14. Riverine woodland (edaphic vegetation type, wr)

14.1. Description

It is not always easy to discriminate between riverine wooded grasslands and edaphic wooded grasslands (there is a similar problem in differentiating riverine forest from swamp forests, see Volume 2). We were probably not consistent in allocating mapping units from national maps to riverine or edaphic wooded grasslands, but where proximity to a river was obvious, we preferred the classification of riverine wooded grasslands.

In Marsabit district, some woodlands occur at low elevations (< 1000 m) on sandy alluvial soils along the larger seasonal streams where periodic stream flow and the increased moisture storage-capacity of the sandy soils compensate for low rainfall and high potential evaporation. ***Acacia tortilis*** is the dominant species of these woodlands. Other low elevation woodlands that are dominated by ***Acacia tortilis*** occur in Marsabit district on alluvial and colluvial soils a the base of Mt. Nyiru, Ol Doinyou Mara and the Ndoto Mts. (White 1983 p. 121).

One of the variants described for Undifferentiated woodland (Wn) is "riparian woodland" (White 1983 p. 95). We described this vegetation type in the general treatment of Undifferentiated woodland (Wn). An alternative mapping system could be to map "riparian woodland" as riverine woodland.

Figure 14.1. Riverine *Acacia tortilis* woodland in Turkana District (Kenya). This vegetation type extends for several kilometers. Photograph by F. Gachathi (2010).

Figure 14.2. Riverine *Acacia elatior* woodland along a seasonal river in Isiolo District (Kenya) during the dry season. Photograph by F. Gachathi (2008)

14.2. VECEA region

Within the VECEA region (Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda and Zambia), riverine woodland was only described for Kenya. Within the VECEA map, we have not distinguished riverine forest from other riverine wooded vegetation types (see Volume 1). One of the reasons for not making such distinction is that differences exist in classification systems whether a specific type of riverine wooded vegetation type is classified as "riverine forest" (classified as "fr" in VECEA), "riverine woodland" (classified as "wr" in VECEA) or "riverine thicket" (classified as "br" in VECEA).

The original map of the Kenyan highlands by Trapnell *et al.* (1966, 1969, 1976, 1986) contained various "upland *Acacia*" vegetation subtypes that occur on recent alluvium[39]:

(i) *Acacia xanthophloea* (original mapping unit 30 on vegetation sheets 2 and 4)
(ii) mixtures of *Acacia xanthophloea* and *Acacia kirkii* (original mapping unit 30 on vegetation sheet 3)
(iii)Acacia kirkii (original mapping unit 30a)
(iv) Acacia polyacantha (original mapping unit 30b); and
(v) Acacia gerrardii (original mapping unit 30c)

We reclassified these vegetation types are riverine woodland because, besides the reference to recent alluvium in the original legend for all these vegetation types, the shape of various polygons (such as the *Acacia xanthophloea* polygons north of Nyeri, the *Acacia xanthophloea* polygons within Nairobi National Park and the *Acacia xanthophloea* and *Acacia kirkii* polygons south and east of Narok) also suggest that these are riparian. *Acacia xanthophloea* and *Acacia polyacantha* are typical riparian species (White 1983 p. 129). The original upland *Acacia* areas surrounding the Rift Valley lakes of Elmenteita, Naivasha and Nakuru are also of the *Acacia xanthophloea* type.

The Range Management Handbook of Kenya (RMHK; Schwartz *et al.* 1991; Shaabani *et al.* 1992abc; Herlocker *et al.* 1993, Herlocker *et al.* 1994abcd) described "riverine woodland" for Marsabit district (original mapping type 10). In a harmonized GIS map that was later developed by Dennis Herlocker (he was the main botanist involved in the RMHK project), mapping type 10 from Marsabit was changed to "*Acacia tortilis* semi-deciduous woodland" [40] (newer mapping unit 5.1; 5 indicates the physiognomy of semi-deciduous woodland), "*Acacia tortilis - Acacia elatior* semi-deciduous woodland" (newer mapping unit 5.2) or "*Sporobolus - Duosperma - Acacia tortilis* deciduous wooded grassland" (newer mapping unit 8.1; 8 indicates the physiognomy of deciduous wooded grassland).

For other districts of the Range Management Handbook of Kenya (RMHK), riverine wooded vegetation types were not classified separately from deciduous wooded grassland (Wd) or *Combretum* wooded grassland (Wc). Based on information from species descriptions and landscape positions, we classified the following mapping units as riverine woodland:

39: Trapnell and Langdale-Brown (1972 p. 132) describe that closed stands (*i.e.* woodland physiognomical types) of species like *Acacia polyacantha*, *Acacia xanthophloea* and *Acacia tortilis* are found under progressively drier regimes on alluvial flats.

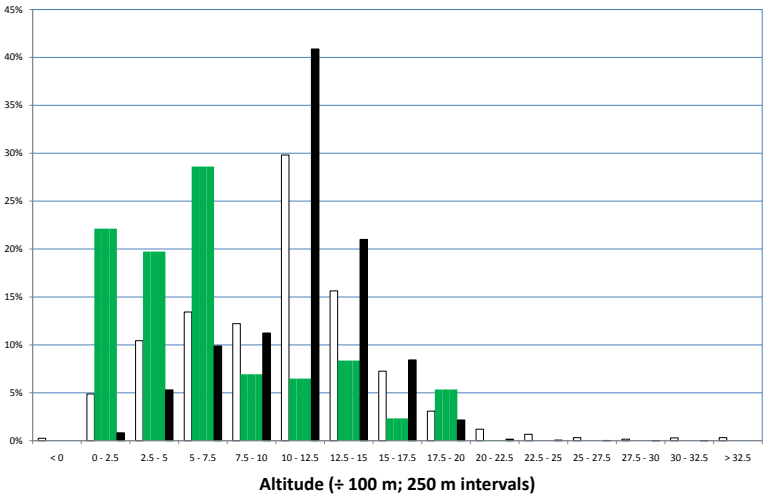
40: In the RMHK, "woodland" is defined as vegetation of trees with canopy cover over 20%, whereas "wooded grassland" is defined as vegetation of trees with canopy cover between 2 and 20%. Note that the regional definition of wooded grasslands specifies cover percentages of 10% and 40% (see section 1).

(i) *Hyphaene* evergreen woodland (mapping unit 2.1, Mandera District);
(ii) *Acacia tortilis - Acacia elatior - Hyphaene* evergreen and semi-deciduous woodland (4.2, Isiolo District);
(iii) *Hyphaene - Acacia tortilis* evergreen and semi-deciduous woodland (4.4, Turkana District);
(iv) *Acacia tortilis - Acacia elatior* semi-deciduous woodland (5.2, Baringo, Elgeyo-Marakwet, Marsabit and Turkana districts); and
(v) *Sporobolus - Duosperma - Acacia tortilis* deciduous wooded grassland (8.1, Isiolo and Marsabit districts).

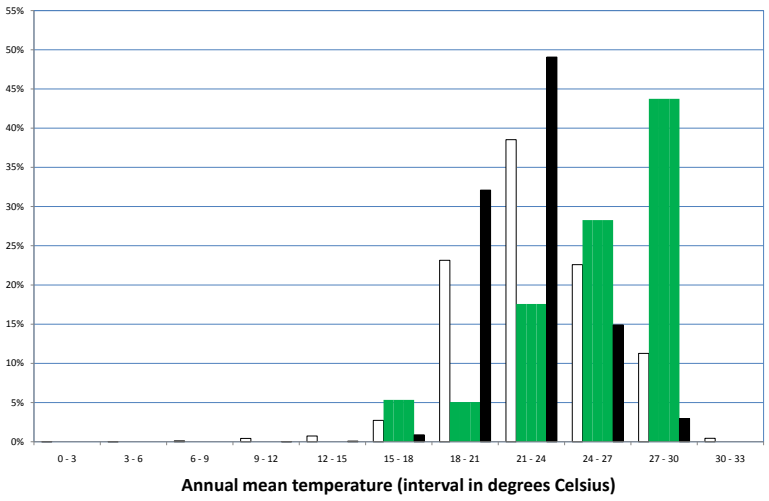
We also classified "*Sporobolus - forbs - Acacia seyal* deciduous shrub grassland" (mapping unit 21.1, occurring in Wajir district) as riverine based on its shape, the description of seasonal water flow and the mention of (unidentified) *Sesbania* species. In a stricter classification system, this vegetation type should probably have been classified as "riverine bushland".

Investigation of environmental distribution of riverine woodland in the VECEA region (Figure 14.3; limits are for areas of the VECEA map where this vegetation type is not mapped as mosaic) shows that more than 90% of the samples occur in an interval from 0 – 1500 m. The altitude interval of 500 – 750 m contains the highest number of samples (28.6%), whereas a considerable proportion of samples occur at lower altitudes (showing that this is clearly the woodlands and wooded grasslands vegetation type that occur at the lowest altitudes). Riverine wooded grassland generally has the lowest rainfall of all woodlands and wooded grasslands with more than 95% of samples receiving between 0 and 1000 mm. Among all woodlands and wooded grasslands, this vegetation type has the lowest rainfall interval where most samples occur (200 – 400 mm; 38.9%).

(a)



(b)



(c)

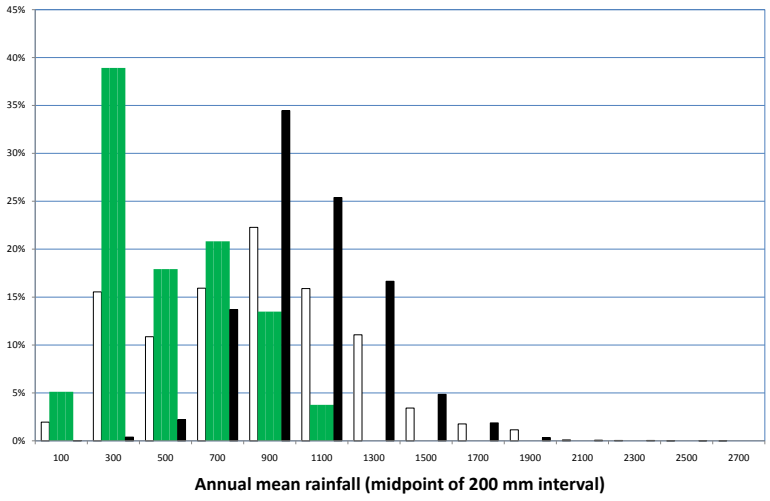


Figure 14.3. Histograms of the distribution of altitude (a), mean annual temperature (b) and mean annual rainfall (c). Bars at the centre of each interval show the percentage of samples within riverine woodland (wr), *n* = 1,758). Bars on left (open) show the overall percentage of samples (*n* = 740,047). Bars on the right (black) show the percentages of samples within woodland or wooded grassland (*n* =355,078).

14.3. Species composition

Species assemblages were obtained from the following references:

- Kenya: Species associated with mapping units that we reclassified as riverine woodland from the Range Management Handbook of Kenya (RMHK; Schwartz *et al.* 1991; Shaabani *et al.* 1992abc; Herlocker *et al.* 1993, Herlocker *et al.* 1994abcd) were coded "C", with a suffix (2, 4, 5, 8, a) indicating the main physiognomic mapping unit in the RMHK (suffix "a" indicating physiognomic unit 21).

Characteristic species were determined as:

- Kenya: all species were assumed to be characteristic.

Species assemblage information was provided in a separate column ("wrK") in the species assemblage table for riverine forest (fr, volume 2).

15. Palm wooded grassland (physiognomically easily recognized type, P)

15.1. Description

White (1983) did not describe palm wooded grasslands as a separate vegetation type in his main treatment of floristic regions. However, he describes ***Hyphaene coriacea*** palm stands that occur on sites with permanent ground water at the edge of the Chalbi desert and at the base of Mt. Kulal (White 1983 p. 123). ***Borassus aethiopum*** and ***Hyphaene petersiana*** (synonym: *Hyphaene ventricosa*) are among the characteristic species of the riparian woodland subtype of Undifferentiated woodland and wooded grassland (Wn, White 1983 p. 95). ***Borassus aethiopum*** is listed to occur in seasonally inundated flood plains in the Sudanian floristic region (White 1983 p. 107). ***Borassus aethiopum*** and ***Hyphaene thebaica*** occur on transition zones between swamp grassland and better drained areas with *Acacia seyal* in the flood region of the Nile (White 1983 p. 108). ***Hyphaene compressa*** occurs in Zanzibar-Inhambane edaphic wooded grassland (White 1983 p. 189). ***Phoenix reclinata*** and ***Raphia farifera*** are palm species that are listed among the more important species of swamp forests that are widespread in the Lake Victoria region and elsewhere (White 1983 p. 181). ***Phoenix reclinata*** occurs in swamp forests in the Zanzibar-Inhambane region (White 1983 p. 188).

Lind and Morrison (1974 p. 94) mention that palm wooded grassland is limited in area, but so noticeable that it needed to be included in descriptions of East African vegetation types. The main species is ***Borassus aethiopum***. In Uganda, it is found on sands and sandy loams with mobile ground water. In Kenya, it is scattered through the coastal belt and is noticeable on the Shimba Hills. In Tanzania, extensive stands occur in the flood plains of the Igombe and Ugala rivers and other riverine communities where it is sometimes accompanied by *Hyphaene* doum palm species. ***Hyphaene coriacea*** is the dominant palm species on the Ruaha - Usangu plain complex and in the Warmi and Mkata flood plains. *Borassus* stands are more common than *Hyphaene* in parts of the coastal plain, but small trees (up to 3 m) of *Hyphaene* form extensive stands in grassland on poorly drained sands.
From the descriptions above it is clear that the palm stands that were described often occur in areas with drainage impediments or riverine locations. It would therefore be perfectly acceptable to classify and map these vegetation types as "edaphic wooded grassland" (wd) or "riverine wooded grassland" (wr), which we have done in several situations. We think that discrimination between these types is more a question of the scale of mapping since palm trees can easily be identified in the field.

Figure 15.1 *Borassus - Hyperthelia dissoluta* [a grass species, synonym: *Hyparrhenia dissoluta*,] palm wooded grassland (original mapping unit M2) from Uganda. Photograph by J. Kalema.

Figure 15.2 Stand of *Phoenix reclinata* in waterlogged area within Afromontane rain forest (Fa). Photograph by I. Friis and Sebsebe Demissew. Reproduced from Biologiske Skrifter of the Royal Danish Academy of Sciences and letters, Vol. 58, Fig 25G. 2010.

Figure 15.3 *Hyphaene petersiana* wooded grassland next to the Shire River marsh and lagoons (Liwonde National Park, Malawi). An alternative classification method for this vegetation type would have been as "edaphic wooded grassland on drainage-impeded or seasonally flooded soils". Photograph by C. Dudley.

15.2. VECEA region

Within the VECEA region, palm wooded grassland was originally mapped in Kenya, Malawi, Uganda and Zambia (Figure 15.7, see also Volume 6). Palm wooded grassland also occurs in the other VECEA countries where it was described to occur in mosaic with other vegetation types. Also within those countries where palm wooded grassland was mapped separately, we expect it to occur more widely in vegetation mosaics.

Figure 15.7. Mapped distribution of palm wooded grassland in the VECEA region (Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda and Zambia). Where this vegetation type does not occur in mosaic, it is depicted by green polygons. This vegetation is also mapped as part of different vegetation mosaics (shown in greyish-brown). This vegetation type is distributed more widely than shown in the map. It occurs in each VECEA country.

In Ethiopia, palm species (***Borassus aethiopum, Hyphaene compressa, Hyphaene thebaica*** and *Phoenix reclinata*) were mapped within other vegetation types (Friis *et al.* 2010 p. 236).

In Kenya, Palm wooded grassland was originally mapped as "Palm savanna with *Hyphaene coriacea*" [class 11] in the Del Sol vegetation map; see Volume 6).

In Malawi, Palm wooded grassland was originally mapped as *Hyphaene petersiana* wooded grassland.

Gillman (1949 pp. 24-25) indicates that palm stands occur as "intrazonals" (defined as vegetation types that occur as a result of rapid alterations of geological, edaphic or anthropogenic conditions under a uniform climate, but that could not be represented on the map) in wooded grasslands and semi-desert vegetation in Tanzania. He also refers to Borassus palm stands that occur within the "central plateau catena" (*i.e.* a catena of miombo woodland, Undifferentiated woodland (Wn) and edaphic grassland) where shallow ground water is present (Gillman 1949 p. 28).

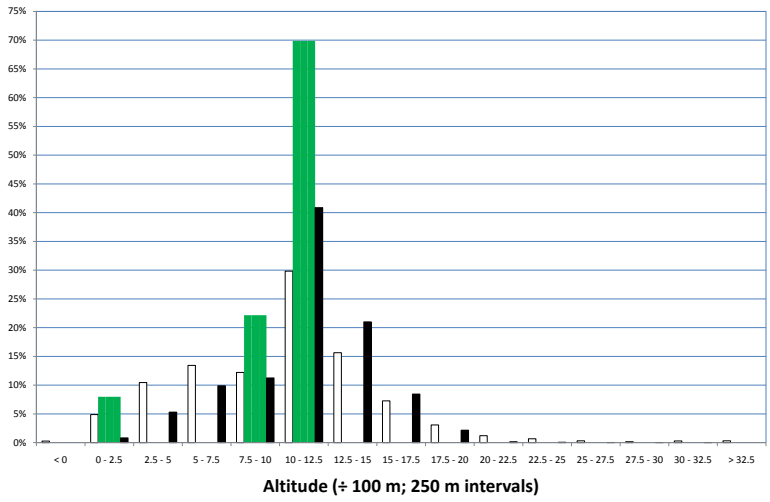
For Uganda, Langdale-Brown *et al.* (1964 p. 59) distinguish a wetter "Borassus - *Hyparrhenia rufa* palm savanna" (original mapping unit M1) and a drier "*Borassus - Hyperthelia dissoluta* [synonym: *Hyparrhenia dissoluta*] palm savanna" (original mapping unit M2). These two wooded grassland types mainly differ in their grass layers. The distinction between wetter and drier types - including the dominance of the *Hyparrhenia rufa* grass in wetter types and the dominance of the *Hyperthelia dissoluta* grass in drier types - is similar as in *Vitellaria* wooded grasslands (Wb) and *Combretum* wooded grasslands (Wc). Both palm communities are usually found on lower hillsides or other positions with mobile ground water.

In Zambia, palm wooded grassland was originally mapped as "*Hyphaene* palm country" (SK1; see Volume 6). As indicated on the legend of the Fanshawe vegetation map (Edmonds and Fanshawe 1976) where the correspondence between the classification systems for Zambia of Fanshawe (1970) and Trapnell *et al.* (1950) is indicated, Fanshawe included the Trapnell *et al.* "*Hyphaene* palm country on marginal Transitional (Kalahari) Sands (SK1)" into mapping unit 4 (originally classified as Munga woodland, classified as Undifferentiated woodland [Wn] by the VECEA project). Trapnell *et al.* (1950 p. 20) describe "Hyphaene palm country" as belts of scattered *Hyphaene ventricosa* (now: *Hyphaene petersiana*) with associated *Acacia giraffae* (now: *Acacia erioloba*), *Burkea africana*, *Combretum* spp. and *Terminalia sericea*. Based on the Trapnell *et al.* (1950) map, we separated the *Hyphaene* areas from other areas mapped as Undifferentiated woodland (Wn).

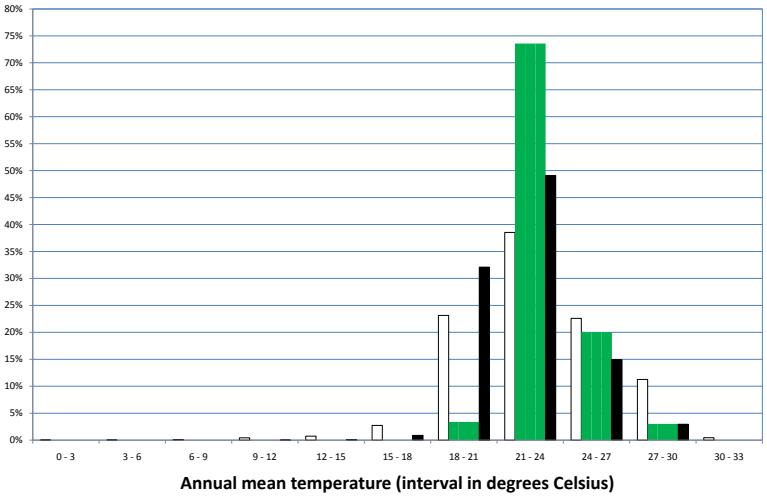
Investigation of environmental distribution of palm wooded grassland in the VECEA region (Figure 15.9; limits are for areas of the VECEA map where this vegetation type is not mapped as mosaic) shows that more than 90% of the samples occur in an interval from 750 – 1250 m. The altitude interval where most of samples occur is the same for this vegetation type (1000 – 1250 m; 69.9% of samples) as for all woodlands and wooded grass-

lands combined (40.9%). Palm wooded grassland generally receives between 800 and 1600 mm annual rainfall (> 90% samples). The rainfall interval of 1200 – 1400 mm contains the highest number of samples (51.2%); *Terminalia glaucescens* woodland (Wvt) is the only woodland and wooded grassland type that has a higher rainfall interval where the most samples occur.

(a)



(b)



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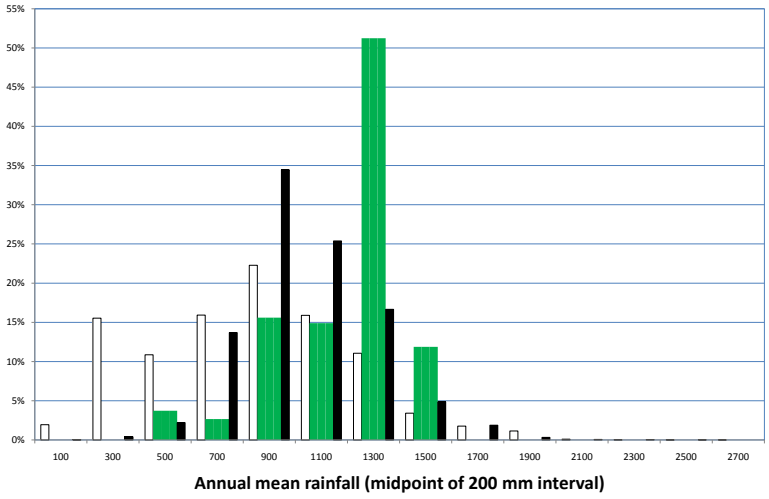

Figure 15.9. Histograms of the distribution of altitude (a), mean annual temperature (b) and mean annual rainfall (c). Bars at the centre of each interval show the percentage of samples within Palm wooded grassland (P, *n* = 564). Bars on left (open) show the overall percentage of samples (*n* = 740,047). Bars on the right (black) show the percentages of samples within woodland or wooded grassland (*n* =354,078).

15.3. Species composition

Species assemblages were obtained from the following references:

- Ethiopia: Friis *et al.* (2010 p. 236). All species listed for the Arecaceae family were coded "C".
- Kenya): Beentje (1994). All indigenous species from the Arecaceae (synonym: Palmae) family were coded "C".
- Malawi: Kabwazi & Kanjo (1999). Species mentioned in the reference for "*Hyphaene petersiana* wooded grassland " were coded "x" (unless they were characteristic species)
- Rwanda: Bloesch *et al.* (2009). Species listed for the Arecaceae family were coded "C".
- Tanzania: Species were assigned based on floristic similarity only.
- Uganda (columns "P1U" and "P2U"): Langdale-Brown *et al.* (1964). All species that were listed to occur in (wetter) "Borassus - *Hyparrhenia rufa* palm savanna" (M1) in the main text were coded "x" (unless they were characteristic species). In a separate column ("P2U"), all species that were listed to occur in (drier) "Borassus - *Hyperthelia dissoluta* [synonym: *Hyparrhenia dissoluta*] palm savanna" (M2) in the main text were coded "x" (unless they were characteristic species).
- Zambia: Trapnell *et al.* (1950 p. 20). The typical species for mapping unit SK1 was coded "C".
- Coastal areas of Kenya and Tanzania: Beentje (1994). All indigenous species from the Palmae species that were listed for floristic region K7 were coded "C".

Characteristic species were determined as:

- Ethiopia: All species were assumed to be characteristic ("C")
- Kenya: All species were assumed to be characteristic ("C")
- Malawi: Those species that were characterized as medium sized trees (10 - 20 m) were coded as "C", unless they were dominant species. Dominant species were coded as "D".
- Rwanda: All species were assumed to be characteristic.
- Tanzania: Characteristic species were not determined.
- Uganda: The palm species that were mentioned in the main text were identified as dominant species and were coded "D".
- Zambia: All species were assumed to be characteristic.
- Coastal areas of Kenya and Tanzania: All species were assumed to be characteristic.

Within the information on assemblages, coding "f" indicates that there is information that the species **potentially** occurs in the vegetation type since it occurs in the focal country and in the same woodland (or wooded grassland) type in other countries (see section 2.3).

Table 15. Species composition of Palm wooded grassland (physiognomically easy type, P)

Species	Regional status (see section 2.3)	(Ethiopia)	(Kenya)	(Malawi)	(Rwanda)	(Tanzania)	P1U (Uganda)	P2U (Uganda)	(Zambia)	(Coast)
Borassus aethiopum	Palm species (north Zambezian undifferentiated woodland: riparian woodland subtype, Sudanian edaphic grassland on Pleistocene clays, Zanzibar-Inhambane secondary grassland and wooded grassland)	C	C	f		f	D	D	f	C
Cocos nucifera	Palm species (Zanzibar-Inhambane edaphic grassland and secondary grassland)		C			f				C
Elaeis guineensis	Palm species (associated species in swamp forest on Pemba island)		C	f		f	f	f		C
Hyphaene compressa	Palm species (Zanzibar-Inhambane edaphic grassland and secondary grassland)	C	C			f				C
Hyphaene coriacea	Palm species (small stands with permanent ground water at the edge of the Chalbi desert and at the base of Mt. Kulal)		C			f				C
Hyphaene petersiana	Palm species (north Zambezian undiffertiated woodland: riparian woodland subtype)			D		f			C	
Hyphaene thebaica	Palm species (Sudanian undifferentiated woodland, Sudanian edaphic grassland on Pleistocene clays)	C								
Phoenix reclinata	Palm species (small communities in areas with frequent landslides on Mt. Kulal, Lake Victoria swamp forest, Zanzibar-Inhambane swamp forest	C	C	f	C	f	f	f	f	C
Raphia farinifera	Palm species (Lake Victoria swamp forest)		C	f		f	f	f	f	C
Acacia erioloba									C	
Acacia gerrardii				f				x	f	
Acacia nigrescens				C					f	
Acacia nilotica				x			f	f	f	
Acacia polyacantha				f			x	x	f	
Acacia senegal								x	f	
Acacia sieberiana				C			x	x	f	
Acacia xanthophloea				C						
Adansonia digitata				C					f	
Albizia adianthifolia				x			f	f	f	
Albizia amara				x			f	f	f	
Albizia coriaria								x	f	

Species	Regional status (see section 2.3)	(Ethiopia)	(Kenya)	(Malawi)	(Rwanda)	(Tanzania)	P1U (Uganda)	P2U (Uganda)	(Zambia)	(Coast)
Albizia versicolor				C			f	f	f	
Albizia zygia								x		
Antidesma venosum				x			f	f	f	
Balanites aegyptiaca								x	f	
Bridelia scleroneura							x			
Burkea africana				f			f	f	C	
Combretum collinum				f			x	x	f	
Combretum molle				f				x	f	
Commiphora africana				x			f	f	f	
Dalbergia melanoxylon				x			f	f	f	
Dichrostachys cinerea				x			f	f	f	
Diospyros mespiliformis				C			f	f	f	
Erythrina abyssinica				f			x		f	
Faidherbia albida				C			f	f	f	
Grewia bicolor				x			f	f	f	
Kigelia africana				C				x	f	
Lannea schweinfurthii				C			f	f	f	
Lecaniodiscus fraxinifolius				x			f	f	f	
Lonchocarpus capassa				C					f	
Markhamia obtusifolia				x					f	
Maytenus senegalensis				x			f	f	f	
Ozoroa insignis				f				x	f	
Piliostigma thonningii				C			x	x	f	
Salvadora persica				x			f	f	f	
Sterculia africana				C					f	
Stereospermum kunthianum				f			x		f	
Tamarindus indica				f				x	f	
Terminalia glaucescens								x		
Terminalia sericea				f					C	
Trichilia emetica				C			f	f	f	
Ziziphus mucronata				x			f	f	f	

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Appendices

Appendix 1. Information on useful tree species

Information on useful tree species was obtained from the following references listing "useful trees and shrub species" for one of the seven VECEA countries: Bekele-Tesemma (2007), Fanshawe (1982), Katende *et al.* (1995), Maundu and Tengnas (2005), Mbuya *et al.* (1994), Nduwayezu *et al.* (2009), Simute *et al.* (1998) and Williamson (1975). From the Williamson (1975) reference, only species were included for which it was mentioned that their wood was used for timber or other purposes.

Table A1. Information on useful tree species that occur in at least one of the woodland or wooded grassland potential natural vegetation types. x = species was listed in the reference on useful tree species in the country; f = there is floristic information that the species occurs in the country; w = the only floristic information is from the UNEP-WCMC species database

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Abutilon angulatum	f		f	x		f	f
Acacia abyssinica	x	x	f	x	f	x	
Acacia brevispica	x	x		x	f	f	
Acacia bussei	x	f			f		
Acacia drepanolobium	f	x			f	f	
Acacia elatior		x				f	
Acacia erioloba							x
Acacia gerrardii	f	x	f	x	f	x	f
Acacia hockii	f	f	f	x	x	x	f
Acacia kirkii		x		x	f	f	f
Acacia lahai	x	x			f	x	
Acacia mellifera	f	x			x	x	f
Acacia nigrescens			x		f		f
Acacia nilotica	x	x	f		x	x	f
Acacia oerfota	x	f			f	f	
Acacia paolii	f	x					
Acacia polyacantha	x	x	x	x	x	f	x
Acacia senegal	x	x		x	x	x	f
Acacia seyal	x	x	f		x	x	f
Acacia sieberiana	x	f	f	x	f	x	x
Acacia tortilis	x	x			x	x	f
Acacia xanthophloea		x	f		x		
Acokanthera oppositifolia		x	f				f
Acokanthera schimperi	x	x		x	x	f	
Adansonia digitata	x	x	f		x		x
Adenium obesum	f	x				x	
Afzelia africana						x	
Afzelia quanzensis		x	x		x	w	x
Albizia adianthifolia		f	f	x	f	x	x

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Albizia amara	f	x	f	x	x	f	x
Albizia anthelmintica	f	x	f		f	f	f
Albizia antunesiana			f	f	f		x
Albizia coriaria	f	x			f	x	f
Albizia gummifera	x	f	x	x	x	x	
Albizia malacophylla	x					f	
Albizia petersiana		f	f	x	f	f	
Albizia versicolor		f	x	x	x	x	x
Albizia zygia		f			f	x	
Allophylus africanus	f	f	f	x	f	f	f
Allophylus rubifolius	f	f	f	x	f	f	f
Amblygonocarpus andongensis			f		f	f	x
Anisophyllea boehmii					f		x
Annona senegalensis	x	f	f	x	x	x	x
Anogeissus leiocarpa	x						
Antiaris toxicaria	x	x		f	f	x	f
Antidesma venosum	f	x	f		f	f	f
Apodytes dimidiata	x	x	x	x	f	f	f
Baikiaea plurijuga							x
Balanites aegyptiaca	x	x		f	x	x	x
Balanites glabra	f	x			f		
Balanites rotundifolia	f	x				x	
Baphia massaiensis					f		x
Bauhinia petersiana			f		x		x
Beilschmiedia ugandensis					f	x	f
Berberis holstii	x	f	f		f	f	
Berchemia discolor	x	x	x		x	f	x
Bersama abyssinica	x	x	f	x	x	x	f
Bobgunnia madagascariensis			x		x		x
Borassus aethiopum	x	x	x		x	x	x
Boscia angustifolia	f	f	w	x	f	f	w
Boscia coriacea	f	x			f	f	
Boscia salicifolia	f	f	f		x	f	f
Boswellia papyrifera	x	f				f	
Brachystegia boehmii			f		f		x
Brachystegia bussei			x		x		x
Brachystegia glaucescens			x				w
Brachystegia longifolia			f		f		x
Brachystegia spiciformis		x	x		x		x
Breonadia salicina	x	f	x		x	w	w
Bridelia micrantha	x	x	x	x	x	x	x
Bridelia scleroneura	f	f		x	f	f	
Buddleja polystachya	x	x			f	f	
Burkea africana		w	x		x	f	x
Caesalpinia decapetala	x	x	f	x	x	x	x
Caesalpinia volkensii		x			f	f	
Calotropis procera	x	f			f	f	
Canthium lactescens	f	f		x	f	f	f
Capparis tomentosa	x	x	f	x	f	f	f
Carissa spinarum	x	x	f	x	x	x	f
Cassia abbreviata		x	f		f		x

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Catha edulis	x	f	f	w	x	x	f
Chrysophyllum albidum		f	w			x	
Clausena anisata	f	x	f	x	w	f	f
Clerodendrum myricoides	f	x		f	f	f	
Cocos nucifera		x				x	
Colophospermum mopane			x				x
Combretum aculeatum	x	x			f	f	
Combretum adenogonium	f	f	f		x	f	f
Combretum collinum	x	x	f	x	f	x	f
Combretum imberbe			x		f		x
Combretum molle	x	x	f	x	x	x	x
Combretum schumannii		x	f		x		f
Combretum zeyheri		f	x		f		f
Commiphora africana	x	x	f	x	x	x	x
Commiphora habessinica	x	f		f	f	f	f
Cordia africana	x	x	x	f	x	x	f
Cordia monoica	f	x			x	x	
Cordia sinensis	f	x			x	x	f
Cordyla africana		x	x		x		x
Crossopteryx febrifuga	f	f	x	f	f	f	
Crotalaria agatiflora	f	x	f	f	f	f	
Croton macrostachyus	x	x	f	f	x	x	f
Croton sylvaticus	f	f	f		f	x	f
Cryptosepalum exfoliatum			f		f		x
Cussonia arborea	f	f	f	x	x	f	x
Cussonia holstii	f	x		f	f	f	
Cussonia spicata		f	x		f	f	f
Dalbergia melanoxylon	x	x	x		x	x	f
Dalbergia nitidula			f	x	x	f	f
Daniellia oliveri						x	
Dialium englerianum							x
Dichrostachys cinerea	x	x	x	x	x	x	x
Diospyros kirkii			f		f	f	x
Diospyros mespiliformis	x	x	x		x	x	x
Diplorhynchus condylocarpon			f				x
Dobera glabra	x	x				f	
Dodonaea viscosa	x	x	f	x	x	x	f
Dombeya buettneri	f			f		x	
Dombeya kirkii	f	f	f	f	f	x	f
Dombeya rotundifolia	f	x	x	x	x	f	x
Dovyalis abyssinica	x	x	w		f	x	
Dovyalis macrocalyx		x	f	f	f	x	f
Ehretia cymosa	x	x	f	f		x	
Ekebergia benguelensis		f	x		f		f
Ekebergia capensis	x	x	f	x	x	x	f
Elaeis guineensis		f	w	x	f	x	
Elaeodendron buchananii	f	x	f	x	f	f	f
Entada abyssinica	x	x	f	x	x	x	f
Entandrophragma angolense		f			w	x	
Erythrina abyssinica	x	x	x	x	x	x	x

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Erythrina burttii		x			f		
Erythrina excelsa		f			f	x	f
Erythrina melanacantha	f	x			f		
Erythrophleum africanum		w			f	w	x
Erythroxylum fischeri	x	f			f	f	
Euclea divinorum	f	x	f	f	x	f	f
Euclea racemosa	x	f	f	x	f	f	f
Eugenia capensis	f	f	f	f	f	x	f
Euphorbia abyssinica	x	f	w		f	f	
Euphorbia candelabrum	x	x	w	x	f	x	w
Euphorbia tirucalli	x	x	f	x	x	x	x
Faidherbia albida	x	x	x		x	x	x
Faurea rochetiana	f	f	x	f	f	f	
Faurea saligna		x	x	x	f	x	x
Ficus glumosa	f	f	f	f	f	x	f
Ficus natalensis		f	f	x	f	f	f
Ficus ovata	f	f	f	x	f	x	f
Ficus platyphylla	f					x	
Ficus sycomorus	x	x	f	x	x	x	x
Ficus thonningii	f	x	f	x	x	f	f
Ficus vallis-choudae	f	f	f	x	f	x	f
Flacourtia indica	x	x	f	x	x	x	x
Flueggea virosa	x	x	f	x	f	f	f
Galiniera saxifraga	x	f	w	x	f	f	
Garcinia buchananii	f	f	w	f	f	x	x
Garcinia livingstonei	f	x	f		x	f	f
Gardenia ternifolia	x	f		x	f	f	
Gardenia volkensii	x	x			f	f	
Grewia bicolor	x	x	f	x	x	x	f
Grewia mollis	f	f		f	f	x	f
Grewia similis	f	f		x	x	f	
Grewia tembensis	f	x					
Grewia villosa	x	x			x	f	
Guibourtia coleosperma							x
Hallea stipulosa						x	w
Harrisonia abyssinica	f	x	f	f	f	f	f
Harungana madagascariensis		x	f	x	f	x	f
Hexalobus monopetalus			f		f	f	x
Hymenaea verrucosa		x			x		
Hypericum quartinianum	x	f	f		f	f	f
Hypericum roeperanum	x	f			f	f	f
Hyphaene compressa	f	x			f		
Hyphaene petersiana					f		x
Hyphaene thebaica	x						
Indigofera swaziensis		f			x	f	
Isoberlinia angolensis			f		f		x
Isoberlinia doka						x	
Jatropha curcas	x	x	f	x	f	x	f
Julbernardia globiflora			x		x		x
Julbernardia paniculata			f		f		x

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Kedrostis gijef		x			f		
Khaya senegalensis						x	
Kigelia africana	x	x	x	x	x	x	x
Kigelia moosa		f		x	f	f	
Kirkia acuminata			x		f		x
Landolphia kirkii		x	f		f		f
Lannea alata		x			f		
Lannea barteri	f					x	
Lannea discolor			x				x
Lannea fulva		x		x	f	x	
Lannea humilis	f	f		x	f	f	f
Lannea rivae	f	x			f		
Lannea schimperi	f	x	f	x	f	f	f
Lannea schweinfurthii	f	x	x	x	x	x	x
Lannea triphylla	f	x			f	f	
Lecaniodiscus fraxinifolius	f	x	f		f	f	f
Lippia kituiensis		x			f		
Lonchocarpus capassa			x		x		x
Lophira alata						x	
Maerua decumbens	f	x			f	f	
Maesopsis eminii		x		x	f	x	w
Mangifera indica	x	x				x	x
Manilkara mochisia		x	f		f		f
Manilkara sansibarensis		x			f		
Margaritaria discoidea	f	x	f		f	x	f
Markhamia lutea	x	x		x	f	x	
Markhamia obtusifolia		f	x	x	f		x
Markhamia zanzibarica		f	x		f	f	f
Maytenus arbutifolia	x	f		f	f	f	
Maytenus senegalensis	x	x	x	x	f	f	f
Maytenus undata	f	f	f	f	f	x	f
Melia volkensii	f	x			f		
Meyna tetraphylla	f	x			f	f	
Milicia excelsa	f	x	x	x	f	f	
Millettia dura		x	f	f	f	x	
Monotes africana			f		f		x
Morus mesozygia	x	f	f		f	x	f
Mussaenda arcuata	f	f	x		f	f	
Myrsine africana	f	x	f	f	f	f	f
Newtonia buchananii		x	x	x	f	x	f
Newtonia hildebrandtii		x			f		f
Oncoba spinosa	x	x	x		f	f	f
Opilia campestris	f	x			f		
Oreobambos buchwaldii		f	x		f	f	f
Ormocarpum kirkii		x	f		f		f
Ormocarpum trachycarpum	f	f			x	f	
Ormocarpum trichocarpum	f	f	f	x	f	f	
Osyris lanceolata	f	x		x	x	f	
Oxytenanthera abyssinica	x		x		x	x	x
Ozoroa insignis	f	x	x	x	x	x	f

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Pappea capensis	f	x	f	x	x	f	f
Parinari curatellifolia		x	x	x	x	x	x
Pavetta crassipes	f	x			f	f	
Pavetta oliveriana	x	f		f	f	f	
Pericopsis angolensis			x	f	x		x
Philenoptera laxiflora	x					f	
Phoenix reclinata	x	x	w	x	x	x	x
Phytolacca dodecandra	x	f	f	f	f	x	f
Piliostigma thonningii	x	x	x	f	x	x	x
Pistacia aethiopica	f	x			f	f	
Pittosporum viridiflorum	x	f	f	f	f	x	f
Plectranthus barbatus	f	x			f	f	
Pleurostylia africana		f	f	x	f	f	f
Pouteria altissima	x	f		f	f	x	f
Premna resinosa	f	x			f	f	
Prosopis africana						x	
Pseudocedrela kotschyi	f					x	
Pseudolachnostylis maprouneifolia			f		x		x
Pseudospondias microcarpa		f		f	f	x	f
Psydrax parviflora	f	f	f	x	f	f	f
Psydrax schimperiana	x	f	f	x	f	f	f
Pterocarpus angolensis			x		x		x
Pterolobium stellatum	f	f	f	x	f	f	f
Raphia farinifera		x	x		f	x	
Rauvolfia caffra		x	x		x	x	f
Rhamnus prinoides	x	f	f	x	f	f	f
Rhamnus staddo	x	x		f	f	f	
Rhoicissus revoilii	x	f	f	f	f	f	f
Rhoicissus tridentata	x	x	f	f	f	f	f
Rhus longipes	f	f	f	x	f	f	f
Rhus natalensis	x	x	f	x	f	f	f
Rhus tenuinervis	f	x	f		f		f
Rhus vulgaris	x	x	f	f	f	f	f
Rothmannia urcelliformis	f	f	w		f	x	w
Rubus apetalus	f	x	f	f	f	f	f
Rubus volkensii	f	x			f	f	
Saba comorensis	f	x					
Salvadora persica	x	x	f		x	f	f
Sarcocephalus latifolius	x	f				x	
Schinziophyton rautanenii			x		f		x
Schrebera alata	f	x	f	f	f	x	f
Sclerocarya birrea	x	x	x		x	x	x
Scutia myrtina	f	x	f	x	f	f	f
Securidaca longipedunculata	x	f	f	f	x	x	f
Senna didymobotrya	x	f	f	x	f	x	f
Senna septemtrionalis		f	f	x	f	f	f
Senna singueana	f	x	f	x	f	f	x
Sesbania sesban	x	x	f	x	x	x	x
Shirakiopsis elliptica	x	x	f	x	f	x	f

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Smilax anceps	f	f		f	f	x	
Solanecio cydoniifolius		f		f	f	x	
Solanecio mannii	f	x	w	f	f	x	w
Solanum aculeastrum		f	f	f	f	x	
Spathodea campanulata	x	x		x	x	x	x
Spirostachys venenifera		x			f		
Steganotaenia araliacea	x	f	f	f	f	x	f
Sterculia africana	x	x	f		x		x
Sterculia quinqueloba			x	f	x		x
Stereospermum kunthianum	x	x	f		x	x	f
Strychnos cocculoides		f	f		x		x
Strychnos henningsii	x	x	f		f	f	f
Strychnos innocua	x	f	f	x	x	x	x
Strychnos spinosa	x	x	f	x	x	x	x
Synsepalum brevipes		x	x		f	x	f
Syzygium guineense	x	x	x	x	x	x	x
Tamarindus indica	x	x	x		x	x	x
Tamarix nilotica	f	x			f		
Tarenna graveolens	f	f		x	f	f	
Tecomaria capensis		f	f	x	f	f	f
Tephrosia vogelii		f	f	x	f	f	x
Terminalia brownii	x	x			x	x	
Terminalia glaucescens	w				f	x	
Terminalia laxiflora	x					f	
Terminalia mollis		x		f	f	f	f
Terminalia prunioides	f	x			f		f
Terminalia sericea			x		x		x
Terminalia spinosa	f	x			x	f	
Tetradenia riparia	f	x		f			
Thespesia garckeana		f	f		x		x
Trema orientalis	f	f	f	x	x	f	f
Trichilia emetica	x	x	x		x	f	x
Uapaca kirkiana			x		x		x
Uapaca nitida			x		f		x
Uapaca sansibarica			f		f	f	x
Uvaria scheffleri		x			f	f	
Vangueria apiculata	f	x	f	x	f	f	f
Vangueria infausta		x	f	x	x	f	f
Vangueria madagascariensis	f	x	f		x	f	
Vangueriopsis lanciflora			f		x		f
Vepris nobilis	x	x	f	x	x	x	f
Vernonia amygdalina	x	x	f	x	f	f	f
Vernonia auriculifera	f	f		f	f	x	
Vernonia myriantha	f	f	f	f	x	f	f
Vitellaria paradoxa	x					x	
Vitex doniana	x	x	x	f	f	x	x
Vitex madiensis					f	x	
Vitex mombassae		x			x		
Vitex payos		x			f		
Warburgia ugandensis	x	x	f		x	x	

Species	Ethiopia	Kenya	Malawi	Rwanda	Tanzania	Uganda	Zambia
Xeroderris stuhlmannii		f	x		x		x
Ximenia americana	x	x	x	x	x	x	x
Xylopia parviflora	f	x	w		f	f	w
Xymalos monospora		f	x	x	f	f	
Zanthoxylum chalybeum	f	x	f	x	x	x	f
Zanthoxylum usambarense	f	x		f	f		
Ziziphus abyssinica	f	x	f	f	f	x	x
Ziziphus mauritiana	x	x	f		x	f	x
Ziziphus mucronata	x	x	f	x	x	f	f
Ziziphus pubescens	x	f	f		f	f	f

Appendix 2. Information on synonyms

We used a consistent naming system for all the species that were listed in this volume. The table immediately below shows how we reclassified some of the species that we encountered in national references. Note that we did not always use the most current name (mainly as a result of trying to use the same names of species listed in the Plant Resources of Tropical Africa (PROTA) database (URL *http://www.prota4u.org/*).

Table A2. Correspondence between species names as listed in the VECEA documentation and some synonyms of these species

Synonym	Species in VECEA
Acacia albida	*Faidherbia albida*
Acacia giraffae	*Acacia erioloba*
Acacia macrothyrsa	*Acacia amythethophylla*
Acacia nubica	*Acacia oerfota*
Acacia oliveri	*Acacia senegal*
Adina microcephala	*Breonadia salicina*
Aframomum biauriculatum	*Aframomum alboviolaceum*
Afrormosia angolensis	*Pericopsis angolensis*
Albizia fastigiata	*Albizia adianthifolia*
Aningeria altissima	*Pouteria altissima*
Annona chrysophylla	*Annona senegalensis*
Antiaris usambarensis	*Antiaris toxicaria*
Azanza garckeana	*Thespesia garckeana*
Balanites orbicularis	*Balanites rotundifolia*
Bauhinia macrantha	*Bauhinia petersiana*
Bauhinia thonningii	*Piliostigma thonningii*
Blepharis acanthoides	*Blepharis acanthodioides*
Boscia patens	*Boscia angustifolia*
Bothriochloa glabra	*Bothriochloa bladhii*
Breonadia microcephala	*Breonadia salicina*
Bridelia scleeroneuroides	*Bridelia scleroneura*
Caesalpinia erlangeri	*Caesalpinia trothae*
Canthium rubrocostatum	*Psydrax parviflora*
Canthium schimperanum	*Psydrax schimperiana*
Canthium vulgare	*Psydrax parviflora*
Carissa edulis	*Carissa spinarum*
Cassia didymobotrya	*Senna didymobotrya*
Cassia floribunda	*Senna septemtrionalis*
Cassia singueana	*Senna singueana*
Cassine buchananii	*Elaeodendron buchananii*
Chlorophora excelsa	*Milicia excelsa*
Chrysopogon aucheri	*Chrysopogon plumulosus*
Coleus barbatus	*Plectranthus barbatus*
Combretum binderianum	*Combretum collinum*
Combretum fragrans	*Combretum adenogonium*
Combretum ghasalense	*Combretum adenogonium*
Combretum mechowianum	*Combretum collinum*
Commiphora madagascariensis	*Commiphora habessinica*

Synonym	Species in VECEA
Commiphora tubuk	*Commiphora africana*
Cordia ovalis	*Cordia monoica*
Cordia rothii	*Cordia sinensis*
Crassocephalum mannii	*Solanecio mannii*
Cryptosepalum pseudotaxus	*Cryptosepalum exfoliatum*
Cussonia kirkii	*Cussonia arborea*
Dialiopsis africana	*Zanha africana*
Dichanthium papillosum	*Dichanthium annulatum*
Diplachne fusca	*Leptochloa fusca*
Dodonaea angustifolia	*Dodonaea viscosa*
Dombeya bagshawei	*Dombeya buettneri*
Dombeya mukole	*Dombeya kirkii*
Dovyalis engleri	*Dovyalis abyssinica*
Echinochloa holubi	*Echinochloa pyramidalis*
Ekebergia rueppelliana	*Ekebergia capensis*
Ekebergia senegalensis	*Ekebergia capensis*
Eriochloa nubica	*Eriochloa fatmensis*
Erythrina tomentosa	*Erythrina abyssinica*
Euclea latidens	*Euclea racemosa*
Euclea schimperi	*Euclea racemosa*
Eugenia bukobensis	*Eugenia capensis*
Euphorbia obovalifolia	*Euphorbia abyssinica*
Excoecaria venenifera	*Spirostachys venenifera*
Fagara chalybea	*Zanthoxylum chalybeum*
Faurea speciosa	*Faurea rochetiana*
Ficus burkei	*Ficus thonningii*
Ficus dekdekana	*Ficus thonningii*
Gardenia jovis-tonantis	*Gardenia ternifolia*
Gardenia spatulifolia	*Gardenia volkensii*
Harrisonia occidentalis	*Harrisonia abyssinica*
Heeria reticulata	*Ozoroa insignis*
Hexalobus monopetalanthus	*Hexalobus monopetalus*
Hyphaene parvula	*Hyphaene coriacea*
Hyphaene ventricosa	*Hyphaene petersiana*
Iboza riparia	*Tetradenia riparia*
Kigelia aethiopum	*Kigelia africana*
Lannea stuhlmannii	*Lannea schweinfurthii*
Lonchocarpus laxiflorus	*Philenoptera laxiflora*
Markhamia acuminata	*Markhamia zanzibarica*
Markhamia platycalyx	*Markhamia lutea*
Mitragyna stipulosa	*Hallea stipulosa*
Morus excelsa	*Milicia excelsa*
Nauclea latifolia	*Sarcocephalus latifolius*
Ostryoderris stuhlmannii	*Xeroderris stuhlmannii*
Osyris abyssinica	*Osyris lanceolata*
Osyris compressa	*Osyris lanceolata*
Ozoroa reticulata	*Ozoroa insignis*
Pachystela brevipes	*Synsepalum brevipes*
Phyllanthus discoideus	*Margaritaria discoidea*
Piptadeniastrum buchananii	*Newtonia buchananii*

Synonym	Species in VECEA
Pittosporum malosanum	*Pittosporum viridiflorum*
Pittosporum mildbraedii	*Pittosporum viridiflorum*
Pittosporum rhodesicum	*Pittosporum viridiflorum*
Pittosporum spathicalyx	*Pittosporum viridiflorum*
Plectronia schimperiana	*Psydrax schimperiana*
Pterocarpus antunesii	*Pterocarpus lucens*
Pterolobium lacerans	*Pterolobium stellatum*
Rauvolfia inebriens	*Rauvolfia caffra*
Rauvolfia obliquinervis	*Rauvolfia caffra*
Rauvolfia oxyphylla	*Rauvolfia caffra*
Rhoicissus erythrodes	*Rhoicissus tridentata*
Ricinodendron rautanenii	*Schinziophyton rautanenii*
Rubus rigidus	*Rubus apetalus*
Sapium ellipticum	*Shirakiopsis elliptica*
Sclerocarya caffra	*Sclerocarya birrea*
Scutia commersonii	*Scutia myrtina*
Securinega virosa	*Flueggea virosa*
Senecio mannii	*Solanecio mannii*
Setaria angustifolia	*Setaria sphacelata*
Setaria holsti	*Setaria incrassata*
Setaria homblei	*Setaria sphacelata*
Setaria pallide-fusca	*Setaria pumila*
Setaria phragmitoides	*Setaria incrassata*
Setaria trinervia	*Setaria sphacelata*
Smilax kraussiana	*Smilax anceps*
Sorghum sudanense	*Sorghum bicolor*
Sorghum verticilliflorum	*Sorghum arundinaceum*
Sporobolus kentrophyllus	*Sporobolus ioclados*
Sporobolus marginatus	*Sporobolus ioclados*
Swartzia madagascariensis	*Bobgunnia madagascariensis*
Syzygium parvifolium	*Syzygium guineense*
Teclea nobilis	*Vepris nobilis*
Trema guineensis	*Trema orientalis*
Vangueria acutiloba	*Vangueria madagascariensis*
Vernonia ampla	*Vernonia myriantha*
Ximenia caffra	*Ximenia americana*

Appendix 3. Information on botanical families

Table A3. Species arranged by family or subfamily (species from the Fabaceae family were listed separately for the *Caesalpinioideae, Mimosoideae* and *Papilionoideae* subfamilies)

Family	Species
Acanthaceae	*Barleria acanthoides*
	Blepharis acanthodioides
	Blepharis linariifolia
	Duosperma eremophilum
Anacardiaceae	*Lannea alata*
	Lannea barteri
	Lannea discolor
	Lannea fulva
	Lannea humilis
	Lannea rivae
	Lannea schimperi
	Lannea schweinfurthii
	Lannea triphylla
	Mangifera indica
	Ozoroa insignis
	Pistacia aethiopica
	Pseudospondias microcarpa
	Rhus longipes
	Rhus natalensis
	Rhus tenuinervis
	Rhus vulgaris
	Sclerocarya birrea
Annonaceae	*Annona senegalensis*
	Hexalobus monopetalus
	Uvaria scheffleri
	Xylopia odoratissima
	Xylopia parviflora
Apiaceae	*Steganotaenia araliacea*
Apocynaceae	*Acokanthera oppositifolia*
	Acokanthera schimperi
	Adenium obesum
	Carissa spinarum
	Diplorhynchus condylocarpon
	Landolphia kirkii
	Rauvolfia caffra
	Saba comorensis
Araliaceae	*Cussonia arborea*
	Cussonia holstii
	Cussonia spicata
Arecaceae	*Borassus aethiopum*
	Cocos nucifera
	Elaeis guineensis
	Hyphaene compressa
	Hyphaene coriacea
	Hyphaene petersiana

Family	Species
Arecaceae	*Hyphaene thebaica*
	Phoenix reclinata
	Raphia farinifera
Asclepiadaceae	*Calotropis procera*
Asteraceae	*Aspilia mossambicensis*
	Pluchea ovalis
	Solanecio cydoniifolius
	Solanecio mannii
	Vernonia amygdalina
	Vernonia auriculifera
	Vernonia myriantha
Balanitaceae	*Balanites aegyptiaca*
	Balanites glabra
	Balanites rotundifolia
Berberidaceae	*Berberis holstii*
Bignoniaceae	*Kigelia africana*
	Kigelia moosa
	Markhamia lutea
	Markhamia obtusifolia
	Markhamia zanzibarica
	Spathodea campanulata
	Stereospermum kunthianum
	Tecomaria capensis
Bombacaceae	*Adansonia digitata*
Boraginaceae	*Cordia africana*
	Cordia monoica
	Cordia sinensis
	Ehretia cymosa
Burseraceae	*Boswellia papyrifera*
	Commiphora africana
	Commiphora habessinica
	Commiphora schimperi
Canellaceae	*Warburgia ugandensis*
Capparidaceae	*Boscia angustifolia*
	Boscia coriacea
	Boscia salicifolia
	Cadaba glandulosa
	Cadaba rotundifolia
	Capparis tomentosa
	Maerua decumbens
Celastraceae	*Catha edulis*
	Elaeodendron buchananii
	Maytenus arbutifolia
	Maytenus senegalensis
	Maytenus undata
	Pleurostylia africana
Chrysobalanaceae	*Parinari capensis*
	Parinari curatellifolia
Clusiaceae	*Garcinia buchananii*
	Garcinia livingstonei

Family	Species
Clusiaceae	*Harungana madagascariensis*
	Hypericum quartinianum
	Hypericum roeperanum
Combretaceae	*Anogeissus leiocarpa*
	Combretum aculeatum
	Combretum adenogonium
	Combretum celastroides
	Combretum collinum
	Combretum hartmannianum
	Combretum imberbe
	Combretum molle
	Combretum psidioides
	Combretum schumannii
	Combretum zeyheri
	Terminalia brownii
	Terminalia glaucescens
	Terminalia laxiflora
	Terminalia mollis
	Terminalia prunioides
	Terminalia sericea
	Terminalia spinosa
	Terminalia stenostachya
	Terminalia stuhlmannii
Cucurbitaceae	*Kedrostis gijef*
Cyperaceae	*Kyllinga alba*
Dipterocarpaceae	*Marquesia macroura*
	Monotes africana
Ebenaceae	*Diospyros kirkii*
	Diospyros mespiliformis
	Euclea divinorum
	Euclea racemosa
Erythroxylaceae	*Erythroxylum fischeri*
Euphorbiaceae	*Antidesma venosum*
	Bridelia micrantha
	Bridelia scleroneura
	Croton dichogamus
	Croton macrostachyus
	Croton megalobotrys
	Croton sylvaticus
	Euphorbia abyssinica
	Euphorbia candelabrum
	Euphorbia tirucalli
	Flueggea virosa
	Hymenocardia acida
	Jatropha curcas
	Margaritaria discoidea
	Oldfieldia dactylophylla
	Pseudolachnostylis maprouneifolia
	Schinziophyton rautanenii
	Shirakiopsis elliptica

Family	Species
Euphorbiaceae	*Spirostachys venenifera*
	Uapaca kirkiana
	Uapaca nitida
	Uapaca sansibarica
Flacourtiaceae	*Dovyalis abyssinica*
	Dovyalis macrocalyx
	Flacourtia indica
	Oncoba spinosa
Icacinaceae	*Apodytes dimidiata*
Lamiaceae	*Ocimum basilicum*
	Plectranthus barbatus
	Tetradenia riparia
Lauraceae	*Beilschmiedia ugandensis*
Leguminosae: Caesalpinioideae	*Afzelia africana*
	Afzelia quanzensis
	Baikiaea plurijuga
	Bauhinia petersiana
	Brachystegia allenii
	Brachystegia bakeriana
	Brachystegia boehmii
	Brachystegia bussei
	Brachystegia floribunda
	Brachystegia glaberrima
	Brachystegia glaucescens
	Brachystegia longifolia
	Brachystegia manga
	Brachystegia microphylla
	Brachystegia puberula
	Brachystegia spiciformis
	Brachystegia stipulata
	Brachystegia taxifolia
	Brachystegia utilis
	Brachystegia wangermeeana
	Burkea africana
	Caesalpinia decapetala
	Caesalpinia trothae
	Caesalpinia volkensii
	Cassia abbreviata
	Colophospermum mopane
	Cordyla africana
	Cryptosepalum exfoliatum
	Daniellia oliveri
	Dialium englerianum
	Erythrophleum africanum
	Guibourtia coleosperma
	Hymenaea verrucosa
	Isoberlinia angolensis
	Isoberlinia doka
	Julbernardia globiflora
	Julbernardia paniculata

Family	Species
Leguminosae: Caesalpinioideae	*Peltophorum africanum*
	Piliostigma thonningii
	Pterolobium stellatum
	Senna didymobotrya
	Senna septemtrionalis
	Senna singueana
	Tamarindus indica
	Bauhinia petersiana
Leguminosae: Mimosoideae	*Abutilon hirtum*
	Acacia abyssinica
	Acacia amythethophylla
	Acacia brevispica
	Acacia bussei
	Acacia drepanolobium
	Acacia elatior
	Acacia erioloba
	Acacia etbaica
	Acacia gerrardii
	Acacia hockii
	Acacia kirkii
	Acacia lahai
	Acacia malacocephala
	Acacia mellifera
	Acacia nigrescens
	Acacia nilotica
	Acacia oerfota
	Acacia paolii
	Acacia polyacantha
	Acacia pseudofistula
	Acacia reficiens
	Acacia robusta
	Acacia senegal
	Acacia seyal
	Acacia sieberiana
	Acacia stuhlmannii
	Acacia tanganyikensis
	Acacia tortilis
	Acacia xanthophloea
	Acacia zanzibarica
	Albizia adianthifolia
	Albizia amara
	Albizia anthelmintica
	Albizia antunesiana
	Albizia coriaria
	Albizia gummifera
	Albizia harveyi
	Albizia malacophylla
	Albizia petersiana
	Albizia versicolor
	Albizia zygia

Family	Species
Leguminosae: Mimosoideae	*Amblygonocarpus andongensis*
	Dichrostachys cinerea
	Entada abyssinica
	Faidherbia albida
	Mimosa pigra
	Newtonia buchananii
	Newtonia hildebrandtii
	Prosopis africana
Leguminosae:Papilionoideae	*Aeschynomene abyssinica*
	Baphia massaiensis
	Bobgunnia madagascariensis
	Crotalaria agatiflora
	Dalbergia boehmii
	Dalbergia melanoxylon
	Dalbergia nitidula
	Erythrina abyssinica
	Erythrina burttii
	Erythrina excelsa
	Erythrina melanacantha
	Indigofera swaziensis
	Lonchocarpus capassa
	Millettia dura
	Ormocarpum kirkii
	Ormocarpum trachycarpum
	Ormocarpum trichocarpum
	Pericopsis angolensis
	Philenoptera laxiflora
	Pterocarpus angolensis
	Pterocarpus lucens
	Pterocarpus rotundifolius
	Sesbania rostrata
	Sesbania sesban
	Tephrosia vogelii
	Xeroderris stuhlmannii
Loganiaceae	*Buddleja polystachya*
	Strychnos cocculoides
	Strychnos henningsii
	Strychnos innocua
	Strychnos potatorum
	Strychnos pungens
	Strychnos spinosa
Malvaceae	*Abutilon angulatum*
	Thespesia danis
	Thespesia garckeana
Marantaceae	*Thalia geniculata*
Meliaceae	*Ekebergia benguelensis*
	Ekebergia capensis
	Entandrophragma angolense
	Khaya senegalensis
	Melia volkensii

Family	Species
Meliaceae	*Pseudocedrela kotschyi*
	Trichilia emetica
	Turraea nilotica
Melianthaceae	*Bersama abyssinica*
Monimiaceae	*Xymalos monospora*
	Antiaris toxicaria
	Ficus glumosa
	Ficus natalensis
	Ficus ovata
	Ficus platyphylla
	Ficus sycomorus
	Ficus thonningii
	Ficus vallis-choudae
	Milicia excelsa
	Morus mesozygia
Myrsinaceae	*Myrsine africana*
Myrtaceae	*Eugenia capensis*
	Syzygium guineense
Ochnaceae	*Lophira alata*
	Lophira lanceolata
	Ochna pulchra
Olacaceae	*Ximenia americana*
	Jasminum streptopus
	Schrebera alata
Opiliaceae	*Opilia campestris*
Palmaceae	*Hyphaene compressa*
	Hyphaene petersiana
	Hyphaene thebaica
Phytolaccaceae	*Phytolacca dodecandra*
Pittosporaceae	*Pittosporum viridiflorum*
Poaceae	*Alloteropsis cimicina*
	Andropogon kelleri
	Aristida adscensionis
	Bothriochloa bladhii
	Bothriochloa insculpta
	Brachiaria decumbens
	Cenchrus ciliaris
	Chloris gayana
	Chloris roxburghiana
	Chloris virgata
	Chrysopogon plumulosus
	Cynodon dactylon
	Cynodon plectostachyus
	Dactyloctenium aegyptium
	Dichanthium annulatum
	Echinochloa haploclada
	Echinochloa pyramidalis
	Enteropogon macrostachyus
	Eragrostis atrovirens
	Eriochloa fatmensis

Family	Species
Poaceae	*Hyparrhenia filipendula*
	Hyparrhenia rufa
	Imperata cylindrica
	Leersia hexandra
	Leptochloa fusca
	Microchloa indica
	Microchloa kunthii
	Oreobambos buchwaldii
	Oryza barthii
	Oryza longistaminata
	Oxytenanthera abyssinica
	Panicum coloratum
	Panicum maximum
	Panicum repens
	Pennisetum purpureum
	Setaria incrassata
	Setaria pumila
	Setaria sphacelata
	Sorghastrum bipennatum
	Sorghum arundinaceum
	Sorghum bicolor
	Sorghum purpureo-sericeum
	Sporobolus festivus
	Sporobolus helvolus
	Sporobolus ioclados
	Sporobolus pyramidalis
	Tetrapogon cenchriformis
	Themeda triandra
Polygalaceae	*Securidaca longipedunculata*
Proteaceae	*Faurea rochetiana*
	Faurea saligna
Pteridiaceae	*Pteridium aquilinum*
Rhamnaceae	*Berchemia discolor*
	Rhamnus prinoides
	Rhamnus staddo
	Scutia myrtina
	Ziziphus abyssinica
	Ziziphus mauritiana
	Ziziphus mucronata
	Ziziphus pubescens
Rharnnaceae	*Maesopsis eminii*
Rhizophoraceae	*Anisophyllea boehmii*
	Anisophyllea pomifera
Rosaceae	*Rubus apetalus*
	Rubus volkensii
Rubiaceae	*Breonadia salicina*
	Canthium lactescens
	Crossopteryx febrifuga
	Galiniera saxifraga
	Gardenia ternifolia

Family	Species
Rubiaceae	*Gardenia volkensii*
	Hallea stipulosa
	Meyna tetraphylla
	Mussaenda arcuata
	Pavetta crassipes
	Pavetta oliveriana
	Psydrax parviflora
	Psydrax schimperiana
	Rothmannia urcelliformis
	Sarcocephalus latifolius
	Tarenna graveolens
	Vangueria apiculata
	Vangueria infausta
	Vangueria madagascariensis
	Vangueriopsis lanciflora
Rutaceae	*Clausena anisata*
	Vepris nobilis
	Zanthoxylum chalybeum
Rutaceae	*Zanthoxylum usambarense*
Salvadoraceae	*Dobera glabra*
	Salvadora persica
Santalaceae	*Osyris lanceolata*
Sapindaceae	*Allophylus africanus*
	Allophylus rubifolius
	Dodonaea viscosa
	Lecaniodiscus fraxinifolius
	Pappea capensis
	Zanha africana
Sapotaceae	*Chrysophyllum albidum*
	Manilkara mochisia
	Manilkara sansibarensis
	Pouteria altissima
	Synsepalum brevipes
	Vitellaria paradoxa
Simaroubaceae	*Harrisonia abyssinica*
	Kirkia acuminata
Solanaceae	*Solanum aculeastrum*
	Solanum incanum
Srnilacaceae	*Smilax anceps*
Sterculiaceae	*Dombeya buettneri*
	Dombeya kirkii
	Dombeya rotundifolia
	Sterculia africana
	Sterculia quinqueloba
Tamaricaceae	*Tamarix nilotica*
Tiliaceae	*Grewia bicolor*
	Grewia fallax
	Grewia mollis
	Grewia similis
	Grewia tembensis

Family	Species
Tiliaceae	*Grewia villosa*
Ulmaceae	*Trema orientalis*
Verbenaceae	*Clerodendrum myricoides*
	Lippia kituiensis
	Premna resinosa
	Vitex doniana
	Vitex madiensis
	Vitex mombassae
	Vitex payos
Vitaceae	*Rhoicissus revoilii*
	Rhoicissus tridentata
Zingiberaceae	*Aframomum alboviolaceum*
Zygophyllaceae	*Tribulus cistoides*

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National centre for research, education and advisory services within the fields of forest and forest products, landscape architecture and landscape management, urban planning and urban design