



An annotated checklist to the trees and shrubs of the Upper Katanga (D.R. Congo)

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Abstract

A checklist to the trees and shrubs of Upper Katanga (the Zambezi part of Katanga, ca. 260,000 km²) (D.R. Congo) is presented. It comprises 694 taxa (664 species, 15 subspecies, 15 varieties). For each accepted taxon the list provides habitat and geographic distribution. Eleven taxa are new records for the D.R. Congo and 29 are new records for Upper Katanga. Fourteen new synonyms are proposed. Two families stand out as particularly species-rich, i.e. Fabaceae (110 taxa, i.e. Caesalpinioideae: 50; Faboideae: 29; Mimosoideae: 31) and Rubiaceae (74). Six genera comprise 10 taxa or more i.e. *Ficus* (25), *Combretum* (17), *Monotes* (17), *Brachystegia* (15), *Diospyros* (11), *Acacia* (11). The three most important woody vegetation types in Upper Katanga have different phytogeographic and taxonomic assemblages: miombo woodland (254 taxa, 62% of which are Zambezi, over-representation of Caesalpinioideae), riverine and swamp forest (196 taxa, 36% of which are Guineo-Congolian, 17% Afrotropical), and Zambezi dry evergreen forest (117 taxa, 37% of which are Guineo-Congolian, Rubiaceae over-represented). Twenty taxa (3%) are strictly endemic to Upper Katanga, most of which occur only in the Katanga-Zambian sector of the Zambezi region. Taxonomic uncertainties are emphasized including 13 endemics known by one or two collections only. Forty-nine taxa are almost exclusively associated with termite mounds. For the miombo woodlands eight ecological groups of indicator species are proposed.

Key words: Africa, diversity, dry tropical forests, ecology, flora, phytogeography

Introduction

The Province of Katanga covers the SE quarter of D.R. Congo. Katanga is heterogeneous from a climatic and a phytogeographic point of view (Delevoy & Robert 1935). Annual temperature and rainfall increase and the length of the dry season decreases gradually from the south-east to the north-west. Lower Katanga belongs in the transition region between the Zambezi centre of endemism and the Guineo-Congolian centre of endemism. Upper Katanga, also referred to as southern Katanga, represents the northern part of the Zambezi centre of endemism (White 1979, 1983a,b, 1993; Malaisse 1996). Statistical analysis of distributional data has confirmed that Upper and Lower Katanga are biogeographically very distinct (Linder *et al.* 2005, 2012).

Schematically, the mainland vegetation of Upper Katanga comprises miombo woodland, dry evergreen forest, riverine and swamp forest and wooded grassland (Duvigneaud 1958; Schmitz 1971). The most characteristic vegetation is miombo woodland, a semi-deciduous tropical dry forest with species of *Brachystegia* Benth in Benth & Hooker (1865: 582) as dominant trees. The miombo of Katanga is of the wet type (Malaisse 1997) with the tree layer generally higher and denser compared to the dry miombo of the central part of the Zambezi basin (Frost 1996). The miombo of Upper Katanga is extremely variable in species composition, depending on soil conditions and topography (Duvigneaud 1958). Dry evergreen forest (local name: muhulu), now considerably fragmented, is generally regarded as the climax vegetation (Schmitz 1963, 1971). Edaphic forest vegetation comprises riverine and swamp forest and occurs extensively along watercourses. Wooded grasslands occupy the broad alluvial plains of the main watercourses (Lufira, Luapula) (Streel 1962, 1963). Upper Katanga itself is phytogeographically diverse due to complex geomorphology and a variable climate. The Marungu massif in the extreme northeast of Upper Katanga belongs in the Afrotropical region (White 1983a).

Schmitz (1971) estimates the total floristic richness of Upper Katanga to be 4000 taxa. Upper Katanga and the adjacent territories of Zambia and Eastern Angola rank among the regions in sub-Saharan Africa with the highest proportion of endemics (Brenan 1978; Linder 2001). Upper Katanga is recognized as a hotspot of plant diversity

(Küper *et al.* 2004). The high species richness of Upper Katanga was confirmed by Linder (2014) who ascribed it to the broad phytogeographic spectrum of the flora.

The botanical exploration of Katanga started at the end of the 19th C. Duvigneaud was the most prolific collector with > 50.000 specimens deposited at BRLU. Other important collectors of trees and shrubs from Katanga include Hock, Delevoy, Homblé, Lisowski, Malaisse, Schmitz, Symoens, Verdick (deposited at BR). Schmitz (1974) provides a more comprehensive account of the history of botanical research in Katanga. The publication of the first volume of the “Flore du Congo belge et du Ruanda-Urundi” in 1948 (now continued as Flore d’Afrique Centrale) represented a landmark in the documentation of the flora of the Katanga.

The latest comprehensive catalogue and its supplements (De Wildeman 1921, 1927b, 1929, 1930; De Wildeman & Staner 1932, 1933) are outdated. The «Flore d’Afrique centrale» launched in 1948 is still far from complete covering ca. 60% of the total flora and a number of families with many woody representatives in Katangan forests have not been treated yet (Apocynaceae, Dipterocarpaceae, Euphorbiaceae (in part), Lamiaceae, Phyllanthaceae (in part), Sapotaceae, Rubiaceae). In addition the treatments of some of the earlier published families are outdated.

The forests of D.R. Congo are under increasing pressure from itinerant slash and burn agriculture. In addition, in Katanga, during the last 20 years, demographic expansion and the steady increase in demand for fuel wood and charcoal from fast growing cities has accelerated forest destruction. Improved road infrastructure, associated with a revival in mining has also aggravated the threats to forests at increasing distances from cities (Potapov *et al.* 2012; Anonymous 2012; Zhuravleva *et al.* 2013).

The lack of a comprehensive current checklist of the trees and shrubs greatly hampers the prioritization of conservation efforts and the implementation of management policies. This article attempts to fill that knowledge gap.

Methods

Katanga is a plateau gently sloping to the north-west at an elevation of ca. 600 to 1300 m. The Marungu massif and the Katangan highlands reach elevations of 2500 m and 1500–1700 m, respectively (Robert 1956). The delineation of the boundary between Lower Katanga and Upper Katanga is controversial (Liben 1958) due to the essentially progressive transition between the Zambezian and the Guineo-Congolian realm (White & Werger 1978; White 1979; Linder *et al.* 2005). For practical reasons we follow Robyns (1948) classification as herbarium collections in Belgium have been curated using this system. Upper Katanga in the present work corresponds to “Region XI” of the Flore d’Afrique Centrale, and covers ca. 260,000 km². Upper Katanga shares borders with Tanzania in the north-east, Zambia in the east and the south and Angola in the south-west. The climate is Sudanian, corresponding to Cwa in Köppen’s classification (Peel *et al.* 2007). Annual rainfall is less than 1200 mm and the dry season exceeds 150 days (May–October). Two phytogeographic sectors are recognized in Upper Katanga, the Lundian or Centro-Angolan sector in the west, and the Katango-Zambian sector in the east (Duvigneaud 1958; Werger & Coetzee 1978; Malaisse 1996).

This checklist includes micro-, meso- and macrophanerophytes native to Upper Katanga. Lianas are not included. The list is limited to trees and shrubs because these are the structuring elements of forest ecosystems and because, unlike lianas, trees and shrubs are widely used for timber, wood energy and charcoal production and are therefore given priority in habitat restoration. However, the distinction between shrubs and lianas is not always clear-cut. Species with intermediate growth form are not rare, e.g. sarmentose or scrambling shrubs. Only phanerophytes possessing specific adaptations to climbing have been excluded (tendrils, hooks, voluble shoots or petioles). The limit between nanophanerophytes (excluded) and microphanerophytes (< 2 m and > 2 m in height, respectively) is also rather artificial. The criterion of woodiness was given priority over height. Thus, shrubby species with mostly herbaceous shoots have been excluded. A number of somewhat arbitrary decisions had to be taken and we are aware that some of them might be criticized.

The checklist was assembled as follows. Primary sources of information, i) De Wildeman’s catalogue and its supplements (De Wildeman 1921, 1927b, 1929, 1930; De Wildeman & Staner 1932, 1933) and ii) the published volumes of the Flore d’Afrique Centrale (incl. title variants) published from 1948 onwards (available online: <http://www.br.fgov.be/RESEARCH/DATABASES/FOCA/index.php>) were combined. Additional information was obtained from an extensive screening of the relevant literature. First, monographs and taxonomic revisions, especially for families not covered yet by the Flore d’Afrique Centrale were screened for records from Upper Katanga. Second, flora and vegetation surveys were screened, in particular Delevoy (1928–1928), Duvigneaud (1958), Schmitz (1963), Schmitz (1971), Streel (1962, 1963), Van Meel (1966) and Malaisse (1985). All new records were confirmed using herbarium

materials. In this way all determinations were verified. Thirdly, we conducted five, two-week field surveys (May 2012, January 2013, April 2014, September 2014, July 2015). The main target sites included the Luapula river valley ca. 120 km NE of Lubumbashi (Lubemba, S10°54' E28°32'), the Lufukwe river (Eastern foothills of Kundelungu, S09°59' E28°05'), Kafubu River E of Lubumbashi (S11°33' E28°07'), Mikembo Sanctuary (S11°28' E27°40') and Kiubo falls (S09°31' E27°02'). These areas were chosen as they include a broad range of woody vegetation types, miombo woodland, Zambezi dry evergreen forest, riverine and swamp forests. Over 750 collections were made during these surveys. Collections were identified using available taxonomic revisions, monographs and Floras and by comparison with herbarium collections at BR and BRLU.

A taxon was considered as new to Upper Katanga if it was not reported from the Upper Katanga by the African Plant Database, the Flore d'Afrique Centrale, Schmitz (1971) and if to the best of our knowledge its presence in Upper Katanga has not been reported in any other published work citing voucher specimens.

Taxonomy and nomenclature

With few exceptions the nomenclature follows the African Plant Database (<http://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php>). Family names follow APGIII (2009). A number of important groups have not been revised yet for the Flore d'Afrique Centrale, including Apocynaceae, part of Euphorbiaceae and Phyllanthaceae, Lamiaceae, Sapotaceae. Other families were revised many decades ago using outdated taxonomic concepts and so the number of taxa supposed to be endemic to Upper Katanga needs critical reappraisal. Solving such taxonomic problems is out of the scope of this work and new synonyms are only occasionally proposed. Taxa of questionable taxonomic value and in need of revision in Upper Katanga are indicated by a '*'.

Habitat

Information on habitat was obtained from the Flore d'Afrique Centrale, Duvigneaud (1958), Schmitz (1971) and herbarium labels. Habitat is described following the vegetation types of White (1983a,b) updated and expanded for Eastern Africa by Lillesø *et al.* (2011). The six following vegetation classes are recognized: 1) miombo woodlands, including Kalahari woodlands and Chipya woodlands, 'Wm', 'Wk' and 'Wy' in Lillesø *et al.* (2011); Julbernardio-Brachystegietalia spiciformis in Schmitz (1971) and unit 21 of Schmitz (1977); 2) Zambezi dry evergreen forests (Fm in Lillesø *et al.* (2011), includes muhulu, evergreen thickets, and "mabwati" on Kalahari sand in W Katanga, Piptadeniastro-Celtidetalia in Schmitz (1971), units 111.2. and 111.3. of Schmitz (1977), 'mateshi' of Anglo-Saxon authors; 3) riverine and swamp forests, 'fr' and 'fs' in Lillesø *et al.* (2011), often referred to as 'gallery forests', Mitragynetea in Schmitz (1971), unit 12 of Schmitz (1977) and 'mushitu' of Anglo-Saxon authors; 4) Afromontane vegetation, 'Fb', 'Be' and 'E' in Lillesø *et al.* (2011), unit 112 in Schmitz (1977), mostly restricted to the Marungu massif; 5) wooded grasslands, 'Wd' and 'Wn' in Lillesø *et al.* (2011), often referred to as 'savannas', generally on alluvial plains, Hyparrhienetea in Schmitz (1971), unit 22 of Schmitz (1977); 6) disturbed habitats, including secondary forest and anthropized formations.

In addition, species for which there is a strong association with termite mounds are indicated as "termitophilous". The list of termitophilous species is based in part on our own observations and spatial analyses of species in permanent plots in the Lubumbashi Plain (Meerts *et al.*, unpublished).

We propose ecological groups of indicator species for miombo woodland species based mostly on the phytosociological surveys of Duvigneaud (1958), Sys & Schmitz (1959) and Schmitz (1971) together with our own field observations.

Geographic distribution

Geographic distribution is described using the typology of White (1979; 1983b), Dowsett-Lemaire (1988) and White *et al.* (2001). The distribution types recognized are: 1) Zambezi; species only known from the Upper Katanga are recognized as Katangan endemics and species with most of the distribution range in Upper Katanga and limited extensions to adjacent regions are recognized as Katangan subendemics; 2) Afromontane; 3) Eastern, comprising species mostly restricted to the lowlands of Eastern Africa, from Kenya to Natal.

Linking elements are areas which link two or more regions. We recognise eight linking elements: 1) Sudano-Zambezi, 2) Guineo-Congolian, 3) Guineo-Congolian-Zambezi, comprising Guineo-Congolian species extending only to the north of the Zambezi region; 4) Zambezi-Eastern; 5) Zambezi-Afromontane; 6) African linking, covering at least three of the above without penetrating the Guineo-Congolian region, corresponding to climates with a long dry season; 7) Afrotropical, most regions of tropical Africa with both perhumid and seasonally dry climates; 8) Palearctic; and 9) Palearctic.

Guineo-Congolian species which penetrate deeply into the Sudanian, Eastern and Zambebian phytochoria are here referred to as Afrotropical.

Discussion

Six-hundred-and-ninety-four taxa (664 species, 15 subspecies, 15 varieties) are recorded for Upper Katanga. Fourteen of these are known by less than three collections and their taxonomic status requires critical examination (indicated by *). Twenty-two taxa in this checklist were not included in the Flore d'Afrique Centrale (Table 1). Eleven taxa are new records for D.R. Congo (Table 2) and 29 taxa are new for Upper Katanga (Table 3).

TABLE 1. Taxa accepted for Upper Katanga, which were not included in the Flore d'Afrique Centrale (applies only to the families covered by the Flore).

<i>Aphanocalyx richardsiae</i> (J.Léonard) Wieringa
<i>Berchemia discolor</i> (Klöttsch) Hemsl.
<i>Brachystegia puberula</i> Hutch. & Burt Davy
<i>Campylospermum andongense</i> (Hiern) Bissiengou
<i>Campylospermum lunzuense</i> (N.Robson) Bissiengou
<i>Campylospermum lutambense</i> (Sleumer) Bissiengou
<i>Campylospermum plicatum</i> (Tiegh.) Bissiengou
<i>Cassipourea mollis</i> (R.E.Fr.) Alston
<i>Commiphora africana</i> (A.Rich.) Engl. var. <i>rubriflora</i> (Engl.) Wild
<i>Commiphora caerulea</i> Burt
<i>Commiphora glandulosa</i> Schinz
<i>Commiphora marlothii</i> Engl.
<i>Commiphora pteleifolia</i> Engl.
<i>Faurea discolor</i> Welw.
<i>Ficus abutilifolia</i> (Miq.) Miq.
<i>Ficus fischeri</i> Mildbread et Burret
<i>Ficus ottoniifolia</i> subsp. <i>macrocyce</i> Berg
<i>Ficus wakefieldii</i> Hutch.
<i>Protea petiolaris</i> (Hiern) Baker & C.H.Wright subsp. <i>elegans</i> Chisumpa & Brummitt
<i>Zanha africana</i> (Radlk.) Exell
<i>Zanthoxylum trijugum</i> (Dunkley) P.G.Waterman
<i>Ziziphus mucronata</i> Willd. subsp. <i>rhodesica</i> R.B.Drumm.

TABLE 2. Taxa probably reported for the first time in D.R. Congo.

<i>Cassipourea mollis</i> (R.E.Fr.) Alston
<i>Commiphora africana</i> (A.Rich.) Engl. var. <i>rubriflora</i> (Engl.) Wild
<i>Commiphora caerulea</i> Burt
<i>Commiphora pteleifolia</i> Engl.
<i>Faurea discolor</i> Welw.
<i>Ficus abutilifolia</i> (Miq.) Miq.
<i>Kaukenia mochisia</i> (Baker) Kuntze
<i>Monotes rubriglans</i> Bancr.
<i>Pseudolachnostylis maprouneifolia</i> Pax var. <i>polygyna</i> (Pax & K.Hoffm.) Radcl.-Sm.
<i>Warneckea sansibarica</i> (Taub.) Jacq.-Fél.
<i>Zanthoxylum trijugum</i> (Dunkley) P.G.Waterman

For a further 39 taxa their presence in Upper Katanga needs confirmation (Table 4). For 31 of the taxa no voucher materials could be found even where specimens are mentioned in the original source. For eight taxa specimens were located but their identification is problematic.

Thirty-three taxa formerly reported for Upper Katanga are rejected due to errors of localization or identification (Table 5).

TABLE 3. Taxa probably new to Upper Katanga.

<i>Alchornea hirtella</i> Benth.
<i>Alchornea occidentalis</i> (Müll.Arg.) Pax & K.Hoffm.
<i>Alchornea yambuyaensis</i> De Wild.
<i>Capparis erythrocarpos</i> Isert
<i>Carpolobia goetzei</i> Gürke
<i>Chaetachme aristata</i> E.Mey. ex Planch.
<i>Commiphora kua</i> (R.Br. ex Royle) Vollesen
<i>Cordia millenii</i> Baker
<i>Craibia grandiflora</i> (Micheli) Baker f.
<i>Drypetes gerrardii</i> Hutch.
<i>Erythrococca trichogyne</i> (Müll.Arg.) Prain var. <i>trichogyne</i>
<i>Fagaropsis angolensis</i> (Engl.) Dale
<i>Ficus ardisioides</i> Warb. subsp. <i>camptoneura</i> (Mildbr.) C.C.Berg
<i>Ficus barteri</i> Sprague
<i>Ficus conraui</i> Warb.
<i>Ficus lutea</i> Vahl
<i>Ficus ovata</i> Vahl
<i>Ficus polita</i> Vahl
<i>Ficus sansibarica</i> subsp. <i>macrosperma</i> (Mildbr. & Burret) Berg
<i>Hallea stipulosa</i> (DC.) Leroy
<i>Irvingia smithii</i> Hook.f.
<i>Macaranga schweinfurthii</i> Pax
<i>Manilkara dawei</i> (Stapf) Chiov.
<i>Margaritaria discoidea</i> var. <i>nitida</i> (Pax) Radcl.-Sm.
<i>Monanthotaxis parvifolia</i> (Oliv.) Verdc.
<i>Premna senensis</i> Klotzsch
<i>Schrebera alata</i> (Hochst.) Welw.
<i>Vangueria apiculata</i> K.Schum.
<i>Vepris trichocarpa</i> (Engl.) Mziray

Fourteen new synonyms are proposed (Table 6); seven taxa previously supposed to be endemic of D.R. Congo are here synonymised (*Maerua angolensis* DC. var. *subtomentosa* Wilczek (1950: 186), *Mimusops affinis* De Wildeman (1903: 221), *Monotes schmitzii* Duvigneaud (1949b: 51), *Vitex thomasii* De Wildeman (1929: 106), *Vitex kapirensis* De Wildeman (1914: 141), *Vitex giorgii* De Wildeman (1929: 103), *Vitex venulosa* Moldenke (1952: 64)). Several other supposed endemics, known from only very few, often type specimens await critical taxonomic evaluation (indicated by * in Table 10).

Taxonomic assemblages

Table 7 lists plant families which comprise at least 15 shrub or tree taxa. Two families stand out as particularly species-rich, Fabaceae (110 taxa, Caesalpinioideae: 50, Faboideae: 29, Mimosoideae: 31) and the Rubiaceae (74). Families with 20 species or more include Phyllanthaceae (35), Combretaceae (23), Malvaceae (21). Six genera comprise 10 taxa or more i.e. *Ficus* Linnaeus (1753: 1059) (25), *Combretum* (16), *Monotes* (17), *Brachystegia* (15), *Diospyros* Linnaeus (1753: 1057) (11), *Acacia* Miller (1754) (11).

The taxonomic assemblages of the three main woody vegetation types are distinct. Miombo woodlands are disproportionately rich in Caesalpinioideae (11% vs. 7% in the whole flora), in agreement with the well-known

prominent role of that subfamily in African tropical dry seasonal forests (White 1983b). The much higher proportion of Rubiaceae (29%) in dry evergreen forests compared to the whole flora (11%) has not been noted previously and deserves further investigation.

Phytogeography

The three phytogeographic elements most represented in the flora of Upper Katanga are: the Zambezian element (250 species, 36%), the Guineo-Congolian element (119 species, 17%) and the Afromontane element (76 species, 11%) (Table 8). Such a broad phytogeographic spectrum is consistent with the description of Katanga as a phytogeographic crossroads, subject to Guineo-Congolian influences from the northwest, afromontane influences from the east and Zambezian influences from the south (Duvigneaud 1958).

TABLE 4. Records requiring confirmation. Data extracted from the literature, not supported by materials or materials insufficient (FAC: Flore d’Afrique Centrale; APD: African Plants Database).

Taxon	Family	Source	Comment
<i>Scottellia orientalis</i> Gilg	Achariaceae	APD	Voucher not found
<i>Isolona congolana</i> Engl. & Diels	Annonaceae	Schmitz (1971)	Voucher not found
<i>Xylopia acutiflora</i> (Dunal) A.Rich.	Annonaceae	Schmitz (1971)	Voucher not found
<i>Pleiocarpa hockii</i> De Wild.	Apocynaceae	Schmitz (1971)	Voucher not found; taxonomic value doubtful
<i>Raphia matombe</i> De Wild.	Arecaceae	APD	Voucher not found
<i>Dacryodes edulis</i> (G.Don) H.J.Lam	Burseraceae	Malaisse (1997) no voucher cited	Voucher not found
<i>Ritchiea capparoides</i> (Andrews) Britten	Capparidaceae	Schmitz (1971)	Voucher not found
<i>Allanblackia floribunda</i> Oliv.	Clusiaceae	FAC: <i>Verdick s.n.</i>	Voucher not found
<i>Combretum luxenii</i> Exell	Combretaceae	FAC	Only type specimen; probably a liane
<i>Ricinodendron heudelotii</i> (Baill.) Pierre ex Heckel	Euphorbiaceae	APD	Voucher not found
<i>Spondianthus preussii</i> Engl.	Euphorbiaceae	APD	Voucher not found
<i>Baphia pubescens</i> Hook.f.	Fabaceae	De Wildeman (1921)	Voucher not found
<i>Baphiopsis parviflora</i> Baker	Faboideae	Schmitz (1971)	Voucher not found
<i>Millettia griffoniana</i> Baill.	Fabaceae	APD	Voucher not found
<i>Ormocarpum trichocarpum</i> (Taub.) Engl.	Faboideae	APD	Voucher not found
<i>Acacia tortilis</i> (Forssk.) Hayne	Fabaceae	De Wildeman (1921)	Voucher not found
<i>Albizia zygia</i> (DC.) J.F.Macbr.	Mimosoideae		
	Fabaceae	<i>Breyne 4440</i> (BR)	Sterile; Identification uncertain
<i>Samanea leptophylla</i> (Harms) Brenan & Brummitt	Mimosoideae		
	Fabaceae	Schmitz (1971)	voucher not found
<i>Vitex lundensis</i> Gürke	Lamiaceae	Protologue	Voucher not found
<i>Vitex welwitschii</i> Gürke	Lamiaceae	Schmitz (1971)	<i>Quarré 1203</i> (BR): fragments; probably <i>V. madiensis</i>
<i>Ceiba pentandra</i> (L.) Gaertn.	Malvaceae	Schmitz (1971)	<i>de Witte 06596</i> (BR): native?
<i>Dichaetanthera corymbosa</i> (Cogn.) Jacq.-Fél.	Melastomataceae	APD	Voucher not found
<i>Trichilia retusa</i> Oliv.	Meliaceae	APD	Voucher not found
<i>Ficus mucoso</i> Welw. ex Ficalho	Moraceae	<i>Delevoy 177</i> (BR)	Identification uncertain
<i>Ficus natalensis</i> Hochst. subsp. <i>natalensis</i>	Moraceae	Schmitz (1971)	Voucher not found

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TABLE 4. (Continued)

Taxon	Family	Source	Comment
<i>Ficus tessellata</i> Warb.	Moraceae	APD	Voucher not found
<i>Ficus umbellata</i> Vahl	Moraceae	APD	Voucher not found
<i>Syzygium brazzavillense</i> Aubrév. & Pellegr.	Myrtaceae	Duvigneaud (1958); Lisowski <i>et al.</i> (1971)	Voucher not found
<i>Pandanus chiliocarpus</i> Stapf	Pandanaceae	<i>Robyns 2245</i> (BR)	Identification uncertain
<i>Carpolobia alba</i> G.Don	Polygalaceae	FAC	Voucher not found
<i>Faurea wentzeliana</i> Engl.	Proteaceae	<i>Duvigneaud & Timperman 2607</i> (BRLU)	Materials insufficient
<i>Craterispermum cerinanthum</i> Hiern	Rubiaceae	Duvigneaud (1958) Schmitz (1971)	Probably misidentified (<i>C. schweinfurthii</i>)
<i>Psydrax schimperiana</i> (A.Rich.) Bridson subsp. <i>schimperiana</i>	Rubiaceae	Schmitz (1971) (sub <i>Canthium lucidum</i> R. Br.)	Voucher not found
<i>Zanthoxylum leprieurii</i> Guill. & Perr.	Rutaceae	APD	Voucher not found
<i>Zanthoxylum pilosiusculum</i> (Engl.) P.G. Waterman	Rutaceae	APD	Voucher not found
<i>Zanthoxylum thomense</i> (Engl.) A.Chev. ex P.G. Waterman	Rutaceae	FAC (<i>Freyne 43</i>)	Voucher not found
<i>Allophylus dummeri</i> Baker f.	Sapindaceae	FAC sub <i>A. schweinfurthii</i>	Voucher not found
<i>Manilkara discolor</i> (Sond.) Hemsl.	Sapotaceae	Schmitz (1971): <i>Schmitz 2318</i> ; Malaisse (1997): <i>Malaisse 9337</i>	<i>Schmitz 2318</i> not found; <i>Malaisse 9337</i> = <i>Synsepalum cerasiferum</i> !
<i>Strombosia scheffleri</i> Engl.	Strombosiaceae	Schmitz (1971)	Voucher not found

TABLE 5. Taxa erroneously reported in Upper Katanga, due to identification or localisation errors.

Taxon	Family
<i>Strophanthus preussii</i> Engl. & Pax	Apocynaceae
<i>Salacia dewevrei</i> De Wild. & T.Durand	Celastraceae
<i>Magnistipula butayei</i> subsp. <i>greenwayi</i> (Brenan) F.White	Chrysobalanaceae
<i>Combretum gillettianum</i> Liben	Combretaceae
<i>Dracaena arborea</i> (Willd.) Link	Dracaenaceae
<i>Diospyros senensis</i> Klotzsch	Ebenaceae
<i>Alchornea laxiflora</i> (Benth.) Pax & K.Hoffm.	Euphorbiaceae
<i>Macaranga monandra</i> Müll.Arg.	Euphorbiaceae
<i>Erythrococca bongensis</i> Pax	Euphorbiaceae
<i>Macaranga monandra</i> Müll.Arg.	Euphorbiaceae
<i>Caesalpinia homblei</i> R.Wilczek	Fabaceae Cesalpinioideae
<i>Albizia welwitschii</i> Oliv.	Fabaceae Mimosoideae
<i>Vitex djumaensis</i> De Wild.	Lamiaceae
<i>Dombeya multiflora</i> (Endl.) Planch.	Malvaceae
<i>Grewia katangensis</i> R.Wilczek	Malvaceae
<i>Ficus artocarpoides</i> Warb.	Moraceae
<i>Pycnanthus angolensis</i> (Welw.) Exell	Myristicaceae
<i>Syzygium benguellense</i> (Welw. ex Hiern) Engl. ex Engl. & Gilg	Myrtaceae
<i>Embelia xylocarpa</i> P.Halliday	Primulaceae
<i>Argocoffeopsis subcordata</i> (Hiern) Lebrun	Rubiaceae
<i>Aulacocalyx jasminiflora</i> Hook. f.	Rubiaceae
<i>Ixora coccinea</i> L.	Rubiaceae
<i>Mussaenda elegans</i> Schumach. & Thonn.	Rubiaceae
<i>Mussaenda erythrophylla</i> Schumach. & Thonn.	Rubiaceae
<i>Psychotria mahonii</i> C.H.Wright	Rubiaceae
<i>Rytigynia demeusei</i> (De Wild.) Robyns	Rubiaceae
<i>Rytigynia membranacea</i> (Hiern) Robyns	Rubiaceae
<i>Tarenna grevei</i> (Drake) Homolle	Rubiaceae
<i>Vangueria madagascariensis</i> J.F. Gmel.	Rubiaceae

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TABLE 5. (Continued)

Taxon	Family
<i>Vepris suaveolens</i> (Engl.) Mziray	Rutaceae
<i>Allophylus abyssinicus</i> (Hochst.) Radlk.	Sapindaceae
<i>Allophylus alnifolius</i> (Baker) Radlk.	Sapindaceae
<i>Eriocoelum microspermum</i> Radlk.	Sapindaceae

The three most important forest vegetation types in Upper Katanga have strikingly contrasting phytogeographic assemblages (Table 9). Miombo woodlands are dominated by Zambezian elements (158 species, 62%), followed by African linking species (12%) and with the Guineo-Congolian element virtually lacking. Riverine and swamp forests have ca. 37% Guineo-Congolian elements (71 species) and 17% Afromontane elements (34 species) and the Zambezian element almost lacking. This can be explained by the fact that the riverine and swamp forests of Upper Katanga form a dense dendritic network directly connected to the Congolian rainforest by the tributaries of Lualaba, Lufira and Luapula, which facilitate floristic exchanges with the Guineo-Congolian region. Zambezian and Guineo-Congolian elements have roughly equal contributions of dry evergreen forest species (32 and 37%). These also share many species with riverine and swamp forests which may have served as corridors connecting muhulu with the Congolian rainforests in the past. This confirms earlier descriptions of Zambezian dry evergreen forests as a physiognomic and floristic transition from Guineo-Congolian rainforest to Zambezian woodland (White & Werger 1978; Kindt *et al.* 2011).

TABLE 6. New synonyms proposed.

<i>Maerua angolensis</i> De Candolle (1824: 254) = <i>Maerua angolensis</i> DC. var. <i>subtomentosa</i> Wilczek (1950: 186), <i>syn. nov.</i>
<i>Monotes adenophyllus</i> Gilg in Engler (1895: 375) var. <i>adenophyllus</i> = <i>Monotes delevoiyi</i> De Wildeman (1927b: 171), <i>syn. nov.</i> = <i>Monotes adenophyllus</i> Gilg subsp. <i>delevoiyi</i> (De Wild.) Duvigneaud (1959: 101), <i>syn. nov.</i> = <i>Monotes magnificus</i> Gilg var. <i>paucipilosus</i> Duvigneaud (1949b: 55), <i>syn. nov.</i> = <i>Monotes adenophyllus</i> Gilg subsp. <i>subfloccosus</i> Duvigneaud (1959: 102), <i>syn. nov.</i>
<i>Monotes caloneurus</i> Gilg (1899: 136) = <i>Monotes elegans</i> Gilg (1908: 291), <i>syn. nov.</i> = <i>Monotes schmitzii</i> Duvigneaud (1949b: 51), <i>syn. nov.</i>
<i>Vitex congolensis</i> De Wildeman & Durand (1899: 134) = <i>Vitex thomasi</i> De Wildeman (1929: 106), <i>syn. nov.</i>
<i>Vitex fischeri</i> Gürke (1894: 171) = <i>Vitex kapirensis</i> De Wildeman (1914: 141), <i>syn. nov.</i> = <i>Vitex giorgii</i> De Wildeman (1929: 103), <i>syn. nov.</i> = <i>Vitex venulosa</i> Moldenke (1952: 64), <i>syn. nov.</i>
<i>Uapaca nitida</i> Müller Argoviensis (1864: 517) = <i>Uapaca nitida</i> var. <i>sokolobe</i> f. <i>longifolia</i> Duvigneaud (1949a: 890), <i>syn. nov.</i> = <i>Uapaca nitida</i> var. <i>longifolia</i> (P.A. Duvign.) Radcliffe-Smith (1993: 616), <i>syn. nov.</i>
<i>Mimusops zeyheri</i> Sonder (1850: 74) = <i>Mimusops affinis</i> De Wildeman (1903: 221), <i>syn. nov.</i>

Endemism

Upper Katanga has relatively few endemic trees and shrubs (20 taxa, 3%) (Table 10). This figure is markedly lower than the previous estimate of Schmitz (1971) of 9.6%, but this was based on the whole flora and the figures are not strictly comparable. Based on frequency of endemism, Upper Katanga ranks 7th of 11 southern African countries (Figueiredo *et al.* (2009), figures based on the total flora). Its endemism frequency is very similar to that of Zambia, Zimbabwe and Mozambique, all of which cover much larger territories. When considering both endemics and subendemics together, the endemism frequency is 8.5%.

TABLE 7. Taxonomic spectrum of the trees and shrubs of Upper Katanga: the most speciose families (15 taxa or more) in the total flora and in the main three types of forests. Families significantly overrepresented in one of the three forest types compared to the whole flora are indicated with * (Chi-square test).

Family	Number of species	Proportion in checklist %	Miombo woodlands %	Riverine and swamp forests %	Dry evergreen forests %
Anacardiaceae	19	3	4	2	3
Capparidaceae	18	3	3	0	3
Combretaceae	23	3	6	1	2
Dipterocarpaceae	19	3	7	0	1
Ebenaceae	15	2	4	1	3
Euphorbiaceae	21	3	3	5	3
Fabaceae subfam.	50	7	11*	3	9
Caesalpinioideae					
Fabaceae subfam. Faboideae	29	4	6	4	1
Fabaceae subfam.	31	5	2	3	4
Mimosoideae					
Malvaceae	21	3	4	4	2
Moraceae	18	3	1	7	3
Phyllanthaceae	35	5	7	4	0
Rubiaceae	74	11	9	7	29*
Sapindaceae	17	2	2	4	3

TABLE 8. Phytogeographic spectrum of 694 trees and shrubs in Upper Katanga. Paletropical (14), Pantropical (3) and Afroamerican (2) taxa are assigned to African chorological types.

Phytogeographic element	Number of taxa	Proportion (%)
African linking	70	10
Afromontane		
(incl. Afromontane-Zambezian linking)	75	11
Endemic of Upper Katanga	1	
Afrotropical	57	8
Eastern	25	3.5
Guineo-Congolian-Afromontane linking	7	1
Guineo-Congolian linking	119	17
Guineo-Congolian-Zambezian linking	11	1.5
Sudano-Zambezian	38	5.5
Zambezian	192	28
Endemic of Upper Katanga	19	3
Subendemic of Upper Katanga	39	5.5
Zambezian-Eastern linking	33	5
Uncertain	8	1

TABLE 9. Phytogeographic spectrum of three types of woody vegetation in Upper Katanga.

	Miombo woodlands N= 254	Riverine and swamp forests N= 196	Dry evergreen forests N= 117
Zambezian (excl. (sub)endemic of Upper Katanga)	134	19	25
Endemic and subendemic of Upper Katanga	24	12	12
Sudano-Zambezian	20	8	1
Eastern and Zambezian-Eastern linking	26	13	11
Guineo-Congolian linking (incl. Guineo-Congolian-Zambezian)	4	71	44
Afromontane (incl. Afromontane linking)	7	34	8
African linking	29	16	4
Widespread (Afrotropical)	10	20	9
Other	0	3	3

Most Katangan endemics/ subendemics have a Katango-Zambian distribution, extending to N Zambia, and, sometimes, SW Tanzania. That region has been recognized as a distinct sector in the Zambezi Region i.e. the Katango-Zambian sector (Duvigneaud 1958; Werger & Coetzee 1978; Malaisse 1996). A minority of Katangan subendemics occur only in W Upper Katanga thus belonging in the Centro-Angolan sector (e.g. *Berlinia sapinii* De Wildeman (1910: 301), *Cleistanthus duvipermaniorum* Léonard (1960: 447)). Five subendemics extend only to Lower Katanga and may be referred to as Katangan endemics (Table 10).

TABLE 10. Taxa endemic and subendemic of Upper Katanga. *: taxon of doubtful taxonomic value. A. Endemics: not known outside Upper Katanga. B. Subendemics (most of the range in Upper Katanga, with limited extensions in adjacent territories).

A. Endemics

**Allophylus amplissimus* Hauman
 **Allophylus katangensis* Hauman
 **Allophylus persicifolius* Hauman
 **Beilschmiedia ambigua* Robyns & Wilczek
 **Beilschmiedia schmitzii* Wilczek
 **Boscia praecox* Hauman
 **Capparis pseudocerasifera* Hauman
 **Combretum towaense* Engl. & Diels
Maerua homblei De Wild.
 **Maerua robynsii* Wilczek
Millettia hockii De Wild.
 **Mimusops giorgii* De Wild.
Monotes doryphorus P.A.Duvign.
Monotes gigantophyllus P.A.Duvign.
Monotes hirtii P.A.Duvign.
Ozoroa nigricans (Van der Veken) R. & A.Fernandes var. *elongata* (Van der Veken) R. & A.Fernandes
Searsia grossireticulata (Van der Veken) Moffett
Ritchiea quarrei Wilczek
 **Teclea engleriana* De Wild.
 **Uapaca katentaniensis* De Wild.

B. Subendemics of Upper Katanga

Acridocarpus katangensis De Wild.
Azelia peturei De Wild.
Aphanocalyx richardsiae (J.Léonard) Wieringa
Aulacocalyx laxiflora Petit
Balanites aegyptiaca Del. var. *quarrei* (De Wild.) Gilbert
Baphia cappariifolia Baker subsp. *bangweolensis* (R.E.Fr.) Brummitt
Baphia massaiensis Taub. subsp. *floribunda* Brummitt
Beilschmiedia ugandensis Rendle var. *katangensis* Robyns & Wilczek
Berlinia sapinii De Wild.
Brachystegia angustistipulata De Wild.
Caesalpinia glandulosopedicellata Wilczek
Cleistanthus duvipermaniorum J.Léonard
Combretum lukafuense De Wild.
Combretum subglabratum De Wild.
Croton laciniatistylus J.Léonard
Diospyros mweroensis F.White
Dombeya wittei De Wild. & Staner

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TABLE 10. (Continued)

<i>Embelia upembensis</i> Taton
<i>Eriocoelum lawtonii</i> Exell
<i>Garcinia robsoniana</i> P.Bamps
<i>Grewia schmitzii</i> Wilczek
<i>Lannea asymmetrica</i> R.E.Fr.
<i>Magnistipula butayei</i> De Wild. subsp. <i>montana</i> (Hauman) F.White
<i>Monotes autennei</i> P.A.Duvign.
* <i>Monotes oxyphyllinus</i> P.A.Duvign.
<i>Monotes rubriglans</i> Bancr.
<i>Ozoroa nigricans</i> (Van der Veken) R. & A.Fernandes var. <i>nigricans</i>
<i>Polysphaeria pedunculata</i> K.Schum. var. <i>reducta</i> Verdc.
<i>Pseudolachnostylis maprouneifolia</i> Pax var. <i>polygyna</i> (Pax & K.Hoffm.) Radcl.-Sm.
<i>Pseudoprosopis fischeri</i> (Taub.) Harms
<i>Salacia rhodesiaca</i> Blakelock
<i>Sclerocroton schmitzii</i> (J.Léonard) Kruijt & Roebers
<i>Stereospermum harmsianum</i> K.Schum.
<i>Terminalia griffithsiana</i> Liben
<i>Tessmannia burtii</i> Harms
<i>Tricalysia bagshawei</i> S.Moore subsp. <i>malaissei</i> Robbrecht
<i>Tricalysia longituba</i> De Wild. subsp. <i>richardsiae</i> Bridson
<i>Tricalysia revoluta</i> Hutch.
<i>Uvariastrum hexaloboides</i> (R.E.Fr.) R.E.Fr.
Endemics of Katanga (Upper + Lower)
<i>Caesalpinia glandulosopedicellata</i> Wilczek
<i>Combretum subglabratum</i> De Wild.
<i>Croton laciniatistylus</i> J.Léonard
<i>Polysphaeria pedunculata</i> K.Schum. var. <i>reducta</i> Verdc.
<i>Stereospermum harmsianum</i> K.Schum.

Taxonomic difficulties

Our estimate of endemism must be taken with caution due to taxonomic difficulties. Belgian taxonomists described many new species from the former Belgian Congo which on revision turned out to represent minor variants of more widespread taxa and not worthy of taxonomic recognition. In the present paper the following taxa formerly considered as Katangan endemics are rejected (*Monotes schmitzii* Duvigneaud (1949b: 51), *Vitex giorgii* De Wildeman (1929: 103), *Vitex kapiirensis* De Wildeman (1914: 141), *Mimusops affinis* De Wildeman (1903: 221) (Table 6). Other putative Katangan endemics may be synonymised in the future (marked * in Table 10).

In addition, a number of important families for the forest flora of Katanga have not been treated yet for the Flore d’Afrique Centrale and some of the families that have been treated are in need of revision. The genus *Campylospermum* van Tieghem (1902a: 35) (Ochnaceae) illustrates this point. In the Flore d’Afrique Centrale, Bamps & Farron (1967) accepted 6 taxa in Upper Katanga. In a recent revision of the genus Bissiengou *et al.* (2013) and Bissiengou (2014) rejected three of these and added three species new to Congo. Much herbarium material from Katanga still awaits identification and other novelties are to be expected. We report 11 taxa new to D.R. Congo and 29 taxa new to Katanga (Tables 2 and 3).

Ecological classes

The distribution of taxa in the six vegetation units is as follows: miombo woodlands, 254; riverine and swamp forests, 196; dry evergreen forests, 117; wooded grasslands, 75; Afromontane vegetation, 33; disturbed: 5 and uncertain, 14 (Table 11). The high species richness of miombo woodlands is not surprising as the formation covers by far the largest surface area in Upper Katanga. The high species richness of riverine and swamp forests confirms earlier reports of the

prominent contribution of riverine habitats to regional species richness (Sabo *et al.* 2005) possibly due to their role as refugia (Meave *et al.* 1991) and or as corridors at landscape scale (Olson & Burnett 2013).

Zambeziian dry evergreen forest (muhulu) is generally regarded as the regional climax for Upper Katanga (Schmitz 1963). In this context the relative low species richness of dry evergreen forests, less than half that of the miombo woodlands is intriguing. However, dry evergreen forests in Upper Katanga have strongly decreased in surface area over the past centuries and they now survive only in a highly fragmented state (Schmitz 1963; White & Werger 1978; Kindt *et al.* 2011).

In summary, the very distinct floristic assemblages of the three main woody vegetation types in Upper Katanga suggest that beta diversity strongly contributes to regional species richness.

TABLE 11. Ecological spectrum of the 694 trees and shrubs of Upper Katanga.

Vegetation type	Number of taxa
Miombo woodlands	254
Riverine and swamp forests	196
Dry evergreen forests	117
Wooded grasslands	75
Afromontane vegetation	33
Disturbed	5
Uncertain	14

Ecology of miombo species

The Miombo woodlands are extremely variable in floristic composition in Katanga. Part of that variation is related to topographic and edaphic factors such as drainage, soil depth and grain size. Duvigneaud (1958), Sys and Schmitz (1959) and Schmitz (1971) have analysed soil-vegetation relationships in the miombo of Upper Katanga and based on their results and our own field observations we propose eight ecological groups comprising a total of 49 indicator species (Table 12). Future work should test if species turn-over along edaphic gradients contributes to the beta diversity of the Katangan miombo, as has been found in other tropical forests (Clark *et al.* 1999).

Termitophilous flora

The contrast in floristic composition of *Macrotermes* high termitaria compared to the miombo matrix has been repeatedly emphasized (Wild 1952; Fanshawe 1968; Malaisse & Anastassiou-Socquet 1977; Malaisse 1978; White 1983b). Some species are facultatively associated with termitaria and others exclusive. We here provide a list of 49 woody species which have an almost exclusive association (Table 13). Of these, Burseraceae and Capparidaceae are markedly overrepresented as are species of the Eastern element and Zambeziian-Eastern linking element. The termitophilous group is also phytogeographically distinct in lacking Afromontane and Guineo-Congolian elements altogether.

Format of the checklist

Species are organised alphabetically by Angiosperm families following APG III (2009). With few exceptions nomenclature follows the African Plant Database (<http://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php>). Following Moffett (2007) all Katangan species formerly included in *Rhus* are assigned to *Searsia*. Only new synonyms are included in the checklist (*syn. nov.*; see also Table 6).

Only names supported by herbarium specimens have been included in the checklist. Voucher specimens are not included if such specimens were cited for Upper Katanga by the Flore d'Afrique Centrale. Voucher specimens are included i) for all genera not covered yet by the Flore d'Afrique Centrale, ii) for taxa not reported from D.R. Congo or Upper Katanga in that Flora. Full collection records (i.e. with locality, habitat and date) are reported only for species that are new records for the D.R. Congo or Upper Katanga.

For each species, habitat and distribution range are given and the following are mentioned: species that are i) new to D.R. Congo or to Upper Katanga, ii) not mentioned in the Flore d'Afrique Centrale (this, of course, only applies to families that have been treated by that flora). * indicates species of doubtful taxonomic value, in need of taxonomic revision. IUCN conservation status, where available, is also mentioned.

TABLE 12. Indicator value of important species in miombo woodlands of Upper Katanga.

Ecological group	Indicator species
Group 1: Species with very broad ecological amplitude, occurring in all kinds of soil conditions (except waterlogged soil)	<i>Diplorhynchus condylocarpon</i> <i>Isoberlinia angolensis</i> <i>Julbernardia globiflora</i> <i>Julbernardia paniculata</i> <i>Parinari curatellifolia</i>
Group 2: Species of plateau woodland on deep, not compacted, well drained soil	<i>Afzelia quanzensis</i> <i>Brachystegia longifolia</i> <i>Pterocarpus angolensis</i>
Subgroup 2a: Sandy, light-coloured, soil (Kalaharian sand)	<i>Amblygonocarpus andongensis</i> <i>Bauhinia petersiana</i> <i>Burkea africana</i> <i>Erythrophleum africanum</i> <i>Schinziophyton rautanenii</i> <i>Terminalia sericea</i>
Subgroup 2b: Heavy (clay), red soil	<i>Albizia adianthifolia</i> <i>Brachystegia spiciformis</i> <i>Brachystegia wangermeeana</i>
Group 3: Slopes on shallow grey- to yellow-coloured gravelly soil, very compact in dry season	<i>Brachystegia allenii</i> <i>Brachystegia utilis</i> <i>Monotes katangensis</i>
Group 4: Rocky skeletal soil mostly on top of hills (Xerobrachystegion)	<i>Brachystegia bussei</i> <i>Brachystegia microphylla</i> <i>Erica mannii</i> subsp. <i>pallidiflora</i> <i>Vernonia bellinghamii</i>
Group 5: Heavy clayey soil rich in base cations, well drained in the rain season, moist in deep layer in the dry season, generally on termite mounds	<i>Allophylus africanus</i> <i>Boscia angustifolia</i> var. <i>corymbosa</i> <i>Cassia abbreviata</i> <i>Combretum molle</i> <i>Ficus</i> div. sp. <i>Haplocoelum foliolosum</i> <i>Lannea discolor</i> <i>Markhamia obtusifolia</i> <i>Ziziphus abyssinica</i>
Group 6: Shallow soil on lateritic crust, dambos, waterlogged in rain season, grey- to white-coloured	<i>Brachystegia boehmii</i> <i>Brachystegia stipulata</i> (<i>Isoberlinia tomentosa</i>) <i>Olax obtusifolia</i> <i>Uapaca kirkiana</i> <i>Uapaca nitida</i> <i>Uapaca pilosa</i> <i>Uapaca robynsii</i>
Group 7: Evergreen wet miombo species, susceptible to fire; (miombo-muhulu transition) (Berlinio-Marquesion)	<i>Brachystegia taxifolia</i> <i>Marquesia macrourea</i>

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TABLE 12. (Continued)

Ecological group	Indicator species
Group 8: Secondary shrub savanna degraded by fire (pyrophytes)	<i>Baphia bequaertii</i> <i>Bobgunnia madagascariensis</i> <i>Diplorhynchus condylocarpon</i> <i>Erythrina abyssinica</i> <i>Pericopsis angolensis</i> <i>Psorospermum febrifugum</i> <i>Strychnos cocculoides</i> (+ <i>Erythrophleum africanum</i> and <i>Pterocarpus angolensis</i> ; see group 2)

TABLE 13. Termitophilous species. i.e. species almost restricted to high termitaria in (large parts of) Upper Katanga.

Taxon	Family
<i>Lannea discolor</i> (Sond.) Engl.	Anacardiaceae
<i>Friesodielsia obovata</i> (Benth.) Verdc.	Annonaceae
<i>Carissa spinarum</i> L.	Apocynaceae
<i>Markhamia obtusifolia</i> (Bak.) Sprague	Bignoniaceae
<i>Commiphora africana</i> (A.Rich.) Engl.	Burseraceae
<i>Commiphora glandulosa</i> Schinz	Burseraceae
<i>Boscia angustifolia</i> var. <i>corymbosa</i> (Gilg) De Wolf	Capparidaceae
<i>Boscia mossambicensis</i> Klotzsch	Capparidaceae
<i>Boscia salicifolia</i> Oliv.	Capparidaceae
<i>Capparis fascicularis</i> var. <i>elaegnoides</i> (Gilg) De Wolf	Capparidaceae
<i>Capparis tomentosa</i> Lam.	Capparidaceae
<i>Maerua homblei</i> De Wild.	Capparidaceae
<i>Maerua robynsii</i> Wilczek	Capparidaceae
<i>Ritchiea quarrei</i> Wilczek	Capparidaceae
<i>Gymnosporia buchananii</i> Loes.	Celastraceae
<i>Gymnosporia senegalensis</i> (Lam.) Loes.	Celastraceae
<i>Mystroxydon aethiopicum</i> (Thunb.) Loes. subsp. <i>aethiopicum</i>	Celastraceae
<i>Pleurostyliya africana</i> Loes.	Celastraceae
<i>Combretum molle</i> R.Br. ex G.Don	Combretaceae
<i>Diospyros lycioides</i> Desf. subsp. <i>sericea</i> (Bernh.) de Winter	Ebenaceae
<i>Diospyros mespiliformis</i> Hochst.	Ebenaceae
<i>Euclea racemosa</i> subsp. <i>schimperi</i> (A.DC.) F.White	Ebenaceae
<i>Euphorbia ingens</i> E.Mey. ex Boiss.	Euphorbiaceae
<i>Bauhinia petersiana</i> Bolle subsp. <i>petersiana</i>	Fabaceae Caesalpinioideae
<i>Cassia abbreviata</i> subsp. <i>beareana</i> (Holmes) Brenan	Fabaceae Caesalpinioideae
<i>Cassia singueana</i> Del.	Fabaceae Caesalpinioideae
<i>Senna didymobotrya</i> (Fresen.) H.S.Irwin & Barneby	Fabaceae Caesalpinioideae
<i>Erythrina abyssinica</i> (Hochst.) A.Rich.	Fabaceae Faboideae
<i>Vitex fischeri</i> Gürke	Lamiaceae
<i>Strychnos potatorum</i> L.f.	Loganiaceae
<i>Thespesia garckeana</i> F.Hoffm. var. <i>garckeana</i>	Malvaceae
<i>Sterculia quinqueloba</i> (Garcke) K.Schum.	Malvaceae
<i>Grewia bicolor</i> Juss.	Malvaceae
<i>Grewia flavescens</i> Juss.	Malvaceae
<i>Grewia similis</i> K.Schum.	Malvaceae

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TABLE 13. (Continued)

Taxon	Family
<i>Grewia stolzii</i> Ulbr.	Malvaceae
<i>Ficus thonningii</i> Blume	Moraceae
<i>Ziziphus mucronata</i> Willd. subsp. <i>rhodesica</i> R.B.Drumm.	Rhamnaceae
<i>Hymenodictyon parvifolium</i> var. <i>fimbriolatum</i> (De Wild.) Verdc.	Rubiaceae
<i>Pavetta gardeniifolia</i> A.Rich. var. <i>gardeniifolia</i>	Rubiaceae
<i>Pavetta gardeniifolia</i> var. <i>subtomentosa</i> K.Schum.	Rubiaceae
<i>Zanthoxylum chalybeum</i> Engl.	Rutaceae
<i>Flacourtia indica</i> (Burm.f.) Merr.	Salicaceae
<i>Allophylus africanus</i> var. <i>griseotomentosus</i> (Gilg) Verdc.	Sapindaceae
<i>Allophylus fulvotomentosus</i> Gilg	Sapindaceae
<i>Haplocoelum foliolosum</i> (Hiern) Bullock subsp. <i>foliolosum</i>	Sapindaceae
<i>Pappea capensis</i> Eckl. et Zeyh.	Sapindaceae
<i>Mimusops zeyheri</i> Sond.	Sapotaceae
<i>Balanites aegyptiaca</i> Del. var. <i>quarrei</i> (De Wild.) Gilbert	Zygophyllaceae

Checklist to the trees and shrubs of Upper Katanga

ACHARIACEAE

Buchnerodendron speciosum Gürke

Habitat: dry evergreen forests; Guineo-Congolian linking.

Rawsonia lucida Sond. & Harv.

Habitat: dry evergreen forests; Afromontane.

ANACARDIACEAE

Lannea antiscorbutica (Hiern) Engl.

Habitat: miombo woodlands; Guineo-Congolian-Zambezian linking.

Lannea asymmetrica R.E.Fries

Habitat: miombo woodlands; Zambezian (subendemic of Upper Katanga).

Lannea discolor (Sond.) Engl.

Habitat: miombo woodlands (Termitophilous); Zambezian.

Lannea schimperi (Hochst. ex A.Rich.) Engl.

Habitat: miombo woodlands; African linking.

Ozoroa insignis subsp. *reticulata* (Baker f.) J.B.Gillett

Habitat: miombo woodlands; Zambezian.

Ozoroa nigricans (Van der Veken) R. & A.Fernandes var. *elongata* (Van der Veken) R. & A.Fernandes

Habitat: miombo woodlands; Zambezian (endemic of Upper Katanga).

Ozoroa nigricans (Van der Veken) R. & A.Fernandes var. *nigricans*

Habitat: miombo woodlands; Zambezian (subendemic of Upper Katanga).

Pseudospondias microcarpa (A.Rich.) Engl.

Habitat: dry evergreen forests; Afrotropical.

Sclerocarya birrea (A.Rich.) Hochst.

Habitat: wooded grasslands; Afrotropical.

Searsia anchietae (Fiçalho & Hiern ex Hiern) Moffett

Habitat: riverine and swamp forests; Afromontane.

Searsia grossireticulata (Van der Veken) Moffett

Habitat: miombo woodlands; Zambezian (Endemic of Upper Katanga).

Searsia longipes (Engl.) Moffett

Habitat: miombo woodlands; African linking.

Searsia natalensis (Bemh. ex Krauss) F.A.Barkley var. *natalensis*

Habitat: miombo woodlands; Afrotropical.

Searsia pyroides (Burch.) Moffett

Habitat: riverine and swamp forests; Afromontane.

Searsia quartiniana (A.Rich.) A.J.Mill.

Habitat: riverine and swamp forests; Zambezi-Eastern linking.

Searsia tenuinervis (Engl.) Moffett

Habitat: miombo woodlands; Zambezi-Eastern linking.

Sorindeia africana (Engl.) Van der Veken

Habitat: dry evergreen forests; Guineo-Congolian linking; see note under *S. juglandifolia*; *Desenfans s.n.* (barcode: BR0000013861018).

Sorindeia juglandifolia (A.Rich.) Planch.

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: Breteler (2003) recognizes two species in Katanga i.e. *S. africana* and *S. juglandifolia*. All materials except one collection belong in the latter species; pubescence of pedicels is the sole diagnostic trait and the rank of species is questionable.

Trichoscypha lucens Oliv.

Habitat: riverine and swamp forests; African linking.

ANNONACEAE

Annona senegalensis Pers.

Habitat: wooded grasslands; Afrotropical.

Friesodielsia obovata (Benth.) Verdc.

Habitat: miombo woodlands (Termitophilous); Zambezi.

Hexalobus crispiflorus A.Rich.

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; *Delvaux 599* (BR).

Hexalobus monopetalus (A.Rich.) Engl. & Diels

Habitat: miombo woodlands; Sudano-Zambezi. Note: incl. var. *obovatus* Brenan.

Monanthotaxis parvifolia (Oliv.) Verdc. subsp. *parvifolia*

Habitat: riverine and swamp forests. Zambezi. Note: not mentioned for Upper Katanga by FAC; *Malaisse 7792* (BR).

Monanthotaxis schweinfurthii (Engl. & Diels) Verdc. var. *seretii* (De Wild.) Verdc.

Habitat: dry evergreen forests; Guineo-Congolian linking.

Monodora myristica (Gaertn.) Dunal

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Sphaerocoryne gracilis subsp. *engleriana* (Exell & Mendonça) Verdc.

Habitat: dry evergreen forests; Zambezi.

Uvaria angolensis Welw. ex Oliv.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Uvariastrum hexaloboides (R.E.Fries) R.E.Fries

Habitat: miombo woodlands; Zambezi (subendemic of Upper Katanga).

Uvariopsis congensis Robyns & Ghesq.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Xylopiya aethiopica (Dunal) A.Rich.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Xylopiya katangensis De Wild.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Xylopiya odoratissima Welw. ex Oliv.

Habitat: miombo woodlands; Zambezi.

Xylopiya rubescens Oliv. var. *rubescens*

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Xylopiya tomentosa Exell

Habitat: dry evergreen forests; Zambezi.

APIACEAE

Heteromorpha arborescens Cham. & Sch. var. ***abyssinica*** (A.Rich.) H.Wolff

Habitat: Afromontane vegetation; Afromontane-Zambezian linking; *Schmitz 5514* (BR).

Steganotaenia araliacea Hochst.

Habitat: miombo woodlands; African linking; *Meerts & Hasson 232* (BRLU).

APOCYNACEAE

Acokanthera oppositifolia (Lam.) Codd

Habitat: dry evergreen forests; Zambezian-Eastern linking; *Meerts & Hasson 364* (BRLU).

Carissa spinarum L.

Habitat: miombo woodlands (Termitophilous); African linking; *Duvigneaud 2370Ca* (BRLU).

Diplorhynchus condylocarpon (Müll.Arg.) Pichon

Habitat: miombo woodlands; Zambezian; *Meerts & Hasson 141* (BRLU).

Holarrhena pubescens (Buch.-Ham.) Wall. ex G.Don

Habitat: dry evergreen forests; paleotropical (in Africa: Zambezian-Eastern linking.); *Meerts & Hasson 451* (BRLU).

Landolphia parvifolia K.Schum.

Habitat: miombo woodlands; Guineo-Congolian linking; *Schmitz 4466* (BR).

Pleiocarpa pycnantha (K.Schum.) Stapf

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 334* (BRLU).

Rauvolfia caffra Sond.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Meerts & Hasson 393* (BRLU).

Rauvolfia vomitoria Afzel.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Lukuesa 420* (BR).

Strophanthus eminii Aschers. & Pax

Habitat: miombo woodlands; Zambezian; *Lisowski 55189* (BR).

Strophanthus welwitschii (Baill.) K.Schum.

Habitat: miombo woodlands; Zambezian; *Schmitz 3603* (BR).

Tabernaemontana pachysiphon Stapf

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 214* (BRLU).

Voacanga africana Stapf

Habitat: dry evergreen forests; Guineo-Congolian linking; *de Witte 02938* (BR).

Voacanga thouarsii Roem. & Schult.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Quarré 4846* (BR).

AQUIFOLIACEAE

Ilex mitis (L.) Radlk.

Habitat: riverine and swamp forests; Afromontane.

ARALIACEAE

Cussonia arborea Hochst. ex A.Rich.

Habitat: wooded grasslands; African linking.

Cussonia spicata Thunb.

Habitat: Afromontane vegetation; Afromontane.

Polyscias fulva (Hiern) Harms

Habitat: riverine and swamp forests; Afromontane.

Schefflera abyssinica (Hochst. ex A.Rich.) Harms

Habitat: Afromontane vegetation; Afromontane.

ARECACEAE

Borassus aethiopum Mart.

Habitat: wooded grasslands; Afrotropical; *Malaisse 11328* (BR).

Calamus deerratus Mann. & Wadland.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Malaisse 9453* (BR).

Hyphaene petersiana Klotzsch ex Mart.

Habitat: wooded grasslands; Zambezan; no voucher specimen seen.

Phoenix reclinata Jacq.

Habitat: riverine and swamp forests; Afrotropical; *Schmitz 3593* (BR).

Raphia farinifera (Gaertn.) Hyl.

Habitat: riverine and swamp forests; African linking; *Schmitz 4644* (BR).

ASTERACEAE

Solanecio mannii (Hook.f.) C.Jeffrey

Habitat: Afromontane vegetation; Afromontane.

Vernonia amygdalina Delile

Habitat: wooded grasslands; African linking.

Vernonia auriculifera Hiern

Habitat: wooded grasslands; Guineo-Congolian linking.

Vernonia bellinghamii S.Moore

Habitat: miombo woodlands; Zambezan.

Vernonia colorata (Willd.) Drake subsp. *colorata*

Habitat: wooded grasslands; Afrotropical.

Vernonia colorata subsp. *oxyura* (O.Hoffm.) C.Jeffrey

Habitat: wooded grasslands; Zambezan.

Vernonia exsertiflora Bak. var. *tenuicalyx* G.V.Pope

Habitat: riverine and swamp forests; Zambezan.

Vernonia holstii O.Hoffm.

Habitat: mountain forest; African linking.

Vernonia myriantha Hook.f.

Habitat: riverine and swamp forests; Afromontane.

Vernonia thomsoniana Oliv. & Hiern

Habitat: wooded grasslands; distribution: Afrotropical.

BIGNONIACEAE

Kigelia africana (Lam.) Benth.

Habitat: wooded grasslands; Afrotropical.

Markhamia lutea (Benth.) K.Schum

Habitat: riverine and swamp forests; distribution uncertain.

Markhamia obtusifolia (Bak.) Sprague

Habitat: wooded grasslands (Termitophilous); Zambezan.

Stereospermum harmsianum K.Schum.

Habitat: wooded grasslands; Zambezan (subendemic of Upper Katanga; endemic of Katanga).

Stereospermum kunthianum Cham.

Habitat: wooded grasslands; African linking.

Tecomaria capensis subsp. *nyassae* (Oliv.) Brummitt

Habitat: miombo woodlands; Zambezan.

BORAGINACEAE

Cordia africana Lam.

Habitat: riverine and swamp forests; African linking.

Cordia millenii Baker

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Mont Zawa, 24 June 1954, *Delvaux 547* (BR).

Cordia mukuensis Taton

Habitat: wooded grasslands; Zambezan.

Cordia pilosissima Baker

Habitat: miombo woodlands; Zambezan.

BURSERACEAE

Canarium schweinfurthii Engl.

Habitat: dry evergreen forests; Guineo-Congolian linking.

Commiphora africana (A.Rich.) Engl.

Habitat: miombo woodlands (Termitophilous); Sudano-Zambezian. Note: not mentioned for Upper Katanga by FAC; *Lisowski, Malaisse & Symoens 7900* (EBV, BR).

Commiphora africana (A.Rich.) Engl. var. **rubriflora** (Engl.) Wild

Habitat: miombo woodlands; Zambezian Eastern linking. Note: new to D.R. Congo; Kiubo, scrub on rocky soil near waterfalls, 15 July 2015, *Meerts & Hasson 736* (BRLU).

Commiphora caerulea Burtt

Habitat: miombo woodlands; Eastern. Note: new to D.R. Congo; Kiubo, scrub on steep rocky slope near waterfalls, 15 July 2015, *Meerts & Hasson 735* (BRLU).

Commiphora glandulosa Schinz

Habitat: miombo woodlands; Zambezian (Termitophilous). Note: not mentioned in FAC; Lubumbashi, campus de la Kasapa, forêt claire dégradée, 1230 m, 29 January 1971, *Lisowski s.n.* (barcode BR 000000886596).

Commiphora kua (R.Br. ex Royle) Vollesen

Habitat: miombo woodlands; Eastern. Note: not mentioned for Upper Katanga by FAC (as *Commiphora habessinica* (Berg) Engl.); *Lisowski 53* (BR).

Commiphora marlothii Engl.

Habitat: miombo woodlands; Zambezian. Note: not mentioned in FAC; env. Pweto, Colline Kashengeneke, savane sur pente abrupte, 11 November 1970, *Lisowski 56* (BR).

Commiphora mollis (Oliv.) Engl.

Habitat: miombo woodlands; Zambezian (Termitophilous). Note: not mentioned for Upper Katanga by FAC; *Meerts & Hasson 351* (BRLU).

Commiphora pteleifolia Engl.

Habitat: dry evergreen forest; Eastern. Note: new to D.R. Congo; 10 km SE village Bwanga-Mukanua (territ. Kasenga), muhulu, alt. 1050 m, 23 January 1971, *Lisowski 63* (BR).

CANNABACEAE

Trema orientalis (L.) Blume

Habitat: wooded grasslands; Afrotropical.

CAPPARACEAE

Boscia angustifolia A.Rich. var. **corymbosa** (Gilg) De Wolf

Habitat: miombo woodlands (Termitophilous); Zambezian.

Boscia mossambicensis Klotzsch

Habitat: miombo woodlands (Termitophilous); Zambezian-Eastern linking.

***Boscia praecox** Hauman

Habitat: wooded grasslands (uncertain); Zambezian (endemic of Katanga). Note: known only from the type specimen, without leaves; taxonomic status doubtful.

Boscia salicifolia Oliv.

Habitat: miombo woodlands; (Termitophilous); Sudano-Zambezian; *Meerts & Hasson 086* (BRLU).

Capparis erythrocarpos Isert

Habitat: dry evergreen forests; African linking. Note: not mentioned for Upper Katanga by FAC; *Plancke 221* (BRLU).

Capparis fascicularis DC. var. **elaegnoides** (Gilg) De Wolf

Habitat: wooded grasslands (Termitophilous); Zambezian-Eastern linking. Note: not mentioned for Upper Katanga by FAC; *Malaisse 7912* (BR).

***Capparis pseudocerasifera** Hauman

Habitat: wooded grasslands, on termitaria; Zambezian (endemic of Upper Katanga). Note: known only from the type, without flowers; taxonomic status doubtful.

Capparis tomentosa Lam.

Habitat: wooded grasslands (Termitophilous); Afrotropical.

Cladostemon kirkii (Oliv.) Pax & Gilg

Habitat: miombo woodlands; Zambezi-Eastern linking.

Crateva adansonii DC.

Habitat: wooded grasslands; African linking.

Maerua aethiopica (Fenzl) Oliv.

Habitat: wooded grasslands; Sudano-Zambezi.

Maerua angolensis DC.

New synonym: *Maerua angolensis* DC. var. *subtomentosa* Wilczek, *syn. nov.*; habitat: wooded grasslands; African linking.

Maerua bussei (Gilg & Gilg-Ben.) R. Wilczek

Habitat: miombo woodlands; Zambezi-Eastern linking.

Maerua friesii Gilg & Gilg-Ben.

Habitat: dry evergreen forests; Zambezi.

Maerua homblei De Wild.

Habitat: miombo woodlands (Termitophilous); Zambezi (endemic of Upper Katanga); see note under *M. robynsii*.

Maerua kirkii (Oliv.) F. White

Habitat: dry evergreen forests; Eastern.

****Maerua robynsii*** Wilczek

Habitat: miombo woodlands (Termitophilous). Note: probably not distinct at species rank from *Maerua homblei* De Wild.; the genus *Maerua* needs revision in Upper Katanga.

Ritchiea quarrei Wilczek

Habitat: dry evergreen forests (Termitophilous); Zambezi (endemic of Upper Katanga).

CELASTRACEAE

Catha edulis (Vahl) Forssk. ex Endl.

Habitat: Afrotropical vegetation; Afrotropical.

Elaeodendron buchananii (Loes.) Loes.

Habitat: riverine and swamp forests; African linking.

Gymnosporia acuminata (L.f.) Szyszyl.

Habitat: Afrotropical vegetation; Afrotropical.

Gymnosporia buchananii Loes.

Habitat: riverine and swamp forests (Termitophilous); African linking.

Gymnosporia buxifolia (L.) Szyszyl.

Habitat: riverine and swamp forests (Termitophilous); Eastern.

Gymnosporia gracilipes (Welw. ex Oliv.) Loes. subsp. *gracilipes*

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Gymnosporia putterlickioides Loes.

Habitat: miombo woodlands; Afrotropical.

Gymnosporia senegalensis (Lam.) Loes.

Habitat: miombo woodlands (Termitophilous); paleotropical (in Africa: African linking).

Maytenus undatus (Thunb.) Blakelock

Habitat: riverine and swamp forests; African linking.

Mystroxyloides aethiopicum (Thunb.) Loes. subsp. *aethiopicum*

Habitat: miombo woodlands (Termitophilous); African linking.

Pleurostyliopsis africana Loes.

Habitat: miombo woodlands (Termitophilous); Zambezi.

Salacia erecta (G. Don) Walp.

Habitat: dry evergreen forests; distribution: Afrotropical.

Salacia laurentii De Wild.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Salacia rhodesiaca Blakelock

Habitat: riverine and swamp forests; Zambezi (subendemic of Upper Katanga).

CHRYSOBALANACEAE

Dactyladenia buchneri (Engl.) Prance & Sothers

Habitat: riverine and swamp forests; Guineo-Congolian linking.

- Magnistipula butayei* subsp. *montana* (Hauman) F.White
Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga).
- Magnistipula butayei* subsp. *bangweolensis* (R.E.Fr.) F.White
Habitat: miombo woodlands; Zambezan.
- Maranthes floribunda* (Baker) F.White
Habitat: miombo woodlands; Zambezan.
- Parinari curatellifolia* Planch. ex Benth.
Habitat: miombo woodlands; Sudano-Zambezan.
- Parinari excelsa* Sabine
Habitat: dry evergreen forests; afroamerican, in Africa: Guineo-Congolian linking.

CLUSIACEAE

- Garcinia buchananii* Baker
Habitat: dry evergreen forests; Zambezan-Eastern linking.
- Garcinia huillensis* Welw. ex Oliv.
Habitat: miombo woodlands; Zambezan.
- Garcinia pachyclada* N.Robson
Habitat: wooded grasslands; Zambezan (subendemic of Upper Katanga).
- Garcinia punctata* Oliv.
Habitat: riverine and swamp forests; African linking.
- Garcinia robsoniana* P.Bamps
Habitat: riverine and swamp forests; Zambezan (subendemic of Upper Katanga)
- Garcinia smeathmanii* (Planch. & Triana) Oliv.
Habitat: riverine and swamp forests; Guineo-Congolian linking.
- Garcinia volkensii* Engl.
Habitat: dry evergreen forests; Afromontane.

COMBRETACEAE

- Combretum acutifolium* Exell
Habitat: miombo woodlands; Zambezan.
- Combretum adenogonium* Steud. ex A.Rich.
Habitat: wooded grasslands; African linking.
- Combretum apiculatum* Sond.
Habitat: dry evergreen forests; Zambezan
- Combretum celastroides* Welw. ex M.A.Lawson subsp. *laxiflorum* (Welw. ex M.A.Lawson) Exell
Habitat: miombo woodlands; Zambezan.
- Combretum collinum* Fresen. subsp. *gazense* (Swynn. & Baker f.) Okafor
Habitat: miombo woodlands; Zambezan.
- Combretum collinum* subsp. *taborense* (Engl.) Okafor
Habitat: miombo woodlands; Zambezan.
- Combretum gossweileri* Exell
Habitat: miombo woodlands; Zambezan.
- Combretum lukafuense* De Wild.
Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga).
- Combretum molle* R.Br. ex G.Don
Habitat: miombo woodlands (Termitophilous); African linking.
- Combretum mossambicense* (Klotzsch) Engl.
Habitat: miombo woodlands; Zambezan.
- Combretum padoides* Engl. & Diels
Habitat: miombo woodlands; Zambezan.
- Combretum paniculatum* Vent.
Habitat: riverine and swamp forests; Afrotropical.
- Combretum psidioides* Welw.
Habitat: wooded grasslands; Zambezan.

Combretum racemosum P.Beauv.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Combretum subglabratum De Wild.

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga; endemic of Katanga).

****Combretum towaense*** Engl. & Diels

Habitat: uncertain; endemic of Upper Katanga. Note: known only from the type, a depauperate collection, taxonomic value doubtful.

Combretum zeyheri Sond.

Habitat: miombo woodlands; Zambezan.

Pteleopsis anisoptera (Welw. ex Laws.) Engl. & Diels.

Habitat: dry evergreen forests; Zambezan.

Terminalia brachystemma Welw. ex Hiern subsp. ***brachystemma***

Habitat: miombo woodlands; Zambezan.

Terminalia griffithsiana Liben

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga).

Terminalia mollis Laws.

Habitat: wooded grasslands; Sudano-Zambezan.

Terminalia sericea Burck.

Habitat: miombo woodlands; Zambezan (southern African).

Terminalia stenostachya Engl. & Diels

Habitat: miombo woodlands; Zambezan.

CONNARACEAE

Agelaea pentagyna (Lam.) Baill.

Habitat: dry evergreen forests; Afrotropical.

Rourea minor (Gaertn.) Alston

Habitat: dry evergreen forests; paleotropical (in Africa: Guineo-Congolian linking).

Rourea orientalis Baill.

Habitat: miombo woodlands; Zambezan.

CUPRESSACEAE

Juniperus procera Hochst. & Endl.

Habitat: Afromontane vegetation; Afromontane; IUCN conservation status: LC.

DIPTEROCARPACEAE

Monotes adenophyllus Gilg subsp. ***adenophyllus***

New synonyms: *Monotes adenophyllus* Gilg subsp. *delevoyi* (De Wild.) P.A.Duvign. *syn. nov.*; *Monotes adenophyllus* Gilg subsp. *subfloccosus* P.A.Duvign. *syn. nov.*; *Monotes delevoyi* De Wild. *syn. nov.*; *Monotes magnificus* Gilg var. *paucipilosus* P.A.Duvign. *syn. nov.*; Habitat: miombo woodlands; Zambezan. Note: hair length and density on lower leaf surface is extremely variable; *Duvigneaud 5044M* (BRLU).

Monotes adenophyllus Gilg subsp. ***homblei*** (De Wild.) P.A.Duvign.

Habitat: miombo woodlands; Zambezan; *Homblé 1177* (BR).

Monotes africanus Gilg

Habitat: miombo woodlands; Zambezan; *Duvigneaud & Timperman 2092* (BRLU).

Monotes angolensis De Wild.

Habitat: miombo woodlands; Zambezan. Note: see note under *M. caloneurus*; *Delevoy 502* (BR)

Monotes autennei P.A.Duvign.

habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga); *Duvigneaud 3090M* (BRLU).

Monotes caloneurus Gilg

New synonyms: *Monotes elegans* Gilg *syn. nov.*; *Monotes schmitzii* P.A.Duvign. *syn. nov.*; habitat: miombo woodlands; Zambezan; the type specimen of *Monotes schmitzii* P.A.Duvign. formerly regarded as endemic of Katanga is not distinct from many collections of *M. elegans* Gilg from Tanzania and Zambia. Note: the complex of *Monotes hypoleucus*, *M. angolensis*, *M. caloneurus* needs revision; *Duvigneaud 5096M* (BRLU).

Monotes dasyanthus Gilg

Habitat: miombo woodlands; Zambezan. Note: the relations with *Monotes mutetetwa* P.A.Duvign. (Kwango and

Angola) are unclear; some collections have a mixture of penicillate hairs and simple hairs on leaf upper surface and probably deserve taxonomic recognition; *Duvigneaud & Timperman 2319Mo* (BRLU).

Monotes discolor R.E.Fries

Habitat: miombo woodlands; Zambezan; *Schmitz 1958* (BRLU).

Monotes doryphorus P.A.Duvign.

Habitat: miombo woodlands; Zambezan (endemic of Upper Katanga); *Duvigneaud 5221M* (BRLU).

Monotes gigantophyllus P.A.Duvign.

Habitat: miombo woodlands; Zambezan (endemic of Upper Katanga). Note: probably no more than a large-leaved variety of *Monotes magnificus* Gilg; *Duvigneaud 4597* (BRLU).

Monotes glaber Sprague

Habitat: miombo woodlands; Zambezan. Note: the single collection is untypical in having flowers in dense subsessile clusters, it may represent a distinct taxon, but more materials are necessary; *de Witte 3902* (BR).

Monotes hirtii P.A.Duvign.

Habitat: Miombo woodlands; Zambezan (endemic of Upper Katanga); *Duvigneaud & Hirt 3514Ml* (BRLU).

Monotes hypoleucus (Welw.) Gilg

Habitat: miombo woodlands; Zambezan; see note under *M. caloneurus*; *Homblé 1228* (BR).

Monotes katangensis De Wild.

Habitat: miombo woodlands; Zambezan; *Verdick 486* (BR).

Monotes magnificus Gilg

Habitat: miombo woodlands; Zambezan; *Duvigneaud 4826M* (BRLU).

****Monotes oxyphyllinus*** P.A.Duvign.

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga). Note: a critical taxon, closely related to *Monotes angolensis* De Wild.; *Duvigneaud 2545M* (BRLU).

Monotes rubriglans Bancr.

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga). Note: new to D.R. Congo, formerly known by very few collections from Angola. Note: a critical taxon, possibly not distinct at species rank from *M. glandulosus* Pierre; Upemba, 1.5 km NNO confluent Munte-Mufifie, alt. 950–1000 m, plaine xérique, 13 September 1953, *Desenfans 4446* (BRLU).

Marquesia acuminata (Gilg) R.E.Fr.

Habitat: dry evergreen forests; Zambezan; *Duvigneaud & Timperman 2472* (BRLU).

Marquesia macrourea Gilg

Habitat: miombo woodlands; Zambezan; *Sapin D30* (BR).

DRACAENACEAE

Dracaena camerooniana Baker

Habitat: riverine and swamp forests; Guineo-Congolian linking; IUCN status: LC; *Schmitz 645* (BR).

Dracaena fragrans (L.) Ker Gawl.

Habitat: riverine and swamp forests; Guineo-Congolian-Afromontane linking; *Quarré 5790* (BR).

Dracaena mannii Baker

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 577* (BRLU).

Dracaena steudneri Engl.

Habitat: Afromontane vegetation; Afromontane; *Lisowski, Malaisse, Symoens 8579* (BR).

EBENACEAE

Diospyros abyssinica (Hiern) F.White subsp. *abyssinica*

Habitat: miombo woodlands; African linking.

Diospyros bacotana Hiern

Habitat: miombo woodlands; Zambezan.

Diospyros hoyleana F.White subsp. *hoyleana*

Habitat: dry evergreen forests; Guineo-Congolian linking.

Diospyros kirkii Hiern

Habitat: miombo woodlands; Zambezan.

Diospyros lycioides Desf. subsp. *sericea* (Bernh.) de Winter

Habitat: miombo woodlands (Termitophilous); Zambezan.

Diospyros mespiliformis Hochst.

Habitat: miombo woodlands (Termitophilous); African linking.

Diospyros mweroensis F.White

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga).

Diospyros natalensis (Harv.) Brenan

Habitat: riverine and swamp forests; Eastern.

Diospyros polystemon Gürke

Habitat: dry evergreen forests; Guineo-Congolian linking.

Diospyros pseudomespilus Mildbr. subsp. ***brevicalyx*** F.White

Habitat: dry evergreen forests; Zambezan.

Diospyros squarrosa Klotzsch in Peters

Habitat: riverine and swamp forests; Eastern.

Euclea crispa (Thunb.) Gürke subsp. ***crispa***

Habitat: miombo woodlands; African linking.

Euclea divinorum Hiern

Habitat: miombo woodlands; African linking.

Euclea natalensis subsp. ***acutifolia*** F.White

Habitat: miombo woodlands; African linking.

Euclea racemosa subsp. ***schimperii*** (A.DC.) F.White

Habitat: miombo woodlands (Termitophilous); Zambezan-Eastern linking.

ERICACEAE

Agarista salicifolia (Lam.) G.Don

Habitat: Afromontane vegetation; Afromontane.

Erica benguelensis (Welw. ex Engl.) E.G.H.Oliver

Habitat: miombo woodlands; Afromontane.

Erica mannii subsp. ***pallidiflora*** (Engl.) E.G.H.Oliv.

Habitat: miombo woodlands; Zambezan.

ERYTHROXYLACEAE

Erythroxylum fischeri Engl.

Habitat: miombo woodlands; Eastern. Note: not mentioned for Upper Katanga by FAC; *Quarré 6976* (BR).

EUPHORBIACEAE

Alchornea cordifolia (Schumach. & Thonn.) Müll.Arg.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Kisimba, Muzinga & Matamba 61* (BR, MO, WAG).

Alchornea hirtella Benth.

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Kansenia mission, chutes de la Kadiva, plate-forme rocheuse à mi-hauteur des chutes, 30 September 1962, *Schmitz 8034* (BR).

Alchornea occidentalis (Müll.Arg.) Pax & K.Hoffm.

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: new to Upper Katanga; Gorges de Nzilo, N de Kolwezi, au-dessous de la centrale Delcommune, 1100 m, 10 April 1971, *Lisowski 754* (BR).

Alchornea yambuyaensis De Wild.

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Bord de la Lofoi, au-dessous de la chute Kalobe, 1070 m, galerie forestière, 4 October 1970, *Lisowski 11675* (BR).

Croton laciniatistylus J.Léonard

Habitat: miombo woodlands; Zambezan (endemic of Upper Katanga).

Croton leuconeurus Pax subsp. ***leuconeurus***

Habitat: riverine and swamp forests; Sudano-Zambezan.

Croton longipedicellatus J.Léonard

Habitat: dry evergreen forests; Zambezan.

Croton macrostachyus Delile

Habitat: Afromontane vegetation; African linking.

Croton megalocarpus Hutch.

Habitat: riverine and swamp forests; Afrotropical.

Croton sylvaticus Hochst. ex Krauss

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Erythrococca trichogyne (Müll.Arg.) Prain var. *trichogyne*

Habitat: miombo woodlands; Zambezi-Eastern linking. Note: new to Upper Katanga; Baya, forêt claire mélangée sur terre rouge, 2 December 1959, *Duvigneaud 4370TEry* (BRLU).

Euphorbia ingens E.Mey. ex Boiss.

Habitat: miombo woodlands (Termitophilous); Zambezi; *Malaisse & Gregoire 50* (BR).

Macaranga schweinfurthii Pax

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Plateau de la Manika, ferme Herman, zone de suintement en bordure de la vallée Musondoie, 22 Jan. 1960, *Duvigneaud 5207M* (BRLU).

Mallotus oppositifolius Müll.Arg.

Habitat: riverine and swamp forests; Afrotropical; *Meerts & Hasson 343* (BRLU).

Maprounea africana Müll.Arg.

Habitat: miombo woodlands; Afrotropical.

Neoboutonia melleri (Müll.Arg.) Prain

Habitat: riverine and swamp forests; Afrotropical; *Lisowski B-3794* (BR, POZ).

Schinziophyton rautanenii (Schinz) Radcl.-Sm.

Habitat: miombo woodlands; Zambezi.

Sclerocroton cornutus (Pax) Kruijt & Roebers

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Sclerocroton schmitzii (J.Léonard) Kruijt & Roebers

Habitat: dry evergreen forests; Zambezi (subendemic of Upper Katanga).

Shirakiopsis elliptica (Hochst. ex Krauss) Esser

Habitat: riverine and swamp forests; Guineo-Congolian linking.

FABACEAE CAESALPINIOIDEAE

Afzelia bipindensis Harms

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: IUCN conservation status: VU A1cd.

Afzelia peturei De Wild.

Habitat: dry evergreen forests; Zambezi (subendemic of Upper Katanga). Note: known from very few gatherings; IUCN conservation status: DD, proposed by Brummitt & al. (2007).

Afzelia quanzensis Welw.

Habitat: miombo woodlands; Zambezi.

Aphanocalyx richardsiae (J.Léonard) Wieringa

Habitat: riverine and swamp forests; Zambezi (subendemic of Upper Katanga). Note: not mentioned in FAC; IUCN conservation status: VU, proposed by Brummitt & al. (2007); Zone Kolwezi, vallée de la Luilu, Nzilo-Kyamasumba, km 11, E25°24' S10°30', 1190 m, galerie forestière de la Luilu, 19 January 1986, *Bamps & Malaisse 8180* (BR).

Bauhinia petersiana Bolle subsp. *petersiana*

Habitat: miombo woodlands (Termitophilous); Zambezi.

Bauhinia tomentosa L.

Habitat: wooded grasslands; paleotropical (in Africa: Afrotropical).

Berlinia bruneelii (De Wild.) Torre & Hillc.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Berlinia giorgii De Wild.

Habitat: dry evergreen forests; Guineo-Congolian-Zambezi linking; IUCN conservation status: DD, proposed by Brummitt *et al.* (2007).

Berlinia sapinii De Wild.

Habitat: riverine and swamp forests; Zambezi (subendemic of Upper Katanga).

Brachystegia allenii Hutch. & Burt Davy

Habitat: miombo woodlands; Zambezi; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).

Brachystegia angustistipulata De Wild.

Habitat: miombo woodlands; Zambezi (subendemic of Upper Katanga); IUCN conservation status: LC.

Brachystegia boehmii Taub.

Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia bussei Harms
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia floribunda Benth.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia gossweileri Davy & Hutch.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia longifolia Benth.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia manga De Wild.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia microphylla Harms
Habitat: miombo woodlands; Zambezan.
Brachystegia puberula Hutch. & Burt Davy
Habitat: miombo woodlands; Zambezan note: not mentioned in FAC; IUCN conservation status: LC; Grottes de Jadotville (Likasi), crête rocheuse d'une colline schisteuse, forêt claire à *Brachystegia microphylla*, 1 August 1948, Duvigneaud 1282B2 (BRLU).
Brachystegia spiciformis Benth.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia stipulata De Wild.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia taxifolia Harms
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia utilis B. Davy et Hutch.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Brachystegia wangermeeana De Wild.
Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Burkea africana Hook.
Habitat: miombo woodlands; African linking.
Caesalpinia glandulosopedicellata Wilceck
Habitat: wooded grasslands; Zambezan (subendemic of Upper Katanga; endemic of Katanga); Kiubo, chute de la Lufira, E27°02' S09°31', 800 m, 4 February 1986, *Bamps & Malaisse 8647* (BR).
Cassia abbreviata subsp. *beareana* (Holmes) Brenan
Habitat: miombo woodlands (Termitophilous); Zambezan-Eastern linking; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Cassia singueana Del.
Habitat: wooded grasslands (Termitophilous); African linking; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Cryptosepalum exfoliatum De Wild. subsp. *exfoliatum*
Habitat: wooded grasslands; Zambezan.
Cryptosepalum exfoliatum subsp. *pseudotaxus* (Baker f.) P.A. Duvign. & Brenan
Habitat: dry evergreen forests; Zambezan.
Daniellia alsteeniana P.A. Duvign.
Habitat: dry evergreen forests; Zambezan; IUCN conservation status: VU (in Flora Zambesiaca area), DD (globally), proposed by Brummitt *et al.* (2007).
Dialium angolense Welw. ex Oliv.
Habitat: dry evergreen forests; Zambezan; IUCN conservation status: probably NT (proposed by Brummitt *et al.* (2007)).
Dialium englerianum Henriquès
Habitat: dry evergreen forests; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).
Erythrophleum africanum (Welw.) Harms
Habitat: miombo woodlands; Sudano-Zambezan.
Erythrophleum suaveolens (Guill. & Perr.) Brenan
Habitat: dry evergreen forests; paleotropical (in Africa: Guineo-Congolian linking).

Guibourtia coleosperma (Benth.) Léonard

Habitat: dry evergreen forests; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007)

Isoberlinia angolensis (Welw. ex Benth.) Hoyle & Brenan var. ***angolensis***

Habitat: miombo woodlands; Sudano-Zambezan.

Isoberlinia angolensis (Welw. ex Benth.) Hoyle & Brenan var. ***niembaensis*** (De Wild.) Brenan

Habitat: miombo woodlands; Zambezan.

Isoberlinia angolensis (Welw. ex Benth.) Hoyle & Brenan var. ***lasiocalyx*** Hoyle & Brenan

Habitat: miombo woodlands; Zambezan.

Isoberlinia tomentosa (Harms) Craib & Stapf

Habitat: miombo woodlands; Sudano-Zambezan.

Julbernardia globiflora (Benth.) Troupin

Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).

Julbernardia paniculata (Benth.) Troupin

Habitat: miombo woodlands; Zambezan; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).

Normandiendron romii (De Wild.) J.Léonard

Habitat: unknown; Guineo-Congolian Zambezan linking. Note: one collection, possibly in Lower Katanga

Paramacrolobium coeruleum (Taub.) J.Léonard

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Peltophorum africanum Sond.

Habitat: miombo woodlands; Sudano-Zambezan.

Piliostigma thonningii (Schumach.) Milne-Red.

Habitat: wooded grasslands (Termitophilous); Afrotropical.

Senna didymobotrya (Fresen.) H.S.Irwin & Barneby

Habitat: wooded grasslands; Afrotropical; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).

Senna petersiana (Bolle) Lock

Habitat: miombo woodlands; African linking; IUCN conservation status: LC, proposed by Brummitt *et al.* (2007).

Tessmannia burtii Harms

Habitat: dry evergreen forests; Zambezan (subendemic of Upper Katanga); IUCN conservation status: VU B1, proposed by Brummitt *et al.* (2007).

Tessmannia dewildemaniana Harms

Habitat: dry evergreen forests; Guineo-Congolian linking (endemic of D.R. Congo). Note: not reported for Upper Katanga by FAC; *T. burtii* and *T. dewildemaniana* are closely related, possibly not distinct at species rank; the cited specimen, though verified by F. Breteler, is sterile and might represent a vigorous form of *T. burtii*; 20 km SE de Tera, 35 km E de Mokambo, muhulu sur sol argilo-sableux, 7 August 1958, *Schmitz 6143* (BR).

FABACEAE FABOIDEAE

Aeschynomene elaphroxylon (Guill. & Perr.) Taub.

Habitat: riverine and swamp forests; pantropical (in Africa: Afrotropical).

Aeschynomene abyssinica (A.Rich.) Vatke

Habitat: wooded grasslands; African linking.

Baphia bequaertii De Wild.

Habitat: wooded grasslands; Zambezan.

Baphia cappariifolia subsp. ***bangweolensis*** (R.E.Fr.) Brummitt

Habitat: dry evergreen forests; Zambezan (subendemic of Upper Katanga).

Baphia massaiensis Taub. subsp. ***floribunda*** Brumm.

Habitat: wooded grasslands; Zambezan (subendemic of Upper Katanga).

Bobgunnia madagascariensis (Desv.) J.H.Kirkbr. & Wiersema

Habitat: miombo woodlands; African linking.

Craibia affinis (De Wild.) De Wild.

Habitat: riverine and swamp forests; Zambezan

Craibia grandiflora (Micheli) Baker f.

Habitat: riverine and swamp forests; Afromontane. Note: new to Upper Katanga; IUCN conservation status: LC; river Lufukwe, east of the Kundelungu Plateau, narrow gallery forest with *Drypetes gerrardii*; 19 September 2014, *Meerts & Hasson 592* (BRLU).

Dalbergia boehmii Taub.

Habitat: miombo woodlands; Sudano-Zambezian.

Dalbergia lactea Vatke

Habitat: wooded grasslands; Afromontane.

Dalbergia melanoxylon Guill. ex Perr.

Habitat: miombo woodlands; African linking.

Dalbergia nitidula Welw. ex Bak.

Habitat: miombo woodlands; Zambezian.

Erythrina abyssinica (Hochst.) A.Rich.

Habitat: wooded grasslands (Termitophilous); African linking.

Erythrina excelsa Bak.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Erythrina ×lanigera P.A.Duvign. & Rochez ex Barneby & Krukoff

Habitat: miombo woodlands; distribution: uncertain due to taxonomic problems. Note: the type was collected in l'Upemba, probably in Lower Katanga, but the species was collected more recently in Upper Katanga. Considered by Krukoff & Barneby (1974) as a hybrid between *E. abyssinica* and *E. mildbraedii*, based on collections from Uganda; however, *E. mildbraedii* does not exist in Upper Katanga and that interpretation is questionable.

Millettia eetveldeana (Micheli) Hauman

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Millettia hockii De Wild.

Habitat: miombo woodlands; Zambezian (endemic of Upper Katanga).

Ormocarpum kirkii S.Moore

Habitat: wooded grasslands; Zambezian-Eastern linking.

Pericopsis angolensis (Harms) Van Meeuw.

Habitat: miombo woodlands; Zambezian.

Philenoptera eriocalyx (Harms) Schrire

Habitat: miombo woodlands; African linking.

Philenoptera katangensis (De Wild.) Schrire

Habitat: miombo woodlands; Zambezian.

Philenoptera violacea (Klotzsch) Schrire

Habitat: miombo woodlands; Zambezian.

Pterocarpus angolensis DC.

Habitat: miombo woodlands; Zambezian; IUCN conservation status: LR/NT.

Pterocarpus rotundifolius subsp. *polyanthus* (Harms) Mend. & Sousa

Habitat: miombo woodlands; Zambezian.

Pterocarpus rotundifolius (Sond.) Druce subsp. *rotundifolius*

Habitat: miombo woodlands; Zambezian (southern African).

Pterocarpus tinctorius Welw.

Habitat: miombo woodlands; Zambezian.

Rhynchosia clivorum subsp. *pyncnantha* (Harms) Verdc.

Habitat: riverine and swamp forests; Afromontane.

Sesbania sesban (L.) Merr.

Habitat: riverine and swamp forests; paleotropical (in Africa: Afrotropical).

Aganope stuhlmannii (Taub.) Adema

Habitat: miombo woodlands; distribution: African linking.

FABACEAE MIMOSOIDEAE

Acacia abyssinica Hoscht. ex Benth. subsp. *calophylla* Brenan

Habitat: wooded grasslands; African linking.

Acacia amythethophylla Stred. ex A.Rich.

Habitat: wooded grasslands; Sudano-Zambezian.

Acacia erubescens Welw. ex Oliv.

Habitat: wooded grasslands; Zambezian.

Acacia gerrardii Benth.

Habitat: wooded grasslands; African linking. Note: not mentioned for Upper Katanga in FAC; *Bredo 3108* (BR)

Acacia goetzei Harms subsp. *goetzei*
Habitat: wooded grasslands; Zambezi-Eastern linking.

Acacia goetzei Harms subsp. *microphylla* Brenan
Habitat: wooded grasslands; Zambezi-Eastern linking.

Acacia hockii De Wild.
Habitat: wooded grasslands; African linking.

Acacia lasiopetala Oliv.
Habitat: wooded grasslands; Zambezi. Note: not in FAC; Kiapuluka (54 km Sud Mitwaba), savane sur terre rouge, après incendie. 12 September 1956, *Duvigneaud & Timperman 2748Ac* (BRLU).

Acacia pilispina Pic.Serm.
Habitat: riverine and swamp forests; Zambezi-Eastern linking. Note: not mentioned for Upper Katanga by FAC; *Brenan & Greenway 8014* (BR).

Acacia polyacantha subsp. *campylacantha* (Hochst. ex A.Rich.) Brenan
Habitat: wooded grasslands; Sudano-Zambezi.

Acacia seyal Delile var. *seyal*
Habitat: wooded grasslands; Sudano-Zambezi.

Acacia sieberiana DC. var. *woodii* (Burt Davy) Keay & Brenan
Habitat: wooded grasslands; Zambezi.

Albizia adianthifolia (Schumach.) W.F.Wight
Habitat: miombo woodlands; Guineo-Congolian linking; not in FAC; IUCN conservation status: LC.

Albizia antunesiana Harms
Habitat: miombo woodlands; Zambezi.

Albizia coriaria Welw. ex Oliv.
Habitat: miombo woodlands; Sudano-Zambezi.

Albizia glaberrima (Schum. & Thonn.) Benth. var. *glabrescens* (Oliv.) Brenan
Habitat: riverine and swamp forests; Sudano-Zambezi.

Albizia gummifera (J.F.Gmel.) C.A.Sm.
Habitat: riverine and swamp forests; Afrotropical. Note: not mentioned for Upper Katanga by FAC; *Schmitz 6562* (BR).

Albizia harveyi E.Fourn.
Habitat: wooded grasslands; Zambezi-Eastern linking.

Albizia schimperiana Oliv. var. *schimperiana*
Habitat: wooded grasslands; Afrotropical.

Albizia versicolor Welw. ex Oliv.
Habitat: miombo woodlands; Zambezi.

Amblygonocarpus andongensis (Welw. ex Oliv.) Exell & Torre
Habitat: miombo woodlands; Sudano-Zambezi.

Cathormion altissimum (Hook.f.) Hutch. & Dandy var. *altissimum*
Habitat: riverine and swamp forests; Guineo-Congolian linking.

Dichrostachys cinerea (L.) Wight & Arn. subsp. *nyassana* (Taub.) Brenan
Habitat: wooded grasslands; Zambezi (southern African).

Entada abyssinica Steud ex A.Rich.
Habitat: wooded grasslands; Afrotropical.

Faidherbia albida (Del.) A.Chev.
Habitat: wooded grasslands; paleotropical (in Africa: African linking)

Mimosa pigra L.
Habitat: disturbed; afroamerican (in Africa: Afrotropical).

Newtonia buchananii (Harms) Gilbert & Boutique
Habitat: riverine and swamp forests; Afrotropical. Note: not mentioned for Upper Katanga by FAC; *Schmitz 4654* (BR).

Parkia filicoidea Welw. ex Oliv.
Habitat: riverine and swamp forests; Guineo-Congolian-Zambezi linking.

Piptadeniastrum africanum (Hook.f.) Brenan
Habitat: dry evergreen forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; *Duvigneaud 4269bisP* (BRLU).

Pseudoprosopis fischeri (Taub.) Harms

Habitat: dry evergreen forests; Zambeian (subendemic of Upper Katanga).

GENTIANACEAE

Anthocleista grandiflora Gilg

Habitat: riverine and swamp forests; Afromontane.

Anthocleista schweinfurthii Gilg

Habitat: dry evergreen forests; Guineo-Congolian linking.

Anthocleista vogelii Planch.

Habitat: riverine and swamp forests; Afrotropical.

HAMAMELIDACEAE

Trichocladus ellipticus Eckl. & Zeyh. ex Walp.

Habitat: riverine and swamp forests; Afromontane.

HYPERICACEAE

Harungana madagascariensis Lam.

Habitat: riverine and swamp forests; Afrotropical.

Hypericum quartinianum A.Rich.

Habitat: Afromontane vegetation; Afromontane.

Hypericum revolutum Vahl

Habitat: wooded grasslands; Afromontane. Note: not mentioned for Upper Katanga by FAC; *Lisowski, Malaisse & Symoens 6214* (BR).

Hypericum roeperanum Schimp. ex A.Rich.

Habitat: wooded grasslands; Sudano-Zambeian.

Psorospermum febrifugum Spach.

Habitat: miombo woodlands; Afrotropical.

Psorospermum tenuifolium Hook.f.

Habitat: dry evergreen forests; Guineo-Congolian linking.

ICACINACEAE

Apodytes dimidiata E.Mey.

Habitat: dry evergreen forests; afromontane.

IRVINGIACEAE

Irvingia smithii Hook.f.

Habitat: riverine and swamp forests; Guineo-Congolian linking; new to Upper Katanga; Upemba, galerie forestière Lufira, près de [illegible], 16 August 1948, *de Witte 04095* (BR).

Klainedoxa gabonensis Pierre ex Engl.

Habitat: dry evergreen forests; distribution: Guineo-Congolian linking.

ITEACEAE

Choristylis rhamnoides Harv.

Habitat: Afromontane vegetation; Afromontane.

IXONANTHACEAE

Phyllocosmus africanus (Hook.f.) Klotsch

Habitat: riverine forests; Guineo-Congolian linking.

Phyllocosmus lemaireanus (De Wild. & T.Durand) T.Durand & H.Durand

Habitat: miombo woodlands; Zambeian.

KIRKIACEAE

Kirkia acuminata Oliv.

Habitat: miombo woodlands; Zambeian.

LAMIACEAE

Premna senensis Klotzsch

Habitat: riverine and swamp forests; Zambezan. Note: new to Upper Katanga; Kasenga, brousse à *Acacia* au bord du Luapula sur sable brun, 20 August 1948, *Duvigneaud 1403P* (BRLU).

Rothea myricoides (Hochst.) Steane & Mabb. var. *myricoides*

Habitat: riverine and swamp forests; distribution uncertain. Note: the genus *Rothea* needs revision in D.R. Congo; *Descamps s.n.* (barcode: BR000000897850).

Rothea myricoides (Hochst.) Steane & Mabb. var. *discolor* (Klotzsch) Verdc.

Habitat: uncertain; Zambezan-Eastern linking; see note under *R. myricoides* var. *myricoides*; *Descamps 13* (barcode: BR000000897848).

Rothea sansibarensis (Gürke) Steane & Mabb. subsp. *sansibarensis*

Habitat: uncertain; see note under *R. myricoides* var. *myricoides*; sur termitière, à proximité du Mont Tumbwe, 1325 m, 15 February 1970, *Malaisse 6577* (BR).

Vitex buchananii Baker ex Gürke

Habitat: miombo woodlands; Zambezan. Note: *Vitex* needs revision in Upper Katanga; *Robyns 1913* (BR).

Vitex congolensis De Wild. & T.Durand var. *congolensis*

New synonym: *Vitex thomasi* De Wild. *syn. nov.*; Habitat: uncertain; Guineo-Congolian linking (?); see note under *V. buchananii*; *Quarré 6865* (BR).

Vitex doniana Sweet

habitat: miombo woodlands; Afrotropical; see note under *V. buchananii*; *Meerts & Hasson 042* (BRLU).

Vitex fischeri Gürke

New synonyms: *Vitex giorgii* De Wild *syn. nov.*; *Vitex kapirensis* De Wild. *syn. nov.*; *Vitex venulosa* Moldenke *syn. nov.*; habitat: miombo woodlands (Termitophilous); Zambezan-Eastern linking; see note under *V. buchananii*; *Meerts & Hasson 170* (BRLU).

Vitex madiensis Oliv. subsp. *madiensis*

Habitat: miombo woodlands; Afrotropical; see note under *V. buchananii*; *Meerts & Hasson 228* (BRLU).

Vitex madiensis Oliv. subsp. *milanjiensis* (Britten) Pieper

Habitat: miombo woodlands; Zambezan; see note under *V. buchananii*; *Meerts & Hasson 42* (BRLU).

Vitex mombassae Vatke

Habitat: miombo woodlands; Zambezan; see note under *V. buchananii*; *Meerts & Hasson 163* (BRLU).

Vitex payos (Leur.) Merr. var. *payos*

Habitat: miombo woodlands; Zambezan-Eastern linking; see note under *V. buchananii*; *Quarré 5986* (BR); the cited specimen was wrongly identified by Moldenke as *Vitex pseudochrysocarpa* Pieper.

LAURACEAE

****Beilschmiedia ambigua*** Robyns & Wilczek

Habitat: riverine and swamp forests; Afromontane (endemic of Upper Katanga). Note: taxonomic value unclear, probably not distinct from *Beilschmiedia ugandensis* Rendle; the genus *Beilschmidia* needs revision in Katanga.

****Beilschmiedia schmitzii*** Wilczek

Habitat: riverine and swamp forests; Zambezan (endemic of Upper Katanga). Note: taxonomic value unclear, probably not distinct from *Beilschmiedia ugandensis* Rendle; see note under *B. ambigua*.

****Beilschmiedia ugandensis*** Rendle var. *katangensis* Robyns & Wilczek

Habitat: riverine and swamp forests; Zambezan (subendemic of Upper Katanga); variety possibly not distinct from the type; see note under *B. ambigua*.

LOGANIACEAE

Strychnos cocculoides Bak.

Habitat: miombo woodlands; Zambezan.

Strychnos henningsii Gilg

Habitat: dry evergreen forests; Eastern.

Strychnos innocua Del. subsp. *innocua*

Habitat: miombo woodlands; Afrotropical.

Strychnos matopensis S.Moore

Habitat: dry evergreen forests; Zambezan-Eastern linking.

Strychnos mitis S.Moore

Habitat: riverine and swamp forests; Eastern.

Strychnos potatorum L.f.

Habitat: miombo woodlands (Termitophilous); paleotropical (in Africa: Zambeziian-Eastern linking).

Strychnos pungens Soler

Habitat: miombo woodlands; Zambeziian (southern African).

Strychnos spinosa Lam.

Habitat: miombo woodlands; Afrotropical.

Strychnos xantha Leeuwenb.

Habitat: dry evergreen forests; Zambeziian.

MALPIGHIACEAE

Acridocarpus katangensis De Wild.

Habitat: miombo woodlands; Zambeziian (subendemic of Upper Katanga).

MALVACEAE

Chlamydocola chlamydantha (K.Schum.) Bodard

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Cola greenwayi Brenan

Habitat: riverine and swamp forests; Afromontane.

Cola lateritia Del.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Dombeya buettneri K.Schum.

Habitat: wooded grasslands; Sudano-Zambeziian.

Dombeya burgessiae Gerrard ex Harv.

Habitat: riverine and swamp forests; Afromontane.

Dombeya rotundifolia (Hochst.) Planch.

Habitat: miombo woodlands; African linking; IUCN conservation status: LC.

Dombeya shupangae K.Schum.

Habitat: miombo woodlands; Eastern.

Dombeya wittei De Wild. & Staner

Habitat: riverine and swamp forests; Zambeziian (subendemic of Upper Katanga).

Grewia bicolor Juss.

Habitat: miombo woodlands (Termitophilous); paleotropical (in Africa: African linking).

Grewia conocaroides Burret

Habitat: riverine and swamp forests; Zambeziian.

Grewia flavescens Juss.

Habitat: miombo woodlands (Termitophilous); African linking.

Grewia mollis Juss.

Habitat: miombo woodlands; African linking.

Grewia schmitzii Wilczek

Habitat: dry evergreen forests; Zambeziian (endemic of Upper Katanga).

Grewia similis K.Schum.

Habitat: miombo woodlands (Termitophilous); Eastern.

Grewia stolzii Ulbr.

Habitat: miombo woodlands (Termitophilous); Afromontane.

Grewia woodiana K.Schum.

Habitat: wooded grasslands; distribution uncertain.

Pterygota mildbraedii Engl.

Habitat: dry evergreen forests; Guineo-Congolian linking.

Sterculia quinqueloba (Garcke) K.Schum.

Habitat: wooded grasslands (Termitophilous); Zambeziian.

Sterculia subviolacea K.Schum.

Habitat: riverine and swamp forests; Guineo-Congolian-Zambeziian linking.

Sterculia tragacantha Lindl.

Habitat: dry evergreen forests; Guineo-Congolian linking.

Thespesia garckeana F.Hoffm. var. ***garckeana***

Habitat: miombo woodlands (Termitophilous); Zambezi-Eastern linking.

MELASTOMATACEAE

Memecylon flavovirens Bak.

Habitat: miombo woodlands; Zambezi; *Meerts & Hasson 124* (BRLU).

Warneckea sansibarica (Taub.) Jacq.-Fél.

Habitat: dry evergreen forests; Eastern. Note: New to D.R. Congo; Lubemba (territ. Kasenga), muhulu, S10°53' E28°28', May 2014, *Meerts & Hasson 454* (BRLU).

Warneckea sapinii (De Wild.) Jacq.-Fél.

Habitat: dry evergreen forests; Guineo-Congolian-Zambezi linking; *Duvigneaud 2317* (BRLU).

MELIACEAE

Ekebergia benguelensis Welw. ex DC.

Habitat: miombo woodlands; Zambezi.

Ekebergia capensis Sparrm.

Habitat: Afromontane vegetation; African linking.

Entandrophragma delevoyi De Wild.

Habitat: dry evergreen forests; Zambezi.

Khaya anthotheca (Welw.) C.DC.

Habitat: riverine and swamp forests; Guineo-Congolian-Zambezi linking; IUCN conservation status: VU A1cd.

Lovoa trichilioides Harms

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; *Duvigneaud & Timperman 2475L* (BRLU).

Trichilia dregeana Sond.

Habitat: riverine and swamp forests; Guineo-Congolian-Afromontane linking.

Trichilia emetica Vahl. subsp. ***emetica***

Habitat: riverine and swamp forests; African linking.

Trichilia prieuriana Juss. subsp. ***orientalis*** J.De Wilde

Habitat: riverine and swamp forests; Sudano-Zambezi.

Turraea holstii Gürke

Habitat: riverine and swamp forests; Afromontane. Note: not mentioned in Upper Katanga by FAC; *Lisowski, Malaisse & Symoens 10058* (BR).

Turraea floribunda Hochst.

Habitat: riverine and swamp forests; Eastern.

Turraea nilotica Kotschy & Peyr.

Habitat: riverine and swamp forests; Sudano-Zambezi. Note: known from 1 collection (*Bredo 3169* (BR)), identified by F. White as "intermediate between *T. nilotica* and *T. robusta*".

Turraea vogelii Hook.f.

Habitat: disturbed; African linking.

MELIANTHACEAE

Bersama abyssinica Fresen. subsp. ***abyssinica***

Habitat: miombo woodlands; Afromontane.

MONIMIACEAE

Xymalos monospora (Harv.) Baill.

Habitat: riverine and swamp forests; Afromontane. Note: not mentioned for Upper Katanga by FAC; *Lisowski, Malaisse & Symoens 6436* (BR).

MORACEAE

Ficus abutilifolia (Miq.) Miq.

Habitat: wooded grasslands (rocks); Sudano-Zambezian. Note: new to D.R. Congo; sur les rochers, env. 1,5 km NW du centre commercial de Pweto, 8 September 1970, *Bulaimu 78* (BR).

Ficus ardisioides subsp. ***camptoneura*** (Mildbr.) C.C. Berg

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; rivière Tshasengo (24° 40'E, 10°46'S), galerie forestière encaissée sur fond rocailleux, 2 August 1950, *Schmitz 2951* (BR).

Ficus asperifolia Miq.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Ficus barteri Sprague

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: not mentioned by FAC for Upper Katanga; *Schmitz 788* (BR).

Ficus capreifolia Del.

Habitat: riverine and swamp forests; African linking.

Ficus conraui Warb.

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: new to Upper Katanga; km 67 route Lubumbashi-Likasi, muhulu en ravin encaissé, 29 July 1958, *Schmitz 6166* (BR).

Ficus craterostoma Warb. ex Mildbr. & Burret

Habitat: riverine and swamp forests; African linking.

Ficus cyathistipula Warb.

Habitat: riverine and swamp forests; Guineo-Congolian-Zambezian linking.

Ficus dicranostyla Mildbr. var. ***dicranostyla***

Habitat: wooded grasslands; Sudano-Zambezian.

Ficus fischeri Mildbread & Burret

Habitat: miombo woodlands; Zambezian. Note: not mentioned in FAC; Luiswishi, muhulu, 1208 m, 10 July 1974, *Malaisse 7809* (BR).

Ficus glumosa Delile

Habitat: wooded grasslands; African linking.

Ficus ingens (Miq.) Miq.

Habitat: wooded grasslands; African linking.

Ficus lutea Vahl

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; *Schmitz 2008* (BR).

Ficus ottonifolia subsp. ***macrocyce*** Berg

Habitat: riverine and swamp forests; Zambezian. Note: not mentioned in FAC; SSW Lubumbashi, galerie de la Matuitui, bord de galerie forestière encaissée et sombre, 12 August 1948, *Schmitz 1964* (BR).

Ficus ovata Vahl

Habitat: dry evergreen forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; *Schmitz 2322* (BR).

Ficus polita Vahl

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Lubemba, galerie forestière du Luapula, E28°32' S10°55', 19 April 2014, *Meerts & Hasson 520* (BRLU).

Ficus sansibarica subsp. ***macroperma*** (Mildbr. & Burret) Berg

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned in Upper Katanga by FAC; *Schmitz 460* (BR).

Ficus stuhlmannii Warb.

Habitat: wooded grasslands; Eastern.

Ficus sur Forssk.

Habitat: disturbed; Afrotropical.

Ficus sycomorus L.

Habitat: wooded grasslands; Afrotropical.

Ficus thonningii Blume

Habitat: disturbed (Termitophilous); Afrotropical. Note: an extremely variable species, with several forms in Upper Katanga formerly recognized as distinct species; further work needed.

Ficus trichopoda Baker

Habitat: riverine and swamp forests; Afrotropical. Note: no voucher specimen cited in FAC; *Symoens 471* (BRLU).

Ficus vallis-choudae Del.

Habitat: riverine and swamp forests; Afrotropical.

Ficus verruculosa Warb.

Habitat: riverine and swamp forests; Sudano-Zambezian. Note: not mentioned for Upper Katanga in FAC; *Schmitz 3167* (BR).

Ficus wakefieldii Hutch.

Habitat: miombo woodlands; Eastern. Note: not mentioned in Upper Katanga in FAC; Lubumbashi, arboretum de l'Etoile, sol frais, rouge, 4 June 1947, *Schmitz 661* (BR).

Milicia excelsa (Welw.) C.C.Berg

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned for Upper Katanga by FAC; IUCN conservation status: LR/NT; *Schmitz 7328* (BR).

Morus mesozygia Stapf

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned in Upper Katanga by FAC; *Schmitz 7351* (BR).

Treculia africana Desc.

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: not mentioned in Upper Katanga by FAC; *Meerts & Hasson 318* (BRLU).

MYRICACEAE

Morella salicifolia subsp. ***kilimandscharica*** (Engl.) Verdc. & Polhill

Habitat: Afromontane vegetation; Afromontane. Note: not mentioned for Upper Katanga by FAC; *Lisowski, Malaisse & Symoens 6425* (BR).

Morella serrata (Lam.) Killick

Habitat: riverine and swamp forests; African linking. Note: this taxon is very variable for leaf shape and, in our opinion, all Katangan collections previously named *Morella salicifolia* (Hochst. ex A.Rich.) Verdc. & Polhill (Syn.: *M. humilis* Cham. ex Schldl.) fall within the variation range of *M. serrata*; the group needs revision.

MYRTACEAE

Eugenia capensis subsp. ***nyassensis*** (Engl.) F.White

Habitat: riverine and swamp forests; Zambezian.

Syzygium cordatum Hochst. ex Sond.

Habitat: riverine and swamp forests; African linking.

Syzygium guineense (Willd.) DC. subsp. ***fromontanum*** F.White

Habitat: dry evergreen forests; Afromontane.

Syzygium guineense (Willd.) DC. subsp. ***barotsense*** F.White

Habitat: riverine and swamp forests; Zambezian.

Syzygium guineense (Willd.) DC. subsp. ***guineense***

Habitat: miombo woodlands; Sudano-Zambezian.

Syzygium guineense (Willd.) DC. subsp. ***macrocarpon*** (Engl.) F.White

Habitat: miombo woodlands; Sudano-Zambezian.

Syzygium intermedium Engl. & V.Brehm.

Habitat: riverine and swamp forests; Zambezian.

Syzygium owariense (P.Beauv.) Benth.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

OCHNACEAE

Campylospermum andongense (Hiern) Bissiengou

Habitat: riverine and swamp forests; Zambezian. Note: not mentioned in FAC; IUCN conservation status: LC, proposed by Bissiengou (2014); *Bamps 8141* (BR).

Campylospermum densiflorum (De Wild. & T.Durand) Farron

Habitat: riverine and swamp forests; Guineo-Congolian linking; not in FAC; IUCN conservation status: LC, proposed by Bissiengou (2014); *Young 127* (BR).

Campylospermum lunzuense (N.Robson) Biss.

Habitat: riverine and swamp forests; Zambezian. Note: not in FAC; IUCN conservation status: LC, proposed by

Bissiengou (2014); *Schmitz 6689* (BR).

Campylospermum lutambense (Sleumer) Biss.

Habitat: dry evergreen forests; Zambezan. Note: not in FAC; IUCN conservation status: VU B1/B2 (i,ii), proposed by Bissiengou (2014); *Malaisse & Kisimba 15* (BR).

Campylospermum plicatum (Tiegh.) Biss.

Habitat: riverine and swamp forests; Guineo-Congolian linking; not mentioned in Upper Katanga by FAC. Note: IUCN conservation status: LC, proposed by Bissiengou (2014); *Desenfans 92* (BR, BRLU).

Campylospermum reticulatum (P.Beauv.) Farron

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: IUCN conservation status: LC, proposed by Bissiengou (2014).

Campylospermum vogelii (Hook.f.) Farron

Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: IUCN conservation status: LC, proposed by Bissiengou (2014).

Ochna afzelii R.Br. ex Oliv.

Habitat: riverine and swamp forests; African linking.

Ochna gambleoides N.Robs.

Habitat: miombo woodlands; Zambezan.

Ochna holstii Engl.

Habitat: Afromontane vegetation; Afromontane.

Ochna puberula N.Robs.

Habitat: dry evergreen forests; Zambezan.

Ochna pulchra Hook.f.

Habitat: miombo woodlands; Zambezan.

Ochna schweinfurthiana F.Hoffm.

Habitat: miombo woodlands; Sudano-Zambezan.

Rhabdophyllum rigidum (De Wild.) Farron

Habitat: uncertain; Guineo-Congolian linking. Note: *de Witte 3997* (BR) from Upemba, reported for Lower Katanga by FAC is here accepted for Upper Katanga.

Rhabdophyllum welwitschii Van Tiegh.

Habitat: dry evergreen forests; Zambezan.

OLACACEAE

Olox obtusifolia De Wild.

Habitat: miombo woodlands; Zambezan.

Olox subscorpioidea Oliv.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

OLEACEAE

Chionanthus mildbraedii (Gilg & G.Schellenb.) Stearn

Habitat: Afromontane vegetation; Afromontane.

Chionanthus niloticus (Oliv.) Stearn

Habitat: riverine and swamp forests; Afrotropical.

Jasminum odoratissimum subsp. *goetzeanum* (Gilg) P.S.Green

Habitat: riverine and swamp forests; Zambezan

Olea capensis L. subsp. *hochstetteri* (Baker) Friis & P.S.Green

Habitat: Afromontane vegetation; Afromontane

Schrebera alata (Hochst.) Welw.

Habitat: dry evergreen forests; Afromontane. Note: not mentioned for Upper Katanga by FAC; *Schmitz 3711* (BR).

Schrebera trichoclada Welw.

Habitat: miombo woodlands; Zambezan.

PANDANACEAE

Pandanus livingstonianus Rendle

Habitat: riverine and swamp forests; Eastern; *Robyns 3583* (BR, WAG).

PASSIFLORACEAE

Paropsia brazzaeana Baill.

Habitat: riverine and swamp forests; Guineo-Congolian-Zambezian linking.

Viridivia suberosa J.H.Hemsl. & Verdc.

Habitat: miombo woodlands; Zambezian.

PENAEACEAE

Olinia rochetiana Juss.

Habitat: Afromontane vegetation; Afromontane-Zambezian linking. Note: Sebola & Balkwill (2009) argue that materials hitherto named *O. rochetiana* Juss. in Katanga actually belongs in two distinct taxa, i.e. *Olinia huillensis* Welw. ex A. & R.Fern. and *Olinia ruandensis* Gilg. However, the evidence seems unconvincing and we here accept the name *O. rochetiana* for all Katangan collections.

PERACEAE

Chaetocarpus africanus Pax

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Clutia abyssinica Jaub. & Spach

Habitat: riverine and swamp forests; Afromontane.

PHYLLANTHACEAE

Antidesma membranaceum Müll.Arg.

Habitat: wooded grasslands; Afrotropical.

Antidesma rufescens Tul.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Antidesma venosum E.Mey. ex Tul.

Habitat: wooded grasslands; Afrotropical.

Antidesma vogelianum Müll.Arg.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Bridelia cathartica G.Bertol.

Habitat: miombo woodlands; Zambezian-Eastern linking.

Bridelia duvigneaudii J.Léonard

Habitat: miombo woodlands; Zambezian.

Bridelia ferruginea Benth.

Habitat: wooded grasslands; Guineo-Congolian linking.

Bridelia micrantha (Hochst.) Baill.

Habitat: riverine and swamp forests; Afrotropical.

Cleistanthus duvipermaniorum J.Léonard

Habitat: riverine and swamp forests; Zambezian (subendemic of Upper Katanga).

Cleistanthus polystachyus subsp. *milleri* (Dunkley) Radcl.-Sm.

Habitat: riverine and swamp forests; Zambezian.

Cleistanthus polystachyus Hook.f. ex Planch. subsp. *polystachyus*

Habitat: Afromontane vegetation; Guineo-Congolian linking.

Flueggea virosa (Roxb. ex Willd.) Voigt subsp. *virosa*

Habitat: wooded grasslands; paleotropical (in Africa: African linking).

Hymenocardia acida Tul.

Habitat: miombo woodlands; Afrotropical.

Hymenocardia ulmoides Oliv.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Maesobotrya vermeulenii (De Wild.) J.Léonard

Habitat: riverine and swamp forests; Guineo-Congolian Zambezian linking; *Duvigneaud & Timperman 2301* (BRLU).

Margaritaria discoidea (Baill.) G.L.Webster var. *nitida* (Pax) Radcl.-Sm.

Habitat: uncertain; African linking. Note: new to Upper Katanga; Musosa, 1940, *Bredo 4766* (BR).

Margaritaria discoidea (Baill.) G.L.Webster var. *triplosphaera* Radcl.-Sm.

Habitat: miombo woodlands (Termitophilous); Zambezian. Note: *Margaritaria discoidea* needs revision in Katanga;

Meerts & Hasson 051 (BRLU).

Phyllanthus muellerianus (Kuntze) Exell

Habitat: miombo woodlands; Guineo-Congolian linking; *Meerts & Hasson 282* (BRLU).

Phyllanthus ovalifolius Forssk.

Habitat: miombo woodlands; African linking; *Meerts & Hasson 630* (BRLU).

Phyllanthus reticulatus Poir. var. *reticulatus*

Habitat: riverine and swamp forests; paleotropical (in Africa: Afrotropical); *Schmitz 4075* (BR).

Pseudolachnostylis maprouneifolia Pax var. *dekindtii* (Pax) Radcl.Sm.

Habitat: miombo woodlands; Zambezan; *Duvigneaud & Timperman 2383P* (BRLU).

Pseudolachnostylis maprouneifolia Pax var. *glabra* (Pax) Brenan

Habitat: miombo woodlands; Zambezan; *Verdick 33* (BR).

Pseudolachnostylis maprouneifolia Pax var. *maprouneifolia*

Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 014* (BRLU).

Pseudolachnostylis maprouneifolia Pax var. *polygyna* (Pax & K.Hoffm.) Radcl.-Sm.

Habitat: miombo woodlands; Zambezan (subendemic of Upper Katanga). Note: new to D.R. Congo; 25 km W of Kasenga, forêt claire à *Isoberlinia*, 19 August 1948, *Duvigneaud 1395Ps* (BRLU).

Thecacoris trichogyne Müll.Arg.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Uapaca benguelensis Müll.Arg.

Habitat: miombo woodlands; Zambezan. Note: *U. benguelensis* var. *pedunculata* P.A.Duvign. (e.g. *Duvigneaud 1214U3* (BRLU)) is somewhat intermediate with *U. kirkiana* and its taxonomic status is critical; see note under *U. kirkiana*; *Duvigneaud 1029U1* (BRLU).

Uapaca gossweileri Hutch.

Habitat: miombo woodlands; Zambezan; see note under *U. kirkiana*; *Duvigneaud 5239U5* (BRLU).

****Uapaca katentaniensis*** De Wild.

Habitat: miombo woodlands; Zambezan (endemic of Upper Katanga). Note: known only from the type specimen, a depauperate collection; taxonomic status unclear, see *Duvigneaud* (1949a); *Homblé 819* (BR).

Uapaca kirkiana Müll.Arg.

Habitat: miombo woodlands; Zambezan. Note: variants with sessile leaves (*U. kirkiana* var. *sessilifolia* P.A.Duvign.) (e.g. *Duvigneaud 1301U1* (BRLU)) are somewhat intermediate with *U. gossweileri* and their taxonomic value is critical; variants with glabrous leaves (*U. kirkiana* var. *dubia* (De Wild.) P.A.Duvign.) are close to *U. benguelensis* and their taxonomic status is critical; the whole complex of *U. kirkiana*, *U. benguelensis* and *U. gossweileri* needs revision; *Duvigneaud 1214U1* (BRLU).

Uapaca lissopyrena Radcl. Sm.

Habitat: riverine and swamp forests; Zambezan; see *Breteler* (2013); *Delvaux 310* (BR).

Uapaca nitida Müll.Arg.

New synonyms: *Uapaca nitida* var. *longifolia* (P.A.Duvign.) Radcl.-Sm. *syn. nov.*; habitat: miombo woodlands; Zambezan. Note: many variants have been named by *Duvigneaud* (1949a), but they are linked by intermediates and most likely not worth taxonomic recognition; *Duvigneaud 1269U4* (BRLU).

Uapaca pilosa Hutch.

Habitat: miombo woodlands; Zambezan. Note: variants with petiolate leaves have been named var. *petiolata* P.A.Duvign. (e.g. *Duvigneaud 2365U1* (BRLU)) but their taxonomic status is unclear; *Duvigneaud 1269U3* (BRLU).

Uapaca robynsii De Wild.

Habitat: miombo woodlands; Zambezan; *Robyns 1701* (BR).

Uapaca rufopilosa (De Wild.) P.A.Duvign.

Habitat: miombo woodlands; Zambezan. Note: possibly best treated at varietal rank within *U. nitida*; *Delevoy 448* (BR).

Uapaca sansibarica Pax

Habitat: miombo woodlands; Zambezan; *Duvigneaud 1318U5* (BRLU).

PICRODENDRACEAE

Oldfieldia dactylophylla (Welw. ex Oliv.) J.Léonard

Habitat: wooded grasslands; Zambezan; *Meerts & Hasson 77* (BRLU).

PITTOSPORACEAE

Pittosporum viridiflorum Sims

Habitat: riverine and swamp forests; Afromontane.

PODOCARPACEAE

Podocarpus latifolius (Thunb.) R.Br. ex Mirb.

Habitat: Afromontane vegetation; Afromontane. Note: not reported for Upper Katanga by FAC; IUCN conservation status: LC; Plateau des Kundelungu, 8 May 1986, *Malaisse 13863* (BR).

POLYGALACEAE

Carpolobia goetzei Gürke

Habitat: dry evergreen forests; Eastern. Note: new to Katanga; Lubemba, muhulu, 10 Apr. 2014, *Meerts & Hasson 456* (BRLU).

Securidaca longipedunculata Fresen.

Habitat: wooded grasslands; Afrotropical.

PRIMULACEAE

Embelia upembensis Taton

Habitat: miombo woodlands; Zambebian (subendemic of Upper Katanga); IUCN conservation status: VU B1+2c.

Maesa lanceolata Forsk. var. *lanceolata*

Habitat: riverine and swamp forests; Guineo-Congolian-Afromontane linking.

Maesa lanceolata Forsk. var. *rufescens* (DC.) Taton

Habitat: riverine and swamp forests; distribution uncertain.

Rapanea melanophloeos (L.) Mez

Habitat: Afromontane vegetation; Afromontane.

PROTEACEAE

Faurea delevoyi De Wild.

Habitat: miombo woodlands; Zambebian.

Faurea discolor Welw.

Habitat: miombo woodlands; Zambebian. Note: new to D.R. Congo; Musoshi, steppe arbustif sur roches quartzitiques, 5 June 1957, *Duvigneaud 3429* (BRLU).

Faurea intermedia Engl. & Gilg

Habitat: riverine and swamp forests; Zambebian.

Faurea rochetiana (A.Rich.) Chiov. ex Pic.Serm.

Habitat: miombo woodlands; Sudano-Zambebian.

Faurea saligna Harv.

Habitat: wooded grasslands; Afromontane.

Protea angolensis Burt Davy & Hoyle var. *divaricata* (Engl. & Gilg) Beard f. *divaricata*

Habitat: wooded grasslands; Zambebian.

Protea angolensis Burt Davy & Hoyle var. *trichanthera* (Baker) Brummitt

Habitat: miombo woodlands; Zambebian.

Protea gagedi Gmel.

Habitat: miombo woodlands; Afromontane-Zambebian linking.

Protea madiensis Oliv. subsp. *madiensis*

Habitat: wooded grasslands; African linking. Note: not reported for Upper Katanga by FAC; *Robyns 2145bis* (BR).

Protea petiolaris (Hiern) Baker & C.H.Wright subsp. *elegans* Chisumpa & Brummitt

Habitat: miombo woodlands; Zambebian. Note: not in FAC; plateau de Katentania, terrain sablonneux, 23 December 1921, *Doumen 14* (BR).

Protea petiolaris (Hiern) Baker & C.H.Wright subsp. *petiolaris*

Habitat: miombo woodlands; Zambebian.

Protea welwitschii Engl.

Habitat: miombo woodlands; African linking.

PUTRANJIVACEAE

Drypetes gerrardii Hutch. var. ***tomentosa*** Radcl.-Sm.

Habitat: riverine and swamp forests; Afromontane. Note: New to Upper Katanga; September 2014, river Lufukwe, in the foothills east of the Kundelungu plateau, *Meerts & Hasson 596* (BRLU).

RHAMNACEAE

Berchemia discolor (Klöttsch) Hemsl.

Habitat: miombo woodlands; Zambezi-Eastern linking. Note: not in FAC, but mentioned by Malaisse (1997); région de Kasenga, bord du Luapula, broussailles près des chutes Johnston, 950 m, 17 December 1970, *Lisowski 213* (BR).

Maesopsis eminii Engl.

Habitat: disturbed; Guineo-Congolian linking.

Rhamnus prinoides L'Hérit.

Habitat: riverine and swamp forests; Afromontane.

Scutia myrtina (Burm.) Kurz

Habitat: miombo woodlands; Paleotropical (in Africa: Eastern). Note: not mentioned for Upper Katanga by FAC; *Hoffmann 366* (BRLU).

Ziziphus abyssinica Hochst. ex A.Rich.

Habitat: miombo woodlands; African linking.

Ziziphus mucronata Willd. subsp. ***rhodesica*** R.B.Drumm.

Habitat: miombo woodlands (Termitophilous); Zambezi. Note: not mentioned in FAC; Kasompi, forêt claire sur crête de grand conglomérat, sol compact et rocheux, 8 February 1960, *Duvigneaud 5473Z* (BRLU).

RHIZOPHORACEAE

Anisophyllea boehmii Engl.

Habitat: miombo woodlands; Zambezi.

Cassipourea gummiflua Tul.

Habitat: riverine and swamp forests; Afromontane.

Cassipourea malosana (Baker) Alston

Habitat: riverine and swamp forests; Afromontane.

Cassipourea mollis (R.E.Fr.) Alston

Habitat: miombo woodlands; Zambezi. Note: New to D.R. Congo; District Kasenga, Pweto, commune Lubemba, bushy savanna on kalahari sand, 12 April 2014, *Meerts & Hasson 474* (BRLU).

ROSACEAE

Prunus africana (Hook.f.) Kalkm.

Habitat: Afromontane vegetation; Afromontane. Note: not mentioned for Upper Katanga by FAC; IUCN conservation status: VU A1cd; *Salésiens S69* (BR).

RUBIACEAE

Afrocanthium lactescens (Hiern) Lantz

Habitat: miombo woodlands; Sudano-Zambezi; *Verdick 312* (BR).

Aidia micrantha Bullock var. ***msonju*** (K.Krause) Petit

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 222* (BRLU).

Argocoffeopsis eketensis (Wernham) Robbr.

Habitat: dry evergreen forests; Guineo-Congolian linking; *Duvigneaud 5236R* (BR).

Aulacocalyx laxiflora Petit

Habitat: dry evergreen forests; Zambezi (subendemic of Upper Katanga); *Meerts & Hasson 551* (BRLU).

Bertiera angusiana N.Hallé

Habitat: riverine and swamp forests; Zambezi; *Bamps & Malaisse 8207* (BR).

Canthium burtii Bullock subsp. ***glabrum*** Bridson

Habitat: miombo woodlands; Zambezi; *Malaisse 11245* (BR).

Canthium parasiebenlistii Bridson

Habitat: miombo woodlands; Zambezi; *Malaisse 11885* (BR).

Catunaregam taylorii (S.Moore) Bridson

Habitat: wooded grasslands; Zambezan; *Meerts & Hasson 377* (BRLU).
Chassalia subochreatea (De Wild.) Robyns
Habitat: Afromontane vegetation; Afromontane; *Schmitz 6238* (BR).
Coffea eugenioides S.Moore
Habitat: dry evergreen forests; distribution: uncertain *Schmitz 1901* (BR).
Coptosperma neurophyllum (S.Moore) Degreef
Habitat: dry evergreen forests; Zambezan; *Meerts & Hasson 220* (BRLU).
Craterispermum schweinfurthii Hiern
Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 550* (BRLU).
Cremaspora triflora (Thonn.) K.Schum. subsp. ***triflora***
Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 289* (BRLU).
Crossopteryx febrifuga (Afzel. ex Don) Benth.
Habitat: miombo woodlands; Afrotropical; *Meerts & Hasson 120* (BRLU).
Empogona ruandensis (Bremek.) J.Tosh & Robbr.
Habitat: dry evergreen forests; Zambezan-Eastern linking; *Meerts & Hasson 488* (BRLU).
Feretia aeruginescens Stapf
Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 303* (BRLU).
Gaertnera paniculata Benth.
Habitat: riverine and swamp forests; Guineo-Congolian linking; *Schmitz 5584* (BR).
Gardenia imperialis K.Schum.
Habitat: riverine and swamp forests; Guineo-Congolian linking; *Meerts & Hasson 369* (BRLU).
Gardenia resiniflua Hiern
Habitat: miombo woodlands; Zambezan; *Lisowski 10501* (BR).
Gardenia ternifolia Schumach. & Thonn. var. ***jovis-tonantis*** (Welw.) Aubrév.
Habitat: miombo woodlands; Sudano-Zambezan; *Schmitz 2479* (BR).
Gardenia volkensii subsp. ***spatulifolia*** (Stapf & Hutch.) Verdc.
Habitat: miombo woodlands; Zambezan; *Symoens 6895* (BR).
Hallea stipulosa (DC.) Leroy
Habitat: riverine and swamp forests; Guineo-Congolian linking. Note: new to Upper Katanga; Swamp forest nearby a rivulet, a few kilometers away from the Luapula river, 12 April 2014, *Meerts & Hasson 476* (BRLU).
Heinsenia diervilleoides K.Schum. subsp. ***diervilleoides***
Habitat: dry evergreen forests; Afromontane; *Delvaux 550* (BR).
Heinsia crinita (Afzel.) G.Taylor var. ***crinita***
Habitat: dry evergreen forests; African linking; *Malaisse & Robbrecht 2290* (BR).
Hymenodictyon floribundum (Hochst. e&Steud) Robyns
Habitat: miombo woodlands; African linking; *Lisowski 9618* (BR).
Hymenodictyon parvifolium Oliv. var. ***fimbriolatum*** (De Wild.) Verdc.
Habitat: miombo woodlands (Termitophilous); Zambezan; *Meerts & Hasson 073* (BRLU).
Ixora brachypoda DC.
Habitat: uncertain; Afrotropical; *Quarré 6899* (BR).
Keetia gueinzii (Sond.) Bridson
Habitat: dry evergreen forests; Afrotropical; *Meerts & Hasson 381* (BRLU).
Keetia venosa (Oliv.) Bridson
Habitat: dry evergreen forests; Afrotropical; *Meerts & Hasson 483* (BRLU).
Keetia zanzibarica subsp. ***cornelioides*** (De Wild.) Bridson
Habitat: riverine and swamp forests; Zambezan; *Verdick 32* (BR).
Multidentia crassa (Hiern) Bridson & Verdc. var. ***crassa***
Habitat: miombo woodlands; Zambezan-Eastern linking; *Meerts & Hasson 212* (BRLU).
Multidentia fanshawei (Tennant) Bridson
Habitat: dry evergreen forests; Zambezan; *Schmitz 4916* (BR).
Mussaenda arcuata Lam. ex Poir.
Habitat: dry evergreen forests; Afrotropical; *Kassner 2585* (BR).
Oxyanthus lepidus S.Moore subsp. ***lepidus***
Habitat: riverine and swamp forests; Zambezan-Eastern linking; *Schmitz 3926* (BR).

- Oxyanthus speciosus*** DC. subsp. ***mollis*** (Hutch.) Bridson
Habitat: dry evergreen forests; Guineo-Congolian-Afromontane linking; *Schmitz 3298* (BR).
- Oxyanthus speciosus*** DC. subsp. ***stenocarpus*** (K.Schum.) Bridson
Habitat: riverine and swamp forests; Afromontane; *Schmitz 3849* (BR).
- Pauridiantha paucinervis*** (Hiern) Bremek.
Habitat: dry evergreen forests; Afromontane; *Meerts & Hasson 218* (BRLU).
- Pavetta bilineata*** Bremek.
Habitat: uncertain; distribution uncertain ; *Malaisse 11318* (BR).
- Pavetta cataractarum*** S.Moore
Habitat: miombo woodlands; Zambezan; *Malaisse 9389* (BR).
- Pavetta crassipes*** K.Schum.
Habitat: miombo woodlands; African linking; *Homblé 1181* (BR).
- Pavetta gardeniifolia*** A.Rich. var. ***gardeniifolia***
Habitat: miombo woodlands; African linking; *Meerts & Hasson 352* (BRLU).
- Pavetta gardeniifolia*** A.Rich. var. ***subtomentosa*** K.Schum.
Habitat: miombo woodlands (termitophilous); Zambezan; *Malaisse 8934* (BR, WAG, K).
- Pavetta nitidula*** Welw. ex Hiern
Habitat: dry evergreen forests; Guineo-Congolian linking; *Schmitz 2211* (BR).
- Pavetta schumanniana*** F.Hoffm. ex K.Schum.
Habitat: miombo woodlands; Sudano-Zambezan; *Meerts & Hasson 213* (BRLU).
- Polysphaeria pedunculata*** K.Schum. var. ***pedunculata***
Habitat: dry evergreen forests; Zambezan; *Verdick 191* (BR).
- Polysphaeria pedunculata*** K.Schum. var. ***reducta*** Verdc.
Habitat: riverine and swamp forests; Zambezan (subendemic of Upper Katanga; endemic of Katanga); *Malaisse 8838* (BR).
- Pseudomussaenda stenocarpa*** (Hiern) Petit
Habitat: uncertain; Guineo-Congolian linking; *Quarré 6862* (BR).
- Psychotria articulata*** (Hiern) Petit
Habitat: riverine and swamp forests; Zambezan. Note: see Lachenaud (2013); *Duvigneaud & Timperman 2457 G* (BRLU).
- Psychotria hypsophila*** K.Schum. & K.Krause
Habitat: dry evergreen forests; Guineo-Congolian-Zambezan linking. Note: see Lachenaud (2013); *Symoens 12840* (BR).
- Psychotria punctata*** Vatke
Habitat: miombo woodlands; African linking. Note: see Lachenaud (2013); *Duvigneaud 4601 Ps* (BRLU).
- Psychotria succulenta*** (Hiern) Petit
Habitat: riverine and swamp forests; Sudano-Zambezan. Note: see Lachenaud (2013); *Duvigneaud 5077 RI* (BRLU).
- Psydrax acutiflora*** (Hien) Bridson
Habitat: riverine and swamp forests; Guineo-Congolian linking; *Duvigneaud 1349c* (BR).
- Psydrax livida*** (Hiern.) Bridson
Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 122* (BRLU).
- Psydrax mutimushii*** Bridson subsp. ***mutimushii***
Habitat: dry evergreen forests; Zambezan; *Malaisse 7843* (BR).
- Psydrax parviflora*** (Afzel.) Bridson
Habitat: dry evergreen forests; Afrotropical; *Schmitz 2814* (BR).
- Psydrax subcordata*** (DC.) Bridson var. ***subcordata***
Habitat: riverine and swamp forests; Afrotropical; *Malaisse & Kisimba 43* (BR).
- Pyrostria lobulata*** Bridson
Habitat: dry evergreen forests; Zambezan; *Meerts & Hasson 455* (BRLU).
- Rothmannia engleriana*** (K.Schum.) Keay var. ***engleriana***
Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 227* (BRLU).
- Rothmannia fischeri*** (K.Schum.) Bullock subsp. ***fischeri***
Habitat: dry evergreen forests; Afromontane; *Meerts & Hasson 660* (BRLU).

Rothmannia whitfieldii (Lindl.) Dandy

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 211* (BRLU).

Rytigynia umbellulata (Hiern) Robyns

Habitat: dry evergreen forests; Afrotropical; *Meerts & Hasson 335* (BRLU).

Sarcocephalus pobeguinii Pobég.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Meerts & Hasson 503* (BRLU).

Sericanthe andongensis (Hiern) Robbr. var. *andongensis*

Habitat: dry evergreen forests; Zambezan; *Meerts & Hasson 361* (BRLU).

Sericanthe andongensis (Hiern) Robbr. var. *mollis* Robbr.

Habitat: dry evergreen forests; Zambezan; *Meerts & Hasson 122* (BRLU).

Tarenna pavettoides (Harv.) Sim subsp. *gillmanii* Bremek. ex Bridson

Habitat: dry evergreen forests; Eastern; *Meerts & Hasson 489* (BRLU).

Tricalysia bagshawei S.Moore subsp. *malaissei* Robbrecht

Habitat: dry evergreen forests; Zambezan (subendemic of Upper Katanga); *Malaisse 9116* (BR, K, MO, WAG).

Tricalysia coriacea subsp. *nyassae* (Hiern) Bridson

Habitat: dry evergreen forests; Zambezan; *Meerts & Hasson 010* (BRLU).

Tricalysia griseiflora K.Schum.

Habitat: miombo woodlands; Zambezan; *Duvigneaud 1131Trl* (BRLU).

Tricalysia longituba De Wild. subsp. *richardsiae* Bridson

Habitat: riverine and swamp forests; Zambezan (subendemic of Upper Katanga). Note: all collections of *T. longituba* from Upper Katanga would appear to belong in this subspecies; the typical subspecies occurs in the Guineo-Congolian region (Bridson & Verdcourt 2003); *Duvigneaud 1397R* (BRLU).

Tricalysia pallens Hiern

Habitat: dry evergreen forests; Guineo-Congolian linking; *Duvigneaud & Timperman T2* (BRLU).

Tricalysia revoluta Hutch.

Habitat: dry evergreen forests; Zambezan (subendemic of Upper Katanga); *Meerts & Hasson 217* (BRLU).

Vangueria apiculata K.Schum.

Habitat: miombo woodlands; Afromontane. Note: new to Upper Katanga; Mikembo, 30 km NE Lubumbashi, termite-mound isolated in a periodically flooded dembo, 5 June 2012, *Meerts & Hasson 261* (BRLU).

Vangueria infausta Burch.

Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 131* (BRLU).

Vangueriopsis lanciflora (Hiern) Robyns

Habitat: miombo woodlands; Zambezan; *Meerts & Hasson 329* (BRLU).

RUTACEAE

Clausena anisata (Willd.) Hook.f. ex Benth.

Habitat: riverine and swamp forests; paleotropical (in Africa: Guineo-Congolian-Afromontane linking).

Fagaropsis angolensis (Engl.) Dale

Habitat: miombo woodlands; Afromontane. Note: not mentioned for Upper Katanga in FAC; *Schmitz 138* (BR).

Harrisonia abyssinica Oliv.

Habitat: wooded grasslands; African linking.

***Teclea engleriana** De Wild.

Habitat: uncertain; Zambezan (endemic of Upper Katanga). Note: known only from the type, taxonomic status unclear; *Teclea* and *Vepris* need revision in Katanga.

Vepris hiernii Gereau

Habitat: dry evergreen forests; Guineo-Congolian linking: see note under *Teclea engleriana*.

Vepris nobilis (Delile) Mziray

Habitat: riverine and swamp forests; Afromontane; not mentioned in Upper Katanga by FAC; see note under *Teclea engleriana*; *Delvaux 881* (BR).

Vepris trichocarpa (Engl.) Mziray

Habitat: riverine and swamp forests; Eastern; not mentioned for Upper Katanga by FAC; see note under *Teclea engleriana*; *de Witte 02960* (BR).

Zanthoxylum chalybeum Engl.

Habitat: miombo woodlands (Termitophilous); Eastern.

Zanthoxylum gilletii (De Wild.) P.G. Waterman

Habitat: riverine and swamp forests; Guineo-Congolian-Afromontane linking. Note: not mentioned for Upper Katanga in FAC; *Schmitz 3160* (BR).

Zanthoxylum rubescens Planch. ex Hook.f.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Zanthoxylum trijugum (Dunkley) P.G. Waterman

Habitat: miombo woodlands; Zambezi. Note: new to D.R. Congo; 30 km NE Lubumbashi, route Kasenga, "la ferme du Lac", termitière en bordure de muhulu, E27°37' S11°27', 28 April 2014, *Meerts & Hasson 491* (BRLU).

SALICACEAE

Dovyalis macrocalyx (Oliv.) Warb.

Habitat: riverine and swamp forests; Afromontane.

Flacourtia indica (Burm.f.) Merr.

Habitat: miombo woodlands (Termitophilous); paleotropical (in Africa: African linking).

Homalium abdessammadii De Wild.

Habitat: riverine and swamp forests; Guineo-Congolian-Zambezi linking.

Homalium africanum (Hook.f.) Benth.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Oncoba bukobensis (Gilg) Hul & Breteler

Habitat: riverine and swamp forests; Afromontane.

Oncoba schweinfurthii (Gilg) Hul & Breteler

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Oncoba spinosa Forsk.

Habitat: dry evergreen forests; African linking.

Phyllobotryon paradoxum (Baill.) Hul

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Salix mucronata Thunb.

Habitat: riverine and swamp forests; African linking.

Scolopia rhamniphylla Gilg

Habitat: Afromontane vegetation; Afromontane.

Scolopia stolzii Gilg & Sleumer var. *stolzii*

Habitat: miombo woodlands; Afromontane.

SANTALACEAE

Osyris lanceolata Hochst. & Steud.

Habitat: Afromontane vegetation; Afromontane.

SAPINDACEAE

Allophylus africanus P.Beauv. var. *africanus*

Habitat: riverine and swamp forests; Afrotropical. Note: *Allophylus* needs revision in Katanga.

Allophylus africanus P.Beauv. var. *griseotomentosus* (Gilg) Verdc.

Habitat: miombo woodlands (Termitophilous); Zambezi.

***Allophylus amplissimus** Hauman

Habitat: riverine and swamp forests; Zambezi (endemic of Upper Katanga). Note: known only from the type specimen, taxonomic value doubtful.

Allophylus congolanus Gilg

Habitat: riverine and swamp forests; Eastern.

Allophylus fulvotomentosus Gilg

Habitat: miombo woodlands (Termitophilous); Zambezi.

***Allophylus katangensis** Hauman

Habitat: Afromontane vegetation; Zambezi (endemic of Upper Katanga). Note: known from very few collections, taxonomic value doubtful.

Allophylus lastoursvillensis Pellegr.

Habitat: dry evergreen forests; Guineo-Congolian linking.

**Allophylus persicifolius* Hauman

Habitat: riverine and swamp forests; Zambezan (endemic of Upper Katanga). Note: known only from the type specimen, taxonomic value doubtful.

Aporrhiza paniculata Radlk.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Blighia unijugata Bak.

Habitat: dry evergreen forests; Guineo-Congolian linking.

Dodonaea viscosa Jacq. var. *viscosa*

Habitat: riverine and swamp forests; pantropical (in Africa: Afrotropical).

Eriocoelum lawtonii Exell

Habitat: riverine and swamp forests; Zambezan (subendemic of Upper Katanga). Note: possibly not distinct at species rank from the Guineo-Congolian *E. microspermum* Radlk. ex De Wild.

Haplocoelum foliolosum (Hiern) Bullock subsp. *foliolosum*

Habitat: miombo woodlands (Termitophilous); Eastern.

Lepisanthes senegalensis (Juss. ex Poir.) Leenh.

Habitat: riverine and swamp forests; Guineo-Congolian linking.

Pappea capensis Eckl. & Zeyh.

Habitat: miombo woodlands (Termitophilous); Zambezan-Eastern linking.

Zanha africana (Radlk.) Exell

Habitat: miombo woodlands; Zambezan. Note: not in FAC but mentioned by Malaisse (1997); Kakonkonia, forêt claire, env. 1150 m, E27°45' S11°53', April 1975, *Malaisse 8339* (BR).

Zanha golungensis Hiern

Habitat: dry evergreen forests; Afrotropical.

SAPOTACEAE

Chrysophyllum bangweolense R.E.Fr.

Habitat: wooded grasslands; Zambezan; *Meerts & Hasson 683* (BRLU).

Chrysophyllum gorungosanum Engl.

Habitat: Afromontane vegetation; Afromontane; *Delevoy 415* (BR).

Englerophytum magalimontanum (Sond.) T.D.Penn.

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 055* (BRLU).

Manilkara dawei (Stapf) Chiov.

Habitat: dry evergreen forests; distribution: uncertain. Note: new to Upper Katanga; Mission de Musoshi, 40 km SSE Lubumbashi, muhulu sur sol argileux rouge, May 1951, *Schmitz 3688* (BR, WAG).

Kaukenia mochisia (Baker) Kuntze

Habitat: miombo woodlands; Zambezan-Eastern linking. Note: new to D.R. Congo; Mwashya, fourré salin, 30 January 1981, *Malaisse 11573* (BR).

Manilkara obovata (Sab. ex Don) Hemsl.

Habitat: dry evergreen forests; African linking; *Schmitz 2803* (BR).

**Mimusops giorgii* De Wild.

Habitat: uncertain; Zambezan (endemic of Upper Katanga). Note: known only from the type specimen, taxonomic status unclear, probably not distinct from *Mimusops zeyheri* Sond.; *De Giorgi 36* (BR).

Mimusops zeyheri Sond.

New synonym: *Mimusops affinis* De Wild. *syn. nov.*; habitat: dry evergreen forests (Termitophilous); Zambezan; *Meerts & Hasson 056* (BRLU).

Synsepalum brevipes (Baker) T.D.Penn.

Habitat: riverine and swamp forests; Afrotropical; *Meerts & Hasson 382* (BRLU).

Synsepalum cerasiferum (Welw.) T.D.Penn.

Habitat: dry evergreen forests; Guineo-Congolian linking; *Meerts & Hasson 436* (BRLU).

Synsepalum passargei (Engl.) T.D.Penn.

Habitat: riverine and swamp forests; Guineo-Congolian linking; *Meerts & Hasson 592* (BRLU).

SCROPHULARIACEAE

Buddleja dysophylla (Benth.) Radlk.

Habitat: Afromontane vegetation; Eastern.

SIMAROUBACEAE

Quassia silvestris Cheek & Jongkind

Habitat: riverine and swamp forests; Afrotropical.

SLADENIACEAE

Ficalhoa laurifolia Hiern

Habitat: Afromontane vegetation; Afromontane.

STILBACEAE

Nuxia congesta R.Br. ex Fresen.

Habitat: Afromontane vegetation; Afromontane.

Nuxia oppositifolia (Hochst.) Benth.

Habitat: riverine and swamp forests; African linking.

THYMELAEACEAE

Craterosiphon quarrei Staner

Habitat: miombo woodlands; Zambezian.

Gnidia glauca (Fresen.) Gilg

Habitat: Afromontane vegetation; Afromontane.

Peddiea fischeri Engl.

Habitat: riverine and swamp forests; Afromontane.

ULMACEAE

Chaetachme aristata E.Mey. ex Planch.Habitat: riverine and swamp forests; African linking. note: not mentioned for Upper Katanga in FAC; *Duvigneaud 5048Ch* (BRLU).

URTICACEAE

Myrianthus holstii Engl.Habitat: Afromontane vegetation; distribution: Afromontane. Note: not mentioned for Upper Katanga by FAC; *Schmitz 6564* (BR).

VIOLACEAE

Rinorea angustifolia subsp. *engleriana* (De Wild. & T.Durand) Grey-WilsonHabitat: Afromontane vegetation; Guineo-Congolian linking. Note: *Rinorea* needs revision in Katanga.***Rinorea angustifolia*** subsp. *ardisiiflora* (Oliv.) Grey-WilsonHabitat: riverine and swamp forests; distribution uncertain; see note under *R. angustifolia* var. *engleriana*.***Rinorea brachypetala*** (Turcz.) Kuntze var. *brachypetala*Habitat: riverine and swamp forests; Sudano-Zambezian; see note under *R. angustifolia* var. *engleriana*.***Rinorea ilicifolia*** (Welw. ex Oliv.) Kuntze var. *ilicifolia*Habitat: riverine and swamp forests; Afrotropical. Note: not mentioned for Upper Katanga by FAC; see note under *R. angustifolia* var. *engleriana*; *Schaijes 2617* (BR).

VITACEAE

Leea guineensis G.Don

Habitat: riverine and swamp forests; Guineo-Congolian linking.

XIMENIACEAE

Ximenia americana L.Habitat: miombo woodlands; pantropical (in Africa: Afrotropical). Note: here defined sensu lato, including var. *caffra* (Sond.) Engl.

Balanites aegyptiaca Del. var. *quarrei* (De Wild.) Gilbert

Habitat: miombo woodlands (Termitophilous); Zambezian (subendemic of Upper Katanga).

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