

CHECK LIST OF THE MELASTOMATACEAE OF EQUATORIAL GUINEA

by

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Resumen

PARMENTIER, I. & D. GEERINCK (2003). Catálogo de Melastomataceae de Guinea Ecuatorial. *Anales Jard. Bot. Madrid* 60(2): 331-346 (en inglés).

Se presenta el catálogo florístico de la familia Melastomataceae en Guinea Ecuatorial. Se reconocen un total de 57 táxones. Tres especies fueron aceptadas teniendo en cuenta solamente la literatura. Su distribución sugiere que su presencia en Guinea Ecuatorial es muy probable. En Annobón están presentes 6 especies, 23 en Bioko y 49 en Río Muni. Los géneros mejor representados son *Memecylon* (10 especies), *Calvoa* (10) y *Tristemma* (7). Veintiséis táxones son citados por primera vez en Guinea Ecuatorial. Se propone *Heterotis obamae* Lejoly & Lisowski como sinónimo de *Heterotis arenaria* Jacq.-Fél.

Palabras clave: Guinea Ecuatorial, Melastomataceae, *Heterotis obamae*, *Heterotis arenaria*, check list, Annobón, Río Muni, Bioko.

Abstract

PARMENTIER, I. & D. GEERINCK (2003). Check list of the Melastomataceae of Equatorial Guinea. *Anales Jard. Bot. Madrid* 60(2): 331-346.

A check list of the Melastomataceae of Equatorial Guinea is presented with 57 taxa. Three species were accepted based only on literature records, their distribution area strongly suggests their presence in Equatorial Guinea. Six species are known from Annobón, 23 from Bioko and 49 from Río Muni. Best-represented genera are *Memecylon* (10), *Calvoa* (10) and *Tristemma* (7). Twenty-six taxa are newly recorded for the country. *Heterotis obamae* Lejoly & Lisowski is set in synonymy with the previously described *Heterotis arenaria* Jacq.-Fél.

Key words: Equatorial Guinea, Melastomataceae, *Heterotis obamae*, *Heterotis arenaria*, check list, Annobón, Río Muni, Bioko.

INTRODUCTION

Equatorial Guinea is located in Western Central Africa (fig. 1). The country includes two main islands in the Gulf of Guinea: Bioko (2017 km²), 32 km from the coast of Cameroon, and Annobón (17 km²), 400 km from Gabon. The continental mainland, Río Muni (26000 km²) is located between 1° and 2°30' N and 9°30' and 11°30' E. Elobey and

Corisco are small islands near the border of Río Muni with Gabon. Pico Basile, on Bioko Island, is the highest peak (altitude: 3011 m) and occupies half of the island, the other half being occupied by two other volcanoes: La caldera de Luba (2261 m) and Pico Biaó (2009 m) (PÉREZ DEL VAL, 1996). Malabo, north of the island, has a drier season from December to January and annual precipitation of 1932 mm per year. Pluviometry is more

important in the southern part of the island, with up to 10150 mm annual rainfall at Ureca. The temperature oscillates around 26 °C at sea level. There are strong variations in precipitation, temperature and humidity with al-

titude (PÉREZ DEL VAL, 1996). From West to East, Río Muni is divided into three mains parts. The coastal zone includes a littoral sandy plain about 30 km wide followed by small hills about 200 m high. The Niefang

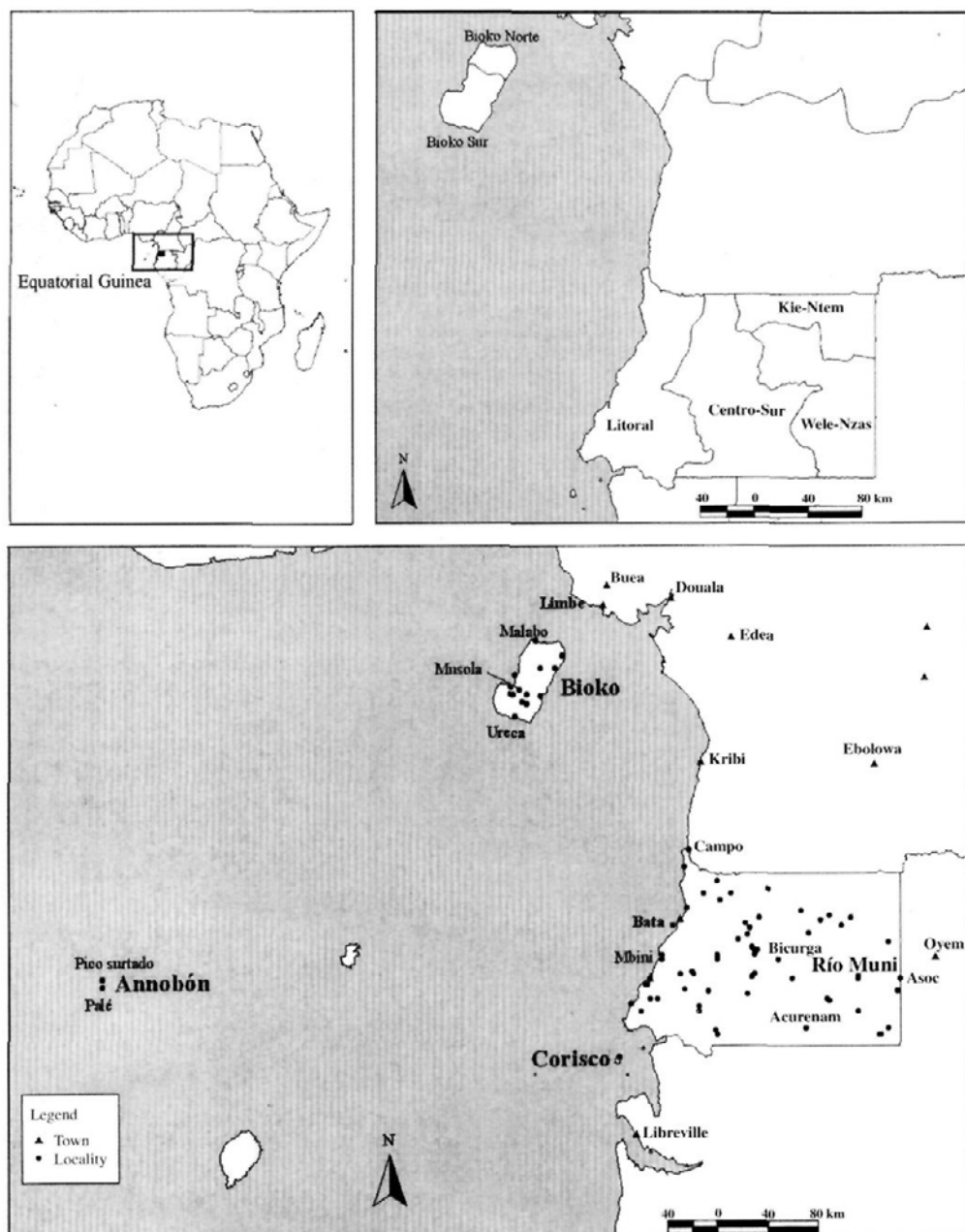


Fig. 1.—Equatorial Guinea in Africa, provinces, and localities of Melastomataceae collections.

Mountain Range reaching 1200 m crosses Río Muni. The eastern part of the country is a vast plateau of 600 to 700 m altitude scattered with inselbergs. Climate in Río Muni is equatorial with two drier seasons: from July to September and from December to February. Mean precipitation 2500 mm/year, temperature is around 26 °C all year.

Melastomataceae collections from Equatorial Guinea in the last twenty years were mainly collected by the Real Jardín Botánico of Madrid and the Laboratoire de Botanique systématique et de Phytosociologie of the Université Libre de Bruxelles. A good review of the botanical work in Equatorial Guinea is given in VELAYOS & AEDO (2001). Most recent collections from Río Muni in BRLU were collected by Senterre for his study of the forest of the Parque Nacional de Monte Alén and the Parque Nacional de Nsork (SENTERRE & NGUEMA, 2001; SENTERRE, 2001) and by Parmentier, with her studies on the inselberg vegetation (PARMENTIER & *al.*, 2001; PARMENTIER & NGUEMA, 2001; PARMENTIER, 2002).

Early general studies giving information on Melastomataceae of West tropical Africa come from HUTCHINSON (1928), GUINEA (1946, 1951) and HUTCHINSON & DALZIEL (1954). The major work of Jacques-Félix, is our main reference for this paper, especially his flora of Melastomataceae from Cameroon (JACQUES-FÉLIX, 1983a) and Gabon (JACQUES-FÉLIX, 1983b). It was usefully completed by a recent revision of *Calvoa* (FIGUEIREDO, 2001). Recent works notifying the occurrence of Melastomataceae species on Bioko are those of MORALES (1994, 1995) and FERNÁNDEZ CASAS & MORALES VALVERDE (1995).

on the works of Jacques-Félix, especially in the flora of Melastomataceae of Gabon (JACQUES-FÉLIX, 1983a) and Cameroon (JACQUES-FÉLIX, 1983b) completed by more recent works (BORHIDI, 1993; JACQUES-FÉLIX, 1987; J. LEJOLY & S. LISOWSKI, 1999c; FIGUEIREDO, 2001). Bibliographic records from Melastomataceae in Equatorial Guinea were obtained mainly from AEDO & *al.* (1999), completed by recent publications like those of LEJOLY & LISOWSKI (1999a,b,c), PARMENTIER & NGUEMA (2001), PARMENTIER & *al.* (2001), PARMENTIER (2002). Doubtful records and insufficiently known species are given at the end of the check list. The locality names used in this check list have been brought up-to-date and made uniform (table 1), localities are mapped in figure 1. Those localities are in agreement with those cited in the check list of the Pteridophytes of Equatorial Guinea (VELAYOS & *al.*, 2001). The check list is alphabetically ordered by species within genera. Under each accepted taxon, the accepted synonyms used in the literature of Equatorial Guinea are included (JACQUES-FÉLIX, 1974b; LEBRUN & STORK, 1991, 1995, 1997; FIGUEIREDO, 2001). Specimens are alphabetically arranged within province, locality and collector. The herbaria where they are deposited are mentioned. Herbarium codes for MA specimens are given. The indice "si" means that a specimen is sterile. Previous bibliographical records for each taxon are listed. When the taxon was recorded under an accepted synonym it is indicated (i.e. LEJOLY, 1999b: 118, sub *Dissotis irvingiana*).

New signalisations for the country are indicated by a "*" before the taxon name.

MATERIALS AND METHODS

The check list is mainly based on the examination of about 600 Melastomataceae herbarium specimens from BATA (Herbario Nacional de Guinea Ecuatorial), BRLU (Herbarium de l'Université Libre de Bruxelles) and MA (Herbario del Real Jardín Botánico de Madrid). Determinations were based

THE CHECK LIST

1. *Amphiblemma mildbraedii* Gilg ex Engl.

BIOKO SUR: Moca, *Fernández Casas 11486* (MA 555825), *Guinea 1968* (MA 268681). Moca-Riaba, por el camino viejo, *Fernández Casas 11846* (MA 555826). Malabo-Moca, km 65-66, *Carvalho 3767* (MA 568051); ibidem, km 67, *Carvalho 2484* (MA 558405); ibidem, km 70, *Carvalho 2617* (555824). Musola, *Guinea 1723* (MA 384342), *1724* (MA 384344).

TABLE 1

LOCALITIES OF MELASTOMATACEAE COLLECTIONS IN EQUATORIAL GUINEA WITH GEOGRAPHICAL COORDINATES

Acasakira, rocher (Wele-Nzas)	1°7'N-11°15'E	Moca (Bioko Sur)	3°20'N-8°40'E
Acurenám (Centro-Sur)	1°7'N-10°40'E	Mongola (Wele-Nzas)	1°46'N-10°41'E
Akoak Ebanga, inselberg (Wele-Nzas)	1°4'N-11°12'E	Monte Alén (Centro-Sur)	1°37'N-10°19'E
Akuom, inselberg (Wele-Nzas)	1°49'N-10°55'E	Monte Mitra (Centro-Sur)	1°21'N-9°75'E
Andom, inselberg (Wele-Nzas)	1°27'N-11°2'E	Mungum, inselberg (Wele-Nzas)	1°19'N-10°49'E
Añisok (Wele-Nzas)	1°51'N-10°46'E	Musola (Bioko Sur)	3°26'N-8°37'E
Arenas Blancas, playa (Bioko Sur)	3°32'N-8°35'E	Ncoho (Litoral)	1°14'N-9°54'E
Asoc, inselberg (Wele-Nzas)	1°27'N-11°20'E	Ngoma (Litoral)	1°14'N-9°29'E
Ayamiken (Litoral)	2°7'N-10°2'E	Ngong Mocomo (Wele-Nzas)	1°4'N-11°11'E
Ayene (Wele-Nzas)	1°55'N-10°38'E	Niefang (Centro-Sur)	1°50'N-10°14'E
Bahía de Venus (Bioko Norte)	3°46'N-8°44'E	Nsum Esangüi (Wele-Nzas)	1°42'N-11°15'E
Baríobe (Bioko Norte)	3°35'N-8°52'E	Obamico (Parque N. de Nsork)	1°14'N-11°2'E
Belebú Balachá de Riaba (Bioko Sur)	3°24'N-8°34'E	Oyac Esom (Centro-Sur)	1°53'N-10°50'E
Biaó, lago (Bioko Sur)	3°21'N-8°38'E	Palé (Annobon)	1°24'N-5°38'E
Bicaba (Centro-Sur)	1°48'N-10°16'E	Parque Nacional de Monte Alén, 2 km au NE du site de traversée du Río pour aller aux cataractas (Centro-Sur)	1°62'N-10°8'E
Bicurga, inselberg (Centro-Sur)	1°35'N-10°28'E	Parque Nacional de Monte Alén, 2 km au NO du transect de Monte Chocolate (Centro-Sur)	1°45'N-10°15'E
Bolondo (Litoral)	1°37'N-9°38'E	Parque Nacional de Monte Alén, à 250 m 60°NE du transect de Mosumo (Centro-Sur)	1°6'N-10°1'E
Bome (Litoral)	1°49'N-9°43'E	Parque Nacional de Monte Alén, dalle rocheuse d'Engong (Centro-Sur)	1°37'N-10°18'E
Campo, desembocadura del río (Litoral)	2°20'N-9°50'E	Parque Nacional de Monte Alén, dalle rocheuse de Monte Alén (Centro-Sur)	1°40'N-10°17'E
Cogo (Litoral)	1°5'N-9°42'E	Parque Nacional de Monte Alén, entre la station Ecofac de Mosumo et Monte Boracho	1°36'N-10°2'E
Corisco, isla (Litoral)	0°55'N-9°20'E	Parque Nacional de Monte Alén, près de la Cabaña de Esamalan (Centro-Sur)	1°52'N-10°20'E
Cupapa (Bioko Norte)	3°40'N-8°55'E	Parque Nacional de Monte Alén, près de la Cabaña Ecofac de Misergue (Centro-Sur)	1°4'N-10°2'E
Dumu, inselberg (Wele-Nzas)	1°22'N-11°19'E	Parque Nacional de Monte Alén, sur la piste lago Atoc-Moca (Centro-Sur)	1°64'N-10°24'E
Ecucu (Litoral)	1°56'N-9°49'E	Parque Nacional de Monte Alén, transect de Monte Alén (Centro-Sur)	1°39'N-10°18'E
Elendé (Litoral)	2°13'N-9°48'E	Parque Nacional de Monte Alén, transect de Monte Chocolate (Centro-Sur)	1°39'N-10°19'E
Emangós (Litoral)	1°23'N-9°48'E		
Enkumekie (Centro-Sur)	1°43'N-10°11'E		
Etembue (Litoral)	1°17'N-9°25'E		
Evinayong (Centro-Sur)	1°27'N-10°34'E		
Handje (Litoral)	1°25'N-9°31'E		
Jandje (Litoral)	1°27'N-9°33'E		
Kukumankok (Wele-Nzas)	1°18'N-10°50'E		
Laña, cascada del río (Centro-Sur)	1°35'N-10°2'E		
Loreto, lago (Bioko Sur)	3°24'N-8°40'E		
Luba (Bioko Sur)	3°27'N-8°33'E		
Malabo, aeropuerto (Bioko Norte)	3°46'N-8°44'E		
Mandjani (Litoral)	1°19'N-10°49'E		
Mayang (Litoral)	1°29'N-9°52'E		
Mbambala, río (Litoral)	1°16'N-9°54'E		
Mbini (Litoral)	1°35'N-9°38'E		
Mboete (Litoral)	1°19'N-9°36'E		
Mfuin, inselberg (Kie-Ntem)	1°52'N-10°59'E		
Midjomitom (Litoral)	1°41'N-9°38'E		
Misobong (Litoral)	1°29'N-9°46'E		

TABLE 1 (continued)

Parque Nacional de Monte Alén, transect de Mosumo à 500 m du début du layon (Centro-Sur)	1°59'N-10°3'E	Pico Surcado (Annobon)	1°27'N-5°38'E
Parque Nacional de Monte Alén, transect de Mosumo à 1420 m du début du layon (Centro-Sur)	1°6'N-10°1'E	Piedra Nzaz, inselberg (Wele-Nzas)	1°28'N-11°2'E
Parque Nacional de Monte Alén, transect de Mosumo (Centro-Sur)	1°37'N-10°2'E	Pradera de Baga (Litoral)	1°19'N-9°33'E
Parque Nacional de Monte Alén, transect de Mosumo (Centro-Sur)	1°29'N-10°18'E	Riaba (Bioko Sur)	3°23'N-8°46'E
Parque Nacional de Monte Alén, transect de Nkumékié, à 4430 m du début du layon (Centro-Sur)	1°28'N-10°17'E	Route forestière Engong-Jandje (Litoral)	1°25'N-9°32'E
Parque Nacional de Monte Alén, transect de Nkumékié (Centro-Sur)		Ruiché (Bioko Sur)	3°24'N-8°33'E
		San Joaquin (Litoral)	2°2'N-9°56'E
		Santa Isabel, pico Basilé (Bioko Norte)	3°35'N-8°46'E
		Sendje (Litoral)	1°30'N-9°51'E
		Sendje-Monte Mitra (Centro-Sur)	1°22'N-9°58'E
		Sendje-Ongamnsok (Litoral)	1°22'N-9°58'E
		Ureca (Bioko Sur)	3°15'N-8°35'E
		Utonde (Litoral)	1°56'N-9°49'E

Previously recorded from BIOKO (HUTCHINSON & DALZIEL, 1954: 252; MORALES, 1994: 13; 1995: 17).

2. **Amphiblemma molle* Hook. f.

CENTRO-SUR: Acurenem, *Guinea & Lope del Val* 976 (MA 688882), 977 (MA 688881), 978 (MA 688880). Engong, dalle rocheuse, *Parmentier & Esone* 2861, 2877 (BRLU). Evinayong, *Guinea* 250-509 (MA 688866). P.N. de Monte Alén, *Lisowski* 1437 (BRLU); ibidem, dalle rocheuse de Monte Alén, *Nguema* 465 (BRLU); ibidem, sur la piste lago Atoc-Moca, *Senterre, Obiang & Nguema* 2153 (BATA, BRLU); ibidem, transect de Monte Chocolate, *Van Reeth* 140 (BRLU); ibidem, transect de Monte Alén, *Lejoly* 93/312, 94/123 (BRLU). WELE-NZAS: Mungum, inselberg, *Parmentier & Esone* 3412 (BRLU). Obamico, *Nguema & Esone* 292 (BATA, BRLU).

3. *Antherotoma irvingiana* (Hook.f.) Jacq.-Fél.

CENTRO-SUR: Bicurga, inselberg, *Parmentier* 1574bis, *Parmentier & Esone* 3098 (BRLU). WELE-NZAS: Akoak Ebanga, inselberg, *Parmentier & Esone* 3491 (BRLU). Akuom, inselberg, *Lisowski* 663 (BRLU BATA), *Obama & Lejoly* 628 (BATA, BRLU, MA-612186). Asoc, inselberg, *Obama & Lejoly* 480 (BATA, BRLU, MA-612111), *Lejoly & Esone* 49, *Parmentier & Esone* 3697 (BRLU). Dumu, inselberg *Parmentier & Esone* 3622 (BRLU), *Porembski, Biedinger & Nguema* 3599 (BRLU, BATA). Piedra Nzaz, inselberg, *Lejoly* 99/202, 99/268 (BRLU).

Previously recorded from Río Muni (LEJOLY, 1999b: 118, sub *Dissotis irvingiana*; PARMENTIER & NGUEMA, 2001: 216 sub *D. irvingiana*; PARMENTIER & al., 2001: 359; PARMENTIER, 2002: 915).

4. *Calvoa crassinoda* Hook. f.

Calvoa molleri Gilg, *C. uropetala* Mildbr.

This species has been recorded from Annobón [Quioveo, *Mildbraed* 6528 (BATA), MILD BRAED, 1922: 163 sub *Calvoa uropetala*; GUINEA, 1946: 341 sub *C. uropetala*; GUINEA, 1951a: 182, sub *C. uropetala*; HEDBERG & HEDBERG, 1968: 134, BRENAN, 1979: 464 sub *C. uropetala*; MORALES, 1994: 15, sub *C. uropetala*; AEDO & al. (1999) sub *C. uropetala*; Pic Santiago, à l'Ouest du lac de cratère, *Descouings* 12847 (P), 12848 (P), FIGUEIREDO, 2001: 191]. We could not examine any herbarium material of this species, but its distribution area suggest as probable its presence in Equatorial Guinea.

5. *Calvoa grandifolia* Cogn.

This species has been recorded from Annobón [Above Crater Lake on W side. Cliff sides in (not dense) wood. *Wrigley & Melville* 164 (BM,K,MA,P), Figueiredo 2001: 190]. We could not examine any herbarium material of this species, but its distribution area suggest as probable its presence in Equatorial Guinea.

6. *Calvoa hirsuta* Hook. f.

BIOKO SUR: Balachá-Ureca, *Guinea* 2297 (MA 268463), 2434 (MA 384327). Musola, *Guinea* 1189 (MA 384329). Moca, camino de Ureca, *Fernández Casas* 11775 (MA 555828); ibidem, *Guinea* 2079 (MA

384328); ibidem, cascadas del Río Iladyi, *Carvalho* 3266 (MA 555829). Belebú Balachá de Riaba, *Fernández Casas* 12141 (MA 555827). CENTRO-SUR: P. N. de Monte Alén, dalle rocheuse d'Engong, *Lejoly* 99/134, *Parmentier & Esono* 2806, 2965, 2893 (BRLU); ibidem, dalle rocheuse de Monte Alén, *Lejoly* 99/048 (BATA, BRLU), *Nguema* 434, *Parmentier & Esono* 3431, 3432 (BRLU); ibidem, transect de Monte Alén, *Lejoly* 94/117, 94/189, *Van Reeth* 43 (BRLU); ibidem, transect de Monte Chocolate, 2 km au NO *Senterre & Obiang* 3822 (BRLU). Monte Mitra, *Obama* 350 (BATA, BRLU). LITORAL: Nc6-Misobong, grande cascade, *Nguema & Lejoly* 185, 196 (BATA, BRLU). Sendje-Monte Mitra, *Lejoly* 01/22 (BRLU). WELE-NZAS: Obamico, *Nguema, Esono & Lejoly* 279 (BATA).

Previously recorded from Bioko (HUTCHINSON, 1928: 209; GUINEA, 1946: 341; GUINEA, 1951a: 181; HUTCHINSON & DALZIEL, 1954: 251; MORALES, 1994: 13-15).

7. **Calvoa jacques-felixii* E. Figueiredo

BIOKO: Los Birmbiles, *Guinea* 244-140 (MA 689294).

8. **Calvoa monticola* A. Chev.

CENTRO-SUR: Bicurga, inselberg, *Lisowski* 1482, *Parmentier* 1613, (BRLU). Dumu, inselberg, *Parmentier & Esono* 3600, 3797 (BRLU). P. N. de Monte Alén, dalle rocheuse d'Engong, *Lejoly* 99/155 (BATA, BRLU, MA-621702), *Lejoly* 99/467bis, *Parmentier & Esono* 2905, 2836, *Stewart* 1002, (BRLU); ibidem, transect de Monte Alén, *Lejoly* 94/188, *Senterre & Ngomo* 2167 (BRLU); ibidem, transect de Mosumo, à 250 m 60°NE *Senterre & Ngomo* 799 (BATA, BRLU). LITORAL: Bata - Sendje, km 40, *Carvalho* 5287 (BATA, MA-597976); Mbini, *Lisowski* 596 (BRLU). WELE-NZAS: Acasakira, rocher, *Obama & Lejoly* 535 (BRLU); Akoak Ebanga, inselberg, *Parmentier & Esono* 3518 (BRLU); Mungum, inselberg, *Lejoly* 99/036, 99/367, 99/379, *Lejoly & Esono* 75, *Parmentier & Esono* 3340 (BRLU); Piedra Nzaz, inselberg, *Lejoly* 99/196 (BATA, BRLU), *Parmentier & Nguema* 375st (BRLU).

9. *Calvoa orientalis* Taub.

CENTRO-SUR: Bicurga, inselberg, *Lisowski* 1387, 1528 (BATA, BRLU).

Previously recorded from Rio Muni (GUINEA, 1946: 341).

10. *Calvoa pulcherrima* Gilg ex Engl.

CENTRO-SUR: Bicurga, inselberg, *Parmentier* 1561 (BRLU). P. N. de Monte Alén, dalle rocheuse d'Engong, *Parmentier & Esono* 2982, *Parmentier & Nguema* 294st, 301st, *Stewart* 995 (BRLU), *Lejoly* 99/100 (BATA, BRLU); ibidem, transect de Monte Alén, *Lejoly* 93/333 (BRLU). WELE-NZAS: Akoak Ebanga, inselberg, *Parmentier & Esono* 3490 (BRLU). Akuom, inselberg,

Lisowski 676 (BATA, BRLU). Andom, inselberg, *Lejoly* 99/231 (BATA, BRLU), *Lejoly* 99/238 (BRLU). Asoc, inselberg, *Parmentier & Esono* 3716 (BRLU). Bicurga, inselberg, *Senterre & Ngomo* 483 (BRLU). Dumu, inselberg, *Parmentier & Esono* 3596 (BRLU). Mfuin, inselberg, *Obama & Lejoly* 367 (BATA, BRLU, MA 612042), *Porembski, Biedinger & Nguema* 3503 (BATA, BRLU). Mungum, inselberg, *Parmentier & Esono* 3402 (BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999b: 116; PARMENTIER & al., 2001: 351; PARMENTIER & NGUEMA, 2001: 215; PARMENTIER, 2002: 915).

11. **Calvoa sapinii* De Wild.

CENTRO-SUR: P. N. de Monte Alén, dalle rocheuse de Monte Alén, *Parmentier & Esono* 2964 (BRLU).

12. **Calvoa seretii* Jacq.-Fél. subsp. *seretii*

LITORAL: Etembue, *Lisowski* 554 (BATA, BRLU).

13. *Calvoa trochainii* Jacq.-Fél.

This species has been recorded from Bioko Sur [Akpabla, *GC* 11492 (K), Musola, *Guinea* 930bis (K, MA 384308), 935bis (MA 384307), FIGUEIREDO, 2001: 186]. We could not examine any herbarium material of this species, but its distribution area suggest as probable its presence in Equatorial Guinea.

14. *Dicellandra barteri* Hook.f.

D. escherichii Gilg ex Engl., *D. scandens* Gilg ex Engl.

Different varieties of *Dicellandra barteri* Hook. f. were distinguished by JACQUES-FÉLIX (1974b). We do not recognize varieties in this work and moreover, lots of specimens do not correspond to any of them:

BIOKO NORTE: Monte Balea, en la carretera de Malabo (Santa Isabel) a Laka, *Guinea* 520 (MA 384326). BIOKO SUR: Ureca, *Guinea* 2319 (MA 384322), 2323 (MA 384319). CENTRO-SUR: Evinayong, *Guinea* 239-507 (MA 688872). Monte Alén, transect Ecofac de Mosumo, à 250 m 60° NE du transect, *Senterre & Ngomo* 267st (BATA, BRLU); ibidem, transect de Ncumekie, *Lejoly* 95/176 st. LITORAL: Mayang, *Lisowski* 787st, 881 (BRLU). Route forestière Engong-Jandje, *Lejoly & Van Asbroeck* 11st (BATA, BRLU).

The following specimens could be attributed to the var. *barteri*:

BIOKO NORTE: Malabo a Cupapa, km 22-23, *Carvalho* 3405 (MA 558404), 3411 (MA 555830). Carretera del

Pico Basilé, *Carvalho 4465* (MA 555831). BIOKO SUR: Ureca, *Guinea 2321*. CENTRO-SUR: Monte Alén, *Lisowski 1547* (BRLU). LITORAL: Bata-Niefang, km 35, *Carvalho 5960* (BATA, MA 688870). Ncoho, *Nguema 135* (BRLU). WELE-NZAS: Nsum Esangüi, *Pérez Viso 3647* (MA 688874). Montée inselberg Akuom, *Lisowski 697* (BATA, BRLU), *Obama & Lejoly 409* (BRLU, MA 612116).

The following specimens could be attributed to the var. *escherichii*:

CENTRO-SUR: Monte Alén, *Ngomo 241* (BATA, BRLU). P. N. de Monte Alén, dalle rocheuse d'Engong, *Parmentier & Esono 2875* (BRLU); ibidem, cabaña del lago, *Velayos, Aedo & Pérez-Viso 9524* (MA 688870); ibidem, transect de Nkumékié à 2550m du layon, *Senterre & Ngomo 16* (BRLU). Sendje-Monte Mitra, *Lejoly 01/20* (BRLU). LITORAL: Mbambala, río, *Nguema & Lejoly 9* (BATA, BRLU). WELE-NZAS: Ngong Mocomo, *Lejoly & Elad 98/036 st* (BRLU).

Previously recorded from Bioko (HUTCHINSON, 1928: 210; GUINEA, 1946: 341, 344; GUINEA, 1951a: 184; HUTCHINSON & DALZIEL, 1954: 252; HEDBERG & HEDBERG, 1968: 130; MORALES, 1994: 15; MORALES, 1995: 17) and Río Muni (GUINEA, 1946: 341 sub *Dicellandra escherichii*).

15. **Dicellandra descoingsii* Jacq.-Fél.

BIOKO NORTE: Malabo-Laka, *Guinea 361* (MA 268686). CENTRO-SUR: À quelques kilomètres de l'inselberg de Bicurga, *Parmentier & Esono 3316* (BRLU). P. N. de Monte Alén, chemin vers la dalle rocheuse de Engong, *Parmentier & Esono 2916* (BRLU); ibidem, dalle rocheuse d' Engong, *Parmentier & Esono 2867* (BRLU); ibidem, dalle rocheuse de Monte Alén, *Parmentier & Esono 3448* (BRLU). LITORAL: Mandjani, *Nguema 86* (BRLU). Mayang, *Lisowski 797* (BRLU). WELE-NZAS: Obamico (Parque N. de Nsork), *Nguema, Esono & Lejoly 278* (BATA, BRLU).

16. *Dichaetanthera africana* (Hook. f.) Jacq.-Fél.

Sakersia africana Hook. f.

BIOKO-SUR: Belebú Balachá, *Fernández Casas 12114* (MA 555980). Belebú Balachá -Ureca, km 3, *Carvalho 2523* (BRLU, MA-555852). BIOKO-NORTE: Bariobe, *Fernández Casas 11516* (MA 555855). Carretera del pico Basilé, *Fernández Casas 11236* (BRLU, MA 555854). Malabo-Riaba, km 14-15, *Carvalho 3868* (BRLU, MA-555853). CENTRO-SUR: Bicurga, inselberg, *Lisowski 1385 st* (BATA, BRLU). Dumu, inselberg, *Parmentier & Esono 3625*. Evinayong-Cogo, *Guinea 493-118* (MA 688892). Monte Alén, *Lisowski 1432 st* (BRLU). P. N. de Monte Alén, transect de Monte Alén, *Lejoly 93/350 st* (BRLU). LITORAL: Bata-San Joaquín, 4 km de San Joaquín, *Carvalho 4969* (BRLU, MA

599206). Sendje-Ongamnsok, *Lejoly 01/04* (BRLU). WELE-NZAS: Aconibe, *Lejoly 99/276* (BATA, BRLU). Dumu, inselberg, *Lejoly 99/350 st* (BATA, BRLU). Mungum, inselberg, *Lejoly 99/37371* (BRLU).

Previously recorded from Bioko (FERNÁNDEZ CASAS & MORALES, 1995: 237; MORALES, 1994: 15) and from Río Muni (HUTCHINSON, 1928: 209 sub *Sakersia africana*; GUINEA, 1946: 341 sub *S. africana*; HUTCHINSON & DALZIEL, 1954: 249 sub *S. africana*).

17. *Dinophora spenneroides* Benth.

CENTRO SUR: Bicurga, inselberg, *Parmentier 1695*, *Parmentier & Esono 3151* (BRLU). Mosumu, *Obama & Lejoly 683* (BRLU), *Pérez Viso 3483* (MA 688883); ibidem, cataratas del río Uoro, *Pérez Viso 376* (MA 688878); ibidem, confluence Río Laña avec Río Mbini, *Obama & Lejoly 683* (BRLU). Oyac Esom, *Pérez Viso 3450* (MA 688885). P. N. de Monte Alén, *Ngomo 75* (BATA, BRLU); ibidem, transect de Nkumékié à 4225 m du début du layon, *Senterre & Ngomo 38* (BATA, BRLU). KIE-NTEM: Mfuin, inselberg, *Obama & Lejoly 358* (BATA, BRLU). LITORAL: Aeródromo, *Guinea 463* (MA 688893). Ayamiken, *Lejoly 97/088*, *Obama 180* (BRLU). Bata-Río Campo, km 48-49, *Carvalho 4675* (BATA, MA-597455). Bata-Niefang, *Carvalho 5574* (MA 598565). Bata-Sendje, km 23-24, *Carvalho 5255* (BATA, MA 598014). Ecucu, *Guinea 252* (MA 688896). Pradera de Baga, *Eneme 362* (BATA, BRLU). Utonde, *Guinea 401* (MA 688895), *403* (MA 688894). WELE-NZAS: Aconibe, *Obama 306* (BATA, BRLU). Akoak Ebanga, inselberg, *Parmentier & Esono 3581* (BRLU). Akuom, inselberg, *Lisowski 698* (BRLU). Explotación forestal de Añisok Mongola, *Pérez Viso 3756* (MA 688877). Asoc, inselberg, *Lejoly 99/314*, *Parmentier & Esono 3674* (BRLU). Ayene, *Lisowski 742* (BATA, BRLU). Dumu, inselberg, *Parmentier & Esono 3827* (BRLU). Kukumankok, entre le village et l'inselberg Mongum, *Lejoly & Esono 69* (BRLU). Mungum, inselberg, *Parmentier & Esono 3388* (BRLU). Ngong Mocomo, vers inselberg Acoak Baga, *Lejoly & Elad 98/007* (BATA, BRLU). Entre Nsuameyong et inselberg Akuom, *Obama & Lejoly 455* (BATA, BRLU).

Previously recorded from Equatorial Guinea (without locality) (GUINEA, 1951a: 184), Bioko (GUINEA, 1946: 340-341; HUTCHINSON, 1928: 205; HUTCHINSON & DALZIEL, 1954: 252) and Río Muni (GUINEA, 1946: 178, 340-341; LEJOLY & LISOWSKI, 1999b: 119).

18. **Dissotis barteri* Hook. f.

WELE-NZAS: Akoak Ebanga, inselberg, *Lejoly & Elad 98/077* (BATA, BRLU); *Parmentier & Esono 3495*, *3544* (BRLU).

19. *Dissotis congolensis* (Cogn. ex Büttner) Jacq.-Fél.

Osbeckia congolensis Cogn. ex Büttner

LITORAL: Bata-Bome. *Carvalho* 4670 (BATA, MA 597518). Au sud de Bata, au sud du fleuve Ekuka, *Lisowski* 1580. Etembue, *Lejoly & Elad* 98/202 (BRLU).

Previously recorded from Río Muni (GUINEA, 1946: 178 sub *Osbeckia congolensis*; LEJOLY & LISOWSKI, 1999c: 185).

20. *Dissotis hensii* Cogn.

CENTRO-SUR: Akoak Ebanga, inselberg, *Parmentier & Esono* 3578. Bicurga, inselberg, *Lisowski* 1374 (BATA, BRLU). Monte Alén, *Lisowski* 1450 (BRLU), *Ngomo* 356 (BATA, BRLU). WELE-NZAS: Dumu, inselberg, *Parmentier & Esono* 3829 (BRLU). Mfuin, inselberg, *Obama & Lejoly* 355 (BATA, BRLU), 356 (BRLU, MA 612043). Entre Nsuameyong et inselberg Akuom, *Obama & Lejoly* 449 (BRLU, MA-612034). Route de Ngong Mocomo vers Ovong, *Lejoly & Elad* 98/086 (BATA, BRLU).

Previously recorded from Río Muni (PARMENTIER, 2002: 915).

21. *Dissotis multiflora* (Sm.) Triana

BIOKO: Malabo-Riaba, km 26, *Carvalho* 2976 (MA 555834). CENTRO-SUR: Acurenem, *Guinea & Lope del Val* 979 (MA 688879). Bicurga, inselberg, *Lisowski* 1374bis, *Parmentier & Esono* 3152 (BRLU). Engong, dalle rocheuse, *Parmentier & Esono* 2906 (BRLU). Evinayong, *Guinea* 483-122 (MA 688868), 482-123 (MA 688869). P. N. de Monte Alén, transect de Monte Chocolate, *Lejoly* 95/139 (BRLU). Monte Alén, *Ngomo* 321 (BATA, BRLU). KIE-NTEM: Mfuin, inselberg, *Obama & Lejoly* 356 (BRLU). LITORAL: Ayamiken, *Lejoly* 97/013, *Lisowski* 948 (BATA, BRLU). Elende, *Lisowski* 1042 (BATA, BRLU). Ngoma, *Lejoly & Elad* 98/124 (BRLU). Sendje, *Pérez Viso* 3369 (MA 688887). Sendje-Ongamnsok, *Lejoly* 01/86 (BRLU). WELE-NZAS: Entre Nsuameyong et inselberg Akuom, *Obama & Lejoly* 449 (BATA, BRLU). Akuom, inselberg, *Lisowski* 729 (BATA, BRLU). Ngong Mocomo, vers inselberg Acoak Ebanga, *Lejoly & Elad* 98/006 (BRLU).

Previously recorded from Bioko (MORALES, 1994: 15; FERNÁNDEZ CASAS & MORALES, 1995: 237).

***22. *Dissotis thollonii* Cogn.**

CENTRO-SUR: P. N. de Monte Alén, dalle rocheuse, *Lejoly* 99/004, 99/435 (BATA, BRLU), *Parmentier* 1530 st, *Parmentier & Esono* 2721, 2763, 3453 (BRLU).

23. *Guyonia ciliata* Hook. f.

BIOKO SUR: Desembocadura del lago de Biaó, *Fernández Casas* 11972 (BRLU, MA 552726). CENTRO-

SUR: P. N. de Monte Alén, dalle rocheuse d'Engong, *Lejoly* 99/083, 99/390 (BATA, BRLU); ibidem, dalle rocheuse de Monte Alén, *Lejoly* 99/023 (BATA, BRLU), *Parmentier* 1512 (BRLU).

Previously recorded from Bioko (HUTCHINSON & DALZIEL, 1954: 246; MORALES, 1994: 17).

24. *Heterotis arenaria* Jacq.-Fél.

Heterotis obamae Lejoly & Lisowski [comparison of the types indicate that this species is a synonym for the previously described *Heterotis arenaria* Jacq.-Fél.]

LITORAL: Etembue, *Guinea* 227-915 (MA 688867), *Lejoly & Elad* 98/112 (BATA, BRLU), *Lisowski* 527 (BRLU). Pradera de Baga, *Eneme & Lejoly* 132 (BATA, BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999: 185 sub *Heterotis obamae*).

25. **Heterotis buettneriana* (Cogn.) Jacq.-Fél.

LITORAL: Bata-Sendje, km 38, *Carvalho* 6279 (MA 620439).

26. *Heterotis decumbens* (P. Beauv.) Jacq.-Fél.

Dissotis decumbens (P. Beauv.) Triana

BIOKO NORTE: Bahía de Venus, *Guinea* 256 (MA 384323), 322 (MA 268690), 330 (MA 384324). BIOKO SUR: Belebú Balachá de Riaba, *Fernández Casas* 12122 (MA 555835). Playa de Ureca, *Guinea* 2464 (MA 384325). CENTRO SUR: Enkumekie, *Pérez Viso* 3507 (MA 688875). Monte Alén, *Ngomo* 94 (BATA, BRLU). LITORAL: Bata-Bome, *Carvalho* 4668 (BATA, BRLU, MA 597516). Bata, *Nguma* 1064 (BRLU); ibidem, près du fleuve Ekuka, *Lisowski* 1219 (BATA, BRLU); ibidem, Costa Ubonde, *Guinea & Lope del Val* 229 (MA 688873). Corisco, isla, *Obama* 733 (BRLU). Etembue, *Eneme & Lejoly* 68, *Lejoly & Elad* 98/111 (BATA, BRLU). Jandje, *Lisowski* 302 (BRLU). Mboete, *Eneme* 374 (BATA, BRLU). Pradera de Baga, *Eneme & Lejoly* 93 (BATA, BRLU). WELE-NZAS: Mungum, inselberg, *Lejoly* 99/365, *Parmentier & Esono* 3378, 3582 (BRLU). Route de Ngong Mocomo vers Ovong, *Lejoly & Elad* 98/091 (BATA, BRLU).

Previously recorded from Bioko (GUINEA, 1946: 176, 340 sub *Dissotis decumbens*; GUINEA, 1951a: 180-181 sub *D. decumbens*; HUTCHINSON & DALZIEL, 1954: 257 sub *D. decumbens*; MORALES, 1994: 15-17 sub *D. de-*

cumbens) and Río Muni (LEJOLY & LISOWSKI, 1999c: 185).

27. *Heterotis prostrata* Benth.

BIOKO NORTE: Malabo-Basilé, km 11, *Carvalho* 2091 (MA 555836); Malabo-Riaba, *Fernández Casas* 10230 (MA 555837), *Carvalho* 2008 (MA 558402). BIOKO SUR: Moca, *Lope de Val s.n.* (MA 500350). Moca-Iago Loreto, *Fernández Casas* 11876 (MA 555832). Moca-Riaba, km 1, *Fernández Casas* 11567 (MA 558403). Moca-Ureca, *Fernández Casas* 11748 (MA 555833). Musola, *Guinea* 1295 (MA 384346), 1347 (MA 384347), 1387 (MA 384336), 1396 (MA 384337); *ibidem*, camino de Monkey Bush, 981 (MA 268691), 1070 (MA 384345). CENTRO-SUR: Bicurga, inselberg, *Lejoly* 99/492 (BATA, BRLU), *Parmentier & Esono* 3097, 3150 (BRLU). Monte Alén, dalle rocheuse, *Lejoly* 99/028 (BATA, BRLU, MA 621780). P. N. de Monte Alén, Engong, dalle rocheuse, *Lejoly* 99/082, 99/102 (BATA, BRLU), *Parmentier & Esono* 2727 (BRLU). WELE-NZAS: Mungum, inselberg, *Lejoly & Esono* 76 (BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999c: 188; PARMENTIER, 2002: 915).

The specimens of *H. rotundifolia* (Sm.) Jacq.-Fél. and *Dissotis fruticosa* (Brenan) Keay we examined do not show sufficient differences with *H. prostrata*. We decided to include them under *H. prostrata*. As we have not compared the type material of the three species, we do not put them in synonymy. Nevertheless we consider the species *D. fruticosa* as uncertain as well as the presence of *H. rotundifolia* in Equatorial Guinea.

28. *Heterotis rupicola* (Gilg ex Engl.) Jacq.-Fél.

CENTRO-SUR: P. N. de Monte Alén, dalle rocheuse d'Engong, *Lejoly* 99/081 (BATA, BRLU, MA-621788), *Parmentier & Esono* 2983 (BRLU); *ibidem*, dalle rocheuse de Monte Alén, *Lejoly* 99/032 (BATA, BRLU), *Parmentier* 1510 (BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999c: 188; PARMENTIER & NGUEMA, 2001: 216; PARMENTIER & *al.*, 2001: 350; PARMENTIER, 2002: 914).

29. **Lijndenia jasminoides* (Gilg) Borhidi

ANNOBON: Aual-Palé, 2,5 km de Aual, *Carvalho* 3110 (MA 558407).

30. *Medillina mannii* Hook. f.

BIOKO SUR: Ruiché-Gran Caldera de Luba, *Carvalho* 3834 (MA 555848). CENTRO-SUR: P. N. de Monte Alén, dalle rocheuse d'Engong, *Parmentier & Esono* 2798, *Stewart* 1010st (BRLU). WELE-NZAS: Mungum, inselberg, *Parmentier & Esono* 3394^{bis} (BRLU).

Previously recorded from: Bioko (HUTCHINSON, 1928: 209; GUINEA, 1946: 341; HUTCHINSON & DALZIEL, 1954: 251; JOHANSSON, 1974: 42; MORALES, 1994: 17) and Río Muni (GUINEA, 1946: 157).

31. *Medillina mirabilis* (Gilg) Jacq.-Fél. *Myrianthemum mirabile* Gilg

CENTRO-SUR: P. N. de Monte Alén, transect de Nkumékié, *Lejoly* 95/174 (BRLU); *ibidem*, près de la Cabaña de Esamalan, *Senterre, Obiang & Ngomo* 2123 (BRLU). LITORAL: Etembue, *Lejoly & Van Asbroeck* 35 (BRLU).

Previously recorded from Bioko (GUINEA, 1946: 341 sub *Myrianthemum mirabile*; HUTCHINSON & DALZIEL, 1954: 247 sub *M. mirabile*) and Río Muni (GUINEA, 1946: 341 sub *M. mirabile*).

32. **Memecylon aequidianum* Jacq.-Fél.

LITORAL: Etembue, *Eneme & Lejoly* 42 (BATA, BRLU). WELE-NZAS: Piedra Nzaz, inselberg, *Nguema & Parmentier* 509 (BRLU).

33. **Memecylon candidum* Gilg

CENTRO-SUR: Bicurga, inselberg, *Stewart* 913 (BRLU).

34. *Memecylon collinum* Jacq.-Fél.

KIE-NTEM: Mfuin, inselberg, *Obama & Lejoly* 375st (BATA, BRLU). WELE-NZAS: Akoak Ebanga, inselberg, *Parmentier & Esono* 3500, 3519 (BRLU). Dumu, inselberg, *Lejoly* 99/331st, 99/349st (BRLU), *Parmentier & Esono* 3796 (BRLU). Mungum, inselberg, *Lejoly* 99/368 (BATA, BRLU, MA 621697), *Lejoly & Esono* 86 (BRLU). Piedra Nzaz, inselberg, *Lejoly* 99/185st (BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999b.: 120; PARMENTIER & NGUEMA, 2001: 210; PARMENTIER & *al.*, 2001: 352; PARMENTIER, 2002: 915).

35. **Memecylon klaineianum* Jacq.-Fél.

CENTRO-SUR: P. N. de Monte Alén, transect de Mosumo, à 1420 m du début du layon, *Senterre & Ngomo* 801, 805 (BRLU).

36. *Memecylon laurentii De Wild.

CENTRO-SUR: P. N. de Monte Alén, transect de Monte Alén, *Senterre, Obiang & Esono* 2817 (BRLU); ibidem, près du village de Monte Alén (Ecofac), colline entourée par le sentier pédagogique, *Senterre, Obiang & Esono* 2848. Monte Mitra, *Obama* 346 (BATA, BRLU). LITORAL: Bata-Bome, *Carvalho* 5299 (BATA, BRLU, MA 598114).

37. *Memecylon nodosum (Engl.) Gilg ex Engl.

CENTRO-SUR: P. N. de Monte Alén, près de la Cabaña Ecofac de Misergue, *Senterre & Obiang* 3305 (BRLU).

38. *Memecylon salicifolium Jacq-Fél.

LITORAL: Bata-Sendje, km 62-63, *Carvalho* 6441 (BATA, BRLU, MA 635355).

39. *Memecylon virescens Hook. f.

CENTRO-SUR: Bata-Niefang, km 35, *Carvalho* 5684 (BRLU, MA 598987). Monte Alén, *Ngomo* 423 (BATA, BRLU). LITORAL: Handje, *Lejoly & Elad* 98/184 (BATA, BRLU).

40. *Memecylon viride Hutch. & Dalz.

CENTRO-SUR: P. N. de Monte Alén, transect de Mousumo, *Van Reeth* 334 (BRLU).

41. *Memecylon zenkeri Gilg

CENTRO-SUR: P. N. de Monte Alén, transect de Monte Chocolate, *Lejoly* 95/146, *Senterre & Ngomo* 3419 (BRLU).

42. Ochtocharis dicellandroides (Gilg)
C. Hansen & Wickens

Phaeoneuron dicellandroides Gilg

LITORAL: Bata-Mbini, km 24, *Carvalho* 6367 (MA 620603). Bata-Niefang, km 38, *Carvalho* 5407 (BATA, BRLU, MA 598315). Midjomitom, *Carvalho* 6325 (BATA, BRLU, MA 620562). WELE-NZAS: Dumu, inselberg, *Nguema* 187 (BRLU). Mungum, inselberg, *Parmentier & Esono* 3410 (BRLU).

Previously recorded from Río Muni (GUINEA, 1946: 341 sub *Phaeoneuron dicellandroides*).

43. Preussiella kamerunensis Gilg

Preussiella chevalieri Jacq.-Fél.

BIOKO NORTE: Carretera del Pico Basilé, km 4, *Carvalho* 3527 (MA 555849), 4506 (MA 555851). BIOKO SUR: Belebú Balachá de Riaba a Ureca, km 4, *Carvalho* 4203 (MA 555850).

Previously recorded from: Bioko (MORALES, 1994: 17; FERNÁNDEZ CASAS & MORALES, 1995: 237).

44. *Spathandra blakeoides (G. Don)
Jacq.-Fél.

LITORAL: Etembue, *Eneme & Lejoly* 37, *Lisowski* 514 (BATA, BRLU). Au S de Bata, près du fleuve Ecucu, *Lisowski* 1209 (BRLU). Jandje, *Lisowski* 35, 284 (BRLU). Kogo, *Obama* 889 (BATA, BRLU). Mayang, *Lisowski* 813 (BATA, BRLU).

45. Tristemma demeusei De Wild.

Tristemma radicans Gilg ex Engl.

CENTRO-SUR: Engong, dalle rocheuse, *Lejoly* 99/088, *Parmentier & Esono* 2739, 2937st, 2972st (BRLU). P. N. de Monte Alén, dalle rocheuse, *Lejoly* 99/019, *Parmentier* 1515st, 3039st (BRLU), *Lejoly* 99/391 (BATA, BRLU); ibidem, transect de Monte Alén, *Van Reeth* 72 (BRLU); ibidem, transect de Nkumékié à 2550 m du début du layon, *Senterre & Ngomo* 37. (BRLU). WELE-NZAS: Ayene, *Lisowski* 757 (BRLU).

Previously recorded from: Bioko (GUINEA, 1946 sub *Tristemma radicans*: 340; HUTCHINSON & DALZIEL, 1954: 250 sub *T. radicans*).

46. Tristemma hirtum P. Beauv.

BIOKO SUR: Moca, *Lope de Val* s.n. (MA 500350); ibidem, hacia las cascadas de Iladyi, *Carvalho* 4093 (MA 555810). Moca-lago Biaó, *Fernández Casas* 11916 (MA 555813). LITORAL: Abdelmang, *Guinea & Lope del Val* 663 (MA 688888). Bata, *Nguema* 1167. Bolondo, *Guinea* 256-689 (MA 688901). Costa Bata, *Guinea & Lope del Val* 661 (MA 688889). Ecucu, *Guinea* 259-751 (MA 688898), 409 (688900). Elendé, *Lisowski* 1043 (BRLU). Eyan Bot, km. 12 de la carretera del puerto a Cogo, *Pérez Viso* 3541 (MA 688876). Etembue, *Guinea* 423 (MA 688899), *Lejoly & Elad* 98/114, 98/201 (BATA, BRLU), *Lisowski* 508 (BATA, BRLU), 549 (BRLU). Jandje, *Lisowski* 41 (BATA, BRLU). Pradera de Baga, *Eneme* 361, *Eneme & Lejoly* 141 (BRLU). WELE-NZAS: Asoc, inselberg, *Obama & Lejoly* 475 (BATA, BRLU).

Previously recorded from: Bioko (HUTCHINSON, 1928: 208; GUINEA, 1946: 340; GUINEA, 1951a: 176; HUTCHINSON & DALZIEL, 1954: 250; MORALES, 1994: 17-18; MORALES, 1995: 18) and Río Muni (GUINEA, 1946: 340; LEJOLY & LISOWSKI, 1999b: 120; LEJOLY & LISOWSKI, 1999c: 185; PARMENTIER & NGUEMA, 2001: 216).

47. Tristemma littorale subsp. *biafranum*
Jacq.-Fél.

BIOKO NORTE: Boopa, entre Malabo y Pico Basilé,

Castroviejo 9095SC (MA 688890). Carretera del pico Basilé, km 5, *Carvalho 3621* (MA 555818); ibidem, km 22, *Carvalho 2210* (MA 555817). BIOKO SUR: Luba, *Fernández Casas 12035bis* (MA 555823). Desde la carretera general a la playa de Arenas Blancas, *Fernández Casas 11647* (MA 555821). Musola, *Guinea 1263* (MA 384369), *1265* (MA 270517), *1319* (MA 384374), *1320* (MA 384375). Cerca del cruce de Moca, *Fernández Casas 11442* (MA 555820). LITORAL: Ayamiken, *Lejoly 97/036* (BATA, BRLU), *Lisowski 432* (BRLU). Etembue, *Lisowski 501* (BRLU), *562*, *1132* (BATA, BRLU). Mbambala, río, *Nguema & Lejoly 5* (BATA, BRLU). Mboete, *Eneme 378* (BATA, BRLU). Jandje, *Lisowski 305*, *1322* (BRLU). Sendje, *Lisowski 175* (BRLU). WELE-NZAS: Aconibe, *Obama 305* (BATA, BRLU).

Previously recorded from Río Muni (LEJOLY & LISOWSKI, 1999a: 106; LEJOLY & LISOWSKI, 1999c: 185).

48. *Tristemma littorale* Benth. subsp. littorale

ANNOBON: Pico Surcado, *Wrigley 65* (MA 270518). BIOKO SUR: Luba-Veiga y Avendaño, *Fernández Casas 12045* (MA 555822). Malabo-Luba, *Carvalho 2050* (MA 555815). Ureca, *Guinea 2514 bis* (MA 384370). BIOKO NORTE: Malabo, puerto marítimo, *Carvalho 4114* (MA 555816).

Previously recorded from: Bioko (HUTCHINSON, 1928: 208; GUINEA, 1951a: 178; HUTCHINSON & DALZIEL, 1954: 250; HEDBERG & HEDBERG, 1968: 130; MORALES, 1994: 18; MORALES, 1995: 18) and Río Muni (GUINEA, 1946: 176b; 340).

49. *Tristemma mauritianum* J.F. Gmel. *T. incompletum* R.Br.

BIOKO SUR: Moca-lago Biaó, *Fernández Casas 10373* (MA 555812), *11711* (MA 555811). Moca-Riaba, por el camino viejo, *Fernández Casas 11845* (MA 555814). Carretera de Moca, *Guinea 1902* (MA 270516). Musola, lago Loreto, *Guinea 1839* (MA 384367). CENTRO-SUR: Bicaba, *Pérez Viso 3459* (MA 688884). P. N. de Monte Alén, dalle rocheuse d'Engong, *Lejoly 99/066* (BATA, BRLU, MA 621708), *Lejoly 99/451.2*, *Parmentier & Esono 2974 st* (BRLU); ibidem, Esamalang, *Pérez Viso 3308* (MA 688886). LITORAL: Ayamiken, *Lejoly 97/035*, *Lisowski 911*, *Obama 159*, (BATA, BRLU). WELE-NZAS: Akoak Ebanga, inselberg, *Parmentier & Esono 3579* (BRLU). Asoc, inselberg, *Lejoly 99/310* (BATA, BRLU). Dumu, inselberg, *Lejoly 99/364*, *Parmentier & Esono 3640*, *3828* (BRLU). Obamico (Parque N. de Nsork), *Nguema & Esono 286* (BATA, BRLU).

Previously recorded from Bioko (GUINEA, 1951: 176-178 sub *Tristemma incompletum*; MORALES, 1994: 18; 1995: 18).

50. **Tristemma oreophilum* Gilg

BIOKO NORTE: Cupapa, *Fernández Casas 11389*. BIOKO SUR: Malabo-Luba-Moca, estrada km 68, *Carvalho 2615* (MA 400268). CENTRO-SUR: P. N. de Monte Alén, *Lejoly 99/156* (BRLU); ibidem, chemin vers dalle rocheuse d'Engong, *Parmentier & Esono 2907* (BRLU); ibidem, dalle rocheuse de Monte Alén, *Lejoly 99/389* (BATA, BRLU); ibidem, 2 km au NE du site de traversée du Río pour aller aux cataractas, *Senterre, Obiang & Ngomo 2068* (BRLU); ibidem, entre la station Ecofac de Mosumo et Monte Boracho, *Senterre & Nogmo 290* (BRLU). LITORAL: Mboete, *Eneme 386* (BRLU). Ncô, *Nguema & Lejoly 156* (BRLU, MA-611887). WELE-NZAS: Ngong Mocomo, *Parmentier & Esono 3580* (BRLU).

51. **Tristemma rubens* A. & R. Fern.

CENTRO-SUR: Bicurga, inselberg, *Lisowski 1487* (BRLU). LITORAL: Bata-Senge, km 27, *Carvalho 6167* (MA 619175). Nco-Misobong au niveau de la grande cascade, *Nguema & Lejoly 198* (BATA, BRLU, MA 611882).

52. **Warneckea bebaiensis* (Gilg ex Engl.) Jacq.-Fél.

CENTRO SUR: P. N. de Monte Alén, transect de Nkumékié, à 4430 m du début du layon, *Senterre & Obiang 3649* (BRLU).

53. **Warneckea cauliflora* Jacq.-Fél.

CENTRO SUR: Parc National de Monte Alén, transect Ecofac de Nkumékié, à 5300 m du début du layon, *Senterre & Obiang 3604 st* (BRLU).

54. **Warneckea fosteri* (Hutch. & Dalz.) Jacq.-Fél.

ANNOBON: Ridge W of Crater Lake, *Wrigley 201* (MA 268763). Palé, *Carvalho 3144* (MA 558408). LITORAL: Bata-Mbini, km 27, *Carvalho 6086* (MA 618989).

55. *Warneckea membranifolia* (Hook. f.) Jacq.-Fél. *Memecylon membranifolium* Hook. f.

CENTRO SUR: P. N. de Monte Alén, transect de Nkumékié à 2650 m du début du layon, *Senterre & Ngomo 15* (BRLU); ibidem, transect de Nkumékié à 3200 m du début du layon, *Senterre & Ngomo 25* (BRLU). WELE-NZAS: Akoak Ebanga, inselberg, *Parmentier & Esono 3560* (BRLU). Kukumankok, entre l'inselberg Mungum et le village, *Lejoly & Esono 57*.

Previously recorded from Bioko (HUTCHINSON, 1928: 215 sub *Memecylon membranifolium*; GUINEA, 1946: 341 sub *M. membranifolium*; HUTCHINSON & DALZIEL, 1954:

263 sub *M. membranifolium*) and Río Muni (PARMENTIER & *al.*, 2001: 362).

56. *Warneckea memecyloides* (Benth.) Jacq.-Fél.

Memecylon memecyloides (Benth.) Exell

BIOKO NORTE: Ela Nguema, barrio de Santa Cruz, *Carvalho* 3398 (MA 688891), 3423 (MA 558406).

Previously recorded from Annobón (FERNÁNDEZ CASAS & MORALES, 1995: 237 sub *Memecylon memecyloides*) and Bioko (HUTCHINSON & DALZIEL, 1954: 263; MORALES, 1994: 17; 1995: 17).

57. **Warneckea pulcherrima* (Gilg) Jacq.-Fél.

CENTRO SUR: Bicurga, inselberg, *Parmentier & Esno* 3214 (BRLU). P. N. de Monte Alén, 2 km au NE du site de traversée du Río pour aller aux cataractas, *Senterre, Obiang & Ngomo* 2364 (BRLU); *ibidem*, transect de Monte Chocolate, *Lejoly* 957/L3.1023 (BRLU).

Doubtful records

No specimen supporting the following records has been found:

Memecylon englerianum Cogn. recorded in Río Muni (GUINEA, 1946: 341). This species is distributed over Nigeria and Western Cameroon.

Memecylon erythranthum Gilg recorded in Río Muni (GUINEA, 1946: 146). This species is distributed in Tanzania and Zimbabwe; its presence in Equatorial Guinea is not very probable.

Osbeckia tubulosa Sm. recorded in Río Muni (GUINEA, 1946: 184). This species is distributed from Guinea to Nigeria; its presence in Equatorial Guinea is not very probable.

Tristemma albiflorum Benth. recorded in Río Muni (GUINEA, 1946: 184). This species is distributed from Senegal to Ghana, its presence in Equatorial Guinea is not very probable.

We prefer not to consider those species in the check list as long as no material is collected in Equatorial Guinea.

Insufficiently known species

Memecylon fernandianum Gilg ex Engl. has been recorded from Bioko (GUINEA, 1946: 341; HUTCHINSON & DALZIEL, 1954: 263).

Memecylon tessmannii Gilg ex Engl. recorded in Río Muni (GUINEA, 1946: 341).

Memecylon vogelii Naudin recorded in Bioko (HUTCHINSON, 1928: 215; GUINEA, 1946: 341).

Tristemma oreosthamnos Mildbr. has been recorded from Annobón (EXCELL, 1963: 100; GUINEA, 1946: 340; 1951: 178; HEDBERG & HEDBERG, 1968: 134; MORALES, 1994: 18).

We could not examine any specimens of those species. As they are insufficiently known (LEBRUN & STORK, 1991) we prefer not to consider them in the check list.

Repartition of species between Bioko, Annobón and Río Muni

The species repartition is given in table 2, as well as the indications for the 26 new species for the country, for Río Muni (29), Bioko (6) and Annobón (3). Fifty-seven species were found in Equatorial Guinea, 49 in Río Muni, 23 in Bioko and 6 in Annobón. The high number of species newly recollected in the country and the fact that several species are represented by one or few herbarium specimen, indicates that the prospection should be continued.

Collection index

The species is indicated by a number in parenthesis corresponding to the number in the check list.

Carvalho: 2008 (27); 2050 (48); 2091 (27); 2210 (47); 2484 (1); 2523 (16); 2615 (50); 2617 (1); 2976 (21); 3110 (29); 3144 (54); 3266 (6); 3398 (56); 3405 (14); 3411 (14); 3423 (56); 3527 (43); 3621 (47); 3767 (1); 3834 (30); 3868 (16); 4093 (46); 4114 (48); 4203 (43); 4465 (14); 4506 (43); 4668 (26); 4670 (19); 4675 (17); 4969 (16); 5255 (17); 5287 (8); 5299 (36); 5407 (42); 5574 (17); 5684 (39); 5960 (14); 6086 (54); 6167 (50); 6279 (25); 6325 (42); 6367 (42); 6441 (38).

Castroviejo: 9095SC (47).

Descoings: 12847 (4); 12848 (4).

Eneme: 361 (46); 362 (17); 374 (26); 378 (47); 386 (50).

Eneme & Lejoly: 37 (44); 42 (32); 68 (26); 93 (26); 132 (24); 141 (46).

Fernández Casas: 10230 (27); 11236 (16); 10373 (49); 11389 (50); 11442 (47); 11486 (1); 11516 (16); 11567 (27); 11647 (47); 11711 (49); 11748 (27); 11775 (6); 11845 (49); 11846 (1); 11876 (27); 11916 (46); 11972 (23); 12035bis (47); 12045 (48); 12114 (16); 12122 (26); 12141 (6).

TABLE 2
SPECIES LIST OF MELASTOMATACEAE IN EQUATORIAL GUINEA, DISTRIBUTIONS BETWEEN
RÍO MUNI, BIKO AND ANNOBÓN, NEW RECORDS

Species	New for the country	New for Río Muni	New for Bioko	New for Annobón	Present in Río Muni	Present in Bioko	Present in Annobón
<i>Amphiblemma mildbraedii</i>						1	
<i>A. molle</i>	1	1			1		
<i>Antherotoma irvingiana</i>					1		
<i>Calvoa crassinoda</i>							1
<i>C. grandifolia</i>							1
<i>C. hirsuta</i>		1			1	1	
<i>C. jacques-felixii</i>	1		1			1	
<i>C. monticola</i>	1	1			1		
<i>C. orientalis</i>					1		
<i>C. pulcherrima</i>					1		
<i>C. sapinii</i>	1	1			1		
<i>C. seretii</i> subsp. <i>seretii</i>	1	1			1		
<i>C. trochainii</i>						1	
<i>Dicellandra barteri</i>					1	1	
<i>D. descoingsii</i>	1	1	1		1	1	
<i>Dichaetanthera africana</i>					1	1	
<i>Dinophora spenneroides</i>					1	1	
<i>Dissotis barteri</i>	1	1			1		
<i>D. congolensis</i>					1		
<i>D. hensii</i>					1		
<i>D. multiflora</i>		1			1	1	
<i>D. tholonnii</i>	1	1			1		
<i>Guyonia ciliata</i>		1			1	1	
<i>Heterotis arenaria</i>					1		
<i>H. buettneriana</i>	1	1			1		
<i>H. decumbens</i>					1	1	
<i>H. prostrata</i>			1		1	1	
<i>H. rupicola</i>					1		
<i>Lijndenia jasminoides</i>	1			1			1
<i>Medillina mannii</i>					1	1	
<i>M. mirabilis</i>					1	1	
<i>Memecylon aequidanium</i>	1	1			1		
<i>M. candidum</i>	1	1			1		
<i>M. collinum</i>					1		
<i>M. klaineianum</i>	1	1			1		
<i>M. laurentii</i>	1	1			1		
<i>M. nodosum</i>	1	1			1		
<i>M. salicifolium</i>	1	1			1		
<i>M. virescens</i>	1	1			1		
<i>M. viride</i>	1	1			1		
<i>M. zenkeri</i>	1	1			1		
<i>Ochtocharis dicellandroides</i>					1		
<i>Preussiella kamerunensis</i>						1	
<i>Spathandra blakeoides</i>	1	1			1		
<i>Tristemma demeusei</i>		1			1	1	
<i>T. hirtum</i>					1	1	
<i>T. littorale</i> subsp. <i>biafranum</i>			1		1	1	
<i>T. littorale</i> subsp. <i>littorale</i>				1	1		1
<i>T. mauritianum</i>		1			1	1	

TABLE 2 (continued)

Species	New for the country	New for Río Muni	New for Bioko	New for Annobón	Present in Río Muni	Present in Bioko	Present in Annobón
<i>Tristemma oreophilum</i>	1	1	1		1	1	
<i>T. rubens</i>	1	1			1		
<i>Warneckea bebaiensis</i>	1	1			1		
<i>W. cauliflora</i>	1	1			1		
<i>W. fosteri</i>	1	1		1	1		1
<i>W. membranifolia</i>					1	1	
<i>W. memecyloides</i>			1			1	1
<i>W. pulcherrima</i>	1	1			1		
TOTAL	26	29	6	3	49	23	6

GC: 11492 (13).

Guinea: 227-915 (24); 239-507 (14); 244-140 (7); 250 (2); 252 (17); 256 (26); 256-689 (46); 259-751 (46); 322 (26); 330 (26); 361 (14); 401 (17); 403 (17); 409 (46); 423 (46); 463 (17); 482-123 (21); 483-122 (21); 493-118 (16); 509 (2); 520 (14); 930bis (13); 935bis (13); 981 (27); 1070 (27); 1189 (6); 1263 (47); 1265 (47); 1295 (27); 1319 (47); 1320 (47); 1347 (27); 1387 (27); 1396 (27); 1723 (1); 1839 (49); 1902 (49); 1968 (1); 2079 (6); 2297 (6); 2319 (14); 2321 (14); 2323 (14); 2434 (6); 2464 (26); 2514 bis (48).

Guinea & Lope del Val: 229 (26); 663 (46); 976 (2); 977 (2); 978 (2); 979 (21).

Lejoly: 93/312 (2); 93/333 (10); 93/350 (16); 94/117 (6); 94/123 (2); Lejoly 94/188 (8); 94/189 (6); 95T/L3.1023 (57); 95/139 (21); 95/146 (41); 95/174 (31); 95/176 (14); 97/013 (21); 97/035 (49); 97/036 (47); 97/088 (17); 99/004 (22); 99/019 (45); 99/023 (23); 99/028 (27); 99/032 (28); 99/036 (8); 99/048 (6); 99/066 (49); 99/081 (28); 99/082 (27); 99/083 (23); 99/088 (85); 99/100 (10); 99/102 (27); 99/134 (6); 99/155 (8); 99/156 (50); 99/185 (34); 99/196 (8); 99/202 (3); 99/231 (10); 99/238 (10); 99/268 (3); 99/276 (16); 99/310 (49); 99/314 (17); 99/331 (34); 99/349T1 (34); 99/350 (16); 99/364 (49); 99/365 (26); 99/367 (8); 99/368 (34); 99/373T1 (16); 99/379 (8); 99/389 (50); 99/390 (23); 99/391 (45); 99/435 (22); 99/451.2 (49); 99/467bis (8); 99/492 (27); 01/04 (16); 01/20 (14); 01/22 (6); 01/86 (21).

Lejoly & Elad: 98/006 (21); 98/007 (17); 98/036 (14); 98/077 (18); 98/086 (20); 98/091 (27); 98/111 (26); 98/112 (24); 98/114 (46); 98/124 (21); 98/184 (39); 98/201 (46); 98/202 (19).

Lejoly & Esono: 49 (3); 57 (55); 69 (17); 75 (8); 76 (27); 86 (34).

Lejoly & Van Asbroeck: 11 (14); 35 (31).

Lisowski: 35 (44); 41 (46); 175 (47); 284 (44);

302 (26); 305 (47); 432 (47); 501 (47); 508 (46); 527 (24); 549 (46); 554 (12); 562 (47); 596 (8); 663 (3); 676 (10); 697 (14); 698 (17); 729 (21); 742 (17); 757 (45); 787 (14); 797 (15); 813 (44); 881 (14); 911 (49); 948 (21); 1042 (21); 1043 (46); 1132 (47); 1209 (44); 1219 (26); 1322 (47); 1374 (20); 1374bis (21); 1385 (16); 1387 (9); 1432 (16); 1437 (2); 1450 (20); 1482 (8); 1487 (50); 1528 (9); 1547 (14); 1580 (19).

Lope de Val: s.n. (MA 500350) (27); s.n. (MA 500350) (46).

Mildbraed: 6528 (4).

Ngomo: 75 (17); 94 (26); 241 (14); 321 (21); 356 (20); 423 (39).

Nguema: 86 (15); 135 (14); 187 (42); 434 (6); 465 (2); 1064 (26); 1167 (46).

Nguema & Esono: 286 (49); 292 (2).

Nguema, Esono & Lejoly: 278 (15); 279 (6).

Nguema & Lejoly: 5 (47); 9 (14); 156 (50); 185 (6); 196 (6); 198 (51).

Nguema & Parmentier: 509 (32).

Obama: 159 (49); 180 (17); 305 (47); 306 (17); 346 (36); 350 (6); 733 (26); 889 (44).

Obama & Lejoly: 355 (20); 356 (21); 358 (17); 367 (10); 375 (34); 409 (14); 449 (21); 455 (17); 475 (46); 480 (3); 535 (8); 628 (3); 683 (17).

Parmentier: 1510 (28); 1512 (23); 1515 (45); 1530 (22); 1561 (10); 1574bis (3); 1613 (8); 1695 (17); 3039 (45).

Parmentier & Esono: 2721 (22); 2727 (27); 2937 (45); 2739 (45); 2763 (22); 2798 (30); 2806 (6); 2836 (8); 2861 (2); 2867 (15); 2875 (14); 2877 (2); 2907 (50); 2974 (49); 2983 (28); 2893 (6); 2905 (8); 2906 (21); 2916 (15); 2964 (11); 2965 (6); 2972 (45); 2982 (10); 3097 (27); 3098 (3); 3150 (27); 3151 (17); 3152 (21); 3214 (57); 3316 (15); 3340 (8); 3378 (26); 3388 (17); 3394bis (30); 3402 (10); 3410 (42); 3412 (2); 3431 (6); 3432 (6); 3448 (15); 3453 (22); 3490 (10); 3491 (3); 3495

(18); 3500 (34); 3518 (8); 3519 (34); 3544 (18); 3560 (55); 3578 (20); 3579 (49); 3580 (50); 3581 (17); 3582 (26); 3596 (10); 3600 (8); 3622 (3); 3625 (16); 3640 (49); 3674 (17); 3697 (3); 3716 (10); 3796 (34); 3797 (8); 3827 (17); 3828 (49); 3829 (20).

Parmentier & Nguema: 294 (10); 301 (10); 375 (8).

Pérez Viso: 3308 (49); 3369 (21); 3459 (49); 3450 (17); 3483 (17); 3507 (26); 3541 (46); 3647 (14); 3756 (17).

Porembski, Biedinger & Nguema: 3503 (10); 3599 (3).

Senterre & Ngomo: 15 (55); 16 (14); 25 (55); 37 (45); 38 (17); 267 (14); 290 (50); 483 (10); 799 (8); 801 (35); 805 (35); 2167 (8); 3419 (41).

Senterre & Obiang: 3305 (37); 3604 (53); 3649 (52); 3822 (6).

Senterre, Obiang & Esono: 2817 (36); 2848 (36).

Senterre, Obiang & Ngomo: 2068 (50); 2123 (31); 2364 (57).

Senterre, Obiang & Nguema: 2153 (2).

Stewart: 913 (33); 995 (10); 1002 (8); 1010 (30).

Van Reeth: 43 (6); 72 (45); 140 (2); 334 (40).

Velayos, Aedo & Pérez-Viso: 9524 (14).

Wrigley: 65 (48); 201 (54);

Wrigley & Melville: 164 (5).

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