

## NOVITATES GABONENSES 80. ADDITIONS AND CORRECTIONS TO THE FLORA OF GABON

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Since the publication of the Gabon Checklist in 2006, intensive fieldwork activity has led to the discovery of many novelties. We document here 61 new records for the flora of Gabon, including nine new generic records. Five taxa are also removed from the Gabon flora.

*Keywords.* Central Africa, checklist, flora, national records.

### INTRODUCTION

The first checklist of Gabonese vascular plants (Sosef *et al.*, 2006) reported 4710 species for the country. The authors also noted that they expected the total number of vascular plant species to range between 7000 and 7500. It is therefore not surprising that recent intensive fieldwork has increased our knowledge of the flora and has led to the publication of several new species (e.g. Sosef *et al.*, 2007; Bissiangou & Sosef, 2008; Breteler, 2008, 2010a; Lachenaud, 2008; Ntore *et al.*, 2010; van der Maesen & Walters, 2011), new orchid records (Droissart *et al.*, 2009), local checklists (Dauby *et al.*, 2008; Harris *et al.*, in press) and revisions (e.g. Onana, 2008; Goyder, 2009; Breteler, 2010b). Additionally, several volumes of the *Flore du Gabon* have been published (Sosef *et al.*, 2009–10) and other treatments are in progress. While the collecting effort has increased, often reaching areas never visited before, several areas still remain uncollected (Sosef, 2010). A regular update of the country checklist is therefore needed to synthesise current knowledge, to orient future collection efforts, and to document the spatial organisation of plant biodiversity. This paper is intended as such a contribution through the documentation of new

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records gathered since the publication of Sosef *et al.*'s (2006) checklist and which have not yet appeared in the literature.

## METHODS

### *Fieldwork*

Most of the new records presented in this paper were collected during fieldwork conducted in Gabon between 2001 and 2008. As part of a Batéké Plateaux checklist project, numerous collections were made by G. Walters, R. Niangadouma and others in and around Batéké Plateaux National Park. S. Dessein and O. Lachenaud visited various parts of Gabon in February–March 2008, mostly to collect Rubiaceae, while G. Dauby and T. Stévant conducted six field trips in the Massif du Chaillu, mainly around Waka National Park. Additional new records also resulted from other general collecting efforts outside these projects.

### *Herbarium work*

Determinations were made at BR, BRLU, E, K, LBV, MO, MPU, P and WAG. Precise information can be found on the label at the institution where the sheet was first identified but identifications were generally performed as follows: P. Bissiengou (Ochnaceae); S. Bodine (Cucurbitaceae); F. Breteler (*Baphia*); D. Champluvier (*Dischistocalyx*); G. Dauby (*Elaphoglossum kuhnii*); S. Dessein (*Agathisanthemum* with O. Lachenaud, *Exallage*, *Spermacoe* with O. Lachenaud); D. Goyder (*Gomphocarpus*); J. de Greef (*Tarenna* with O. Lachenaud); D. Harris (Zingiberaceae); C. Jongkind (Menispermaceae, *Vangueriella* with O. Lachenaud); M. Leal (Bursaceae); L. J. G. van der Maesen (*Dolichos*, *Eriosema*, *Indigofera*, *Macrotyloma*, *Vigna*); S. A. Pardoel (*Whitfieldia*); S. Phillips (Eriocaulaceae); E. Robbrecht (*Tricalysia* with O. Lachenaud); M. Sosef (Cyperaceae, *Elionurus*); T. Stévant (Polypodiaceae); J. van Valkenburg (*Elaphoglossum cinnamomeum*); G. Walters (*Whitfieldia*, Asteraceae, Convolvulaceae, Lamiaceae, Orobanchaceae); all others were identified by O. Lachenaud. Associated library work was conducted in the same institutions. Information on ecology and distribution is summarised from the literature and notes from the new records. New collections are noted under each entry.

### *New records*

We define new records as those not appearing in the Gabon Checklist (Sosef *et al.*, 2006) or in subsequent literature. This means we do include a few species (e.g. *Pseudosabicea sanguinosa*) that had been previously recorded, but were overlooked by Sosef *et al.* (2006). Species that were reported by Sosef *et al.* (2006) based on misidentifications, but for which authentic material has since been traced, are also included. The genera *Chassalia*, *Chazaliella* and *Psychotria* (Rubiaceae), which include many new records for the country, are not treated in this publication since

they are currently being revised by the last author. Family concepts and inclusion follow those of the Angiosperm Phylogeny Group (APG) (Stevens, 2001 onwards). For ferns, we follow Smith *et al.* (2006, 2008).

#### *Corrections to the checklist*

Five species reported in the Gabon Checklist (Sosef *et al.*, 2006) proved to be incorrectly identified and should therefore be deleted from the Gabonese flora. Such species are listed below in square brackets, for example [*Asclepias kamerunensis* Schltr.], and the new identification of the material listed in the Gabon Checklist is provided for each.

#### NEW NATIONAL RECORDS OF VASCULAR PLANT SPECIES FOR GABON

Here we present 61 new records of taxa to the flora of Gabon, including nine new genera (*Coelachne*, *Dolichos*, *Exallage*, *Haumaniastrum*, *Kotschya*, *Luffa*, *Schinziella*, *Stathmostelma* and *Syngonanthus*). The species are listed in alphabetical order by family. For each species, the specimens are listed in alphabetical order by province and, within each province, in alphabetical order by collector. The abbreviations CAR and DRC are used for Central African Republic and Democratic Republic of Congo, respectively. Months are indicated by their roman numeral equivalent.

#### *Acanthaceae*

##### ***Dischistocalyx champluvierianus*** Lejoly & Lisowski

*Distribution.* Equatorial Guinea and Gabon.

*Ecology and habitat.* A herb found in very wet places along forest streams, growing on rocks or on fallen logs.

*Reference specimens.* NGOUNIÉ. Between Mouila and Yeno, about 35 km on road from Mouila, 25 ix 1986, *Breteler et al.* 8225 (BR, WAG n.v.); km 43 Mouila–Yéno, 21 ii 2008, *Dessein et al.* 2025 (BR, LBV).

##### ***Whitfieldia brazzei*** (Baill.) C.B. Clarke

*Distribution.* CAR, DRC (Bas-Congo), Republic of Congo (Evrard & Demillecampe, 1992) and Gabon.

*Ecology and habitat.* Riparian forests and old secondary forests.

*Notes.* This sub-canopy riparian shrub can form mono-dominant populations. It flowers throughout the year.

*Reference specimens.* HAUT-OGOOUÉ. Djouya River floodplain-Ekouyi, 1°46'17"S 13°59'34"E, 26 ix 2007, *Walters* 1961 (LBV, MO); forest W of Ekouyi in Djouya River floodplain, 1°46'17"S 13°59'34"E, 26 ix 2007, *Walters* 1962 (LBV, MO); Okeli River forest, Ekouyi, 1°47'28"S 14°04'02"E, 18 vii 2006, *Walters* 1819a (LBV, MO); Mpassa riparian forest, Parc National des Plateaux Batéké, 2°04'38"S 14°03'32"E, 30 i 2004, *Niangadouma* 407 (LBV, MO); Bai Djobo, Parc National des Plateaux Batéké, 2°12'32"S 13°52'27"E, 4 vi 2005, *Niangadouma* 500 (LBV, MO); Bai Djobo, Parc National des Plateaux Batéké, 2°12'32"S 13°52'27"E, 10 ix 2006, *Nguema* 786 (LBV, MO); Léconi road at Souba, 1.31°S 14.05°E, 21 vi 1989 (LBV,

WAG), *Louis* 3107 (originally listed in Sosef *et al.* (2006) under *Pseudocalyx aurantiacus* Benoist).

### *Apocynaceae*

[ *Asclepias kamerunensis* Schltr. ]

A savanna species occurring north of the forest zone from Ghana to the CAR. The Gabonese record in Sosef *et al.* (2006) concerns a misidentified specimen (*A.M. Louis* 166), which is actually *Stathmostelma welwitschii* (see below). Goyder's (2009) report of the species' occurrence in Gabon is likely to be erroneous as well, as he informs us he did not see any specimens from the country.

***Gomphocarpus swynnertonii*** (S.Moore) Goyder & Nicholas

*Distribution.* Angola, southern DRC, Gabon, Republic of Congo, Tanzania and Zimbabwe (Goyder & Nicholas, 2001; Lachenaud, 2009).

*Ecology and habitat.* Previously noted in the literature from 'Montane, fire-prone grassland' from altitudes 1000–2400 m (Goyder & Nicholas, 2001). Here we report *Gomphocarpus swynnertonii* from 600 m for the first time.

*Notes.* According to field observations, this species seems to bloom and fruit after dry season fires just at the beginning of the rainy season. Individuals are separated by great distances resulting in few duplicates (pers. obs. and pers. comm. D. Goyder). During 18 months of savanna forb diversity studies near the collection site, this taxon was found only in the month of September. A photograph of *Gomphocarpus swynnertonii* from near the collection site is also available (Vande Weghe, 2008, p. 115, photo 166).

*Reference specimen.* HAUT-OGOOUÉ. W of Ekouyi, 1°47'28"S 14°04'02"E, 6 ix 2006, *Walters* 1857 (LBV, MO).

***Stathmostelma welwitschii*** Britten & Rendle var. *welwitschii*

*Distribution.* Angola, DRC (Bas-Congo), Ethiopia, Tanzania, Zambia (Goyder, 1998) and Gabon.

*Ecology and habitat.* Seasonally waterlogged grassland (Goyder, 1998).

*Notes.* The discovery of *Stathmostelma welwitschii* in Gabon is a considerable northwest range extension, not only for the species but also for the genus. The collection *A.M. Louis* 166 was cited by Sosef *et al.* (2006) as *Asclepias kamerunensis* Schltr., a quite different species, which does not occur in Gabon (see above).

*Reference specimens.* ESTUAIRE. Savanes d'Owendo, vi 1959, *Koechlin* 5940 (MPU). NGOUNIÉ. 2 km sur la route Mabanda–frontière Congo à gauche, ensuite 1 km du côté des collines à droite, 9 ii 1983, *Louis* 166 (WAG).

***Tylophora parvifolia*** Robyns & Lebrun

*Distribution.* DRC (Kasaï, Forestier Central), Republic of Congo (Lachenaud, 2009) and Gabon.

*Ecology and habitat.* A slender liana, growing at the edges of flooded forest.

*Notes.* A seemingly uncommon species but probably overlooked due to its very small flowers and likely to be more widespread. Its discovery in Gabon is a considerable range extension to the northwest.

*Reference specimen.* OGOOUÉ-IVINDO. M'Passa, c.7 km SW of Makokou, I.R.E.T. station, border of Ivindo river, 14 xi 1979, *Breteler* 7645 (WAG).

***Xysmalobium heudelotianum*** Decne.

*Distribution.* Widespread in sub-Saharan countries, from Senegal to South Africa.

*Ecology and habitat.* Savanna.

*Reference specimen.* NGOUNIÉ. Savane des Echiras, Fougamou, v 1957, *Koechlin* 4495 (MPU).

*Asteraceae****Bidens oligoflora*** (Klatt) Wild

*Distribution.* Angola, DRC, Republic of Congo, Zambia (Lisowski, 1991) and Gabon.

*Ecology and habitat.* Savanna.

*Reference specimens.* HAUT-OGOOUÉ. Parc National des Plateaux Batéké, 3 vi 2005, *Niangadouma et al.* 485 (LBV, MO, WAG); Parc National des Plateaux Batéké, 2°03'48"S 14°02'18"E, 16 iv 2008, *Walters* 2130 (BR, LBV, MO).

***Helichrysum mechowianum*** Klatt var. *ceres* (S.Moore) Beentje

*Distribution.* DRC to Tanzania and south to Zimbabwe.

*Ecology and habitat.* Recently burned grassland and moist or dry mesic savanna. Reported in the *Flora of Tropical East Africa* (Beentje, 2002) as occurring between 1350 and 2900 m but here we report it from 700 m.

*Notes.* This taxon was rarely encountered during 10 years of fieldwork in the Batéké Plateaux of Gabon although the populations found contain many individuals.

*Reference specimens.* HAUT-OGOOUÉ. Batéké Plateaux, 15 km SE of Ekouyi-Mboma village, 1°54'47"S 14°04'21"E, 12 vii 2007, *Walters et al.* 1935 (LBV, MO); Plateaux Batéké National Park, 2°07'15"S 14°03'10"E, 8 x 2003, *Walters et al.* 1472 (LBV, MO); Kele la Kalami, 1°55'23"S 14°04'33"E, 29 ix 2007, *Walters et al.* 1976 (LBV, MO).

*Burseraceae****Dacryodes osika*** (Guillaumin) H.J.Lam

*Distribution.* DRC, Gabon (Haut-Ogooué) and Republic of Congo (Onana, 2008).

*Ecology and habitat.* Gallery forest and lowland forest.

*Notes.* The specimens cited below were originally identified as *Dacryodes yangambiensis* Louis ex Troupin. However, Normand (1962) considered that species to be a synonym of *Dacryodes osika*, a species concept also more recently adopted by Onana (2008).

*Reference specimens.* HAUT-OGOOUÉ. Mpassa River, 1°57'50"S 14°00'40"E, 23 xi 2001, *Bradley* 1041 (LBV, MO); Forêt de Mpassa, 2°09'25"S 14°08'28"E, 4 iii 2003, *Niangadouma* 195 (LBV, MO).

*Convolvulaceae****Ipomoea linosepala*** Hallier f. subsp. *alpina* (Rendle) Lejoly & Lisowski

*Distribution.* Nigeria to Tanzania, south to Angola and Zambia.

*Ecology and habitat.* Burned *Hymenocardia acida* Tul. savanna, cupriferous soils, rocky hillsides and shrubby grassland at 600–2200 m.

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux, 1°49'41"S 14°05'50"E, 25 v 2007, *Walters et al.* 1881 (LBV, MO).

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*Cucurbitaceae****Luffa cylindrica*** M.Roem.

*Distribution.* Widespread in the tropics and subtropics, sometimes cultivated. Doubtfully native to tropical Africa, probably originated in India.

*Ecology and habitat.* Persisting in old cultivations and near habitations, frequently becoming naturalised in forest, woodland, bushland, thicket and grassland. Collected from 0–1530 m (Jeffrey, 1967).

*Notes.* A new genus record for Gabon. Dried fruits used for bath sponges, pot scrubbers, etc. Flowers are only open and receptive to pollination for one day.

*Reference specimen.* OGOUE-IVINDO. Lope Reserve, Koumbiane, 0.15°S 11.40°E, 1 viii 1993, White 0958 (LBV, MO).

*Cyperaceae****Fimbristylis splendida*** C.B.Clarke

*Distribution.* DRC (Bas-Congo), Gabon (Batéké Plateaux) and Republic of Congo (Thiselton-Dyer, 1902; Goetghebeur & Coudijzer, 1984).

*Ecology and habitat.* Wet grassland, 300–500 m.

*Reference specimen.* HAUT-OGOUE. Plateaux Batéké National Park, 2°07'15"S 14°03'10"E, 8 x 2003, Walters 1435 (LBV, MO).

*Dryopteridaceae****Elaphoglossum cinnamomeum*** (Baker) Diels

*Distribution.* Cameroon, Equatorial Guinea (Bioko), Gabon and Liberia.

*Ecology and habitat.* Epiphyte in submontane and montane forest.

*Notes.* *Elaphoglossum cinnamomeum* is recorded here for the first time from Liberia (*Jongkind et al.* 6309, WAG).

*Reference specimen.* OGOUE-MARITIME. Southern ascent Mt Igoumbi, 16 iv 2005, Van Valkenburg *et al.* 3076 (WAG).

***Elaphoglossum kuhni*** Hieron.

*Distribution.* Cameroon, Equatorial Guinea (Bioko), Gabon, Liberia, Madagascar, Malawi, Sierra Leone, Uganda, Zambia and Zimbabwe (Moran & Smith, 2001).

*Ecology and habitat.* Epiphyte in dense tropical forest.

*Notes.* *Elaphoglossum kuhni* Hieron. differs from *E. plumosum* (Fée) T.Moore primarily in having somewhat darker rhizomes and blade scales (Moran & Smith, 2001).

*Reference specimen.* NGOUNIE. Est du Parc National de Waka, ± 5 km au Sud de la rivière Mayi, 23 ii 2008, Dauby *et al.* 837 (BRLU, LBV).

*Eriocaulaceae****Syngonanthus schlechteri*** Ruhland

*Distribution.* DRC, Republic of Congo (Kimpouni, 1992) and Gabon.

*Ecology and habitat.* Moist savannas on white sands, 450–1490 m.

*Notes.* This is a new genus record for Gabon. Another species is present on the coast of Gabon but this record has not yet been published (Harris *et al.*, in press).

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux, 7.67 km E Ekouyi-Mboma, 1°47'S 14°05'E, 12 vi 2007, *Walters et al.* 1918 (K, LBV, MO).

### Fabaceae

***Aeschynomene uniflora*** E.Mey.

*Distribution.* Widespread in sub-Saharan Africa, Madagascar and the Comoros.

*Ecology and habitat.* Wet places in savanna.

*Reference specimen.* NYANGA. Vallée de la Nyanga, galerie forestière de la Douli à 100 km au sud de Tchibanga, 15 xii 1960, *Descoings* 6509 (MPU).

***Baphia longepedicellata*** Willd. subsp. *longepedicellata* Willd.

*Distribution.* Central DRC and Tanzania (Lebrun & Stork, 2008a).

*Ecology and habitat.* Riparian areas with *Raphia*, forest edges.

*Reference specimens.* HAUT-OGOOUÉ. Parc National des Plateaux Batéké, Camp Ntsa, 1°56'35"S 14°00'13"E, *Niangadouma et al.* 464 (LBV, MO); Parc National des Plateaux Batéké, Forêt autour et à l'intérieur du Bai Jobo, 2°13'12"S 13°50'42"E, 5 vi 2005, *Niangadouma et al.* 529 (LBV, MO).

***Crotalaria ononoides*** Benth.

*Distribution.* Widespread in tropical Africa and Madagascar.

*Ecology and habitat.* Savannas and old cultivation sites.

*Reference specimen.* HAUT-OGOOUÉ. Route nord Mounana–Ogooué, à 3.2 km de la cité, 27 xii 1961, *Sita* 493 (MPU).

***Dolichos subcapitatus*** R.Wilczek

*Distribution.* Southern DRC to Gabon's Batéké Plateaux, south to Zambia.

*Ecology and habitat.* Grasslands on Kalahari sands at 700–1500 m.

*Notes.* This is a new genus record for Gabon. Recorded at 700 m, this is the first record from this lower altitude, the previous ones all being above 1200 m.

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux, 1°51'S 14°06'E, 25 v 2007, *Walters et al.* 1872 (LBV, MO).

***Eriosema pellegrinii*** Tisser.

*Distribution.* Western and southern Central Africa, from Ivory Coast to DRC, south to Angola.

*Ecology and habitat.* Grassy and wooded savannas.

*Notes.* A photograph of this species is available in Vande Weghe (2008), photo 169.

*Reference specimens.* HAUT-OGOOUÉ. Batéké Plateaux, 1°51'07"S 14°05'10"E, 24 ix 2007, *Walters et al.* 1945 (LBV, MO); Batéké Plateaux, 1°51'S 14°06'E, 25 v 2007, *Walters et al.* 1877 (LBV, MO).

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

*Distribution.* Senegal to Uganda.

*Ecology and habitat.* 'Thin vegetation on laterite' (Gillett *et al.*, 1971), sandy savannas 600–1400 m.

*Reference specimens.* HAUT-OGOOUÉ. Batéké Plateaux National Park, Mpassa River drainage, 2°07'10"S 14°03'38"E, 27 ii 2003, *Walters* 1131 (LBV, MO); Batéké Plateaux, 1°55'S 14°02'E, 5 vi 2007, *Walters et al.* 1892 (LBV, MO).

***Kotschy ochreatea*** (Taub.) Dewit & P.A.Duvign. var. ***ochreatea***

*Distribution.* The species occurs in West Africa (from Mali to Togo: Hepper, 1958) and disjunctly in Gabon, Republic of Congo and DRC (Mayumbe, Bas-Congo: Dewit & Duvigneaud, 1954).

*Ecology and habitat.* A shrub of marshy places in savanna.

*Notes.* Previously reported from the country by Hepper (1958) but no specimens were cited or possible candidates located. Therefore, we consider this a new genus record for Gabon.

*Reference specimen.* HAUT-OGOUE. A 5 km de Mounana, 23 xii 1961, *Sita* 482 (MPU).

***Macrotyloma biflorum*** (Schumach. & Thonn.) Hepper var. ***biflorum***

*Distribution.* Senegal to Sudan and Ethiopia, DRC to Angola and Zambia (Lebrun & Stork, 2008b).

*Ecology and habitat.* Sandy grasslands.

*Reference specimen.* HAUT-OGOUE. Batéké Plateaux, 10 km S of Ekouyi-Mbouma, 1°50'58"S 14°05'28"E, 15 xii 2007, *Walters* 2088 (LBV, MO).

***Vigna pubigera*** Baker var. ***pubigera***

*Distribution.* Western, eastern and southern Africa.

*Ecology and habitat.* Fallow fields and areas near to cultivated zones.

*Notes.* Previously cited for Gabon (Maxted *et al.*, 2004), but not in Gabon's checklist of vascular plants (Sosef *et al.*, 2006).

*Reference specimen.* HAUT-OGOUE. Batéké Plateaux, 1°55'S 14°02'E, 5 vi 2007, *Walters et al.* 1895 (LBV, MO).

***Vigna stenophylla*** Harms

*Distribution.* Tropical Africa.

*Ecology and habitat.* Moist areas, scrub, grassland, 1–1000 m.

*Notes.* Maxted *et al.* (2004) note that prior to 1940 this species was well collected but since then the decrease in collection frequency may suggest a population decline. It is not present in *ex-situ* conservation collections. Maxted *et al.* (2004) listed this species as Critically Endangered under IUCN criteria.

*Reference specimens.* HAUT-OGOUE. Parc National des Plateaux Batéké, à 500 m de Station PPG, 22 i 2004, 2°07'10"S 14°03'54"E, *Niangadouma* 337 (LBV, MO); Batéké Plateaux, 10 km S of Ekouyi-Mbouma, 15 xii 2007, 1°50'58"S 14°05'28"E, *Walters et al.* 2089 (LBV, MO); Batéké Plateaux, 5 vi 2007, 1°55'S 14°02'E, *Walters et al.* 1896 (LBV, MO).

*Gentianaceae****Schinziella tetragona*** (Schinz) Gilg

*Distribution.* Angola, Burundi, Cameroon, CAR, DRC, Guinea (Conakry), Malawi, Republic of Congo, Tanzania, Zambia (Boutique, 1972) and Gabon.

*Ecology and habitat.* Herb of marshy places in savanna.

*Notes.* This is a new genus record for Gabon.

*Reference specimens.* HAUT-OGOUE. Mpassa River bridge, km 5 Kessala–Franceville, 29 ii 2008, *Dessein et al.* 2235 (BR, LBV); Batéké Plateaux, 2 km E of Ekouyi, 1°46'51"S 14°05'10"E, 17 xii 2007, *Walters & Kewemie* 2096 (MO).



*Lamiaceae****Haumaniastrum caeruleum*** (Oliv.) P.A.Duvign. & Plancke

*Distribution.* Sub-Saharan Africa excluding southern Africa. According to Paton's distribution map, this taxon has been previously collected from every Guineo-Congolian country except Equatorial Guinea and Gabon (Paton, 1997).

*Ecology and habitat.* Savanna, at 220–2100 m.

*Notes.* This is a new genus record for Gabon. This species appears only occasionally in the Batéké Plateaux savannas of Gabon. It is not recorded from any other savanna in the country.

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux National Park, 2°51'52"S 14°02'08"E, 16 iv 2008, Walters 2131 (LBV, MO, WAG).

*Menispermaceae****Dioscoreophyllum gossweileri*** Exell

*Distribution.* Central and southern DRC to Cabinda and Gabon (Batéké Plateaux).

*Ecology and habitat.* Forest edges.

*Reference specimen.* HAUT-OGOOUÉ. Parc National des Plateaux Batéké, 1 km de Station PPG, 2°07'20"S 14°03'47"E, 22 i 2004, Niangadouma *et al.* 348 (LBV, MO).

*Ochnaceae****Campylopermum umbricola*** (Tiegh.) Farron

*Distribution.* Cameroon and Gabon.

*Ecology and habitat.* Riparian habitat, 500 m.

*Reference specimen.* WOLEU NTEM. Mbe National Park, Monts de Cristal, 0°37'02"N 10°23'57"E, ii 2005, Walters & Brandt 1532 (LBV, MO).

*Orobanchaceae****Buchnera paucidentata*** Engl. ex Skan

*Distribution.* Cameroon, Gabon and DRC (Bas-Congo, Kasai, Bas-Katanga, Haut-Katanga).

*Ecology and habitat.* Grassy savannas, up to 1500 m in DRC. In Gabon it has been recorded from recently burned savanna and edges of wet savanna.

*Notes.* Seemingly found only in isolated, large populations.

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux, 1°51'S 14°06'E, 25 v 2007, Walters *et al.* 1878a (LBV, MO).

*Poaceae****Coelachne africana*** Pilg.

*Distribution.* Burundi, Cameroon, DRC, eastern Africa (Van der Zon, 1992) and Gabon.

*Ecology and habitat.* A species growing on permanently moist rocks at the base of waterfalls, where it forms very dense, moss-like cushions. It is abundant in its only Gabonese locality.

*Notes.* This is a new genus record for Gabon. The species is easily recognised by its very small (< 1 cm) and rather broad leaves, and its peculiar ecology.

*Reference specimen.* NGOUNIÉ. Mouyanama falls, at base of Songou Mt c.25 km W of Mimongo, 22 ii 2008, *Dessein et al.* 2045 (BR, LBV).

***Elionurus hirtifolius*** Hack.

*Distribution.* Ghana to CAR and Gabon.

*Ecology and habitat.* Grassland. Flowering after fire.

*Notes.* Cited previously for Gabon (Van der Zon, 1992), but not in the Gabon Checklist (Sosef *et al.*, 2006).

*Reference specimen.* HAUT-OGOOUÉ. 1 km from Ekouyi-Mboma, 1°47'28"S 14°04'02"E, 8 vii 2006, *Walters* 1815 (LBV, MO).

### *Polypodiaceae*

***Grammitis nigrocincta*** Alston

*Distribution.* Gabon, Madagascar and Príncipe (São Tomé and Príncipe).

*Ecology and habitat.* Epiphytic herb in submontane and very humid vegetation types.

*Notes.* This taxon is closely related to *Grammitis ebenina* (Maxon) Tardieu which was described from Saint Helena and then recorded from São Tomé and Gabon. The two species can be distinguished by the blade shape and the absence of a petiole (Figueiredo, 2002).

*Reference specimens.* ESTUAIRE. Mont de Cristal, Sommet du Ngol Maduaka près de Tchimbélé, 805 m, 0°36'N 10°22'E, 13 ii 2007, *Stévant et al.* 2348 (BRLU, LBV, MO); Mont de Cristal, Sommet du Ngol Maduaka près de Tchimbélé, 800 m, 0°36'N 10°22'E, 15 ii 2007, *Stévant et al.* 2371 (BRLU, LBV, MO); Mont de Cristal, Ngol Maduaka près de Tchimbélé, 710 m, 0°36'N 10°22'E, 16 ii 2007, *Stévant et al.* 2379 (BRLU, LBV, MO). NGOUNIÉ. Mont Bouvala, 975 m, 1°37'S 11°45'E, 5 x 2007, *Stévant et al.* 2458 (BRLU, LBV, MO); Mont Bouvala, 985 m, 1°37'S 11°45'E, 6 x 2007, *Stévant et al.* 2482 (BRLU, LBV, MO).

***Xiphopteris cultrata*** (Bory ex Willd.) Schelpe

*Distribution.* Cameroon, Equatorial Guinea (Bioko), São Tomé (São Tomé and Príncipe), Gabon, DRC, Malawi, Madagascar, Mascarene Is. and Seychelles. Also in the West Indies and continental tropical America.

*Ecology and habitat.* Colonising species on tree trunks in lower-altitude rain forest or on small branches in submontane forest, sometimes saxicolous.

*Reference specimen.* NGOUNIÉ. Mont Bouvala, Transect 73a, 795 m, 1°37'S 11°45'E, 7 x 2007, *Stévant et al.* 2500 (BRLU, LBV, MO, WAG).

### *Rubiaceae*

***Agathisanthemum globosum*** (Hochst. ex A.Rich.) Klotzsch

*Distribution.* Angola, Burundi, DRC, Ethiopia, Gabon, Kenya, Malawi, Mozambique, Republic of Congo, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe.

*Ecology and habitat.* Perennial herb from savannas.

*Notes.* The Gabonese specimen was cited by Sosef *et al.* (2006) under *Agathisanthemum*, but was not identified to species.

*Reference specimen.* NYANGA. SE of Tchibanga, about 50 km along the road to Voungou, at ranch of Agrogabon, 3°12'S 11°25'E, 16 ii 1983, *J.J. de Wilde et al.* 586 (WAG).

***Belonophora ongensis*** S.E.Dawson & Cheek

*Distribution.* Cameroon and Gabon.

*Ecology and habitat.* A shrub or small tree of forest undergrowth. So far only known from lowland forest at c.200 m (Cheek & Dawson, 2000), but here reported from the much higher elevation of 950 m.

*Notes.* This species was previously only known from a restricted area in southwestern Cameroon. The Gabonese collections, although lacking flowers, are clearly conspecific, as already suggested by Robbrecht (in Cheek & Dawson, 2000). *Belonophora ongensis* is closely related to the much commoner *B. coriacea*, from which it differs in the characters described below. The key in Cheek & Dawson (2000) can be misleading since the stipules of *Belonophora ongensis* are not always as large as reported (even in the Cameroon population).

*Belonophora ongensis:* corolla membranous, tube 40 mm long; lateral nerves 10–13 pairs; leaves 24–35 × 8.5–16 cm; stipules (13–)16–45 × 7–23 mm, much broadened above base.

*Belonophora coriacea:* corolla thick, tube 13–20 mm long; lateral nerves 4–8 pairs; leaves 9.5–24 × 2.5–10 cm long; stipules 8–17(–20) × 2–6(–10) mm, not or slightly broadened above base.

*Reference specimens.* ESTUAIRE. Ngol Madouaka, about 10 km to Tchimbélé, Monts de Cristal, 0°36'22"N 10°23'36"E, ii 2006, *Leal et al.* transect 54C (BRLU). OGOUÉ-IVINDO. Bélinga, vii 1966, *Hallé & Le Thomas* 621 (P) & 623 (P); Bélinga, 950 m, 3 xi 1964, *Hallé* 2984 (P).

***Bertiera orthopetala*** (Hiern) N.Hallé

*Distribution.* Angola, Cameroon, DRC, Republic of Congo and Gabon.

*Ecology and habitat.* A small liana of secondary forest, or occasionally in savanna.

*Notes.* Another collection from the Doudou Mts is cited by Nguembou (2008) in his unpublished thesis.

*Reference specimens.* NGOUNIÉ. N'dendé, sur la route de Mouila au nord d'Idiengui, 30 xi 1960, *Descoings* 6370 (MPU). NYANGA. Route Doussala vers Tchibanga km 20, 21 x 1986, *Louis* 2205 (WAG).

***Exallage auricularia*** (L.) Bremek.

*Distribution.* A tropical Asiatic species naturalised in DRC and Gabon.

*Ecology and habitat.* Annual herb from disturbed areas.

*Notes.* A new genus record for Gabon. The genus *Exallage* is sometimes placed in synonymy with *Oldenlandia* or *Hedyotis*.

*Reference specimen.* OGOUÉ-IVINDO. Parc National de l'Ivindo, rivière Ivindo en aval d'Ipassa, 9 iii 2008, *Dessein et al.* 2472 (BR, LBV).

***Geophila ingens*** Wernham

*Distribution.* Cameroon, northern DRC, Uganda (Piesschaert *et al.*, 1999) and Gabon.

*Ecology and habitat.* Forest undergrowth, from sea level (in Gabon) up to 1000 m altitude (in Uganda).

*Notes.* The Gabonese record is a considerable range extension since it is the first on the Atlantic coast, other collections being from much further inland. The species appears to be rare throughout its range, though it might be under-collected due to its low habit and resemblance to the much commoner *Geophila obvallata* (Schumach. & Thonn.) F.Didr.

*Reference specimen.* ESTUAIRE. Nyonié, 16 vii 1990, *Wilks & Mounrazi* 2277 (WAG).

***Geophila repens*** (L.) I.M.Johnst.

*Distribution.* Pantropical, widespread in tropical Africa.

*Ecology and habitat.* Gallery forest in savanna areas and dry semideciduous forests. Avoids the wetter forests where it is replaced by *Geophila lancistipula* Hiern.

*Notes.* First authentic record for Gabon, since that in Sosef *et al.* (2006) is a misidentification of *Geophila lancistipula*. These two species have been much confused in the literature, although they are quite distinct (see Verdcourt, 1973). The most obvious distinguishing characters are fruit colour (blue: *Geophila lancistipula*; red: *G. repens*) and pubescence of petioles (hairs in two rows: *G. lancistipula*; hairs all around: *G. repens*). *Geophila lancistipula* is by far the commoner and more widespread species in Gabon, while *G. repens*, due to its drier habitat requirements, only marginally reaches the country in the extreme south. It is possible that the Old World populations of *Geophila repens* are specifically distinct from the American plants.

*Reference specimen.* NGOUNIÉ. Vallée de la N'Gounié, environs de N'Dendé, 10 xii 1960, Descoings 6478 (MPU).

***Mussaenda leucophylla*** E.M.A.Petit

*Distribution.* DRC (Bas-Congo, Kasai, Forestier Central) and Gabon.

*Ecology and habitat.* A heliophilous climber of secondary regrowth.

*Notes.* A little-collected and apparently rare species. In the *Flore du Gabon* (Hallé, 1966) it keys out as *Mussaenda soyauxii* Büttner, but differs in having broadly ovate (not subulate) calyx lobes, broader and almost truncate (not acute) flower buds, and in the stems and leaves having short hairs intermingled with the longer ones.

*Reference specimen.* HAUT-OGOOUÉ. Batéké Plateaux, 9 km W of Ekouyi-Mboma, 1°46'16"S 13°59'40"E, 12 xi 2007, Walters & Kandinia 2045 (MO).

***Psydrax arnoldiana*** (De Wild. & T.Durand) Bridson

*Distribution.* Cameroon, DRC, Gabon, Republic of Congo and West Africa.

*Ecology and habitat.* A pioneer tree of young secondary regrowth, especially along tracks.

*Notes.* This species appears to be very rare in Gabon, although it is frequent in neighbouring countries.

*Reference specimens.* ESTUAIRE. Environs de Libreville, station de Sibang, 27 x 1947, Bois DN 276 (P); Plantations de Assoukou, près de Kango, sur le Komo, x 1912, Chevalier 26692 (P). OGOOUÉ-MARITIME. Rabi-Kounga, près de l'aérodrome, 3 xii 1993, Haegens & van der Burgt 93 (LBV, WAG).

***Psydrax gillettii*** (De Wild.) Bridson

*Distribution.* DRC (Bridson, 1985), Angola, Republic of Congo (Lachenaud, 2009) and Gabon.

*Ecology and habitat.* A shrub of the forest-savanna edge.

*Reference specimen.* HAUT-OGOOUÉ. A 4.5 km au N de la station PPG, 30 i 2004, Niangadouma & Stone 403 (BR, WAG).

***Rothmannia hispida*** (K.Schum.) Fagerl.

*Distribution.* Guinea (Conakry) to DRC.

*Ecology and habitat.* A shrub or small tree of lowland forest undergrowth.

*Notes.* First authentic record from Gabon. The citation in Sosef *et al.* (2006) is due to a misidentified specimen (*Van Valkenburg* 2638) which is rather *Rothmannia lateriflora* (K.Schum.) Keay. Although widespread in neighbouring countries, *Rothmannia hispida* seems to reach Gabon only marginally in the Batéké Plateaux area.

*Reference specimen.* HAUT-OGOOUÉ. Km 1 Kessala-Franceville, 1°52'02.0"S, 13°53'40.1"E, 29 ii 2008, Dessein *et al.* 2213 (BR, LBV).

***Rytigynia gossweileri*** Robyns

*Distribution.* Angola (Cabinda) and Gabon.

*Ecology and habitat.* A small tree of forest edges.

*Notes.* This species was hitherto only known from the type collected in Cabinda. It might be just a hairy form of *Rytigynia membranacea* (Hiern) Robyns, but better material and a revision of this group are desirable before its status can be confidently assessed. One of the specimens, *Breteler & van Raalte* 5656, was listed as *Rytigynia laurentii* (De Wild.) Robyns in Sosef *et al.* (2006).

*Reference specimens.* OGOOUÉ-MARITIME. Gamba, 23 ix 1968, *Breteler & van Raalte* 5656 (WAG); Parc National des Monts Doudou, env. 5 km au S du Camp Peny, 14 xi 2005, *Sosef et al.* 2262 (WAG).

[ *Rytigynia laurentii* (De Wild.) Robyns ]

The specimen listed in Sosef *et al.* (2006), *Breteler* 5656, is *Rytigynia gossweileri* (see above). The species should therefore be deleted from the Gabonese list.

[ *Rytigynia neglecta* (Hiern) Robyns ]

A high-altitude species (Cameroon highlands, East African Rift) which does not occur in Gabon. The specimen listed in Sosef *et al.* (2006), *Reitsma* 3019, is *Rytigynia umbellulata* (Hiern) Robyns. The two species are exceedingly closely related, but *Rytigynia neglecta* seems distinct on account of its 2-locular ovary.

***Rytigynia pauciflora*** (Schweinf. ex Hiern) R.D.Good

*Distribution.* Cameroon, CAR, northern DRC and northeastern Gabon.

*Ecology and habitat.* A shrub of forest–savanna edges. In Gabon it is restricted to inselbergs, at altitudes of 470–720 m.

*Notes.* Two of the collections, *Parmentier & Nguema* 527 and *Reitsma* 3027, were listed in Sosef *et al.* (2006) as *Rytigynia rubra* Robyns and *R. senegalensis* Blume, respectively. The three species have similar 2-flowered inflorescences but *Rytigynia pauciflora* can be distinguished by the corolla lobes ending in a long filiform appendage and the usually hairy leaves.

*Reference specimens.* OGOOUÉ-IVINDO. Mt Sassamongo, 16 v 2003, *Ngok Banak et al.* 1783 (WAG). WOLEU-NTEM. Oyem, inselberg Assepbengone, *Ngok Banak et al.* 1472 (WAG); Oyem, inselberg Koum, 14 i 2003, *Ngok Banak et al.* 1493 (WAG); Minkébé N.P., southern inselberg area, *Ngok Banak et al.* 1513 (WAG); Mont Koum, inselberg à 1 km du village de Koumassi, à 32 km d'Oyem vers Bitam, *Parmentier & Nguema* 527 (WAG); Nkoum Mountain, near Koumassi, 12 ii 1987, *J.M. & B. Reitsma* 3027 (WAG).

[ *Rytigynia senegalensis* Blume ]

A species of Sudanian savannas and not occurring in Gabon. The record in Sosef *et al.* (2006), *Reitsma* 3027, is a misidentification of *Rytigynia pauciflora* (see above).

***Sabicea apocynacea*** (K.Schum.) Razafim.

*Distribution.* Cameroon and Gabon.

*Ecology and habitat.* A shrub of highland forest undergrowth.

*Notes.* An extremely rare species, known from fewer than a handful of collections. It is very close to *Ecpoma geanthum* (Hiern) N.Hallé, still only known from the type (also from the Crystal Mountains), and both might be conspecific as suggested by Hallé (1966). The leaves of *Ecpoma geanthum* are, however, very different in shape (much broader) and, as no intermediates have been found so far, we think these species are best kept distinct for the moment.

*Reference specimen.* ESTUAIRE. Crystal Mountains, 0°28'N 10°14'E, 8 viii 2001, *Nguema Miyono* 1980 (WAG).

***Sabicea laxa*** Wernham

*Distribution.* Cameroon, Equatorial Guinea and Gabon.

*Ecology and habitat.* A small twiner of forest edges and secondary growth.

*Notes.* A rather uncommon and localised species. It is rather similar to *Sabicea venosa* Benth. but the corolla is about twice longer. From *Sabicea schumanniana* Büttner it differs in having a straight corolla tube (not curved at base), laxer inflorescences and very short calyx lobes.

*Reference specimens.* WOLEU-NTEM. Concession Bordamur près d'Assok Beghe, 1°02'3"N 11°47'00"E, 2 x 2002, *Strijk* 22 (WAG); Concession Bordamur, env. 19 km à l'W de la station WWF, 1°08'00"N 11°41'4"E, 7 x 2002, *Strijk* 501 (WAG).

[ *Sabicea longipetiolata* De Wild. ]

The Gabonese collections cited by Hallé (1966) and Sosef *et al.* (2006) differ quite markedly from the type (from DRC) in having non-discolorous leaves and shorter calyx lobes. They appear to be just a form of the variable *Sabicea venosa* Benth. (although the *S. venosa* complex is clearly in need of revision).

***Sabicea sanguinosa*** (N.Hallé) Razafim.

*Distribution.* Endemic to Gabon and only known from the Wonga-Wongué National Park.

*Ecology and habitat.* A more or less creeping liana of forest-savanna edges, on sandy soil.

*Notes.* This species was described (Hallé, 1971) after the author's treatment of *Pseudosabicea* in the *Flore du Gabon* (Hallé, 1966) and, probably for that reason, overlooked by Sosef *et al.* (2006).

*Reference specimens.* ESTUAIRE. Petit Bam Bam, 21 viii 1966, *Hallé & Le Thomas* 573 (P), holotype and isotype; Réserve de Wonga-Wongué, 23 i 2001, *Louis & Reitsma* 2004 (WAG). MOYEN-OGOOUÉ. Eastern part of the Presidential Reserve Wonga-Wongué, about 100 km S of Libreville, 28 ii 1983, *J.J. de Wilde et al.* 815 (BR, WAG n.v.). OGOOUÉ-MARITIME. Env. 10 km SSE Batanga, 21 v 2001, *Sosef* 1613 (P, WAG); c.10 km E of Batanga, 26 v 2001, *Sosef* 1745 (P, WAG n.v.).

***Sabicea urceolata*** Hepper

*Distribution.* Equatorial Guinea (Bioko), Nigeria and Gabon.

*Ecology and habitat.* The Gabonese specimen was collected in degraded forest remnants on dry soil, close to the savanna boundary.

*Notes.* A very rare species, only known from a handful of collections (Hepper & Keay, 1963; Davis & Figueiredo, 2007). Its discovery in Gabon considerably extends its range southwards. The fused, urn-shaped involucre is very typical. It is reminiscent of the genus *Stipularia* but is green rather than red in colour. The fruits, not collected before, are red, ovoid and hairy, very watery as in other *Sabicea* spp. (the size in life was not recorded), and the involucre splits on one side at maturity to expose them.

*Reference specimen.* NGOUNIÉ. Km 2 Bemboudié-Yombi, 13 ii 2008, *Dessein et al.* 1803 (BR, LBV).

***Sericanthe auriculata*** (Keay) Robbr.

*Distribution.* Cameroon, Nigeria (Robbrecht, 1981) and Gabon.

*Ecology and habitat.* A shrub of lowland forest.

*Notes.* The species' discovery in Gabon much extends its range southwards.

*Reference specimens.* ESTUAIRE. Monts de Cristal, 0°32'N 10°28'E, 28 xi 2000, *Nguema Miyono* 1486 (WAG); Monts de Cristal, 0°34'N 10°27'E, 27 ii 2001, *Nguema Miyono* 1733 (WAG). OGOOUÉ-MARITIME. 32 km au N de la concession forestière Bakker d'Igotchi-Mouenda, 2°41'S 10°30'E, 13 v 1997, *MacPherson* 16977 (WAG); Parc National des Monts Doudou, env. 50 km au S de Mandji, 15 xi 2005, *Sosef et al.* 2307 (WAG).

***Spermacoce bequaertii*** (De Wild.) Verdc.

*Distribution.* DRC (Bas-Congo, Kasai), Gabon and Republic of Congo.

*Ecology and habitat.* Perennial herb from grasslands and woodlands.

*Reference specimen.* HAUT-OGOOUÉ. Plateau Batéké, 7 km S of Léconi, 8 xii 1989, *J.J. de Wilde et al.* 10020 (WAG).

***Spermacoce quadrisulcata*** (Bremek.) Verdc.

*Distribution.* Burundi, CAR, DRC, Gabon, Guinea (Conakry), Guinea (Bissau), Malawi, Nigeria, Sierra Leone and Zambia.

*Ecology and habitat.* Annual herb of marshy places in savanna.

*Reference specimen.* NGOUNIÉ. Environs de N'dendé, mare de Ferra sur la route de Mouila, 26 xi 1960, *Descoings* 6291 (MPU).

***Spermacoce stachydea*** DC.

*Distribution.* West tropical Africa to Sudan.

*Ecology and habitat.* Annual herb found in savannas.

*Reference specimens.* HAUT-OGOOUÉ. Batéké Plateaux, 13 km S of Ekouyi-Mboma, 1°54'37"S 14°02'50"E, 13 vi 2007, *Walters et al.* 1926 (LBV, MO); Batéké Plateaux, *Hymenocardia acida* grassland, 1°51'03"S 14°05'40"E, 23 iii 2008, *Walters & Kantsa* 2122 (LBV, MO).

***Tarenna petitii*** N.Hallé

*Distribution.* DRC, Gabon and Republic of Congo.

*Ecology and habitat.* A shrub of lowland primary and secondary forest.

*Notes.* The key in *Flore du Gabon* (Hallé, 1970) is misleading since *Tarenna petitii* is stated to be a liana. It is usually a shrub (though a few collections are reported as sarmentose) and, therefore, keys to *Tarenna calliblepharis* N.Hallé from which it differs in having conspicuous bracts and longer brown (not whitish) hairs.

*Reference specimens.* HAUT-OGOOUÉ. Parc National des Plateaux Batéké, Bord de savane près du Bai Djobo, 2°12'54"S 13°50'49"E, 5 vi 2005, *Niangadouma* 534 (LBV, MO); Batéké Plateau National Park, c.4.4 km N of PPG Camp, 2°04'38"S 14°03'32"E, 30 i 2004, *Stone et al.* 5055 (LBV, MO).

***Tricalysia trachycarpa*** Robbr.

*Distribution.* DRC (Forestier Central) and Gabon.

*Ecology and habitat.* A small tree of lowland forest.

*Notes.* This rare species was only known from two collections made in northern DRC (Robbrecht, 1983). Its discovery in Gabon considerably extends its range westwards. The characteristic fruits, with strong wrinkled longitudinal ridges, are unmistakable.

*Reference specimens.* NGOUNIÉ. Est du Parc National de Waka, ± 5 km au Sud de la rivière Mayi, 1°13'25.4"S 11°17'0.3"E, 17 ii 2008, *Dauby et al.* 573 (BRLU, LBV). OGOOUÉ-LOLO. c.40 km ENE of Lastoursville, 20 km on forestry road from Bambidie heading north, 0°36.7'S 13°00.9'E, 25 i 2008, *Wieringa et al.* 6163 (WAG).

***Vangueriella laxiflora*** (K.Schum.) Verdc.

*Distribution.* Cameroon, Gabon and Nigeria (Verdcourt, 1987).

*Ecology and habitat.* A shrub (rarely  $\pm$  climbing) of lowland forest undergrowth.

*Notes.* Reported from Gabon by Verdcourt (1987) but no specimens were cited. Not listed in Sosef *et al.* (2006).

*Reference specimens.* NGOUNIÉ. Doudou Mts N.P., c.30 km S of Mandji, E of Mt Igoumbi, 10 i 2005, Sosef *et al.* 2381 (WAG); road Mouila to Yombi, just S of Guidouma, 11 xii 2001, Wieringa *et al.* 4691 (WAG). WOLEU-NTEM. Oyem, 26 vii 1933, *Le Testu* 9197 (BM, BR, P).

***Vangueriella orthacantha*** (Mildbr.) Bridson & Verdc.

*Distribution.* Cameroon, CAR, DRC, Gabon, Ghana, Guinea (Conakry), Ivory Coast, Liberia and Republic of Congo.

*Ecology and habitat.* A shrub of lowland forest, often along rivers. It seems to prefer relatively dry forests, avoiding the wetter ones close to the Atlantic coast.

*Reference specimens.* HAUT-OGOOUÉ. Parc National des Plateaux Batéké, 2°10'S 13°52'E, 7 vi 2005, Niangadouma *et al.* 582 (MO). OGOOUÉ-IVINDO. About 24 km N of Koumaméyong, 10 iv 1988, Breteler *et al.* 8573 (WAG); Chantier S.H.M., 0°50'N 12°05'E, 13 ii 1988, Dibata 404 (BR). WOLEU-NTEM. Chantier Rougier-Océan, Oveng, 0°43'N 11°22'E, 6 v 1985, Reitsma *et al.* 837 (WAG).

*Zingiberaceae****Aframomum angustifolium*** (Sonn.) K.Schum.

*Distribution.* Widespread in tropical Africa, Madagascar and the Mascarenes.

*Ecology and habitat.* Riparian forests, forest margins.

*Reference specimens.* HAUT-OGOOUÉ. Batéké Plateaux, forest next to Ekouyi-Mboma village, 1°47'39"S 14°03'26"E, 4 iv 2008, Walters *et al.* 2127 (LBV, MO); Plateaux Batéké National Park, 2°07'17"S 14°03'31"E, 7 x 2003, Walters *et al.* 1389 (LBV, MO).

***Aframomum thonneri*** De Wild.

*Distribution.* This plant is found in Cameroon, CAR, DRC, Gabon and the Republic of Congo (pers. comm. D. Harris). It was listed as 'Species A' by Harris (2002).

*Ecology and habitat.* Forest.

*Notes.* There is no information about this species in regional floras. According to Lebrun & Stork (2006) this species requires further study.

*Reference specimens.* HAUT-OGOOUÉ. Parc National des Plateaux Batéke, 4.5 km N Station PPG, 2°04'38"S 14°03'37"E, 30 i 2004, Niangadouma *et al.* 402 (LBV, MO); Batéké Plateaux, forest next to Ekouyi-Mboma village, 1°47'39"S 14°03'26"E, 4 iv 2008, Walters *et al.* 2126 (LBV, MO); Batéke Plateau, Projet de Protection des Gorilles Station, 2°07'09"S 14°04'07"E, 21 xi 2001, Walters *et al.* 888 (LBV, MO). WOLEU-NTEM. Tchimbélé Dam, 0°37'02"N 10°24'49"E, 14 xi 2000, Walters *et al.* 525 (LBV, MO).

*Zygophyllaceae****Balanites wilsonianus*** Dawe & Sprague var. *glabripetalus* Sands

*Distribution.* Gabon and Nigeria.

*Ecology and habitat.* A tree of evergreen forest.



*Notes.* This taxon, differing from other varieties in its glabrous petals, was previously known only from a restricted area in southwestern Nigeria (Sands, 2001). Two other varieties exist: *Balanites wilsonianus* var. *wilsonianus*, from Ivory Coast to Uganda, and *B. wilsonianus* var. *mayumbensis* (Exell) Sands in Angola (Cabinda) and Republic of Congo. The occurrence of *Balanites wilsonianus* var. *wilsonianus* in Gabon, reported by Sands (2001), is doubtful, since the cited specimen (*Fleury in Chevalier* 33672) only bears fruits and could equally belong to *B. wilsonianus* var. *glabripetalus* (perhaps more likely on ecological and distributional grounds, since *B. wilsonianus* var. *wilsonianus* is otherwise only known from semideciduous forests). Other specimens listed in Sosef *et al.* (2006) are sterile and were not ascribed to variety. The varieties of *Balanites wilsonianus* need further study in the field to assess more precisely their distribution, habitat preferences and status.

*Reference specimen.* NGOUNIÉ. Concession CBG, ± 20 km à l'ouest de Mandji, 1°47'56.2"S 10°10'54"E, 5 viii 2008, Dauby *et al.* 1253 (BRLU, LBV).

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