area make a distinction between **cross mshale** with big fruits (AAA 'Gros Michel'?)

and **mshale** with slim fruits (AA 'Mshale'?). As mentioned above, AA 'Muraru/Mshale' looks like a poor 'Gros Michel'. See also the AAA 'Red/Green-Red' cultivars in the banana collection in Morogoro, which are labelled **red/green mishele** ("red/green michel"). Moreover, in earlier sources from the Kilimanjaro area the **mshale** name is not mentioned (Philippson 1984), which is another argument in favour of the "Gros Michel" etymology.

.....South-West Tanzania:

Nyakyusa (M31) **ndyali, kyali** @

@ < Chaga-Siha **n-kyare** (**nchale** > **n-jali**); Chaga immigrants in this area found the same favourable conditions for the cultivation of their beloved banana as in their region of origin (Kilimanjaro); they also introduced other banana cultivars (e.g. AAA EA 'Kitarasa') to this area, as well as the fabrication of beer from bananas.

.....North Malawi:

Konde (M31) **ndyali (uluwa)**, # **sweshi** `ndyali (-flowers)'

the name is motivated by the acyanic male bud.

.....Central Malawi:

Tonga (N15) **kapeni**

.....South Malawi:

Nyanja (N31) **kalota**

AA(A?) cultivars

.....South Malawi:

Nyanja (N31) **kapembe**

.....North-Central Mozambique:

Lomwe (P32) **pico** @

@ AA? sometimes with an acyanic male bud.

.....North Madagascar:

north. Sakalava **tsilampani** `the bats can't finish them'

.....Comoros:

Ngazija (G44a) **samba** `leaf'

AAA East African (original) cultivar

Medium-blotched stem, subhorizontal bunch, nude axis'.

.....South-East Kenya:

Sagala (E74b) **ndezi** #

Taveta (G21) **indiji, indeji** @

also called **irugu ya ng'ombe** `cattle (fodder) banana'; the Swahili name is **ndizi (ya ng'ombe)**, but this name is also used in a more generic sense.

@ Chasu (G22) has **indiji** (Mreta 1997).

.....West Kenya:

Logoli (E41) **kisigami**

Gusii (E42) **ritoke**
Tiriki (J32) **shisigami**
.....North-East Tanzania:
Chaga (E62) **ndishi**
.....North-Central Mozambique:
Lomwe (P32) **nasikaro, sigaro**
.....Kwazulu Natal:
Zulu (S42) **khova** @

@ in the second half of the sixteenth century a group of Tonga (S50) people migrated from the Maputo area southwards and they may have brought this banana with them.

AAA East African 'Kitarasa'
With red sap in peel and stem.
.....South-East Kenya:
Taveta (G21) **kitarasa** #
.....North-East Tanzania:

- introduced from the Chaga area.
- < Macame (E62b) **kidarashan** 'fresh banana bark'? (the wet fibres are used for making baskets, Müller 1947).
- Chasu (G22) also has **kitarasa** (Mreta 1997).

AAA East African 'Gonja'
Subhorizontal bunch, intermediate blotching, persistent bracts'.
.....West Kenya:
Gusii (E42) **engonje** @

@ the persistent bracts make this cultivar look like a plantain, hence the name.

.....East Uganda:
Gisu (J31a) **gonzoha**, #
nasara

roasted like plantains (called **gonj(w)a** in Zone J languages) and used on traditional occasions.

AAA East African 'Nshakara'
.....West Kenya:
Gusii (E42) **ng'ombe** @

@ according to informants this cultivar was introduced from Uganda around 1978; it resembles the **nshakara** cultivar in Uganda.

AAA East African 'Ndifu'
Pendulous bunch, nude axis.
.....South-West Tanzania:
Safwa (M25) **ndifu**

Nyakyusa (M31) **ndifu, indefu**
.....North Malawi:
Konde (M31) **ndifu**
.....Central Malawi:
Tonga (N15) **ndifu** @
@ a loan from Konde/Nyakyusa.

AAA East African 'Tukula'
Red pseudostem and red leaves.
.....West Uganda:
Tooro (J11) **n.n.** @
@ introduced from Ankole or from Tanzania, according to Tooro informants in Fort Portal. The plant was probably first discovered in the Maruku village near Bukoba in North-West Tanzania and then planted in the nearby banana collection, whence it may have been taken to Uganda (see Rossel & Mbwana 1991).

AAA East African 'Lujugira'
.....South Uganda:
Ganda-S (J15) **lujugira** @
@ a beer cultivar (cf. "the Lujugira group" of highland bananas, Shepherd 1957); cf. Kerewe-Kara (J24) **lijungiro** 'beer-brewing'.

AAA East African (Semi-Dwarf)
.....East Uganda:
Gisu (J31a) **tika**
.....South Uganda:
Ganda-S (J15) **nakyeteng(w)a**
.....West Uganda:
Kiga (J11) **kitika**
Tooro **kitika**
Konzo (J41) **ekitika**
Isi/Amba (D32) **kitika** #
on Zanzibar and in the Comores and Madagascar, the AAA 'Giant Cavendish' cultivar is called resp. **mtwike, kontrike** and **lutika**. Swahili speakers also spread this name (**kitika**) to the interior of the continent, for instance to Burundi and to the Sumbawanga district of S.W. Tanzania (between lake Rukwa and the southern part of Lake Tanganyika). It is also used in N.E. Congo(-K.), in the Maniema, Kivu, Haute Congo and Ituri regions, especially by the speakers of Ngwana (a variant of Swahili), who seem to have been particularly fond of this banana. The name **kitika** is used in these areas as a general term for sweet bananas as well as for the 'Dwarf (and Giant?) Cavendish' cultivar. The name also occurs in Enya (D14), Lingala (C36d), KiKongo (H16) and Ngiti (C.S.). As early as 1899 dwarf bananas were found in the

border area of Uganda and Rwanda (Langlands, 1966). In Rwisi (D32), Tooro, Kiga (J11) and Konjo (J41), where the people speak some Swahili, **kitika** is the name of a semi-dwarf AAA (East African) highland banana (called **nakyetengu** in Ganda). Gisu (J31a) **tika**, Ganda (J15) **ntika** and Gikuyu (E51) **mutika** and **gatika** are also highland bananas, not dwarf, but with large bunches like those of **nakyetengu**. The origin of this name is not clear (e.g. Swahili and Ganda **-tika** 'to carry on head' because of its heavy bunches?, or Zande (Ub3) **tikitiki** 'very small, pygmy'?).

AAA East African (Dwarf)

This cultivar is smaller (ca. 1.80 m.) than **kutika/nakyetengu** in Uganda (which is ca. 2.50 m.).

.....Central-East Tanzania

Kaguru (G12)} **dwarf uganda** @
Luguru (G35)}

@ introduced from Horti Tengeru.

AAA East African (spiraloid)

.....South Uganda:

Ganda-M (J15) **namaliga** #

cf. Ganda **kiriga** and the **-dinga** ('to turn') names in W.C. Africa for the spiraloid plantain cultivar.

.....West Uganda:

Isi/Amba (D32) **narwejenga** @

@ < ***-dinga**.

AAA East African (acyanic male bud)

Inner bracts acyanic, yellow patches on leaves and fruits.

.....North-East Tanzania:

Wunyo (E62b) **ndizi ya uhuru** # 'independence banana'
Bosho **mnanambo**

this banana appeared first in the area about the time of Independence (**Uhuru**); a similar cultivar is found in N.W. Tanzania and called **enzimora** in Haya (J22).

.....South Uganda:

Ganda-M (J15) **muziranyama** @ 'not to be eaten with meat'

@ . ***-zira** is a (food) taboo (cf. Nkole-Kiga **kuzira** 'to forbid'); it is believed that the plant changes appearance after one eats its fruits together with meat (probably because the acyanic male bud is not a stable feature).

. traditionally, the Hima (J11) pastoralists hardly ate any vegetable food, but mainly subsisted on meat, milk and blood. No vegetable and animal products could be consumed together, lest it endangered the health of the cattle from which the milk or blood was taken (Karugire 1971, Museveni 1997).

.....West Uganda:

Isi/Amba	(D32)	**ndyabakama,**	'food for the kings'
		gbebe basalya	'banana for the men'

.....Central-East Tanzania:

Kaguru	(G12)}	**bukoba giant**
Luguru	(G35)}	

introduced to the Sokoine banana collection (Morogoro) from Bukoba.

AAA East African cultivars

.....Central Kenya:

Gikuyu	(E51)	**mutahato,** &
		githumu, #
		mutore, mutoto $
Kamba	(E55)	**mutavato,** %
		kiganda @ ^

.....North-Central Mozambique:

Lomwe	(P32)	**i(n)tentera** <> ^

& giant, big pendulous bunch, red petiole margins and midribs; used as food for small children.

also identified as a group, the **"kisumu"**, **"kiganda"** or **"kampara"** ('Kisumu, Uganda, Kampala') group" of recently introduced (AAA EA) cultivars.

$ 'mashed food for children'; a soft cultivar.

% called **mutarato** in Meru (E53).

@ soft after cooking, used for feeding children; said to be a recent introduction.

<> Some cultivar names in Makua (P31) also originate in N.E. Tanzania, e.g. **nakhorodhi, khirozi** (< Swahili **(ma)kojozi**), **sukali** (< Swahili **sukali**) and **munenele** (cf. Chaga **nyenyele**).

^ see Chasu (G22) **matoke** and **itendera** (Mreta 1997).

AAA cultivars

.....Central Kenya:

Kamba	(E55)	**mulalu** @

@ cf. AA 'Mshale'; this is a marginal musa area and many musa names have been borrowed from Gikuyu.

.....Central-East Tanzania:

Kaguru	(G12)}	**kikundi,** @
Luguru	(G35)}	**cooking kinole** #
Porogo	(G51)}	

@ according to informants this is the name of a nearby stream, but it may also have been the name under which this cultivar was introduced from N.W. Tanzania (where **enkundi** is the generic name for beer bananas in Ziba (J22)).

Kinole is the name of nearby town. Many immigrants from other parts of Tanzania have come to work in the area and they were probably responsible for the introduction of some of these bananas.

.....South-West Tanzania:

Nyakyusa	(M31)	**(ndizi) uganda**,@ **sirya**	`uganda banana'

@ introduced from Uganda.

.....North Malawi:

Konde	(M31)	**uganda**	

.....Central Malawi:

Tonga	(N15)	**uganda**, **kazingilira**	`to turn'

.....South Malawi:

Nyanja	(N31)	**kalimandithu**, **katsizi tall**, # **phwiza**	

cf. Nyanja **kachizi** and Yao (P21) **kasizi** (unidentified cultivars).

.....North-Central Mozambique:

Lomwe	(P32)	**namwali**	

AAA 'Dwarf/Giant Cavendish'

.....South-East Kenya:

Digo	(E73)	**chinu**, **chiguluwe** #	`pig'
Sagala	(E74b)	**kangulume**	
Taveta	(G21)	**kinguruwe** @ **bandia** $	`fake'

the low-hanging bunches are eaten by pigs.

@ - called **kimalindi** in Swahili. According to a local informant this banana was introduced from Malindi in the 1950's. Banana production was started in the Malindi area (after the example of the Juba region in Somalia?), but the ecological conditions in Taveta turned out to be more suitable.

- Chasu (G22) has **kimalindi, kinguruwe** or **inguve** (Mreta 1997).

$ i.e. `fake Gros Michel'.

.....Central Kenya:

Gikuyu	(E51)	**nyoro** &

& **"Nyoro"** was the nickname for a certain Mr. Graham Bell, who sold banana plants to the population (Baker & Simmonds 1952).

.....West Kenya:

Logoli	(E41)	**sekwimbi**

.....East Uganda:

Gisu	(J31a)	**sindika,**	
		bogoya	

.....West Uganda:

Kiga	(J11)	**chiguruwe** @	

@ < Swahili

.....North-East Tanzania:

Bosho	(E62b)	**mchare wa kisasa** #	`modern mchare'
Rombo	(E62c)	**nguwe,**	
		malindi	`Malindi (town)'

mchare is the AA 'Mshale' cultivar.

.....Central-East Tanzania:

Kaguru	(G12)}	**kiguruwe,**	
Luguru	(G35)}	**malindi,**	
		kadule, kiduli	

.....South-West Tanzania:

Nyakyusa	(M31)	**karuma**	

.....North Malawi:

Konde	(M31)	**kaluma,**	
		mulanje #	`Mulanje'

a region in South Malawi, on the border with Central Mozambique, which has a climate favourable for banana cultivation.

.....Central Malawi:

Tonga	(N15)	**kaluma,**	
		tondyama,	
		mulanje	`Mulanje'

.....South Malawi:

Nyanja	(N31)	**kabuthu,** @	
		katsizi dwarf,	
		tondama,	
		kabuthu wa mkulu	`big kabuthu'

@ cf. **kabuthu** 'Maputo' in Central Mozambique.

.....North-Central Mozambique:

Lomwe	(P32)	**nahanu,**	`chief's wife'
		marusi	`young girl'

.....Central Mozambique:

Cuabo	(P34)	**kabishu,**	
		kabuto,	`Maputo'
Cuabo	(P34)	**munaburu,** #	`of the Boers'?
		munyaringa, %	
		bananeira madeira @	`Madeira banana'

an introduction from South Africa?
% the name of a coastal district
@ alleged to have been introduced by a Portuguese settler.

.....South Mozambique $:

Portuguese	**banana ana**	`dwarf banana'

$ formerly a banana-exporting area

.....Kwazulu Natal:

Zulu	(S42)	**sweet banana**

.....East Madagascar:

Betsimisaraka	**batavia hiva**	

.....North Madagascar:

north, Sakalav	**tsianrenyi, kutika @**	`you don't have to look up'

.....Comoros:

Ngazija	(G44a)	**kuti, kontrike @**	`short'

@ belonging to the group of **kutika** names (see above).

AAA Cavendish 'Paz' #

.....Central Kenya:

Gikuyu	(E51)	**israel #**

- 'Paz' is an Israeli selection of Cavendish and was introduced in 1977 from KARI-Muguga (Nairobi) to the collection of Tengeru, Arusha (Swai 1991).
- introduced to the national banana collection and distributed via prison nurseries (cf. **pazi** or **paji** in Arusha, Moshi and Amani, Zanzibar and the Comores). The KARI banana collection in Thika contained a number of Cavendish cultivars introduced from different countries, e.g. 'Gabou' (< La Reunion), 'Pisang masak hijau' (< Indonesia), 'Juba' (< Somalia, 1961), 'Paz' (< Israel), 'Giant Cavendish' and 'Lacatan' (< Jamaica via Kew?, 1958) (KARI-Thika, ms).

.....North-East Tanzania:

Wunyo	(E62b)	**kimalindi**
Rombo	(E62c)	**pazi**

AAA Cavendish 'Americani'

.....East Madagascar:

Betsimisaraka	**batavia tsy ambo tsy hiva**	`bat. not ambo not hiva'

AAA Cavendish 'Lacatan'

.....North Malawi:

Konde	(M31)	**uganda**

.....East Madagascar:

Betsimisaraka	**batavia ambo**	

AAA Cavendish 'Robusta'

.....Central-East Tanzania:

Kaguru (G12)} **mtwike** @

Luguru (G35)}

@ cf. the **kutika** names (AAA East African, semi-dwarf and 'Giant Cavendish').

AAA '(Green-)Red'

.....South-East Kenya:

Taveta (G21) **idio ingundu,** `red banana'

kiganda $ `Ugandan banana'

$ - introduced in "father's time" (of an old informant) from Uganda.

- Chasu (G22) has **kiganda** (Mreta 1997).

.....Central Kenya:

Gikuyu (E51) **githogo**

.....West Kenya:

Nyole (J33) **lisungu** `European'

Tiriki (J32) **sweet**

.....East Uganda:

Gisu (J31a) **namonye**

.....South Uganda:

Ganda-S (J15) **bogoya** %

Soga (J16) **bogoya**

% introduced from the West Indies in 1902 (Tothill 1940).

.....North-West Tanzania:

Haya (J22) **kinyamutuku** `red-coloured'

.....North-East Tanzania:

Rombo (E62c) **ndizi uganda** `Ugandan banana'

.....Central-East Tanzania:

Kaguru (G12)} **red/green michele,**

Luguru (G35)} **mzungu mwekundu** `red (like a) European'

.....South-West Tanzania:

Nyakyusa (M31) **mwamnyila**

.....North Malawi:

Konde (M31) **pamala**

.....Central Malawi:

Tonga (N15) **yachizungu** `like a European'

.....South Malawi:

Nyanja (N31) **zomba green/red** # `Zomba green/red'

Zomba is the old capital of Malawi

.....North-Central Mozambique:

Lomwe	(P32)	**mungelish,**	`Englishman'
		banana incarnada/rossa	`red banana'

.....Central Mozambique:

Cuabo	(P34)	**makuku,**	
		bananeira rosa	

.....North Madagascar:

north. Sakalava	**bembava**	

.....East Madagascar:

Betsimisaraka	**akundru bibaka mena/fotsy**	`ak. bib. red/white'

AAA 'Red'

.....South Malawi:

Nyanja	(N31)	**ngerezi**, @	`English'
		kashuga @	

@ cf. **mungelish** and **kasunga** in Mozambique.

.....North-Central Mozambique:

Lomwe	(P32)	**kasunga,**	`European'
		pico #	

< Makua (P31) **piko** and Yao (P21) **pingo** `ebony' (AAA 'Red'). The Lomwe in Gurue call all bananas **pico** when they ignore their real name.

AAA 'Gros Michel'

.....South-East Kenya:

Taveta	(G21)	**gross (mishale)** @

@ introduced from Amani; **(gross) michale**" > **mshale**? (cf. AA 'Mshale').

.....West Kenya:

Nyole	(J33)	**linyore** #

cf. Gikuyu **nyoro** 'Dwarf Cavendish'.

.....East Uganda:

Gisu	(J31a)	**sindika,**
		bogoya

.....South Uganda:

Ganda-S	(J15)	**bogoya** %

% introduced from Jamaica but not distributed outside the Entebbe Botanical Garden, although a local 'Gros Michel', called **bogoya**, was already common then in Buganda (Mukasa & Thomas 1970).

.....West Uganda:

Kiga	(J11)	**bogoya**
Tooro		**bogoya**
Konzo	(J41)	**embogoya**

.....North-West Tanzania:
Haya (J22) **gando**
.....Central-East Tanzania:
Kaguru (G12)} **jamaica**
Luguru (G35)}
.....North-Central Mozambique:
Lomwe (P32) **pico**

AB 'Sukari'
Compound tepal white or slightly pink; a dessert banana.
.....South-East Kenya:
Digo (E73) **chisukari** #
Sagala (E74b) **sukari**
accordingly (re-)introduced to Kenya from the West Indies under the name "Guindy" (KARI, Thika, ms), but a confusion with AB 'Kisubi' cannot be excluded.
.....Central Kenya:
Gikuyu (E51) **gasukari**
Kamba (E55) **kisukali**
.....West Kenya:
Logoli (E41) **sukali**
Gusii (E42) **ekesukari** %
Tiriki (J32) **sukari**
Luyia **kibanana**
% also called **wanjare cake** (Wanjare is a village near Kisii).
.....East Uganda:
Gisu (J31a) **ndizi**, $ # `banana'
mazungu $ `European'
$ Swahili names
.....South Uganda:
Ganda-S (J15) **sukali ndiizi** @
Soga (J16) **ndizi** @
@ < Swahili
.....West Uganda:
Isi/Amba (D32) **(o)busukari**
Kiga (J11) **kabaragara** #
Tooro (J11) **sukali, akasukari**
Konzo (J41) **esukali**
also called **khabalakala** in Gisu (J31a), from **-balaka** 'to be dry'. In Gisu **khabalakala** is a cake made of corn flour or cooking (**matooke**) bananas (Siertsema, 1981). Ganda **kabalagala** is either a kind of pancake made of ripe "**sukali ndizi**" mixed with cassva flour, or a dish of cooking bananas mixed with sweet potatoes and palm oil. **Imbaragara** and **kamaramasenge**

are synonyms for the 'Sukari' cultivar in Rwanda and Burundi (Sebasigari 1987). In Haya (N.W. Tanzania) **kabalagala** is the name of a dumpling made from any kind of sweet banana, and also a cover term for all sweet bananas. In the MARTI banana collection in Uyole (near Mbeya in S.W. Tanzania) **kabalagala** is a highland banana; **mbalaga** is the name of a dish consisting of cooked bananas with cow's paunch in Nyakyusa (M31) and Konde (M31).

.....North-West Tanzania:

Haya (J22) **obushukari** @

@ in an anonymous source dating from 1939 the following sweet banana cultivars are mentioned: **akashukali akake** 'female sukari' (AB 'Sukari'?), **ekishukali ekiango** or musa (ABB 'Pisang awak'?), **kituku** (AAA 'Red'?), **enkonjwa sukari** (ABB 'Bluggoe'?) and **kiguruwe** (AAA 'Dwarf Cavendish'?). It appears that, apart from **matoke** (highland banana) and **nkonjwa** (plantain), **sukari** was the first sweet banana in this area and that the name therefore acquired a generic sense.

.....North-East Tanzania:

Rombo (E62c) **kisukari** %

% Chasu (G22) **kisukari** is used both for this cultivar and for AAB 'Silk' (Mreta 1997).

.....Central-East Tanzania:

Kaguru (G12)} **kisukari**

Luguru (G35)}

.....South-West Tanzania:

Safwa (M25) **kambani**

Nyakyusa (M31) **kambani** @

@ according to a banana survey (Anonymous 1976), Nyakyusa immigrant workers introduced the **kambani** cultivar from Zambia (where they worked in the copper mines).

.....North Malawi:

Konde (M31) **kambani** #

in 1875, the "lady's fingers banana" (AB 'Sukari'?) was one of the most common banana cultivar in the Karonga area (Williamson 1956).

.....Central Mozambique:

Cuabo (P34) **nyatsyenya**

.....Comoros:

Ngazija (G44a) **isukari**

AB 'Kisubi'

Compound tepal deep pink; mainly used for making beer.

.....West Kenya:

Luyia (J32) **kisubi**

.....East Uganda:

Gisu (J31a) **kisubi** %

.....South Uganda:

Ganda-S (J15) ***kisubi***

Soga (J16) **kisubi @**

% also called **khabalakala umumwa**, which can be translated as `**khabalakala** (i.e. AB 'Sukari') for beer' (Siertsema 1981).

@ - this cultivar seems to have been introduced to Rwanda, Burundi and eastern Congo(-K.) between 1940 and 1960 from Uganda (Sebasigari, 1987). Was this the cultivar 'Guindi' (AB 'Ney poovan'? cf. Digo, Kenya) that was sold to the people by Graham Bell (Baker & Simmonds, 1952)? According to Masefield (1944), the small "lady's fingers" cultivar (AB 'Sukari'?) had for long been cultivated in Uganda, while **"kisubi"** had come more recently into favour as a beer banana, to the detriment of the **"mbidde"** highland bananas

- the name **kisubi** may relate to a place near Entebbe where the Catholic Mission established an agriculture training centre. The missionaries introduced from 1886 onwards all kinds of fruit trees and plants from Algeria and Zanzibar (Streicher 1902) and without doubt also from the nearby Botanical Garden at Entebbe. According to Serubiri (1979) **kisubi** was introduced from the West Indies to Uganda (Entebbe). In the Subi region, South-West of Lake Victoria in Tanzania, mainly AB 'Kisubi' bananas are grown; a spread from this region of this banana, named after the Subi area, to Uganda can therefore not be excluded either.

.....West Uganda:

Isi/Amba (D32) **kisubi**

Konzo (J41) **kisubi #**

a recent introduction, according to the people.

.....North-West Tanzania:

Haya (J22) **kisubi**

.....Central Mozambique:

Sena (N44) **kasiri %**

% cf. Nyanja (N31) **nasiri** and Makua (P31) **nasili** (unidentified cultivars).

AAB (plantain-like)

.....North Madagascar:

north. Sakalava **menaluki @** `red after cooking'

@ resembles a plantain.

.....North Madagascar:

north. Sakalava **katakatalahy kiriva**

AAB 'Silk'

.....North Malawi:

Konde (M31) **kalaghasya #** `to make dry'?

< **kalagala**. AB cultivars are often confused with this cultivar (see AB 'Sukari').

.....Central Malawi:

Tonga (N15) **sukali, %**

lazaro @ `Lazarus'

% mistaken for an AB cultivar.

@ so-called because of hard spots in the fruits.

.....South Malawi:

Nyanja (N31) **sukali**

.....Central Mozambique:

Cuabo (P34) **n.n.**

.....East Madagascar:

Betsimisaraka **akundru vazaha** `banana of the Europeans'

AAB 'Mysore'

.....North Madagascar:

north. Sakalava **mamoazato**, `number-100'
bifitina

.....Comoros:

Ngazija (G44a) **gorolo**

AAB 'Pome'

.....Central Mozambique:

Cuabo (P34) **n.n.**

ABB cultivar(s)

.....West Kenya:

Tiriki (J32) **shisotsi** @ `for bees'?

@ because of their abundant nectar the ABB bananas attract many bees and are purposely planted by beekeepers (for instance in the Gisu area in neighbouring East Uganda).

.....North Malawi:

Konde (M31) **ndasauka**, `to be poor'
songeya `Songea'

.....South Malawi:

Nyanja (N31) **nakauka**,
lomoni

.....Kwazulu Natal:

Zulu (S42) **bomono**

ABB cultivar (blunt)

.....South-East Kenya:

Digo (E73) **n.n.** #

originally introduced from Pemba, according to the owner.

ABB 'Bluggoe'

.....South-East Kenya:

Digo (E73) **bokoboko**

Sagala	(E74b)	**mutuweta** %	`Taveta'
Taveta	(G21)	**mkojozi** &	

% introduced from Taveta.

& Chasu (G22) has **ikojozi** (Mreta 1997).

.....West Kenya:

Gusii	(E42)	**pokopoko** $	

$ < Swahili **bokoboko**.

.....East Uganda:

Gisu	(J31a)	**manjaya**	

.....South Uganda:

Ganda-S	(J15)	**chivuvu** @	

@ < **vvu** `grey' (`ashes').

.....West Uganda:

Tooro	(J11)	**pepepe**	`white'
Konzo	(J41)	**(ci)pepepe**	
Isi/Amba	(D32)	**kipepepe**	

.....North-West Tanzania:

Haya	(J22)	**kikonjwa**	`big plantain'

.....Central-East Tanzania:

Kaguru	(G12)}	**bokoboko**	
Luguru	(G35)}		

.....South-West Tanzania:

Nyakyusa	(M31)	**halale, harare** %	`Harare'

% probably introduced from Zimbabwe; missionaries are reported to have played a role in the intruction of musa cultivars to the Mbeya Region (Anonymous 1976).

.....North Malawi:

Konde	(M31)	**harare,**	`Harare'

.....Central Malawi:

Tonga	(N15)	**mbirindola, mbingidola**	

.....South Malawi:

Nyanja	(N31)	**kholobowa, zibowa** @	

@ cf. **(ka)boabora** in Central Mozambique.

.....North-Central Mozambique:

Lomwe	(P32)	**nasapato** #	`shoe'

a Portuguese word.

.....Central Mozambique:

Sena	(N44)	**mulaboa** $	
Cuabo	(P34)	**(ka)boabora** $	

$ < Mexican **barbaro**.

.....South Mozambique:

Portuguese		**banana macaco**	`monkey banana'

.....Kwazulu Natal:
Zulu (S42) **nko(w)ane**
.....North Madagascar:
north. Sakalava **berirana,** `many-corners'
.....East Madagascar:
Betsimisaraka **akundru makoa** `Makua banana'

ABB 'Silver Bluggoe'
.....South-East Kenya:
Taveta (G21) **juma muhuni #** `Juma the crook or wanderer'
Chasu (G22) also has **juma mhuni** (Mreta 1997).
.....East Uganda:
Gisu (J31a) **manjaya**
.....South Uganda:
Ganda-S (J15) **chivuvu**
Soga (J16) **kidozi &**
& < Swahili **nakojozi** `bedwetter'.
.....North-West Tanzania:
Haya (J22) **kikonjwa kinyaiju** `ash-coloured kikonjwa'
.....North Malawi:
Konde (M31) **kawalufu** `ashes, powder'
.....Central Malawi:
Tonga (N15) **mbirindola, mbingidola**
.....South Malawi:
Nyanja (N31) **kholobowa, zibowa**
.....North Madagascar:
north. Sakalava **purufuka %**
% a name of Bantu origin?

ABB 'Pisang awak'
.....East Uganda:
Gisu (J31a) **kainya**?
.....South Uganda:
Ganda-M,S (J15) **kainya, #**
musa @
kainja < Haya (J22) **kinyaiju** `ash-coloured' (after metathesis)?
@ the name **musa** probably stems from a collection label ("Musa") in the Entebbe Botanical Garden.
.....West Uganda:
Kiga (J11) **musa #**
Tooro **musa**

Isi/Amba (D32) **(ki)musa**
Konzo (J41) **(ci)musa**

\# *a recent introduction; the Baganda introduced many banana cultivars to other regions in Uganda* in colonial times (Langlands 1966, Serubiri 1979), as can be gleaned from the spread of some names, not only of highland bananas, but of the more recently introduced bananas too. Some of these names point to the Entebbe Botanical Garden as the place of introduction, like **sweet Jamaica** (AAA 'Gros Michel' < Jamaica), **kijozi** (ABB 'Bluggoe' < Amani, Tanzania?), **musa** (ABB 'Pisang awak' < Malaysia?). Probably all of the above-mentioned cultivar names in Gisu (J31a) came from Ganda, as do most names in West Uganda.

.....North-West Tanzania:
Haya (J22) **musa**
.....North-East Tanzania:
Rombo (E62c) **kibungara** `Bengal'
.....Central-East Tanzania:
Kaguru (G12)} **unyoya**
Luguru (G35)}
.....South-West Tanzania:
Nyakyusa (M31) **guruti, gurutu**
mpokanjara, `hunger saver'
broken,
songea %

% Songea is a region in South Tanzania.

.....North Malawi:
Konde (M31) **zambia** `Zambia'
.....South Malawi:
Nyanja (N31) **kazanda, (n)zanda**
.....Central Mozambique:
Cuabo (P34) **ndandara, zandara,**
kavadava `strong'
.....South Mozambique:
Portuguese **banana maçã** `apple banana'
.....Kwazulu Natal:
Zulu (S42) **nkosazane** @ `little princess'

@ a personal name.

ABB cultivar (Semi-Dwarf)
.....Central Mozambique:
Sena (N44) **kasiri** #

\# allegedly introduced from the Beira area.

APPENDIX D
BANANA CULTIVARS IN WEST-CENTRAL AFRICA

AAB 'Pome' or 'Prata'

.....Southern Nigeria:

Yoruba	(Dfd)	**kparanta** @	
Anaang	(LCr)	**four corners**	
Ibibio		**mboro ebok,**	`banana of the monkeys'
		four corners	
Efik		**mboro emiang**	`banana of bird sp.'

@ < **"prata"**, the name of this cultivar in Sao Thome.

.....South-West Cameroon:

Koose	(A15b)	**nyaake ngen**	

.....South Cameroon:

Ewondo	(A72)	**ato(a)rne**	
Bane	(A74b)	**atorna**	
Yebekolo	(A70)	**ojoe beti**	`banana of the Beti'

.....East Cameroon:

Makaa	(A83)	**ototo**	
Bikele		**jwala maka** @	`banana of the Makaa'
Bajue	(A84)	**etoro, atora**	
Koozime		**atora nzime** @	`banana of the Nzime'
Konabembe	(A85a)	**etora (Kunabe)** @	`banana of the Konabe'
Bekwil	(A85b)	**zelum**	
Mpompo	(A86b)	**etono**	
Mbimu	(A86c)	**atora**	
Bomwali	(A87)	**atona**	
Bakum	(A91)	**atola, atona**	
Kako	(A93)	**atono**	
Yangiri	(Ub1)	**atono, atona**	
Bangandu		**atono, atona**	
Baka	Ub2c)	**atota(n),**	
		taabu (akunda)	`banana (of Akunda)'

@ as this was the first banana known to the people, it is often called `local banana', whereas the more recently introduced bananas such as 'Gros Michel 'and 'Dwarf Cavendish are called `banana of the Europeans'.

.....North Congo:

Bangandu	(Ub1)	**atona**	
Baka	(Ub2c)	**taabu**	
Njem	(A84)	**letoro (le njim)**	`banana (of the Njem)'
Bekwil	(A85b)	**zolum, zelum,**	

Bekwil	(A85b)	**toro, metoto**	
Bomwali	(A87)	**atono**	
Ngom	(B22b)	**ndenge (wa**	
Kola		**sade/saresare)**	`banana(-short)'
Mbede	(B61)	**toro kala**	`banana of the forefathers'
Mikaya	(C15)	**atono**	
Bongili		**itabi**	
.....Central Congo:			
Akwa	(C22)	**itoto la ndangili?**	
Koyo	(C24)	**itoto lakaa**	`banana of the forefathers'
Yaswa	(Ub.)	**atono**	
.....Gabon:			
Baka	(Ub2c)	**atora,**	
		taabu akunda &	`Akunda's banana'
Benga	(A34)	**itoto**	
Fang 1-5	(A75)	**atora, atwaran #**	
Bekwil	(A85b)	**etoto**	
Makina	(A75)	**tora**	
Galoa	(B11c)	**itoto ny'afala/ $**	`banana of the French/
		ny'atanga	white men'
Nkomi	(B11e)	**itoto ni fala**	`banana of the French'
Kele 1	(B22a)	**dangele, dangala, %**	`ripe (musa)'
		letoto lembade @	`the real banana'
Kele 3		**matoto**	
Kota 1	(B25)	**twala**	
Kota 2		**danji %**	
Shamaye		**dangile**	
Sake		**dangile**	
Mahongwe		**dangile**	
Puvi 1	(B30)	**etoto la evovi**	`banana of the Puvi'
Puvi 3		**etoto nza bekale**	`forefather's banana'
Eviya	(B30)	**etoto a gheviya/**	
		mbegho	`the Eviya/real banana'
Tsogo 2	(B31)	**etoto a kumu/bobo**	`ordinary banana'
Pinji	(B33)	**toto**	
Ngubi	(B40)	**ditoto dia ngubi**	`banana of the Ngubi'
Vungu 1		**ditotu dighivungu**	`banana of the Vungu'
Sira 1,2	(B41)	**ditoto dighisir**	`banana of the Eshira'
Sangu 3	(B42)	**modanga**	
Sangu 1-4		**ditotu dikala**	`banana of forefathers'
Punu 3	(B43)	**ditoto dipunu(e)**	`banana of the Punu'

Punu 4		**sati**	`Sao Tome'
Lumbu 1,2	(B44)	**santi**	`Sao Tome'
Duma	(B51)	**mbala** @	
Njebi 5,6	(B52)	**letoto**	
Njebi 4		**letoto lekala/lenzebi**	`forefathers/Njebi banana'
Njebi 1,3,4		**mutanga** %	
Njebi 2		**ditoto dimudange**	
Mbama	(B62)	**(an)dangala, dangile**	
Vili	(H12a)	**santi**	`Sao Tome'

& - cf. Lingala (C36d) and Yakoma (Ub2b) **kunda** `tortoise'. Akunda the tortoise is a mythological figure. There is probably a connection with the habit of the neighbouring Bekwil t o bury a tortoise shell under the first plantain that is planted in a field (allegedly as a protection against wind-damage; Mengho 1978)

- Baka, like other Ubangi languages (Ngbandi, Ub2b, **tabe**), has borrowed the **taabu** name from C30 or C40 languages, e.g. Lingala (C36d) **etabi**, Ngombe (C41) **etabe** and Bobangi (C32) **etabi** `banana'.

\# the Fang in Libreville say **atora** and the Fang in Oyem say **atwara(ne).**

$ during colonial times the people were obliged by the French to plant this, hardy, cultivar as a safeguard against famine, which explains its Fang name **afala** for the banana garden that surrounds a village.

% cf. Seke (B22b) **-dang** `ripe(-red)' and **dang** `moon'. These names for `ripe musa', 'banana' or for the AAB 'Pome' cultivar (see Akwa, below) can be related to CS 499 **\*-dang-** `to shine', and are found in all the B20 languages, from N.W. Gabon to C. Congo.

@ from Kele **letoto lembade**.

.....South-West Congo:

Mbama	(B62)	**satana**	`Sao Tome'
Laali	(B73b)	**satena, satane**	
Babongo-Laali		**dibana,**	
		saten	
Yaa	(B73c)	**saten, satana**	
Babongo-Yaa		**satana**	
Bembe	(H11a)	**satin**	
Yombe	(H12b)	**satana, satema**	

AAA 'Gros Michel'

.....Southern Nigeria:

Eleme	(Og)	**tomosi**
Ibibio	(LCr)	**mboro**
Anaang		**mboro**
Efik		**mboro**

.....South-West Cameroon:

Koose	(A15b)	**nyaake nkaale**	`banana of Europeans'

.....South Cameroon:

Basaa	(A43)	**nombawan #**	`number one'
Mangisa	(A71)	**nombawan**	
Ewondo	(A72)	**nambawan**	
Yebekolo	(A70)	**nambawan**	
Bulu	(A74a)	**salyong, @**	`Sierra Leone'
		ajoe ntangan	`banana of the europeans'
Bane	(A74b)	**nombawan**	

the "number one" names originate in Pidgin-English in S.W. Cameroon and are also found in the local languages: Londo (A11a) **nombawan**, Kenyang **nombawan**, Bangam (GrF) **dobamwan** and Bamoun (GrF) **ndombu**.

@ from where the first 'Gros Michel' plants in Cameroon were introduced.

.....East Cameroon:

Makaa	(A83)	**ndambawan**	
Bajue	(A84)	**nomba**	
Koozime		**salyong**	
		atora entanga	`banana of the Europeans'
Konabembe	(A85a)	**nomba**	
Bekwil	(A85b)	**atona**	
Mezime	(A86a)	**ndambawan**	
Mpompo	(A86b)	**nomba**	
Mbimu	(A86c)	**nomba**	
Bomwali	(A87)	**ndombawan**	
Bakum	(A91)	**nomba**	
Kako	(A93)	**ndombawan**	
Bangandu	(Ub1)	**ndombawan**	
Yangiri		**nomba**	
Baka	(Ub2c)	**nomba(wan)**	

.....North Congo:

Bangandu	(Ub1)	**ndomba**	
Baka	(Ub2c)	**saleong,**	
		ngboko	
Njem	(A84)	**saleong,**	
		letoro lentanga	`white men's banana'
Bekwil	(A85b)	**ngboko,**	
		saleong,	
		metoto	
Mpiemo	(A86c)	**nomba**	
Ngom	(B22b)	**mbokwe**	

Kola		**saleong**	
Mbede	(B61)	**toro**	
Benjele	(C15)	**banana,**	
		laki #	
Bongili		**nyanda**	`fish with bird-like mouth' @

\# < Bomwali **molaki** `banana' << Bongili **motelaki** `red'.

@ Mormyridae? a translation of Kongo (H16) **tiba** `banana'? (and also the name of the same fish species?).

.....Central Congo:

Koyo	(C24)	**(itoto) banana**	
Laari	(H16f)	**kooko**	`musa hand'

.....Gabon:

Benga	(A34)	**saleong**	
Fang 1-5	(A75)	**saleong, sareong**	
Fang 2		**bayon $**	
Makina		**saleong**	
Bekwil	(A85b)	**salyong, saryong**	
Galoa	(B11c)	**dongila, @**	a village near Libreville
		ombiofala	`good French (banana)'
Nkomi	(B11e)	**otogho,**	
		dongila	
Kele 1	(B22a)	**michel,**	
		bitoto binjok,	`elephant's banana'
Kele 1	(B22a)	**anzouna**	a nickname for the Fang
Kele 3		**sandu**	`Sao Tome'
Shamaye	(B25)	**saleong**	
Sake		**saleong**	
Mahongwe		**saleong**	
Eviya	(B30)	**saint michel**	
Tsogo 1	(B31)	**motogho?**	
Tsogo 2		**motoghu**	
Ngubi	(B40)	**mutogho**	
Vungu 1,2		**gros michel**	
Sira 1	(B41)	**mutoghu**	
Punu 2,3	(B43)	**gros michel**	
Punu 4		**dibude**	
Lumbu	(B44)	**gros michel,**	
		ngoru ivembu #	`white ngoru'
Njebi 4	(B52)	**sandama, sandene**	`Sao Tome'
Mbama	(B62)	**saleong, sareong**	
Vili	(H12a)	**gros michel,**	

Vili	(H12a)	**ngotu ivembuka**	`white ngoru'

$ from the name of a family name and a village near Loango, on the coast of Congo?

@ one of the first Catholic Missions in Gabon was established here.

ngoru `(ripe) banana'.

.....South-West Congo:

Mbama	(B62)	**gros michel %**
Laali	(B73b)	**gros michel**
Yaa	(B73c)	**gros michel**
Bembe	(H11a)	**gros michel**
Yombe	(H12b)	**mpeemba, mabuda @**

% the 'Gros Michel' banana is cultivated as a cashcrop in this area; in 1936 thousands of suckers were imported from Cameroon.

@ a similar name, **obudu** `banana', is used in Koose (A15b), in the area of commercial banana cultivation in Cameroon (cf. Ewondo (A72) **obud evovoe**, an unidentified cultivar).

AAA 'Red' (sometimes 'Green Red')

.....Southern Nigeria:

Ngwa	(Igbd)	**unere uhe**	`banana-red'
Eket	(LCr)	**adia okpon mfet?**	`to eat big penis'
Anaang		**ndiinyong esa ekpo, ebibo**	`plantain of the ghosts'
Ibibio		**adia okpon mkpak**	`to eat big penis'
Efik		**adia okpon ekporo,**	`to eat big penis'
		ndandan mboro	`red banana'
Ehom	(UCr)	**adia ekpor ekpon**	
Ugep		**ikpo bata**	
Abini		**okpon atam abo,**	`plantain of the dead'
		ogbon oru	`plantain red'
Legbo		**enozo ikpogolo**	
Agwagwune		**mburu ekokot,**	`banana red'
		okpon ekporo	`big penis'

.....South Cameroon:

Basaa	(A43)	**koyob kube**	`red, ripe banana'
Bulu	(A74a)	**ojoe bisek, bibange @**	`banana-liver(-coloured)'

@ from Bamileke (Grf) **bang** or **pang** `red, ripe' and **kede pang** `plantain-red'. The Bamileke introduced this cultivar (in recent decades) to other parts of the country (see also Mbimu **ngwomba**, below). The Bamileke also introduced the AAA East African cultivar (which grows in the Bamileke highlands) to East Cameroon.

.....East Cameroon:

Makaa	(A83)	**abudabu**	
Konabembe	(A85a)	**etora bidim**	`banana of the dead'
Bekwil	(A85b)	**koogo**	
Bageto	(A86a)	**abokum**	
Mpompo	(A86b)	**metono megund,**	`banana of the ghosts'
Mpompo	(A86b)	**j(w)ola**	`ripe, red'
Mbimu	(A86c)	**ngwom(ba)** #	
Bakum	(A91)	**nyambugu**	
Kako	(A93)	**ndura,**	
		dindiki,	
		dobie	
Bangandu	(Ub1)	**atono/kongo dio** @	`banana of the dead'
Yangiri		**kondu to**	`plantain-blood'
Baka	(Ub2c)	**babongo**?	

also called "banana of the Bamileke"; **ngwomba** is the generic name for 'musa' in the Grassfields of western Cameroon.

@ although the people in East Cameroon do not like the taste of this cultivar, it has important medicinal and ritual functions, for instance in certain ceremonies reserved for men.

.....North Congo:

Baka	(Ub2c)	**taabu a ediyo** %	`banana for fetishes'
Njem	(A84)	**toro le mpwe/bejüe**	`banana for dogs/the dead'
Ngom	(B22b)	**masyudi**	
Kola		**mesyudi**	
Mbede	(B61)	**nangles**	`English'
Mikaya	(C15)	**gbelema**	
Benjele		**tetete**	
Bongili		**etiba,**	
		tabi agbelema	`banana of the spirits'

% cf. Bangandu **atono dio** and Abini **okpon atam abo**.

.....Central Congo:

Akwa	(C22)	**itoto lomboti**	
Koyo	(C24)	**itoto ndangii**	`banana-red'
Mboshi	(C25)	**esomba la mbeya** $	`esomba-fire'
Laari	(H16f)	**mankondi wa baingerezo**	`banana of the English'
Kongo	(H16)	**bitsika** @	

$ cf. Kele **angwansombe** (AA 'Sucrier').

@ < Swahili (G42) **kitika**.

.....Gabon:

Benga	(A34)	**endeyandeya**	(AAA 'Green Red')
Fang 1	(A75)	**(adzyü) mimbange**	

Fang 2,4		**adzyü**	
Fang 3,5		**adzyü, mimbange**	
Bekwil	(A85b)	**etoto nazung**	`red banana'
Galoa	(B11c)	**itoto nya yela** &	`red banana'
Nkomi	(B11e)	**aghelu**	`red'
Kele 1	(B22a)	**letoto lebei**	`red banana'
Eviya	(B30)	**etoto a yungi**	`red banana'
Vungu 1	(B40)	**ditoto dinguye**	`banana for (wild) pigs'
Punu 1,3,4	(B43)	**(ditotu di) make, makaya/ makani mangoro** @	`red leaves'
Lumbu	(B44)	**makaye mangoro**, @	`red leaves'
		ngoru (ibenge)	`red ngoru' (AAA 'Red')
Lumbu 2		**masabur**	
Mbama	(B62)	**bana**?	
Vili	(H12a)	**(man)kaya (ma)ngoro**, @	
Vili	(H12a)	**ngoto isaka**,	`red ngoto'
		ngoro @	(AAA `Green Red')

& formerly, the Galoa called this banana **itoto nyi ngesi** `the banana of the English'.

@ see the name for 'Gros Michel'; Yombe has **mangolo ma kimpenze** (an unidentified cultivar).

.....South-West Congo:

Mbama	(B62)	**feleme** #	"infirmier"
Laali	(B73b)	**feele**	
Yaa	(B73c)	**fele, fer'**	
Yombe	(H12b)	**n.n.**	

cf. Kongo (H16) **mupeelo** `mon Pere', Aka (C10) **bulee ma mupe** `the banana of "mon Père"', Lingala (C36d) **mumfwe** and Vili **satuma ci nganga sambi** `the banana of the american missionaries'.

AAA 'Dwarf Cavendish'

.....Southern Nigeria:

Ibibio	(LCr)	**nda itiat**,	`to stand on stone'
		utuno mbiam	`(kind of) idol ' (a warning)
Anaang		**ndak/ndah isong**	`to stand on ground'
Oron		**mbri akata**,	`banana of small throne'
		mboro ekpri akata	`game, played at night'
Efik		**mboro akata**	`banana of a men's nightplay'
Tiv		**choonya**	`to bend'

.....South Cameroon:

Basaa	(A43)	**tiko** %	`Tiko'
Ewondo	(A72)	**tiko**	

Bulu	(A74a)	**onde'endek**	`dwarf'
Bane	(A74b)	**tiko**	

% a place near Buea where, at the end of the last century, the Germans established banana plantations (cf. Ndop (GrF) **go dzyama** `musa of the Germans').

.....East Cameroon:

Bajue	(A84)	**banana** $	
Koozime		**banana**	
Konabembe	(A85a)	**banana**	
Mpompo	(A86b)	**banana**	
Mbimu	(A86c)	**banana**	
Kako	(A93)	**banana**	
Bangandu	(Ub1)	**banana**	
Baka	(Ub2c)	**banana,**	
		(e)kongo	

$ < English **"banana"**, an indication that this cultivar was introduced from West to East Cameroon.

.....North Congo:

Baka	(Ub2c)		
Njem	(A84)	**banana,**	
		meli anguno @	
Bekwil	(A85b)	**melik angur** }	`testament of
		malig aberu }	abandoned village'
Ngom	(B22b)	**sima**	
Kola		**sima**	
Mbede	(B61)	**toro enkunkumbi**	`banana-short'
Benjele	(C15)	**tabi**	
Bongili		**banane**	

@ borrowed from Bekwil.

.....Central Congo:

Akwa	(C22)	**itoro likukuli**	`banana-short'
Koyo	(C24)	**itoto**	

.....Gabon:

Fang 1	(A75)	**angura akone** ^	`short Akone'
Fang 2		**asim entie** #	`has stopped growing'
Fang 3		**adzyu,**	
		alek mbole,	`rots quickly'
		ondek	`dwarf'
Makina	(A75?)	**sime** @	
Bekwil	(A85b)	**sima,**	
		melik angur %	
Galoa	(B11c)	**ghoghenge,** &	`fish odour'
		(o)mbitoto	`the good banana'

Nkomi	(B11e)	**ngoghenge**	
Kele 1	(B22a)	**asyima, asim(o)**	
Kele 3		**wulu** <>	
Kota	(B25)	**sima**	
Shamaye		**sima**	
Mahongwe		**esima**	
Eviya	(B30)	**etoto a ghekutsu**	`short banana'
Tsogo 2	(B31)	**nyaman samba, jamba**	`short'?
Ngubi	(B40)	**ngweghenge**	
Vungu 2		**ditotu disima?**	
Sira 1	(B41)	**ditoto dibalosi**	`banana of witchdoctors'
Sangu 1,2	(B42)	**tsip(i)ri** =	`cane rat'
Punu 3	(B43)	**ditotu dighangu**	`banana of the healer'
Punu 4		**nguji**	`pig'
Lumbu	(B44)	**ngulubu**	`pig'
Duma	(B51)	**isima**	
Wanji		**esima**	
Njebi 1-4	(B52)	**itsipidi, tsipir**	`cane rat'
Njebi 5,6		**syima, isima**	
Mbama	(B62)	**sima**	
Vili	(H12a)	**ngulubu**	`pig'

^ **ngut** `short' (**Akone** is a personal name).

\# < Fang **asim** `elevation' and **nti** `length'.

% cf. Fang **angura akone**, **alek** and **ondek**.

@ < Fang.

& called "banane musquée" by Walker & Sillans (1961), because of its musk odour.

<> from Bekwil **-wul-** `short'?

= `cane rat' (*Thryonomus swinderianus*), e.g. Sangu **tsibiri**, Njebi **tsibidi**, Ndumu **tcibiri**, Mbede and Yaa **sibisi**. This banana name is also found in W. Zaire, e.g. Kongo (H16) **nsibizi**, Ntandu (H16g) **nsiisi** or **sibissi**, Kwezo (K53) **gasibi**, Mbala (K51) **tichipi**, Hungana (H42) **matipi** and Yaka (H31) **titipi** (this distribution coincides with the (former) trade routes of the Vili; see Vansina 1997).

.....South-West Congo:

Mbama	(B62)	**ebongo**	
Laali	(B73b)	**ndzau?**	`elephant'
Bembe	(H11a)	**kitoto**	
Yari	(H11)	**mvukuri**	`short one'
Yombe	(H12b)	**ngulubu, kitebi kingulu**	`(banana for) pigs'

AAA East African (original) cultivar

Medium-blotched stem, subhorizontal bunch and nude axis. See Sagala (E74b) **ndezi**, Taveta (G21) **indiji** and Chaga (E60) **ndishi**.

.....Southern Nigeria:

Ikwere	(Igbd)	**enneri omomoi** @	`banana for children'

@ this banana is only eaten by children.

.....North Congo:

Pokola #		**n.n.**	

Pokola is village situated near a big logging and timber company; its inhabitants come from all parts of Congo, which explains the presence of this cultivar in N. Congo.

.....Gabon:

Fang 1	(A75)	**adzyü ve~**	
Fang 3		**adzyü (bibem)**	`banana of spleen(-disease)
Fang 4,5		**adzyü**	
Bekwil	(A85b)	**etoto bekwil**	`Bekwil banana'
Nkomi	(B11e)	**itoto ny'ayogho/ nyemba**	`banana of noble people/ witchdoctor'
Kele 3	(B22a)	**itotu**	
Kota	(B25)	**itotu**	
Shamaye		**itotu, itoti**	
Sake		**ditotu**	
Puvi 3	(B30)	**etoto sesikale?**	`banana of forefathers'
Tsogo 2,3	(B31)	**ditotu a moviya**	`banana of Eviya'
Vungu 1,2	(B40)	**dototu dighangu**	`banana of healer'
Sira 1,2	(B41)	**ditoto dibalosi**	`banana of witchdoctors'
Punu 3	(B43)	**ditotu di ghangu/ bawulu/baisi/ nombi/punu**	`banana of healer/ forefathers/ghosts/ Africans/Punu'
Lumbu	(B44)	**ditotu**	
Duma	(B51)	**litoto la baduma**	`banana of the Duma'
Wanji		**letoto**	
Njebi } 1,3,4 }	(B52)	**(letoto) iputa, ipota**	`banana of Europeans'
Mbama	(B62)	**(e)toro**	
Vili	(H12a)	**ntotu (tchi fyoti)**	`banana of the Vili'

.....South-West Congo:

Mbama	(B62)	**umbiti,** @	`demons'
		bana ombeti @	`banana of the Mbeti'
Laali	(B73b)	**itotu, toto**	
Yaa	(B73c)	**toto (la ngwambulu)**	`banana of forefathers'?

@ probably a folk etymology: "banana of the Mbeti" <-> "banana of the demons"; the cultivar has only ritual or medicinal uses.

AA 'Sucrier'

A few plants were found in a village in the Fernan Vaz area (West Gabon) with double stems and double bunches.

.....Gabon:

Fang 1-5	(A75)	**son ebe** &	`two weeks'
Fang 2		**mvüm bore** &	`one year'
Fang 1,3		**konakri** ^	`Conakry'
Makina		**banane**	
Kele 1	(B22a)	**angwa(n)sombe,**	`beautiful girl'
		nsombo omiale	`beautiful girl'
Kele 3		**dipitu** #	
Mahongwe	(B25)	**banane**	
Puvi 1,3	(B30)	**ipito, pitu** #	
Eviya		**etoto a moviya/mwibi**	`banana of Eviya/thief'
Tsogo 1,2,4	(B31)	**etoto a ghenami** @	`banana beautiful girl'
Ngubi	(B40)	**ebanana**	
Vungu 1,2		**dinek(e)ri** $	`Conakry'
Sira 1	(B41)	**dinekri** $	
Sira 1,2		**ditoto dibanana**	
Sangu 1	(B42)	**inami,**	
Sangu 1	(B42)	**dipito** #	
Sangu 2		**dipitu** #	
Sangu 3		**dipitu,** #	
		inekede $	
Sangu 4		**iname**	
Punu 1,3	(B43)	**dinek(e)ri** $	
Lumbu	(B44)	**dinekri** $	
Duma	(B51)	**(mbala) litoto** %	
Njebi 2-4	(B52)	**dinekira, inekri, inekede** $	
Njebi 5,6		**lepita, lipitu** #	
Vili	(H12a)	**linekri** $	

& referring to the short cycle of this cultivar.

^ many banana plants were sent from the "Jardin de Bingerville" in Guinea-Conakry to other West African countries from the 1930's onwards (Hiernaux 1948).

\# < **putu** `Portuguese/European? Cf. similar names for 'cassava' (**poti, -piti, pita** in Galoa, Nkomi, Ivea, Tsogo and Nzebi) and for `maize' (**-putu, poto, poti**) with this meaning.

@ cf. Bengali (India) **kadali** `banana', `pretty women'.

$ first syllable reinterpreted as a prefix and replaced by a more appropriate ***di-*** prefix (**ko-nakri > di-nek(e)ri > i-nekede**).

% see AAB 'Pome'.

.....South-West Congo:

Ndasa	(B26)	**isila**	
Mbama	(B62)	**siila**	
Laali	(B73b)	**siila, siile, siili**	
Babongo-Laali		**sila**	
Yaa	(B73c)	**siila, siili**	
Babongo-Yaa		**sila**	
Bembe	(H11a)	**siila**	
Yombe	(H12b)	**siila** @	'China'

@ < "Chinese banana" (AAA 'Dwarf Cavendish').

ABB 'Pisang awak'

Still a very rare cultivar in Congo, but spread rapidly in Gabon in the 1970's and 1980's.

.....Gabon:

Benga	(A34)	**fugamu**	'Fougamou (town)'
Fang 1,4,5	(A75)	**fugamu**	
Fang 1		**marigot**	'marsh'
Fang 2		**tsokoro**	
Fang 3		**fugamu, kuguamu**	
Fang 4		**musunda** #	
Bekwil	(A85b)	**fugamu,**	
		kat, kaar $	
Galoa	(B11c)	**tsokodo**	
Nkomi	(B11e)	**tsokodo**	
Kele 1	(B22a)	**tsyokude**	
Puvi 1,3	(B30)	**(mo)tsokodo**	
Puvi 3		**centenaire**	
Eviya		**tsokodo**	
Tsogo}	(B31)	**tsokodo**	
1,2,4}			
Pinji	(B33)	**tsokodo**	
Ngubi	(B40)	**itsyokodo**	
Vungu 1,2		**ts(y)okudu**	
Sira 1,2	(B41)	**tsokodo, tsokudu** %	'someone bent over'
Sangu 1	(B42)	**sokolu**	
Sangu 2,3		**tsokudu**	
Punu	(B43)	**tsokodu**	

Lumbu	(B44)	**tsokudu**	
Duma/Wanji	(B51)	**centenaire** @	`centenary'
Njebi 1	(B52)	**fugamu**	
Njebi 3,4		**tsokudu**	
Njebi 5,6		**centenaire**	

\# allegedly an archaic name.

$ see the plantain cultivar French Giant/Medium Green Pendulous, repetitive bunch'.

% **tsokodo** is someone with a crooked back or who bends over (cf. Punu **-tsok-** `to lower head in shame, to bend').

@ introduceded at the time of the centenary of Lastourville, in 1982.

.....Central Congo:

Laari	(H16f)	**binda tuna**	`swallow quickly'

GERDA ROSSEL

STELLINGEN

1) Het voorstel tot herinvoering van de oude latijnse namen voor de triploide *Musa* cultivars (b.v. French plantains als *Musa* X *paradisiaca* L. of Horn plantains als *M.* X *corniculata* Lour.) is in tegenspraak met de ICNCP (International Code for the Nomenclature of Cultivated Plants).

(Contra: R. Ortiz. 1997. 'Morphological variation in *Musa* germplasm'. Genetic Resources and Crop Evaluation 44: 404).

2) Het voorstel om een gecultiveerd taxon met de term "culton" aan te duiden gaat voorbij aan het gegeven dat "taxon" een term is die structuur weergeeft, niet identiteit.

(Contra: Hetterscheid, W.L.A. & W. A. Brandenburg, 1995. 'Culton versus taxon: conceptual issues in cultivated plant systematics'. Taxon 44: 166).

3) Het gebruik van sleutels voor de classificatie van plantain cultivars is onpractisch, tenzij deze synoptisch zijn.

(Contra: Quicke, D.L.J. 1993. Principles and techniques of contemporary taxonomy. Glasgow: Blackie Academic and Professional. p. 99).

4) De uitwisseling van cultivars tussen *Musa* collecties behoort gepaard te gaan met gegevens betreffende de initiele, en niet slechts van de laatst bekende oorsprong van het materiaal.

5) Het geven van fantasienamen aan plantain cultivars, vooral populair bij Frans-talige musa onderzoekers, dient vermeden te worden, omdat het de streek van oorsprong van een cultivar verhult.

6) Het aanduiden van de False Horn en Horn bunch types van de plantain als false-horn 'Plantain' of true-horn 'Plantain' is niet conform artikelen 17.7 en 19.3 van de International Code for the Nomenclature of Cultivated Plants.

(Contra: IBPGRI-INIBAP/CIRAD. 1996. Descriptors for banana (*Musa* spp.). Rome & Montpellier: IBPGRI-INIBAP/CIRAD. p. 31).

7) In aanmerking nemende het grote aantal mutaties en etiketterings- of plant-fouten in supra-regionale *Musa* collecties, zijn kleinere, regionale collecties aan te raden, waar het locale personeel van huis uit bekend is met de identiteit van het bijeengebrachte materiaal.

("Archipel van regionale genenbanken." In: A.C. Zeven. 1990. Basiscursus plantenveredeling 2: genetische variatie. Vakgroep Plantenveredeling, LUW. p. 57).

8) De plaatsing van plantain cultivars in de rang "sub-groep" is integenspraak met het criterium van niet-hierarchische classificatie van cultuurplanten.

(Contra: Stover, H. & N.W. Simmonds. 1995. Bananas. Harlow: Longman Scientific and Technical. p. 95).

9) Het gebruik van frasenamen, gebaseerd op een beperkt aantal descriptoren, bevordert niet alleen het memorizeren van een ongelimiteerd aantal cultivars, vooral wanneer deze behoren tot grote cultivar-groepen met een rijke vernaculaire/internationale nomenclatuur, maar is ook in overeenstemming met het principe van practische toepassing zoals gepropageerd door de ICNCP.

(P. Trehane (ed.). 1995. ICNCP. Wimborne: Quarterjack Publishing. Principle 1. p. 3).

10) Het maximum toegestane aantal van 30 letters en 10 lettergrepen voor cultivarnamen is te restrictief voor bovengenoemde frase namen van plantain cultivars.

(Contra: ICNCP. Article 17.10. p. 21).

11) Gewashistorie behoort een basisvak zijn voor vele studierichtingen van een Landbouwuniversiteit, b.v. voor plantenveredeling, plantentaxonomie en agrarische geschiedenis.

("Plant taxonomy or systematic botany is a key science for tropical research and documentation - for agriculture, forest ecology, biology and other disciplines." L.J.G. Van der Maesen. 1990. 'Gene banks and plant taxonomy'. In: P. Baas, C. Kalkman & R. Geesink (eds.). The plant diversity of Malesia. Proceedings of the Flora Malesia symposium commemorating Professor Dr. C.G.G.J. Van Steenis, Leiden, August 1989. pp. 341-349. Dordrecht: Kluwer Academis Publishers.)

12) Rekening houdende met de kwetsbaarheid van electronische bevolkingsregisters, toekomstig genealogisch onderzoek, de nagestreefde gelijkwaardigheid der beide sexes alsmede de Europese integratie, verdient het aanbeveling om het Spaanse systeem van familienamen bestaande uit patronym en matronym tot Europese standaard te verheffen.

13) De vaak gebrekkige kwaliteit van onderwijs in vele arme landen maakt de jongere generatie slecht toegerust voor de eisen van de moderne tijd en snijdt tegelijkertijd hun toegang aftot de rijke bron van traditionele kennis.

14) Het feit dat wetenschappers er nooit in zullen slagen om economisch interessante, rechte bananen te kweken werd reeds voorspeld in de Bijbel.

(Prediker 1:15a. "Het kromme kan niet recht zijn...").