

The Papilionoideae (Leguminosae) of Equatorial Guinea (Annobón, Bioko and Río Muni)

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Abstract This study provides a checklist of the Papilionoideae (Leguminosae) present in Equatorial Guinea, comprising 55 genera and 157 taxa. Twenty-six species are known from Annobón, 91 from Bioko and 110 from Río Muni. The best represented genus is *Millettia* with 14 species. Bibliographic references for Papilionoideae (Leguminosae) from Equatorial Guinea have been gathered and checked. Seventeen species are included, because published data on their distribution range suggests they may occur in Equatorial Guinea; 15 species are introduced and likely already naturalized; and 48 taxa are recorded for the first time from the country. This represents an increase of over 30% in the floristic knowledge of Papilionoideae from Equatorial Guinea. Three species only known from their types may be considered as endemic to Equatorial Guinea: *Amphimas tessmannii*, *Leptoderris oxytropis* and *Millettia mildbraedii*.

Keywords Biodiversity · Floristics · Legumes · Rain forest · Tropical Africa

Introduction

Leguminosae is the third largest plant family in the world, comprising about 730 genera and ca. 19,300 species. Considering the number of species, the Papilionoideae with ca. 13,600–14,000 species in ca. 478 genera is the largest of the three subfamilies in which the legumes are usually subdivided. The Papilionoideae are especially abundant in temperate areas, but they are also present in tropical and subtropical regions (Lewis et al. 2005; Heywood et al. 2007).

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Important works on Papilionoideae of West tropical Africa include those of Oliver (1871), Keay (1958) or Pellegrin (1949). Other works that included this region are restricted to just a few Papilionoideae genera (Soladoye 1985; Breteler 1994).

Equatorial Guinea is located in western Central Africa. The insular region includes two islands in the Gulf of Guinea: Bioko (2,017 km²), ca. 32 km from the Cameroon coast, and Annobón (17 km²), ca. 400 km from Gabonian coast. The continental mainland, Río Muni (26,000 km²), is located between 1° N and 2° N latitude (Fig. 1). A compilation of data about location, phytogeography, climate and hydrogeography, can be found in Guinea (1946), De Castro and De la Calle (1985), Pérez del Val (1993), Heras et al. (2002) or Velayos et al. (2008).

A complete account of the Papilionoideae (Leguminosae) of Equatorial Guinea has never been published. Although the subfamily was included in the general vascular plant catalogue of Guinea (1946), plants were added that were expected to be present in Equatorial Guinea.

Over the last 25 years the Real Jardín Botánico has carried out intensive fieldwork in both Bioko and Río Muni. Studies of these new collections and the available historical specimens have permitted the description of new taxa and the preparation of checklists of several groups (Herrero et al. 2001; Velayos et al. 2001; Fero et al. 2003; Parmentier and Geerinck 2003; Cabezas et al. 2004, 2005, 2009), and studies on the inselberg vegetation, carried out by botanists from the Université Libre de Bruxelles (Lejoly and Lisowski 1999; Parmentier 2001, 2003; Parmentier et al. 2001; Senterre 2001; Senterre and Lejoly 2001; Senterre et al. 2004). The present work complements the previous ones on this family: Leguminosae-Mimosoideae (Estrella et al. 2005) and Leguminosae-Caesalpinioideae (Estrella et al. 2006).

This work aims to update the catalogue of Papilionoideae for the whole of Equatorial Guinea including both bibliographic records and herbarium material. This checklist is a new step towards a modern Flora of Equatorial Guinea.

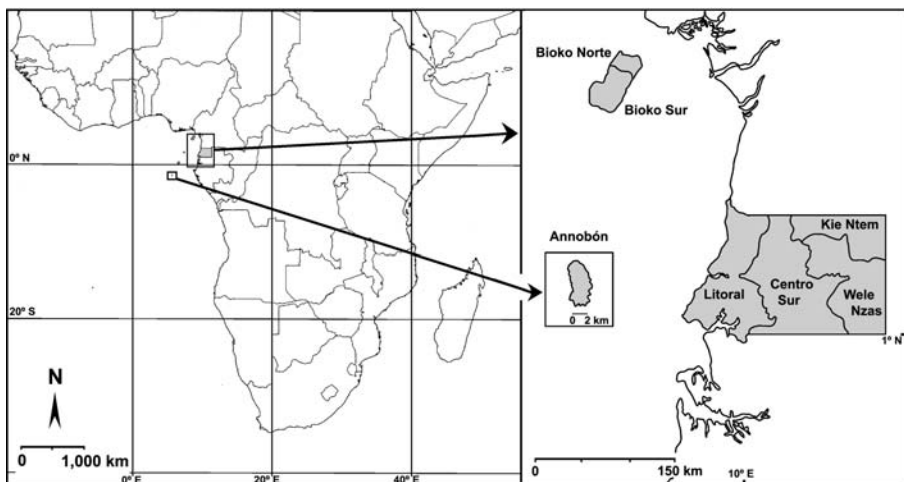


Fig. 1 Equatorial Guinea in Africa and administrative provinces distribution

Material and Methods

The checklist is primarily based on herbarium specimens. We have studied more than 750 specimens from BM, BRLU, K, LISU, MA and WAG including both the historic collections made during European expeditions by Barter, Mann, Newton, Tessmann and Vogel, and modern collections obtained by both Belgian and Spanish expeditions. For comparative purposes some specimens from neighbouring countries were also studied.

Bibliographic references for the legumes of Equatorial Guinea have also been checked (Aedo et al. 1999). Seventeen species are included based only on literature records because their published distribution areas suggest that they might be present also in Equatorial Guinea. They are quoted with the number in brackets. Fifteen introduced species are presented in the checklist; these are marked with an asterisk (*) before the accepted name.

The locality names used in this checklist have been brought up-to-date following Velayos et al. (2001: 147–149); this source also contains a gazetteer including geographical coordinates.

The checklist is alphabetically ordered by genera and species, with accepted names given in bold type. Generic circumscription is in accordance with Lock (1989) and Lewis et al. (2005). We used monographs or regional works, such as those by Soladoye (1985) or Breteler (1994), when they were available.

Under each accepted name a list of synonyms found in the literature concerning Equatorial Guinea and used in previous reports is included; these are given in italics. Specimens are ordered alphabetically by the different regions and provinces: Annobón, Bioko (provinces of Bioko Norte and Bioko Sur) and Río Muni (provinces of Centro Sur, Kie Ntem, Litoral and Wele Nzas). A description of geographical distribution follows each species, including worldwide circumscription (e.g., palaeotropical) and its distribution in Africa, which is in accordance with the geographical divisions used by Polhill (1982: 2), including a list of those African countries where the species has been previously reported (following ISO 3166-1 alfa-3 standard abbreviations: AGO (Angola), BDI (Burundi), BEN (Benin), BFA (Burkina Faso), BWA (Botswana), CAF (C. African Republic), CIV (Ivory Coast), CMR (Cameroon), CPV (Cape Verde Islands), TCD (Chad), COD (R.D. Congo), COG (Congo), DJI (Djibouti), EGY (Egypt), ERI (Eritrea), ETH (Ethiopia), GAB (Gabon), GHA (Ghana), GIN (Guinea), GNB (Guinea Bissau), GMB (Gambia), KEN (Kenya), LBR (Liberia), MLI (Mali), MWI (Malawi), NAM (Namibia), NER (Niger), NGA (Nigeria), RWA (Rwanda), SDN (Sudan), SLE (Sierra Leone), SEN (Senegal), SOM (Somalia), ZAF (South Africa), STP (S. Tomé & Príncipe), SWZ (Swaziland), TGO (Togo), TZA (Tanzania), UGA (Uganda), ZMB (Zambia), and ZWE (Zimbabwe)).

Previous bibliographical records of each taxon are grouped under the three regions mentioned above. When the taxon was reported under a different name (synonym) it is indicated as, e.g., Hooker (1862: 8, as *Cytisus mannii*). In the case of a misidentification, the author's name is included following the cited species (Padulosi and Ng 1993: 124, as *V. luteola* (Jacq.) Benth.). Doubtful and excluded records are placed at the end of the checklist, followed by appendices, which include an index to scientific names (Appendix 1) and a list of collections (Appendix 2).

Results and Discussion

The Checklist

Abrus L.

1. *Abrus melanospermus* subsp. *tenuiflorus* (Benth.) D.K. Harder
Syn.: *Abrus pulchellus* subsp. *tenuiflorus* (Benth.) Verdc.

Río Muni: Bebui, path to Oko, *Tessmann* 576 (K).

Previously reported from Río Muni (Verdcourt 1970: 251, as *Abrus pulchellus* subsp. *tenuiflorus*) and generally from Equatorial Guinea (Guinea 1946: 298, as *Abrus pulchellus*). This species is distributed in tropical and subtropical Africa and has been reported from AGO, CMR, COD, ETH, GHA, GIN, LBR, MOZ, NGA, SLE, SEN, SDN, TGO, TZA and UGA (Lock 1989: 100).

2. *Abrus precatorius* L.

Annobón: Palé, ca. aeropuerto, *Carvalho* 3137 (K, MA, WAG); near crater lake, *Exell* 898 (BM); *Newton s.n.* (LISU-165682); between Ambo and pico de Fogo, *Wrigley* 5 (BM, K, MA). Bioko: *Mann* 30 (K). Centro Sur: Nfing Ntagan, poblado a continuación de Mosumu, *Pérez Viso* 2743 (MA). Litoral: Ndote Nord, env. Jandye, *Lisowski M-64* (BRLU).

Previously reported from Annobón (*Exell* 1944: 159, 1956: 16, 1973a: 355; *Sobrinho* 1953: 182; *Fernández Casas* 1992: 59), Bioko (*Oliver* 1871: 175; *Mildbraed* 1922: 184; *Exell* 1944: 159, 1973a: 355; *Keay* 1958: 574) and Equatorial Guinea (*Mildbraed* 1922: 162). This Palaeotropical species, introduced in the new world, has been reported from tropical and subtropical African countries: AGO, BEN, BWA, CMR, CPV, TCD, COD, ETH, GAB, GHA, GIN, KEN, LBR, MLI, MWI, NAM, NER, NGA, RWA, SDN, SLE, SEN, SOM, ZAF, STP, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 100).

Adenocarpus DC.

3. *Adenocarpus mannii* (Hook. f.) Hook. f.
Syn.: *Cytisus mannii* Hook. f.

Bioko Norte: summit, *Boughey* 10988 (K); Distrito Baney, pico Basilé, desvío de la virgen de Bisila, *Cabezas, Estrella & Posa* 927 (MA); Malabo-Basilé, km 30, *Carvalho* 2145 (BM, MA); cumbre pico Basilé, *Fernández Casas et al.* 10141 (BM, MA, WAG); pico Basilé, *Castroviejo* 9151 (MA); pico Basilé, *Guinea* 2673 (MA), 2675 (MA), 2676 (MA), 2677 (MA), 2923 (MA), 2924 (MA); Basilé, *Fernández Casas* 11173 (K, MA); pico Basilé, *Lope del Val s.n.* (MA-389520, MA-389531); *Mann* 594 (K); pico Basilé, *Pérez Viso* 1461 (MA); pico Basilé, *Sanford* 5926 (K).

Previously reported from Bioko (*Hooker* 1862: 8, as *Cytisus mannii*, *Hooker* 1864: 189; *Oliver* 1871: 46; *Mildbraed* 1922: 184; *Hutchinson* 1928: 399; *Guinea* 1946: 296; *Cufodontis* 1955a: 243; *Keay* 1958: 552; *Guinea* 1968: 131; *Exell* 1973a: 356; *Fernández Casas* 1992: 59; *Mackinder* 2004: 318; *Lebrun and Stork* 2008a: 176). The

species is distributed in tropical and subtropical Africa; it has been reported from AGO, CMR, COD, ETH, KEN, MWI, NGA, RWA, SDN, TZA, UGA and ZMB (Lock 1989: 267).

Aeschynomene L.

4. (*) *Aeschynomene americana* L.

Bioko Sur: Musola-Luba, km 3, *Carvalho* 2740 (K, MA). Wele Nzaz: Mbiet, Añisok, *Pérez Viso* 3579 (MA).

Not previously reported from Equatorial Guinea. Originally from the new world, this species has been introduced throughout the tropics. It has been also reported from KEN, MWI, NGA, SLE, ZMB and ZWE (Lock 1989: 101).

(5). *Aeschynomene elaphroxylon* (Guill. & Perr.) Taub.

Syn.: *Herminiera elaphroxylon* Guill. & Perr.

Previously reported from Río Muni (Guinea 1946: 167 and 168) and generally from Equatorial Guinea (Guinea 1946: 297, as *Herminiera elaphroxylon*). We have not found any herbarium material of *A. elaphroxylon* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This Palaeotropical species has been reported in Africa from AGO, BDI, CMR, TCD, COD, EGY, GHA, KEN, MWI, MOZ, NGA, RWA, SEN, SDN, TZA, UGA and ZMB (Lock 1989: 103). The distribution range of this species suggests it may occur in Equatorial Guinea.

Aganope Miq.

6. *Aganope gabonica* (Baill.) Polhill

Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3567 (K, MA). Litoral: Bata-Bome, *Carvalho* 5196 (MA, WAG); Bata-río Utonde, *Carvalho* 5227 (MA, WAG).

Not previously reported from Equatorial Guinea. This tropical African species has been reported from CMR, GAB, LBR, NGA, SLE and TGO (Lock 1989: 349).

7. *Aganope impressa* (Dunn) Polhill

Litoral: Bata-Sendje, km 27, *Carvalho* 6176 (MA).

Not previously reported from Equatorial Guinea. This tropical African species has been reported from CMR, COD, GAB and NGA (Lock 1989: 349).

8. *Aganope lucida* (Welw. ex Baker f.) Polhill

Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3447 (K, MA), 3540 (K, MA). Bioko Sur: Malabo-Luba, km 33, *Carvalho* 2983 (K); Boloco de Luba, junto al río Tiburones, *Carvalho* 4382 (K, MA), 4397 (K, MA).

Not previously reported from Equatorial Guinea. This tropical African species has been reported from AGO, CMR, CAF, COD and GAB (Lock 1989: 349).

Airyantha Brummitt9. *Airyantha schweinfurthii* subsp. *confusa* (Hutch. & Dalziel) Brummitt

Syn.: *Baphia confusa* Hutch. & Dalziel; *Baphia spathacea* auct. non Hook. f.; *Baphiastrum confusum* (Hutch. & Dalziel) Pellegr.

Bioko: Linden? bay, *Barter* 1613 (K), 2063 (K); *Mann* 216 (K). Litoral: Bata-Pembe, km 26–27, margens de río Uù, *Carvalho* 5182 (MA, WAG).

Previously reported from Bioko (Hutchinson 1928: 373, as *Baphia confusa*; Guinea 1946: 296, as *B. confusa*; Keay 1958: 513, as *Baphiastrum confusum*; Brummitt 1968: 382; Exell 1973a: 356). Distributed in West and Central Africa, this species has been also reported from CAF, GAB, GHA, CIV and NGA (Lock 1989: 464; Harris 2002: 115; Sosef et al. 2006: 234; Lebrun and Stork 2008a: 193).

Alysicarpus Desv.10. *Alysicarpus vaginalis* (L.) DC.

Annobón: pico S. Estephânia, *Newton s.n.* (LISU-A165630).

Previously reported from Annobón (Exell 1956: 16, 1973a: 356) and Río Muni (Guinea 1946: 170). This Palaeotropical species has been reported in Africa from AGO, COD, GAB, GHA, KEN, MOZ, NER, NGA, RWA, STP, SDN, SLE, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 244).

Amphimas Pierre ex Harms11. *Amphimas ferrugineus* Pierre ex Pellegr.

Centro Sur: SO du P.N. de Monte Alén, S du transect ECOFAC de Mosumo, *Senterre & Ngomo* 678 (BRLU); P.N. de Monte Alén, ca. Monte Alén, *Senterre, Obiang & Esono* 2827 (BRLU).

Not previously reported from Equatorial Guinea. Distributed in Central and South Central Africa; this species has been reported from AGO, CMR, COD and GAB (Lock 1989: 465).

(12). *Amphimas tessmannii* Harms

Previously reported from Río Muni (Harms 1913: 11) and Equatorial Guinea (Guinea 1946: 296). We have not found any herbarium material of *A. tessmannii* in BM, BRLU, K, LISU, MA and P. This record was based on the type specimen *Tessmann* 679, possibly destroyed in B. We have studied an illustration deposited in BM.

Andira Juss.13. *Andira inermis* (W. Wright) Kunth ex DC. subsp. *inermis*

Bioko: *Carvalho & Fernández Casas* 10435 (K). Bioko Norte: Malabo-Rebola, km 5, *Carvalho* 2823 (K, MA).

Previously reported from Río Muni (Guinea 1946: 154). This Pantropical species has been reported in Africa from CMR, GMB, CIV, NGA, SEN and TZA (Lock 1989: 234; Pennington 2003: 45).

***Angylocalyx* Taub.**

14. ***Angylocalyx oligophyllus* (Baker) Baker f.**

Syn.: *Angylocalyx ramiflorus* Taub.

Centro Sur: Monte Alén, *Ngomo* 57 (BRLU); entre Nsuameyong et inselberg Akuom, *Obama & Lejoly* 414 (BRLU).

Previously reported from Río Muni (Guinea 1946: 156, as *Angylocalyx ramiflorus*). This West and Central African species has been reported from AGO, BEN, CMR, COD, GAB, GHA, CIV, LBR and NGA (Lock 1989: 465).

15. ***Angylocalyx talbotii* Baker f. ex Hutch. & Dalziel**

Centro Sur: Abang, Niefang, *Pérez Viso* 4222 (MA).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa; this species has been reported from CMR and NGA (Lock 1989: 466).

***Baphia* Afzel. ex Lodd.**

16. ***Baphia bequaertii* De Wild.**

Litoral: Bebai, Campogebiet, *Tessmann* 492 (K).

Previously reported generally from Equatorial Guinea (Soladoye 1985: 348). This species has been also reported from AGO, COD and ZMB (Lock 1989: 466).

17. ***Baphia buettneri* Harms subsp. *buettneri***

Litoral: Bata-Senge-Mitom-Emangës, km 62, *Carvalho* 6440 (MA); aire protégée de Ndote, route Engong-Jaunge, *Lejoly & Van Asbroeck* 4 (BRLU); Ayamiken, *Lisowski M-964* (BRLU). Wele Nzas: Eviam, Aconibe-Acurenem, *Pérez Viso* 1824 (MA).

Previously reported generally from Equatorial Guinea (Guinea 1946: 296). Distributed in Central and South Central Africa, this species has been reported from AGO and GAB (Lock 1989: 466).

18. ***Baphia buettneri* subsp. *hylophila* (Harms) Soladoye**

Litoral: Bata-Niefang, entre río Sama e Comaya, *Carvalho* 5612 (BRLU, MA, WAG). Wele Nzas: Nkolentangan, *Tessmann* 277 (BM drawing, K), 298 (K).

Previously reported generally from Equatorial Guinea (Soladoye 1985: 379). Distributed in Central Africa, this species has been also reported from neighbouring CMR and GAB (Lock 1989: 467).

19. ***Baphia capparidifolia*** subsp. ***polygalacea*** Brummitt

Syn.: *Baphia polygalacea* (Hook. f.) Baker

Bioko: *Barter* 2071 (K); *Mann* 184 (K), 396 (K). Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3399 (K, MA).

Previously reported from Bioko (Oliver 1871: 248, as *Baphia polygalacea*; Mildbraed 1922: 184, as *B. polygalacea*; Hutchinson 1928: 373, as *B. polygalacea*; Guinea 1946: 296, as *B. polygalacea*; Keay 1958: 512, as *B. polygalacea*; Exell 1973a: 356; Soladoye 1984: 18) and generally from Equatorial Guinea (Soladoye 1984: 18). Distributed in West and Central Africa, this species has been previously reported from CMR, GAB, GIN, CIV, LBR, NGA and SLE (Lock 1989: 467; Sosef et al. 2006: 235).

20. ***Baphia cuspidata*** Taub.

Litoral: Bata-Bome, km 19–20, *Carvalho* 4879 (MA, WAG); Bata-Pembe, km 28–29, *Carvalho* 5172 (MA, WAG); Bata-Pembe, km 23, *Carvalho* 5232 (MA, WAG).

Previously reported generally from Equatorial Guinea (Soladoye 1985: 334). This species is restricted to West and Central Africa and has been reported from neighbouring CMR and GAB (Lock 1989: 467).

(21). ***Baphia dewevrei*** De Wild.

Previously reported generally from Equatorial Guinea (Guinea 1946: 296). We have not found any herbarium material of *B. dewevrei* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This Central African species has been reported from COG and COD (Lock 1989: 103; Lebrun and Stork 2008a: 207). The distribution range of this species suggests it may occur in Equatorial Guinea.

22. ***Baphia dubia*** De Wild.

Río Muni: *Tessmann* 1016 (K).

Previously reported generally from Equatorial Guinea (Soladoye 1985: 321; Lebrun and Stork 2008a: 207). This species has been also reported from COD (Lock 1989: 468).

23. ***Baphia laurifolia*** Baill.

Litoral: Bata-Bome, rio Boara, *Carvalho* 4823 (BRLU, MA, WAG); Bata-Bome, *Carvalho* 4971 (MA, WAG); Bata-Sendje, km 18–19, *Carvalho* 5712 (MA); Bata-Sendje, km 24, *Carvalho* 6527 (MA). Río Muni: *Tessmann* 970 (K).

Previously reported generally from Equatorial Guinea (Keay 1958: 512–513; Soladoye 1984: 32, 1985: 364). Distributed in Central Africa, this species has been reported from CMR, CAF, COG, COD, GAB and NGA (Lock 1989: 469).

24. *Baphia leptostemma* Baill. subsp. *leptostemma*

Centro Sur: P.N. Monte Alén, Bong, senda al lago Atok, *Pérez Viso 1313* (MA); SO P.N. Monte Alén, 2 km au NE du rio Uolo, *Senterre, Obiang & Ngomo 2347* (BRLU). Litoral: Bata-Ayamiken, km 56–57, *Carvalho 4932* (MA, WAG).

Not previously reported from Equatorial Guinea. This Central African species has been previously reported from CMR, GAB and NGA (Lock 1989: 469; Lebrun and Stork 2008a: 209).

25. *Baphia maxima* Baker

Litoral: Ayamiken, *Lisowski M-946* (BRLU).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been previously reported from CMR, COD, GAB and NGA (Lock 1989: 471).

26. *Baphia nitida* Lodd.

Syn.: *Baphia pyrifolia* Baill.

Bioko: *Barter s.n.* (K); *Fernández Casas & Carvalho 12201* (K, MA); *Mann 409* (K). Bioko Norte: Malabo-Luba, *Carvalho 2051* (MA); Malabo, finca das Carboneras, *Carvalho 2416* (K, MA); Malabo-Ela Nguema, *Carvalho 3784* (K, MA); Malabo-Cupapa, km 10–11, *Carvalho 3945* (K, MA); Malabo-Ela Nguema, estuário do rio Borabecho, *Carvalho 4165* (K, MA); Malabo-Punta Hermosa, km 15–16, *Carvalho 4625* (MA); Batoicopo, *Lope del Val s.n.* (MA-500359, MA-500432). Litoral: Elendé, *Lisowski M-1050* (BRLU).

Previously reported from Bioko (Oliver 1871: 249; Mildbraed 1922: 184; Keay 1958: 512; Exell 1973a: 356; Soladoye 1984: 39; Soladoye 1985: 355) and Río Muni (Guinea 1946: 157 and 157, as *Baphia pyrifolia*). This species is distributed in West and Central Africa, it has been previously reported from BEN, CMR, GAB, GHA, CIV, LBR, NGA, STP, SLE, SEN and TGO (Lock 1989: 471).

27. *Baphia pilosa* Baill.

Litoral: Bata-Sendje, km 20–21, ca. Nkoekie, *Carvalho 5005* (MA, WAG); Bata-Pembe, km 35, *Carvalho 5174* (MA, WAG); Bata-Pembe, km 28–29, *Carvalho 5233* (MA, WAG).

Not previously reported from Equatorial Guinea. Distributed in Central and South Central Africa, this species has been previously reported from AGO, CMR, COG, COD and GAB (Lock 1989: 471).

28. *Baphia spathacea* Hook. f.

Centro Sur: P.N. Monte Alén, Enkumekien, *Pérez Viso 1581* (MA).

Previously reported from Bioko (Oliver 1871: 250; Mildbraed 1922: 184; Guinea 1946: 296). This species is distributed in West and Central Africa and has been reported from CMR, COD, GAB, LBR and SLE (Lock 1989: 472).

***Baphiopsis* Benth. ex Baker**(29). ***Baphiopsis parviflora* Benth. ex Baker**

Previously reported generally from Equatorial Guinea (Guinea 1946: 145). We have not found any herbarium material of *B. parviflora* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This species is distributed in tropical Africa and has been reported from AGO, CMR, COD, GAB, TZA and UGA (Lock 1989: 476). The distribution range of this species suggests that it may occur in the country.

***Cajanus* Adans.**30. (*) ***Cajanus cajan* (L.) Millsp.**

Syn.: *Cajanus indicus* Spreng.

Annobón: Palé, *Carvalho* 3166 (K, MA); near Ambo, *Wrigley* 76 (BM, K). Bioko Norte: Malabo, *Guinea* 119, 121 (MA).

Previously reported from Annobón (Exell 1963: 99, 1973a: 356), Bioko (Guinea 1946: 232 and 299, as *Cajanus indicus*; Exell 1973a: 356). Originally from Asia this species has been introduced throughout the tropics. In Africa it has been also reported from AGO, BDI, CIV, CMR, TCD, COD, EGY, GHA, GIN, GNB, KEN, LBR, MLI, MWI, MOZ, NER, NGA, RWA, SDN, SLE, SEN, STP, ZAF, SWZ, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 388).

***Calopogonium* Desv.**31. (*) ***Calopogonium mucunoides* Desv.**

Bioko Norte: Malabo-Sampaka, km 2, *Carvalho* 2599 (MA); San Luis de Cupapa, *Fernández Casas* 11496 (K, MA); servicio agronómico de Malabo, *Guinea* 542 (MA). Bioko Sur: km 4 do cruzamento para Moca, *Carvalho* 4414 (K, MA); playa Arena Blanca, *Estrella* 223 (MA); Luba-Veiga y Avendaño, *Fernández Casas* 12030 (K, MA). Centro Sur: Engong, *Eneme* 488 (BRLU); Monte Alén, *Ngomo* 0130 (BRLU); Niefang, Bindeng, pista hacia el río Uoro, *Pérez Viso* 2400 (MA), Bindung, *Pérez Viso* 3786 (MA). Litoral: Bata-Pembe-río Mbia, km 31–32, *Carvalho* 5281 (MA, WAG); Etembue (Réserve de Ndote), *Eneme & Lejoly* 51 (BRLU); Sendje, au bord du fleuve Wele, *Lisowski* M-577 (BRLU); Bata, *Nguema* 1172 (BRLU), 1084 (BRLU); carretera de Mbini, *Pérez Viso* 3338 (MA), Sendje, *Pérez Viso* 3372 (MA). Kie Ntem: Engokua, Ebebiyin, *Pérez Viso* 4348 (MA). Wele Nzaz: Mbiet, Añisok, *Pérez Viso* 3578 (MA), Añisok, *Pérez Viso* 4169 (MA).

Not previously reported from Equatorial Guinea. Originally from the new world this species has been introduced throughout the tropics. In Africa it has been widely reported from many countries including BDI, CMR, COD, GAB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, NGA, STP, SLE, TGO, TZA and UGA (Lock 1989: 389; Sosef et al. 2006: 237).

Camoensia* Welw. ex Benth.*32. *Camoensia brevicalyx* Benth.**

Río Muni: Lat. 1° N, *Mann 1842* (BM drawing, K).

Previously reported generally from Equatorial Guinea (Oliver 1871: 251; Guinea 1946: 117; Keay 1958: 510). Distributed in West, Central and South Central Africa, this species has been previously reported from AGO, CMR, COD, GAB and NGA (Lock 1989: 474).

(33). *Camoensia scandens* (Welw.) J.B. Gillett

Syn.: *Camoensia maxima* Benth.

Previously reported from Río Muni (Guinea 1946: 296, as *Camoensia maxima*). We have not found any herbarium material of *C. scandens* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This species is distributed in tropical Africa and has been reported from AGO, COG, COD, GAB and TZA (Lock 1989: 476; Sosef et al. 2006: 237; Lebrun and Stork 2008a: 217). The distribution range of this species suggests that it may occur in the country.

Canavalia* DC.*34. (*) *Canavalia ensiformis* (L.) DC.**

Litoral: Bata, *Lejoly 97/108* (BRLU).

Previously reported from Bioko (Guinea 1946: 299; Exell 1973a: 356), Río Muni (Guinea 1946: 65) and generally from Equatorial Guinea (Guinea 1946: 70 and 299). Originally from the new world, this species has been introduced throughout the tropics. In Africa it has been also reported from many countries including AGO, BEN, CMR, COD, ETH, GAB, GHA, GIN, GNB, CIV, KEN, MLI, MOZ, NER, NGA, STP, SDN, SLE, SEN, TGO, TZA and ZWE (Lock 1989: 389; Sosef et al. 2006: 237).

35. *Canavalia rosea* (Sw.) DC.

Syn.: *Canavalia maritima* (Aubl.) Thouars; *Canavalia obtusifolia* (Lam.) DC.

Annobón: Ambo, *Wrigley 16* (BM, K). Bioko Norte: Malabo-Ela Nguema, *Carvalho 2970* (K, MA). Litoral: Bata-desembocadura del río Ecucu, *Carvalho 5220* (MA, WAG); Ndote, *Eneme 230* (BRLU, WAG); Espigon, pradera de Baga (Réserve de Ndote), *Eneme & Lejoly 95* (BRLU); Benito, *Guinea 535* (MA), *538* (MA), *560* (MA); Costa, *Guinea 981* (MA); Ndote Nord, près du village Jandye, *Lisowski M-117* (BRLU); Bata, *Lisowski M-245* (BRLU); Bata, *Nguema 1157* (BRLU); Corisco, *Obama 754* (BRLU); Corisco, playa al SW, *Pérez Viso 1976* (MA).

Previously reported from Annobón (Mildbraed 1922: 162, as *Canavalia obtusifolia*; Exell 1944: 160, 1973a: 356, as *C. maritima*), Bioko (Guinea 1968: 130, as *C. obtusifolia*; Exell 1973a: 356, as *C. maritima*), Río Muni (Guinea 1946: 169, as *C. obtusifolia*) and generally from Equatorial Guinea (Guinea 1946: 299, as

C. obtusifolia). Distributed in tropical Africa, this species has been previously reported from AGO, BEN, CMR, COD, GAB, GMB, GHA, GNB, CIV, KEN, LBR, MOZ, NGA, SEN, SLE, TGO and TZA (Lock 1989: 389; Sosef et al. 2006: 237).

***Centrosema* (DC.) Benth.**

36. (*) ***Centrosema pubescens* Benth.**

Bioko Norte: Malbo-Luba, km 22, *Carvalho 2076* (K, MA); Malabo-Sampaka, km 3, *Carvalho 3181* (K, MA). Bioko Sur: Malabo-Riaba, ponte de Cope, km 45, *Carvalho 2707* (K, MA); cerca de Riaba, *Fernández Casas 11688* (K, MA). Centro Sur: Bindung, *Pérez Viso 3797* (MA). Litoral: Bata, *Davies 336* (K); Bata, *Lisowski M-206* (BRLU); Ndote Nord, près du village de Jandye, *Lisowski M-312* (BRLU); Bata, *Nguema 1119* (BRLU), *1268* (BRLU); Bata, *Pérez Viso 1442* (MA); Miwala, a 5 km de Cogo, *Pérez Viso 3945* (MA).

Not previously reported from Equatorial Guinea. Originally from the new world, this species has been introduced throughout the tropics. In Africa it has been also reported from many countries including AGO, CMR, COD, GAB, GHA, GIN, GNB, CIV, KEN, LBR, MOZ, NGA, SLE, STP, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 390).

***Clitoria* L.**

(37). ***Clitoria ternatea* L.**

Previously reported from Bioko (Guinea 1946: 184a and 299; Exell 1973a: 357) and generally from Equatorial Guinea (Guinea 1946: 299). We have not found any herbarium material of *C. ternatea* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Originally from Africa, this species is widely distributed in tropical areas and it has been reported from AGO, BEN, BDI, CMR, CPV, COD, GAB, GMB, GHA, GIN, GNB, KEN, MWI, MOZ, NER, NGA, STP, SLE, SEN, SOM, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 390). The distribution range of this species suggests it may occur in the country.

***Crotalaria* L.**

38. ***Crotalaria goreensis* Guill. & Perr.**

Bioko: *Mann 37* (K).

Previously reported from Bioko (Oliver 1871: 29; Mildbraed 1922: 184; Keay 1958: 548–549; Exell 1973a: 357). Distributed throughout tropical Africa, this species has been reported from AGO, BEN, BFA, BDI, CMR, CAF, TCD, COG, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, MLI, MOZ, NER, NGA, RWA, SLE, SEN, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 180).

39. (*) *Crotalaria juncea* L.

Bioko Norte: servicio agronómico de Malabo, *Guinea* 633 (MA).

Not previously reported from Equatorial Guinea. Originally from Asia, this species has been introduced throughout the tropics. In Africa it has been also reported from GAB, GHA, KEN, NGA, SDN, TZA, TGO and UGA (Lock 1989: 184; Sosef et al. 2006: 238).

40. *Crotalaria pallida* Aiton

Syn.: *Crotalaria mucronata* Desv.

Bioko Norte: Luba-Riaba, km 12, *Carvalho* 2585 (K, MA); servicio agronómico de Malabo, *Guinea* 58 (MA). Litoral: Corisco, *Cabezas, Tellería & Velayos* 9977 (MA); Corisco, *Pérez Viso* 1910 (MA). Equatorial Guinea: *Guinea s.n.* (MA-294439).

Previously reported from Annobón (Sobrinho 1953: 181, as *Crotalaria mucronata*; Exell 1956: 14, as *C. mucronata*, Exell 1973a: 357, as *C. mucronata*). This species is distributed pantropically, and in Africa it has been previously reported from AGO, BEN, BFA, BDI, CMR, CAF, TCD, COG, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, MLI, MOZ, NER, NGA, RWA, STP, SEN, SLE, ZAF, SDN, SWZ, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 195).

41. *Crotalaria retusa* L.

Bioko: Punta Fernanda, *Lope del Val s.n.* (MA-710880, MA-710952). Bioko Sur: Boloco de Luba, junto al río Tiburones, *Carvalho* 4383 (K, MA, WAG). Litoral: ca. Etembue, *Eneme* 364 (BRLU, WAG); Afana Oyek, Bata-Mbini km 25, *Lejoly & Van Asbroeck* 69 (BRLU); Ndote Nord, Jandye, *Lisowski M-127* (BRLU); Bata, *Lisowski M-194* (BRLU); S du Bata, près du fleuve Ekuku, *Lisowski M-1238* (BRLU); Bata, *Nguema* 1077 (BRLU); Bata, *Pérez Viso* 1458 (MA), carretera de Mbini, *Pérez Viso* 3359 (MA); Enigayong, km 5 carretera de Cogo, *Pérez Viso* 3858 (MA); Mokomo, km 19 carretera de Cogo, *Pérez Viso* 3889 (MA). Centro Sur: Evinayong, *Guinea* 89 (MA). Wele Nzaz: Nsok, *Lope del Val s.n.* (MA-696904, MA-696906). Equatorial Guinea: *Lope del Val s.n.* (MA-696902, MA-696903, MA-696905, MA-710879, MA-710951).

Previously reported from Bioko (Guinea 1946: 296; Exell 1973a: 357; Fernández Casas 1992: 60) and generally from Equatorial Guinea (Guinea 1946: 296). This Palaeotropical species is probably originally from Asia, and has been previously reported in Africa from CAF, GAB, GMB, GHA, GIN, KEN, LBR, MLI, MOZ, NGA, SEN, SLE, SOM, TZA and UGA (Lock 1989: 201; Harris 2002: 116; Sosef et al. 2006: 238).

Dalbergia L. f.

42. *Dalbergia afzeliana* G. Don

Litoral: Bata-Sendje, km 40, puente río Wele, *Carvalho* 5155 (MA, WAG), *Carvalho* 6428 (MA). Wele Nzaz: region d'Añisok, Nzuamayong, inselberg Akuom, *Lisowski M-641* (BRLU).

Not previously reported from Equatorial Guinea. Distributed in tropical Africa, this species has been previously reported from CMR, CAF, COD, GAB, GHA, GIN, GNB, NGA, SLE and TGO (Lock 1989: 235; Lebrun and Stork 2008a: 314).

43. *Dalbergia bakeri* Welw. ex Baker

Centro Sur: Bata-Niefang, Abang, *Carvalho 5706* (BRLU, MA, WAG). Litoral: Ayamiken, *Lisowski M-424* (BRLU); Ndote Sud, près Etembue, *Lisowski M-542* (BRLU); dist. Mbini, village Sendje, río Wele, *Lisowski M-1278* (BRLU). Río Muni: *Lisowski M-1106* (BRLU).

Not previously reported from Equatorial Guinea. Distributed in Central and South Central Africa, this species has been reported from AGO, COD and GAB (Lock 1989: 236).

44. *Dalbergia crispa* Hepper

Litoral: Bata-Pembe, San Joaquín de Ndyjacon, km 22, *Carvalho 5245* (MA, WAG).

Not previously reported from Equatorial Guinea. This tropical African species has been previously reported from NGA and SEN (Lock 1989: 236).

45. *Dalbergia ecastaphyllum* (L.) Taub.

Syn.: *Ecastaphyllum brownei* Pers.

Bioko: *Fernández Casas & Carvalho 12195* (K, MA); *Mann 262* (K). Bioko Norte: Malabo-Luba, praia de Abá, *Carvalho 2168* (K, MA, WAG); Malabo-aeropuerto, Bahía de Venus, *Carvalho 2494* (K, MA, WAG); Malabo-aeropuerto, *Fernández Casas 11251* (K, MA); Malabo-aeropuerto, km 6, *Fernández Casas 10261* (K). Bioko Sur: playa Arenas Blancas, *Fernández Casas 11664* (K, MA); cerca de Luba, junto al cruce a Moca, *Fernández Casas et al. 10266* (MA); Bococo de San Carlos, *Guinea 836* (MA), *838* (MA); Playa de Ureka, *Guinea 2355* (MA), *2357* (MA). Litoral: Bata, río Ecucu, *Carvalho 5104* (MA); Bata-Pembe, río Utonde, *Carvalho 5401* (MA); Bata, *Davies 221* (K); Ndote, *Eneme 259* (BRLU); Mboete, *Eneme 425* (BRLU); Utonde, *Guinea 806bis* (MA), *Guinea 808* (MA), *Guinea 174–808* (MA); Ecucu, *Guinea 193–761* (MA); río Ecucu, *Guinea 484–762* (MA); Ndote Nord, env. Jandye, *Lisowski M-92* (BRLU); Bata, *Lisowski M-248* (BRLU); Bata, *Nguema 1155* (BRLU); Etembue, réserve de Ndote, *Obama & Lejoly 610* (BRLU, MA); Bac de Mbini, embouchure du Río Mbini, *Obama & Lejoly 617* (BRLU); Corisco, *Pérez Viso 1929* (MA); Corisco, SW, *Pérez Viso 1973* (MA); desembocadura del río Campo, *Pérez Viso 2139* (MA). Río Muni: *Lisowski M-1300* (BRLU), *M-1329* (BRLU).

Previously reported from Annobón (Mildbraed 1922: 162 and 184, as *Ecastaphyllum brownei*; Exell 1944: 164, 1973a: 357), Bioko (Oliver 1871: 236, as *E. brownei*; Mildbraed 1922: 184, as *E. brownei*; Hutchinson 1928: 375, as *E. brownei*; Guinea 1946: 298; Keay 1958: 515; Exell 1973a: 357) and Río Muni (Guinea 1946: 154 and 298). This species is distributed in West, Central and South Central Africa, and has been reported from AGO, CMR, GAB, GMB, GHA, GIN,

GNB, CIV, LBR, NGA, STP, SEN, SLE and TGO (Lock 1989: 237; Sosef et al. 2006: 239).

46. *Dalbergia heudelotii* Stapf

Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3593 (K, MA).

Not previously reported from Equatorial Guinea. Distributed in West, Central and South Central Africa, this species has been reported from CMR, COD, GAB, GHA, GIN, CIV, LBR, NGA, SEN and SLE (Lock 1989: 237; Mackinder 2004: 320).

47. *Dalbergia hostilis* Benth.

Río Muni: *Tessmann* 873 (K).

Previously reported from Equatorial Guinea (Keay 1958: 516). This tropical African species has been reported from AGO, BEN, CAF, CMR, COD, GAB, GHA, GIN, GNB, CIV, LBR, NGA, SLE, TZA and TGO (Lock 1989: 238; Mackinder 2004: 320).

48. *Dalbergia lactea* Vatke

Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3453 (K, MA); carretera pico Basilé, km 5–6, *Carvalho* 3486 (K); Luba-Malabo, km 40, *Fernández Casas & Carvalho* 12214 (K, MA). Bioko Sur: Malabo-Luba-Riaba, km 2–3 do cruzamento para Moca, *Carvalho* 4368 (K, MA). Litoral: Bata-Mbubuin-San Joaquín de Ndyjacon, km 35, *Carvalho* 4966 (MA); Bata-Bicomo, proxima rio Ecucu, *Carvalho* 5216 (MA, WAG).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from BEN, CMR, COD, ETH, GAB, KEN, MWI, MOZ, NGA, RWA, SDN, TZA, UGA, ZMB and ZWE (Lock 1989: 238).

49. (*) *Dalbergia monetaria* L. f.

Bioko Sur: Ureka-Belebú Balachá, ca. 3 km de Ureka, *Carvalho* 4286 (MA). Litoral: Bata-Punta Mbonda, *Carvalho* 4745 (MA).

Previously reported from Bioko (Guinea 1946: 298; Exell 1973a: 357). Distributed in tropical new world, this species has been introduced in several tropical countries and it has been reported from neighbouring GAB (Sosef et al. 2006: 239).

50. *Dalbergia oblongifolia* G. Don

Litoral: Bata-Sendje, km 27, *Carvalho* 6153 (MA). Wele Nzas: inselberg Dumu, *Lejoly* 99/325 (WAG).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from GAB, GHA, GNB, CIV, LBR, SEN and SLE (Lock 1989: 239; Sosef et al. 2006: 239).

51. *Dalbergia oligophylla* Baker ex Hutch. & Dalziel

Bioko Sur: Luba-Moca, km 19, *Carvalho* 2652 (MA); Moca-Musola, km 8–9, *Carvalho* 3751 (K, MA); Ureka-Caminho de Belebú Balachá, *Carvalho* 4284 (K, MA); entre Moca y el lago Loreto, *Fernández Casas* 11860 (K, MA).

Not previously reported from Equatorial Guinea. This West and Central African species has been reported from CMR, GAB, NGA and SLE (Lock 1989: 239; Sosef et al. 2006: 239).

52. *Dalbergia pachycarpa* (De Wild. & T. Durand) De Wild.

Bioko Norte: Malabo-Ela Nguema, barrio Ibocuata, *Carvalho* 3445 (MA).

Not previously reported from Equatorial Guinea. This West and Central African species has been reported from AGO, CMR, COG and COD (Lebrun and Stork 2008a: 321).

53. *Dalbergia rufa* G. Don

Litoral: Bata-Bome, *Carvalho* 4940 (MA, WAG); Baga, *Eneme* 336 (BRLU); Ndote Nord, pres du village Jandye, *Lisowski* M-178 (BRLU); Ndote Sud, près Etembwe, *Lisowski* M-547 (BRLU); S de Bata, pres du fleuve Ekuku, *Lisowski* M-1199 (BRLU). Wele Nzas: inselberg Dumu, *Lejoly* 99/341 (MA).

Not previously reported from Equatorial Guinea. This West and Central African species has been reported from CMR, COD, GAB, GIN, GNB, NGA, SLE and SEN (Lock 1989: 239; Sosef et al. 2006: 239).

54. *Dalbergia saxatilis* Hook. f.

Bioko Norte: Malabo-Rebola, km 10, *Carvalho* 3367 (MA). Centro Sur: Mbini, P. N. Monte Alén, 1 km a l'ouest de Alén, *Lejoly* 93/388 (BRLU); Monte Alén, *Ngomo* 103 (BRLU); Niefang, Bindeng, *Pérez Viso* 2410 (MA). Equatorial Guinea: *Guinea* 1161 (MA), 1162 bis (MA), 1164 (MA), 1165 (MA); *Lope del Val* s.n. (MA-710766).

Not previously reported from Equatorial Guinea. Distributed in West, Central and South Central Africa, this species has been reported from AGO, CMR, COD, GAB, GHA, GIN, GNB, CIV, LBR, NGA, SEN, SLE and TGO (Lock 1989: 240).

Dalbergiella Baker f.

55. *Dalbergiella gossweileri* Baker f.

Centro Sur: Añisok-Mongola, *Pérez Viso* 1490 (MA). Litoral: Bata-Mongo, *Carvalho* 5432 (MA, WAG).

Not previously reported from Equatorial Guinea. Distributed in Central and South Central Africa, this species has been reported from AGO, CMR and GAB (Lock 1989: 350; Sosef et al. 2006: 240).

Dalhousiea* Wall. ex Benth.*56. *Dalhousiea africana* S. Moore**

Litoral: Bata-Mongo (Alosa), km 88–89, *Carvalho* 5498 (MA, WAG); Bata-Niefang-Biyobo, ca. de Biyobo de Niefang, *Carvalho* 5898 (MA); Bata-Sendje, km 27, *Carvalho* 6243 (MA). Wele Nzaz: P.N. de Nsork, Obamicu, *Nguema, Esono & Lejoly* 228 (BRLU); Añisok, *Pérez Viso* 1366 (MA); Mofú, cerca de Oven, *Pérez Viso* 2114 (MA); Nkolentangan, *Tessmann* 131 (K).

Previously reported from Equatorial Guinea (Lock 1989: 474). Distributed in Central and South Central Africa, this species has been reported from AGO, CMR, COG, COD and GAB (Lock 1989: 474).

Desmodium* Desv.*57. *Desmodium adscendens* (Sw.) DC.**

Annobón: *Melville* 209 (BM, MA). Bioko: *Mann* 407 (K). Bioko Norte: Malabo, *Carvalho* 2056 (K, MA); Batoicopo, *Estrella* 217 (MA); ca. Rebola, Baney, *Fernández Casas* 10121 (K, MA); Monte Balea, *Guinea* 345 (MA), Malabo-Luba, km 17, *Guinea* 1616 (K). Bioko Sur: Moca, *Boughey* 18 (K), *Boughey* 198 (K); playa de Moaba, *Cabezas, Estrella & Fero* 959 (MA); Moca, *Carvalho* 4096 (K, MA); camino San Joaquín, ca. Moca, *Estrella & Fero* 176 (MA), 177 (MA); Moca, *Exell* 865 (BM); Musola-Moca, km 17, *Guinea* 1584 (MA); Moca, *Guinea* 1897 (MA); playa de Ureka, *Guinea* 2533 (MA); Moca, *Wrigley* 525 (K). Centro Sur: Niefang-Evinayong, km 15, ca. Ndong, *Cabezas* 86 (MA); P.N. Monte Alén, alrededores del lago Atok, *Pérez Viso* 30 (MA); Engong, *Pérez Viso* 1723 (MA); P.N. Monte Alén, Engong, *Velayos, Aedo & Pérez Viso* 9490 (MA). Litoral: Mboete, *Eneme* 380 (BRLU); Corisco, *Cabezas, Tellería & Velayos* 9926 (MA); cortina litoral Wele, *Guinea* 201-1008 (MA); Bata, *Guinea* 1066 (MA); Ndote Nord, près de Jandy, *Lisowski* M-276 (BRLU); Bata, *Nguema* 1050 (BRLU); Corisco, *Pérez Viso* 1994 (MA); Bata-Niefang, Nhogo Ebaiñ, *Pérez Viso* 2670bis (MA). Wele Nzaz: Akok, Acurenam-Aconibe, *Pérez Viso* 2014 (MA).

Previously reported from Annobón (Mildbraed 1922: 162; Exell 1944: 156, 1973a: 357), Bioko (Oliver 1871: 162; Mildbraed 1922: 184; Hutchinson 1928: 418; Exell 1944: 156, 1973a: 357; Guinea 1946: 297; Keay 1958: 585; Guinea 1968: 130) and generally from Equatorial Guinea (Guinea 1946: 297). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BEN, CMR, COD, ETH, GAB, GHA, GIN, GNB, KEN, LBR, MWI, MOZ, RWA, STP, SEN, SLE, ZAF, SWZ, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 245).

58. *Desmodium gangeticum* (L.) DC.

Annobón: Palé, lago A Pot, *Carvalho* 3077 (K, MA); *Exell* 890 (BM); between Ambo and pico de Fogo, *Wrigley* 4 (MA).

Previously reported from Annobón (Mildbraed 1922: 162; Cufodontis 1955b: 299; Exell 1973a: 357). Distributed in tropical and subtropical Africa, this species

has been reported from AGO, CMR, CAF, TCD, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, MOZ, NGA, RWA, STP, SEN, SLE, SDN, SWZ, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 246).

59. *Desmodium incanum* DC.

Syn.: *Desmodium canum* (J.F. Gmel.) Schinz & Thell.

Annobón: Palé, lago A Pot, *Carvalho 3119* (MA); base pico Santa Estefanía, *Newton s.n.* (LISU-165627). Bioko: *Barter s.n.* (K); *Mann 56* (K); *Vogel 205* (K). Bioko Norte: Malabo, *Carvalho 2004* (K, MA); Bahía de Venus, *Guinea 247* (K), 305 (MA), 307 (MA). Litoral: Bata, *Nguema 1123* (BRLU).

Previously reported from Annobón (Mildbraed 1922: 162; Exell 1944: 156, as *Desmodium canum*; Exell 1956: 15, as *D. canum*; Exell 1973a: 357, as *D. canum*), Bioko (Oliver 1871: 163; Mildbraed 1922: 184; Hutchinson 1928: 418; Exell 1944: 157, as *Desmodium canum*; Guinea 1946: 297; Keay 1958: 584, as *D. canum*; Exell 1973a: 357, as *D. canum*) and from Río Muni (Guinea 1946: 157 and 159). The pantropical species possibly originally from Australasia; in Africa it has been reported from CMR, COD, GAB, GIN, CIV, LBR, MLI, STP, SLE, TZA and UGA (Lock 1989: 246).

60. *Desmodium ospriostreblum* Chiov.

Annobón: *Exell 900* (BM); path towards pico de Fogo and Crater Lake, *Melville 108* (BM, MA); *Newton s.n.* (LISU-165628).

Previously reported from Annobón (Exell 1944: 158, 1956: 16, as *Desmodium procumbens* (Mill.) Hitchc.; Exell 1973a: 357, as *D. procumbens* (Mill.) Hitchc.). Distributed in tropical and subtropical Africa, this species has been reported from CMR, CPV, ETH, GHA, MWI, NER, NGA, SLE, SEN, SDN, TZA, ZMB and ZWE (Lock 1989: 246).

61. *Desmodium ramosissimum* G. Don

Syn.: *Desmodium mauritanium* auct. non (Willd.) DC.

Annobón: path towards pico de Fogo and Crater Lake, *Melville 105* (BM, K, MA). Bioko Norte: ca. aeropuerto Malabo, *Fernández Casas & Carvalho 11987* (K, MA). Centro Sur: P.N. Monte Alén, Esamalang, *Pérez Viso 3297* (MA). Litoral: Bata-Asonga, *Carvalho 4650* (MA, WAG); Bata-Bome, *Carvalho 5857* (MA); Etembue (Réserve de Ndote), *Eneme & Lejoly 15* (BRLU); Playa Benito, *Guinea 225–529* (MA); Bata, *Nguema 1085* (BRLU); Bata, *Pérez Viso 1446* (MA); Oncoa, km 10 carretera puerto de Bata, *Pérez Viso 3505* (MA). Wele Nzaz: Nsum Esangüi, *Pérez Viso 3627* (MA). Río Muni: *Lisowski M-1601* (BRLU).

Previously reported from Annobón (Exell 1963: 98, 1973a: 357) and Bioko (Mildbraed 1922: 184, as *Desmodium mauritanium*; Exell 1944: 158, as *D. mauritanium*; Keay 1958: 584; Exell 1973a: 357). Distributed in tropical and subtropical Africa this species has been reported from AGO, BDI, BEN, CAF, CMR, TCD, COD, ETH, GAB, GHA, GIN, GNB, CIV, KEN, LBR, MLI, MOZ, NGA, RWA, STP, SLE, SDN, TGO, UGA and ZMB (Lock 1989: 247).

62. ***Desmodium salicifolium*** (Poir.) DC.

Wele Nzaz: Nkolentagan, *Tessmann* 286 (K). Equatorial Guinea: *Lope del Val* s.n. (MA-710878, MA-710887, MA-710888, MA-710889).

Previously reported from Equatorial Guinea (Lock 1989: 247). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BWA, CAF, CMR, TCD, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MLI, MWI, MOZ, NAM, NGA, RWA, SEN, SLE, ZAF, SDN, SWZ, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 247).

63. ***Desmodium setigerum*** (E. Mey.) Benth.

Bioko Sur: Malabo-Luba-Riaba, km 65, *Carvalho* 2662 (K, MA). Litoral, Ayamiken, *Pérez Viso* 2827bis (MA).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from AGO, BFA, BDI, CMR, TCD, COD, GAB, GHA, GIN, CIV, KEN, LBR, MWI, MOZ, NER, NGA, RWA, SLE, ZAF, SWZ, TZA, UGA, ZMB and ZWE (Lock 1989: 247; Sosef et al. 2006: 241).

64. (*) ***Desmodium tortuosum*** (Sw.) DC.

Annobón: Palé, camino de San Pedro, *Carvalho* 3113 (K, MA). Bioko Norte: Malabo, *Swarbrick* 2919 (K). Litoral: Bata, *Lisowski* M-107 (BRLU).

Not previously reported from Equatorial Guinea. Originally from the new world, this species has been introduced throughout the tropics. In Africa it has been also reported from AGO, BDI, CMR, TCD, COD, GAB, GHA, GNB, CIV, MWI, MOZ, NGA, STP, SEN, SLE, ZAF, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 247; Sosef et al. 2006: 241).

65. ***Desmodium triflorum*** (L.) DC.

Bioko Norte: Malabo-aeroporto, *Carvalho* 2059 (K, MA). Centro Sur: Ngong, praderas de Akwaosí, *Cabezas* 177 (MA). Litoral: Benito, *Guinea* 1008 (MA); Bata, *Lisowski* M-223 (BRLU), au S de Bata, pres du fleuve Ekuku, *Lisowski* M-1228 (BRLU); Bata, *Pérez Viso* 1453 (MA). Río Muni: *Lisowski* M-1463 (BRLU).

Previously reported from Bioko (Guinea 1946: 297; Exell 1973a: 358) and generally from Equatorial Guinea (Guinea 1946: 297). The pantropical species, in Africa it has been reported from AGO, BEN, BDI, CMR, COD, GAB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, NGA, STP, SLE, SDN, TGO, TZA, UGA, ZMB and ZWE (Lock 1989: 248; Sosef et al. 2006: 241).

66. ***Desmodium velutinum*** (Willd.) DC.

Syn.: *Desmodium latifolium* DC.

Annobón: Sul da ilha, *Newton* s.n. (LISU-165629).

Previously reported from Annobón (Sobrinho 1953: 182, as *Desmodium latifolium*; Exell 1956: 16, 1973a: 358), Bioko (Guinea 1946: 297, as *D.*

latifolium; Exell 1973a: 358) and generally from Equatorial Guinea (Guinea 1946: 297, as *D. latifolium*). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BEN, BFA, BDI, CMR, CAF, TCD, COG, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MLI, MOZ, NER, NGA, RWA, STP, SEN, SLE, ZAF, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 248).

***Dioclea* Kunth**

67. *Dioclea hexandra* (Ralph.) Mabb.

Syn.: *Dioclea reflexa* Hook. f.

Bioko: *Vogel* 3 (K); Concepción, *Wrigley & Melville* 545 (K). Bioko Norte: Malabo-Luba, km 14, *Carvalho* 2940 (K, MA); Malabo-Luba, km 18, *Carvalho* 2036 (BM, K, MA); Malabo, puerto viejo, *Carvalho* 4440 (K). Bioko Sur: Luba-Bococo, cerca de Veiga y Avendaño, *Carvalho* 3603 (K, MA, WAG). Centro Sur: P. N. Monte Alén, carretera Moka-Engong, *Pérez Viso* 293 (MA); Niefang, explotación Matroguisa, *Pérez Viso* 2309 (MA). Litoral: Ndote Nord, ca. Jandye, *Lisowski M-52* (BRLU). Wele Nzaz: Bimvile, *Guinea* 208 (MA); Ngong Mocomo vers Ovong, *Lejoly & Elad* 98/95 (BRLU); Nkolentangan, *Tessmann* 63 (K).

Previously reported from Bioko (Oliver 1871: 189, as *Dioclea reflexa*; Mildbraed 1922: 184, as *D. reflexa*; Exell 1944: 160, *D. reflexa*; Keay 1958: 574, *D. reflexa*; Exell 1973a: 358, *D. reflexa*; Fernández Casas 1992: 60, *D. reflexa*) and Río Muni (Guinea 1946: 154, *D. reflexa*). Distributed in tropical Africa, this species has been reported from AGO, BEN, CMR, COG, COD, GAB, GHA, GNB, CIV, LBR, NGA, STP, SLE, TZA and TGO (Lock 1989: 391; Lebrun and Stork 2008b: 23).

***Eriosema* (DC.) Desv.**

68. *Eriosema glomeratum* (Guill. & Perr.) Hook. f.

Annobón: Palé-pico do Fogo, *Carvalho* 3081 (K, MA); near Ambo, *Wrigley* 46 (BM, K, MA). Bioko Sur: Malbo-Luba-Riaba, km 65, *Carvalho* 2666 (K, MA); Moca, *Guinea* 1173 (MA), 1174 (MA); Musola-Concepción, *Guinea* 1342 (MA); Musola, *Guinea* 1344 (K, MA). Litoral: Bata, Asonga-aeroporto, *Carvalho* 4641 (MA); Diadive, *Guinea* 748 (MA); Ecuco, *Guinea* 485 (MA), 488 (MA), 490–753 (MA), 572 (MA); Bolondo, *Guinea* 684 (MA); N de Bata, *Lisowski M-1647* (BRLU); Bata, *Nguema* 1083 (BRLU). Wele Nzaz: inselberg de Piedra Nzaz, *Lejoly* 99/210 (BRLU, MA). Río Muni: *Lisowski M-1592* (BRLU).

Previously reported from Annobón (Exell 1963: 99, 1973a: 358) and Río Muni (Guinea 1946: 178). This species is distributed in tropical Africa and it has been reported from AGO, CAF, CMR, TCD, COG, COD, GAB, GMB, GHA, GIN, CIV, KEN, LBR, NGA, SEN, SLE, SDN, TZA, TGO, UGA and ZMB (Lock 1989: 401; Sosef et al. 2006: 241; Lebrun and Stork 2008b: 41).

69. *Eriosema macrostipulum* Baker f.

Río Muni: Neu-Kamerun, Basuma Uham, *Tessmann* 2574 (K).

Not previously reported from Equatorial Guinea. This species is distributed in tropical Africa and has been reported from BDI, CAF, COD, GIN, CIV, BFA, KEN, MWI, MLI, MOZ, NGA, RWA, SDN, TZA, UGA, ZMB and ZWE (Lock 1989: 403).

70. *Eriosema parviflorum* E. Mey. subsp. *parviflorum*

Bioko Sur: Luba-Riaba, km 12, *Carvalho* 2589 (K, MA); Malabo-Luba-Riaba, km 65, *Carvalho* 2664 (K, MA); Moca, *Melville* 609 (K). Centro Sur: Monte Alén, *Cabezas* 135 (MA); inselberg de Akuom, *Demian & Esono* 90 (BRLU); P.N. de Monte Alén, 3 km O de ECOFAC, *Lejoly* 99/030 (BRLU); P.N. de Monte Alén, 5 km au NO de Engong, *Lejoly* 99/078 (BRLU); inselberg Akuom, *Lisowski M-646* (BRLU); Nsuameyong-inselberg Akuom, *Obama & Lejoly* 430 (BRLU); P.N. de Monte Alén, dalle rocheuse de Monte Alén, *Parmentier* 1511 (BRLU); inselberg de Bicurga, *Parmentier* 1739 (BRLU); P.N. Monte Alén, *Parmentier & Esono* 3011 (BRLU); P.N. Monte Alén, Engong, *Pérez Viso* 359 (MA). Kie Ntem: inselberg de Asoc, *Obama & Lejoly* 481 (BRLU); inselberg de Asoc, *Parmentier & Esono* 3699 (BRLU); Eloan, Ebebiyi-Mongomo, *Pérez Viso* 4267 (MA). Litoral: Bata-Asonga, *Carvalho* 4660 (MA); Ndote, *Eneme* 314 (BRLU); Etembue, *Guinea* 49 (MA); río Ecucu, *Guinea* 186–603 (MA); Ndote Nord, ca. de Jandye, *Lisowski M-82* (BRLU); Ndote Sud, près de Etembwe, *Lisowski M-1100* (BRLU); costa de Bata, Obobiven, *Lope del Val s.n.* (MA-712058, MA-712059, MA-712060, MA-712062); Bata, *Nguema* 1099 (BRLU); Eyan Bot-Cogo, km 12, *Pérez Viso* 3542 (MA). Wele Nzaz: Piedra Nzás, *Esono* 11 (BRLU); Cucumancoc, *Guinea* 374 (MA); inselberg de Piedra Nzás, *Lejoly* 99/162, 99/267 (BRLU); Cucumancoc (13 km Ouest de Aconibe), inselberg Mongum, *Lejoly & Esono* 74 (BRLU); inselberg Asoc, *Obama & Lejoly* 496 (BRLU); inselberg de Akoak Ebanga, à 10 km de Nsork, *Parmentier & Esono* 3478 (BRLU). Río Muni: *Lisowski M-1168, M-1480* (BRLU). Equatorial Guinea: *Guinea* 632 (MA); *Lope del Val s.n.* (MA-712051); *Nosti & Abad s.n.* (MA-687698).

Previously reported from Bioko (Mildbraed 1922: 184; Keay 1958: 557; Verdcourt 1971: 125; Exell 1973a: 358) and Río Muni (Guinea 1946: 177). Distributed in tropical and subtropical Africa, this species has been reported from CMR, COD, GAB, KEN, MOZ, RWA, ZAF, TZA, UGA, ZMB and ZWE (Lock 1989: 404; Mackinder 2004: 321; Sosef et al. 2006: 241).

71. *Eriosema psoraleoides* (Lam.) G. Don

Litoral: Bome, *Pérez Viso* 1730 (MA).

Not previously reported from Equatorial Guinea. This Palaeotropical species is distributed in tropical and subtropical Africa, and has been reported from AGO, BEN, BWA, BFA, BDI, CAF, COG, CMR, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, MWI, MLI, MOZ, NGA, RWA, SEN, SLE, ZAF, SDN, SWZ, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 405; Sosef et al. 2006: 242).

Erythrina* L.*(72). *Erythrina excelsa* Baker**

Previously reported from Río Muni (Guinea 1946: 145 and 154). We have not found any herbarium material of *E. excelsa* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in tropical and subtropical areas in Africa, this species has been reported from CMR, COD, CIV, KEN, NGA, SDN, TZA, UGA and ZMB (Lock 1989: 410). The distribution range of this species suggests it may occur in the country.

73. (*) *Erythrina fusca* Lour.

Bioko Norte: Malabo-aeroporto, km 4, *Carvalho* 2793 (K, MA). Bioko Sur: Malabo-Luba, ca. Sampaka, *Fernández Casas et al.* 10444 (K, MA, WAG); Luba, *Guinea s.n.* (MA-294451). Equatorial Guinea: *Guinea s.n.* (MA-294412).

Not previously reported from Equatorial Guinea. Originally from Asia, this species has been introduced throughout the tropics. It has been also reported from CMR, GHA, NGA, TZA, UGA and ZMB (Lock 1989: 410).

74. *Erythrina senegalensis* DC.

Kie Ntem: Cucumancoc, *Lejoly* 99/385 (BRLU).

Previously reported from Bioko (Guinea 1946: 299; Exell 1973a: 358). Distributed in West and Central Africa, this species has been reported from BEN, CMR, TCD, GMB, GHA, GIN, GNB, CIV, LBR, MLI, NER, NGA, SEN, SLE and TGO (Lock 1989: 412).

(75). *Erythrina tholloniana* Hua

Syn.: *Erythrina gilletti* De Wild.

Previously reported from Bioko (Guinea 1946: 299, as *Erythrina gilletti*; Exell 1973a: 358, as *E. gilletti*) and Río Muni (Guinea 1946: 299, as *E. gilletti*). We have not found any herbarium material of *E. tholloniana* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in West and Central Africa, this species has been reported from COG, COD, GAB and NGA (Lock 1989: 412; Lebrun and Stork 2008b: 57). The distribution range of this species suggests it may occur in the country.

76. (*) *Erythrina variegata* L.

Bioko Sur: Malabo-Luba, *Fernández Casas* 11320 (K, MA); Malabo-Luba, *Guinea* 701 (MA), 702 (MA), 703 (MA).

Not previously reported from Equatorial Guinea. Originally from Asia, this species has been introduced throughout the tropics. It has been also reported from CPV, EGY, NGA, STP, SEN, SDN, TZA and UGA (Lock 1989: 412).

77. (*) *Erythrina velutina* Willd.

Annobón: Palé-San Pedro, cruce del río Hahú, *Carvalho* 3087 (K, MA); Ambo, *Melville* 143 (MA).

Previously reported from Annobón (Mildbraed 1922: 162; Exell 1944: 159, 1973a: 358). Originally from the new world, this species has been also reported from UGA (Lock 1989: 412).

78. *Erythrina vogelii* Hook. f.

Bioko: *Vogel* 105 (K).

Previously reported from Bioko (Keay 1958: 563; Exell 1973a: 358). Distributed in West and Central Africa, this species has been reported from CMR, GAB, GHA, CIV and NGA (Lock 1989: 412; Mackinder 2004: 321; Sosef et al. 2006: 242; Lebrun and Stork 2008b: 56).

Hylodesmum H. Ohashi & R.R. Mill

79. *Hylodesmum repandum* (Vahl) H. Ohashi & R.R. Mill

Syn.: *Desmodium repandum* (Vahl) DC.; *Desmodium scalpe* DC.

Bioko: *Mann* s.n. (K), *Mann* 286 (K). Bioko Norte: Malabo-pico Basilé, km 13–14, *Carvalho* 2675 (K, MA); subida al pico Basilé, *Fernández Casas et al.* 10305 (K, MA); pico Basilé, *Lope del Val* s.n. (MA-710758). Bioko Sur: Moca, *Boughey* 35 (K), *Boughey* 161 (K); Moaba-Moca, ca. playa de Moaba, *Cabezas, Estrella & Fero* 989 (MA); mirador del lago Biaó, *Cabezas, Estrella & Fero* 1105 (MA); camino de Balachá Sur, *Cabezas, Estrella & Fero* 1068 (MA); Malabo-Luba-Moca, km 65, *Carvalho* 2609 (K, MA); Moca-Luba-Malabo, km 65, *Carvalho* 2626 (K, MA); estación Moca, *Estrella, Cabezas & Fero* 231 (MA); Moca, lago Biaó, *Fernández Casas* 10414 (K); entre Moca y Riaba, *Fernández Casas* 11809 (K, MA), Belebú Balachá, camino de Ureka, *Fernández Casas* 12173 (K); Musola, *Guinea* 1011 (MA), 1186 (MA), 1295bis (K); Moca, carretera de las Costeras, *Guinea* 2100 (MA); Musola, *Lope del Val* s.n. (MA-711003); Moca-Mioko, *Lope del Val* s.n. (MA-500430-2); Moca, *Melville* 407 (K).

Previously reported from Bioko (Oliver 1871: 164–164, as *Desmodium scalpe*; Mildbraed 1922: 184, as *D. scalpe*; Hutchinson 1928: 418, as *D. scalpe*; Exell 1944: 158, as *D. scalpe*; Guinea 1946: 297, as *D. scalpe*; Cufodontis 1955b: 299, as *D. repandum*; Keay 1958: 584, as *D. repandum*; Exell 1973a: 357, as *D. repandum*). This Palaeotropical species has been reported in Africa from AGO, BDI, CMR, COD, ETH, GAB, GIN, KEN, MWI, MOZ, NGA, RWA, STP, SLE, ZAF, SDN, SWZ, TZA, UGA, ZMB and ZWE (Lock 1989: 247).

Indigofera L.

80. *Indigofera capitata* Kotschy

Centro Sur: inselberg d'Akuom, à 6 km de Nzuameyong, *Parmentier & Nguema* 355 (BRLU). Litoral: Bata-Pembe, km 33–34, *Carvalho* 4812 (MA, WAG); Diadive, *Guinea* 197–749 (MA); Bolondo, *Guinea* 668 (MA), 669 (MA).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from AGO, CMR, CAF, TCD, COD, GAB, GHA, GIN, GNB, MLI, NGA, SEN, SLE, SDN, TGO, UGA and ZMB (Lock 1989: 296; Sosef et al. 2006: 242).

81. *Indigofera hirsuta* L.

Bioko Norte: Malabo, *Swarbrick* 2903 (K). Litoral: Bata-Bomudi, *Carvalho* 5334 (MA, WAG); Bata, *Nguema* 1252 (BRLU).

Previously reported generally from Equatorial Guinea (Lock 1989: 307). This palaeotropical species has been introduced throughout the tropics; in Africa it has been reported from AGO, BEN, BWA, BDI, CMR, CPV, CAF, TCD, COG, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MLI, MWI, NAM, NER, NGA, STP, SEN, SLE, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 307).

82. *Indigofera macrophylla* Schumach. & Thonn.

Bioko Norte: Malabo-Punta Hermosa, km 13–14, *Carvalho* 4342 (K, MA). Bioko Sur: Malabo-Luba, km 49, *Carvalho* 3712 (K, MA).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from BEN, CMR, GAB, GMB, GHA, GIN, GNB, CIV, LBR, NGA, SEN, SLE and TGO (Lock 1989: 312).

83. *Indigofera spicata* Forsk.

Syn.: *Indigofera hendecaphylla* Jacq.

Annobón: *Burton s.n.* (K); Palé, *Carvalho* 3162 (K, MA); NW corner of island, *Melville* 126 (K, MA); N da ilha, *Newton s.n.* (LISU-165624). Bioko Norte: Malabo-aeroporto, km 6, *Carvalho* 2108 (K, MA); Batoicopo, *Estrella* 216 (MA), 219 (MA); aeropuerto Malabo, *Fernández Casas & Carvalho* 11986 (K, MA). Bioko Sur: Malabo-Luba, km 46–47, rio Tiburones, *Carvalho* 4507 (K, MA). Litoral: Etembué (Reserve de Ndote), *Eneme & Lejoly* 11 (BRLU); Bata, *Lisowski M-214* (BRLU); Bata, *Nguema* 1105 (BRLU); Bata, Asonga, *Pérez Viso* 1413 (MA).

Previously reported from Annobón (Mildbraed 1922: 161, as *Indigofera hendecaphylla*; Exell 1944: 15 and 152–153, as *I. hendecaphylla*; Sobrinho 1953: 181, as *I. hendecaphylla*; Cufodontis 1955a: 265, as *I. hendecaphylla*; Exell 1973a: 358; Du Puy et al. 1993: 732, as *I. hendecaphylla*). This Palaeotropical species has been reported in Africa from AGO, BEN, CAF, CMR, TCD, COG, COD, DJI, ETH, GAB, GHA, GNB, CIV, KEN, LBR, MLI, MWI, MOZ, NER, NGA, RWA, STP, SEN, ZAF, SDN, SWZ, TZA, TGO, UGA, ZMB, and ZWE (Lock 1989: 325).

84. *Indigofera suffruticosa* Mill.

Syn.: *Indigofera anil* L.

Bioko Norte: servicio agronómico de Malabo, *Guinea* 624 (MA), 626 (MA). Bioko Sur: Luba, San José de Musola, *Carvalho* 2511 (K, MA); playa Arena Blanca, *Estrella* 222 (MA). Litoral: Bata-Bicomo, *Carvalho* 4944 (MA, WAG).

Wele Nzaz: Ebo-Ngoo Nsomo, *Pérez Viso 3161* (MA). Río Muni: *Lisowski M-4584* (BRLU).

Previously reported from Annobón (Mildbraed 1922: 161, as *Indigofera anil*). Distributed in tropical Africa, this species has been reported from AGO, CPV, COD, GAB, GMB, CIV, LBR, NAM, NGA, STP, SEN, SLE and ZWE (Lock 1989: 327).

85. *Indigofera tinctoria* L.

Annobón: Palé, *Carvalho 3103* (K, MA, WAG); Ambo, *Melville 159* (BM, K); San Pedro, *Newton s.n.* (LISU-165625).

Previously reported from Annobón (Exell 1944: 153, 1956: 15, 1973a: 358; Sobrinho 1953: 181; Cufodontis 1955b: 276). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BEN, BWA, CMR, CPV, CAF, TCD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, MLI, MWI, MOZ, NER, NGA, STP, SEN, SOM, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 328).

Lablab Adans.

(86). *Lablab purpureus* (L.) Sweet

Syn.: *Dolichos lablab* L.

Previously reported from Bioko (Guinea 1946: 299, as *Dolichos lablab*; Exell 1973a: 359) and generally from Equatorial Guinea (Guinea 1946: 299, as *D. lablab*). We have not found any herbarium material of *L. purpureus* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This Palaeotropical species has been introduced worldwide throughout tropical and subtropical areas; in Africa it has been reported from AGO, BWA, CMR, CPV, TCD, ETH, GAB, GHA, CIV, KEN, MOZ, NAM, NER, NGA, RWA, SEN, SLE, ZAF, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 410). The distribution range of this species suggests it may occur in the country.

Leptoderris Dunn

87. *Leptoderris aurantiaca* Dunn

Litoral: Bata-Pembe-Entuba, km 27, *Carvalho 5239* (MA, WAG).

Not previously reported from Equatorial Guinea. This species has been previously reported from CMR, GAB and NGA (Lock 1989: 352).

88. *Leptoderris brachyptera* (Benth.) Dunn

Syn.: *Derris brachyptera* Baker; *Leptoderris africana* (Baker) Harms; *Spatholobus africanus* Baker

Bioko: *Mann 157* (K). Centro Sur: montagne près Bikurga, *Lisowski M-1486* (BRLU). Wele Nzaz: P.N. de Nsork, Obamicu, rio Abang, *Lejoly & Esono 35* (BRLU); Bebai, Campogebiet, *Tessmann 707* (K).

Previously reported from Bioko (Oliver 1871: 188, as *Spatholobus africanus*; Harms 1915a: 643, as *Leptoderris africana*; Mildbraed 1922: 184, as *S. africanus*; Hutchinson 1928: 378; Guinea 1946: 298 as *L. africana*; Keay 1958: 521; Exell 1973a: 359) and Río Muni (Guinea 1946: 141, as *Derris brachyptera*). Distributed in West, Central and South Central Africa, this species has been reported from AGO, BEN, CMR, CAF, GAB, GHA, GIN, GNB, LBR, NGA, SEN, SLE and TGO (Lock 1989: 351; Sosef et al. 2006: 243; Lebrun and Stork 2008b: 123).

89. *Leptoderris fasciculata* (Benth.) Dunn

Bioko Norte: Malabo-Cupapa, km 22–23, *Carvalho 3463* (K, MA). Wele Nzaz: Nkolentangan, *Tessmann 87* (K).

Previously reported from Equatorial Guinea (Hutchinson 1928: 379; Guinea 1946: 298; Keay 1958: 521). This species is distributed in tropical Africa and has been reported from CMR, CAF, COD, GAB, GIN, GNB, LBR, NGA, SEN, SLE and UGA (Lock 1989: 352).

90. *Leptoderris glabrata* (Welw. ex Baker) Dunn

Syn.: *Derris glabrata* Welw. ex Baker

Bioko Sur: Malabo-Riaba, km 54–55, *Carvalho 2906* (K, MA).

Previously reported generally from Equatorial Guinea (Guinea 1946: 298, as *Derris glabrata*). Distributed in Central and South Central Africa, it has been reported from AGO, CMR, CAF, COD, GAB and UGA (Lock 1989: 352; Sosef et al. 2006: 243).

91. *Leptoderris ledermannii* Harms

Litoral: Bata-Pembe, km 28–29, Mbaha Bo, *Carvalho 5194* (MA, WAG); Bata-Sendje, km 22–24, *Carvalho 5744* (MA).

Not previously reported from Equatorial Guinea. This species has been previously reported from CMR and CIV (Lock 1989: 352; Lebrun and Stork 2008b: 125).

(92). *Leptoderris oxytropis* Harms

Previously reported from Río Muni (Harms 1922: 154) and Equatorial Guinea (Guinea 1946: 298). This record is based on the type specimen *Tessmann 456*, possibly destroyed in B. We have studied an illustration deposited in BM. We have not found any other herbarium material of *L. oxytropis* in BM, BRLU, K, LISU, MA and P.

93. *Leptoderris pycnantha* Harms

Wele Nzaz: Nkolentangan, Makonanam, *Tessmann 95* (BM drawing, K).

Previously reported from Río Muni (Harms 1922: 154) and Equatorial Guinea (Guinea 1946: 298). This species was also reported from CMR (*Zenker 3187* by Harms (1922: 154)).

94. *Leptoderris velutina* Dunn

Wele Nzaz: Bebai, Campogebiet, *Tessmann 519* (K).

Not previously reported from Equatorial Guinea. This species has been previously reported from the neighbouring GAB (Lock 1989: 353).

Leucomphalos Benth. ex Planch.

95. *Leucomphalos capparideus* Benth. ex Planch.

Bioko: *Vogel 264* (K). Wele Nzaz: inselberg de Akoak Ebanga, à 10 km de Nsork, *Parmentier & Nguema 186* (BRLU).

Previously reported from Bioko (Oliver 1871: 251; Mildbraed 1922: 184; Hutchinson 1928: 372; Guinea 1946: 296; Keay 1958: 511; Exell 1973a: 359; Breteler 1994: 24). Distributed in West and Central Africa, this species has been reported from CMR, GAB and NGA (Lock 1989: 475; Breteler 1994: 23).

Lonchocarpus Kunth

96. *Lonchocarpus sericeus* (Poir.) Kunth ex DC.

Annobón: Palé, margens do rio Luba da Queque, *Carvalho 3146* (K, MA). Bioko: *Barter 1614* (K); *Mann 205* (K). Bioko Norte: Malabo-aeropuerto, km 6, *Carvalho, Fernández Casas, Requeiro & Tellería 10262* (K, MA); Bahía Venus, *Guinea 209* (MA); Bahía de Venus, *Guinea 211* (MA), *212* (MA), *213* (MA), *221* (MA). Bioko Sur: ca. Luba, *Fernández Casas 10267* (K, MA); Ureka, *Guinea 2329* (MA), *2334* (MA), *2335* (MA). Litoral: Bata-Asonga, *Carvalho 5433* (MA, WAG); playa de río Benito, *Guinea 224–529* (MA); Ndote Nord, près de Jandye, *Lisowski M-257* (BRLU); río Benito en la Punta Djoni, *Lope del Val s.n.* (MA-712034, MA-712035, MA-712049, MA-712050); Corisco, *Pérez Viso 1918* (MA); Elobey Chico, *Porembski, Biedinger & Nguema 3485* (BRLU).

Previously reported from Bioko (Mildbraed 1922: 184; Exell 1944: 164–165, 1973a: 359; Keay 1958: 522–523), Río Muni (Guinea 1946: 154) and generally from Equatorial Guinea (Guinea 1946: 298). This pantropical species, distributed in tropical and subtropical Africa, has been reported from AGO, BEN, CMR, COD, GAB, GMB, GHA, GIN, GNB, CIV, LBR, NGA, STP, SEN, SLE, ZAF and TGO (Lock 1989: 355).

Machaerium Pers.

97. *Machaerium lunatum* (L. f.) Ducke

Syn.: *Drepanocarpus lunatus* (L. f.) G. Mey.

Bioko Norte: Malabo-Luba, km 16, *Carvalho 2821* (MA), *Carvalho 2288* (MA); Malabo-Luba, km 15, *Fernández Casas 12196* (MA). Bioko Sur: Musola-Luba, km 14–15, *Carvalho 3827* (MA). Litoral: Bata-Asonga, margen del río Eyubu, *Carvalho 5887* (MA).

Previously reported from Bioko (Fernández Casas 1992: 60, as *Drepanocarpus lunatus*; Fernández Casas and Morales 1995: 236, as *D. lunatus*), Río Muni (Guinea 1946: 154, as *D. lunatus*) and generally from Equatorial Guinea (Guinea 1946: 298, as *D. lunatus*). This pantropical species, distributed in West, Central and South Central Africa, has been reported from AGO, BEN, CMR, COD, GAB, GMB, GHA, GIN, GNB, CIV, LBR, NGA, STP, SEN, SLE and TGO (Lock 1989: 241; Sosef et al. 2006: 244).

***Microcharis* Benth.**

98. *Microcharis welwitschii* (Baker) Schrire

Syn.: *Indigofera welwitschii* Baker

Centro Sur: inselberg de Akuom, *Deman & Esono 250* (BRLU). Kie Ntem: inselberg Acoak Banga, près de Ngong Mocomo, *Lejoly & Elad 98/78* (BRLU). Wele Nzaz: inselberg de Piedra Nzaz, *Lejoly 99/180* (BRLU); region d'Anisok, inselberg Akuom, *Lisowski M-672, M-709* (BRLU); inselberg de Akoak Ebanga, à 10 km de Nsork, *Parmentier & Esono 3477* (BRLU).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from AGO, BDI, CMR, CAF, COG, COD, ETH, GAB, GHA, MWI, MOZ, NGA, SDN, TZA, UGA and ZMB (Lock 1989: 331, as *Indigofera welwitschii*; Lebrun and Stork 2008b: 153).

***Mildbraediodendron* Harms**

99. *Mildbraediodendron excelsum* Harms

Bioko Norte: Malabo-Basapú, km 7–8, *Carvalho 4301* (MA).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from CMR, CAF, COD, GHA, NGA, SDN and UGA (Lock 1989: 477).

***Millettia* Wight & Arn.**

100. *Millettia barteri* (Benth.) Dunn

Syn.: *Lonchocarpus barteri* Benth.

Bioko Norte: Malabo-Baney, km 15, *Carvalho 3023* (K, MA). Bioko Sur: Luba-Malabo, km 17, *Carvalho 2855* (K, MA); playa de Ureka, *Guinea 2482* (MA), *Guinea 2483* (MA). Wele Nzaz: Nkolentangan, *Tessmann 102* (K).

Previously reported from Río Muni (Guinea 1946: 149 and 155, as *Lonchocarpus barteri*; Mbenkum 1986: 248) and generally from Equatorial Guinea (Guinea 1946: 298, as *L. barteri*; Keay 1958: 526). Distributed in tropical and subtropical Africa, this species has been reported from AGO, CMR, CAF, COG, COD, GAB, GHA, GIN, GNB, CIV, LBR, NGA, STP, SEN, SLE, SDN and TGO (Lock 1989: 356; Harris 2002: 120).

101. *Millettia dinklagei* Harms

Centro Sur: P.N. Monte Alén, *Nguema & Parmentier 464* (BRLU). Litoral: Bata-Niefang, km 35, *Carvalho 5645* (BRLU, MA, WAG).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from CMR, GAB, LBR, NGA and SLE (Lock 1989: 357; Sosef et al. 2006: 244).

102. *Millettia drastica* Welw. ex Baker

Litoral: Bebai, Campogebiet, *Tessmann 834* (K).

Previously reported from Río Muni (Guinea 1946: 141; Mbenkum 1986: 264) and generally from Equatorial Guinea (Guinea 1946: 297; Keay 1958: 527). Distributed in West, Central and South Central Africa, this species has been reported from AGO, CMR, CAF, COD, GAB, NGA and SDN (Lock 1989: 357; Harris 2002: 121).

103. *Millettia griffoniana* Baill.

Syn.: *Derris leptorhachis* Harms; *Lonchocarpus griffonianus* (Baill.) Dunn

Bioko: *Mann 1436* (K). Bioko Norte: Malabo-Ela Nguema, *Carvalho 3438* (K, MA), *3805* (K, MA); Malabo-Luba, km 36, *Carvalho 3511* (K, MA); Malabo-Punta Hermosa, km 12–13, *Carvalho 4298* (K, MA). Bioko Sur: playa de Ureka, *Guinea 2411* (MA). Centro Sur: P.N. Monte Alén, ca. Mosumu, *Pérez Viso 217* (MA). Litoral: Bata-Mbini, km 12–13, margens do rio Boara, *Carvalho 5143* (MA, WAG); Ngoma, *Lejoly & Elad 98/126* (BRLU); Sud de Bata, *Lejoly & Elad 98/213* (BRLU); Bata-río Wele, *Sanford 5791* (K); ca. 4 km ENE of Elende, Cocoloondo riverside, *Wieringa & Haegens 2272* (WAG). Río Muni: Uelleberg, *Tessmann 566* (K).

Previously reported from Bioko (Hutchinson 1928: 380, as *Lonchocarpus griffonianus*; Guinea 1946: 145, as *Derris leptorhachis* and 298, as *L. griffonianus*; Keay 1958: 523, as *L. griffonianus*; Exell 1973a: 359, as *L. griffonianus*). Distributed in West, Central and South Central Africa, this species has been reported from AGO, BEN, CMR, CAF, COD, GAB, GHA, CIV and NGA (Lock 1989: 358).

104. *Millettia harmsiana* De Wild.

Wele Nzaz: Nkolentangan, *Tessmann 136* (K).

Previously reported from Río Muni (Mbenkum 1986: 237) and Equatorial Guinea (Guinea 1946: 297). This species is distributed in West and Central Africa and has been reported from CMR and COD (Lock 1989: 358; Lebrun and Stork 2008b: 157).

105. *Millettia hypolampra* Harms

Litoral: Bata-Niefang, km 35, *Carvalho 5802* (MA); Bata-Mbini-Boete-Rio Ayé, km 23, *Carvalho 5969* (MA).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from CMR, GAB and NGA (Lock 1989: 359; Sosef et al. 2006: 245).

106. *Millettia laurentii* De Wild.

Bioko Sur: Malabo-Bombe-Mueri, km 56–57, *Carvalho 4494* (K, MA). Wele Nzas: Nkolentangan, *Tessmann 228* (K). Río Muni: *Tessmann 940* (K).

Previously reported from Equatorial Guinea (Guinea [1946](#): 297). Distributed in tropical Africa, this species has been reported from CMR, COG, COD, GAB and RWA (Lock [1989](#): 360).

107. *Millettia macrophylla* Benth.

Bioko: *Vogel 337* (K). Bioko Sur: Luba-Moeri, ca. Bombe, *Fernández Casas et al. 10341* (K, MA, WAG).

Previously reported from Bioko (Oliver [1871](#): 127; Mildbraed [1922](#): 184; Hutchinson [1928](#): 382; Guinea [1946](#): 297; Keay [1958](#): 526; Mbenkum [1986](#): 224; Mackinder [2004](#): 323), Río Muni (Guinea [1946](#): 145) and Equatorial Guinea (Guinea [1946](#): 297). Distributed in West and Central Africa, this species has been reported from CMR, COG and NGA (Lock [1989](#): 360).

108. *Millettia mannii* Baker

Centro Sur: Monte Alén, *Ngomo 104* (BRLU); P.N. Monte Alén, Esamalang, *Pérez Viso 192* (MA), Nsung, *Pérez Viso 1691* (MA); P.N. Monte Alén, *Pérez Viso 3310* (MA). Litoral: Ayamiken, *Lisowski M-422* (BRLU); Bebai, Campogebiet, *Tessmann 412* (K).

Previously reported from Río Muni (Hutchinson [1928](#): 382, as *Millettia aboensis* (Hook. f.) Baker; Guinea [1946](#): 297, as *M. aboensis* (Hook. f.) Baker; Keay [1958](#): 526, as *M. aboensis* (Hook. f.) Baker); Mbenkum [1986](#): 222) and Bioko (Guinea [1946](#): 297; Exell [1973a](#): 359). This Central African species has been reported from CMR and GAB (Lock [1989](#): 360; Lebrun and Stork [2008b](#): 161). The specimen *Tessmann 412* (K) was previously identified as *M. aboensis* and probably is the explanation of previous reports of this species for Equatorial Guinea.

(109). *Millettia mildbraedii* Harms

Previously reported from Bioko (Harms [1915b](#): 198; Guinea [1946](#): 297; Exell [1973a](#): 359). We have not found any herbarium material of *M. mildbraedii* in BM, BRLU, K, LISU, MA and P. This record is based on the type specimen *Mildbraed 6975*, possibly destroyed in B. We have studied an illustration deposited in BM.

110. *Millettia sanagana* Harms

Bioko: *Barter 1597* (K). Bioko Norte: Malabo-Luba, km 26, *Carvalho 2174* (K, MA). Bioko Sur: Luba-Malabo, km 33, *Carvalho 2597* (K, MA).

Previously reported from Bioko (Hutchinson [1928](#): 382; Guinea [1946](#): 297; Keay [1958](#): 526; Exell [1973a](#): 359). Distributed in West and Central Africa, this species has been reported from CMR, CAF, GAB, GIN, LBR and SLE (Lock [1989](#): 362; Harris [2002](#): 121; Sosef et al. [2006](#): 245).

(111). *Millettia thonningii* (Schumach. & Thonn.) Baker

Previously reported from Bioko (Oliver 1871: 128; Mildbraed 1922: 184; Exell 1944: 154, 1973a: 359; Guinea 1946: 297; Keay 1958: 527), Río Muni (Guinea 1946: 158) and generally from Equatorial Guinea (Guinea 1946: 297). We have not found any herbarium material of *M. thonningii* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in tropical and subtropical Africa, this species has been reported from AGO, BEN, COG, COD, GAB, GHA, GNB, LBR, NGA, STP, TGO and ZWE (Lock 1989: 363; Sosef et al. 2006: 245; Lebrun and Stork 2008b: 165). The distribution range of this species suggests it may occur in the country.

112. *Millettia warneckei* Harms

Litoral: Bata-Niefang, km 35, *Carvalho 5578* (BRLU, MA).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from GHA, GIN, LBR, SLE and TGO (Lock 1989: 364).

113. *Millettia zechiana* Harms

Centro Sur: Engong, *Eneme 490* (BRLU, WAG). Litoral: desembocadura del río Campo, *Pérez Viso 2153* (MA). Río Muni: *Eneme 462* (WAG).

Not previously reported from Equatorial Guinea. Distributed in West and Central Africa, this species has been reported from CMR, GHA, GIN, CIV, LBR, SLE and TGO (Lock 1989: 364).

Mucuna Adans.

114. *Mucuna flagellipes* Vogel ex Hook. f.

Bioko: *Barter s.n.* (K); *Mann 21* (K); *Melville 453* (K). Bioko Norte: Batoicopo, *Estrella 220* (MA); Malabo-Basilé, *Fernández Casas et al. 10099* (K, MA); Baney, *Fernández Casas et al. 10130* (K, MA). Bioko Sur: Basacato del Oeste, *Lope del Val s.n.* (MA-710890). Centro Sur: montagne près de Bicurga, *Lisowski M-1386* (BRLU); Monte Alén, *Ngomo 0152* (BRLU); P.N. Monte Alén, cerca del río Nvog, *Pérez Viso 148* (MA); Oyac Esom, *Pérez Viso 3443* (MA). Litoral: Ayamiken, *Lisowski M-939* (BRLU). Wele Nzas: Ngong, Mocosó-Ovong (sud de Nsork), *Lejoly & Elad 98/94* (BRLU); Nkolentangan, *Tessmann 381* (K). Equatorial Guinea: *Lope del Val s.n.* (MA-711267).

Previously reported from Bioko (Oliver 1871: 185–186; Mildbraed 1922: 184; Hutchinson 1928: 405; Guinea 1946: 299; Keay 1958: 561; Exell 1973a: 359), Río Muni (Guinea 1946: 184i) and generally from Equatorial Guinea (Guinea 1946: 299). Distributed in tropical and subtropical Africa, this species has been reported from AGO, CMR, CAF, COD, GAB, GHA, CIV, LBR, NGA, SLE and UGA (Lock 1989: 417; Harris 2002: 122).

115. *Mucuna pruriens* (L.) DC.

Litoral: Bata, *Carvalho* 5411 (MA); Bata, *Lejoly* 97/109 (BRLU); Bebai, Campogebiet, *Tessmann* 641 (K).

Previously reported from Bioko (Guinea 1946: 299 and 344b; Exell 1973a: 359) and Equatorial Guinea (Guinea 1946: 299). Pantropical species, in Africa it has been reported from AGO, BEN, CMR, TCD, COD, ETH, GAB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, MOZ, NGA, STP, SEN, SLE, ZAF, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 418; Sosef et al. 2006: 246).

116. *Mucuna sloanei* Fawc. & Rendle

Syn.: *Mucuna urens* (L.) Medic.

Annobón: río Jobo, *Carvalho* 3134 (K, MA); Palé, margen lago A Pot, *Carvalho* 3164 (K, MA); Ambo, *Wrigley* 30 (K, MA). Bioko: *Barter* 1610 (K); *Mann* 42 (K); *Vogel* 199 (K). Bioko Norte: Malabo-aeropuerto, km 6, *Carvalho* 2551 (K). Bioko Sur: Malabo-Moca, km 52–53, *Carvalho* 4489 (K, MA). Litoral: Reserve de Rio Campo, près de Niuma, *Lisowski* M-1004 (BRLU).

Previously reported from Annobón (Mildbraed 1922: 162, as *Mucuna urens*; Exell 1944: 160, as *M. urens*; Exell 1963: 98, 1973a: 359; Fernández Casas 1992: 60), Bioko (Oliver 1871: 185, as *M. urens*; Mildbraed 1922: 184, as *M. urens*; Keay 1958: 561; Exell 1973a: 359) and Río Muni (Guinea 1946: 154, as *M. urens*). Distributed in West, Central and South Central Africa, this species has been reported from AGO, BDI, CMR, CAF, COD, KEN, MWI, MOZ, NGA, RWA, TZA, UGA and ZMB (Lock 1989: 418).

Ormocarpum P. Beauv.

117. *Ormocarpum megalophyllum* Harms

Litoral: Bata-Mbubuin, km 30, *Carvalho* 5117 (MA, WAG); carretera de Mbini, *Pérez Viso* 3358 (MA).

Previously reported from Río Muni (Guinea 1946: 158). Distributed in West and Central Africa, this species has been reported from CMR, COD, GAB, GHA, GIN, LBR, NGA and SLE (Lock 1989: 119).

118. *Ormocarpum sennoides* subsp. *hispidum* (Willd.) Brenan & J. Léonard

Bioko Sur: Balachá, *Guinea* 1452 (MA); Musola-Balachá, *Guinea* 1455 (MA).

Not previously reported from Equatorial Guinea. Distributed in West, Central and South Central Africa, this species has been previously reported from AGO, CMR, CAF, COD, GAB, GHA, GIN, GNB, CIV, LBR, NGA, SEN, SLE, TGO and ZMB (Lock 1989: 119).

119. *Ormocarpum verrucosum* P. Beauv.

Bioko: *Vogel* 256 (K). Bioko Norte: Malabo-Ela Nguema, *Carvalho* 3786 (K, MA). Bioko Sur: Malabo-Luba, praia Manuel Rodrigues, *Carvalho* 2343 (K, MA); Ureka, desembocadura río Eolá, *Carvalho* 4291 (K, MA); Luba-Malabo, ca. Arenas

Blancas, *Fernández Casas et al.* 10456 (K, MA); Ureka, *Guinea* 2331 (MA), 2332 (MA), 2492 (MA). Litoral: Ndote Nord, Jandye, *Lisowski M-48* (BRLU); N de Bata, *Lisowski M-1646* (BRLU).

Previously reported from Bioko (Hutchinson 1928: 414; Exell 1944: 155, 1973a: 359; Guinea 1946: 297; Keay 1958: 577). Distributed in West and Central Africa, this species has been reported from AGO, CMR, COD, GAB, GHA, GIN, GNB, CIV, LBR, NGA, STP, SEN and SLE (Lock 1989: 120; Sosef et al. 2006: 246).

***Ostryocarpus* Hook. f.**

120. ***Ostryocarpus riparius* Hook. f.**

Syn.: *Millettia micrantha* Harms

Bioko: *Vogel* 107 (K). Río Muni: Lat 1° N, *Mann* 1768 (K). Litoral: ca. 4 km ENE of Elende, Cocoloondo riverside, *Wieringa & Haegens* 2271 (WAG).

Previously reported from Bioko (Oliver 1871: 240; Mildbraed 1922: 184; Hutchinson 1928: 378; Guinea 1946: 298; Keay 1958: 519; Exell 1973a: 359), Río Muni (Guinea 1946: 154, as *Millettia micrantha*) and generally from Equatorial Guinea (Guinea 1946: 298; Keay 1958: 519). This species is distributed in West and Central Africa, and has been reported from CMR, COD, GAB, GIN, GNB, CIV, LBR, NGA and SLE (Lock 1989: 364).

***Phaseolus* L.**

121. (*) ***Phaseolus lunatus* L.**

Annobón: Palé, *Carvalho* 3062 (K, MA); SW of Crater Lake, *Melville* 199 (K). Bioko: *Vogel* 235 (K). Bioko Norte: Malabo-Sampaca, km 5, *Carvalho* 4297 (K, MA). Litoral: Bata-Mbini, *Carvalho* 6016 (MA); Bata, *Nguema* 1224 (BRLU); Reserva Río Campo, Ayamiken, *Obama* 155 (BRLU); Bebai, Campogebiet, *Tessmann* 621 (K).

Previously reported from Annobón (Oliver 1871: 192; Exell 1944: 161, 1973a: 359; Cufodontis 1955b: 330), Bioko (Oliver 1871: 192; Mildbraed 1922: 184; Guinea 1946: 299; Keay 1958: 565; Exell 1973a: 359) and generally from Equatorial Guinea (Guinea 1946: 299). The species is introduced throughout the world, in Africa it has been reported from AGO, CMR, COD, GAB, GMB, GIN, GNB, LBR, NGA, STP, SEN, SLE, SDN, TZA and TGO (Lock 1989: 420).

***Philenoptera* Fenzl ex A. Rich.**

122. ***Philenoptera cyanescens* (Schumach. & Thonn.) Roberty**

Syn.: *Lonchocarpus cyanescens* (Schumach. & Thonn.) Benth.

Bioko: *Mann* 401 (K).

Previously reported from Bioko (Oliver 1871: 243, as *Lonchocarpus cyanescens*; Mildbraed 1922: 184, as *L. cyanescens*; Hutchinson 1928: 380, as *L. cyanescens*; Guinea 1946: 298, as *L. cyanescens*; Keay 1958: 523, as *L. cyanescens*; Exell 1973a: 359, as *L. cyanescens*; Schrire 2000: 86). Distributed in tropical Africa, this species

has been reported from BEN, BFA, CMR, CAF, TCD, ERI, ETH, GMB, GHA, GIN, GNB, CIV, LBR, MLI, NER, NGA, SEN, SLE, SDN, TGO and UGA (Lock 1989: 354; Schrire 2000: 86).

***Physostigma* Balf.**

123. ***Physostigma cylindrospermum* (Welw. ex Baker) Holmes**

Litoral: Bata-Niefang km 35, *Carvalho* 5632 (MA, WAG).

Not previously reported from Equatorial Guinea. Distributed in Central and South Central Africa, this species has been reported from AGO, CMR, COD and GAB (Lock 1989: 421).

124. ***Physostigma venenosum* Balf.**

Bioko: *Hutchinson s.n.* (K). Centro Sur: Bata-Niefang-Monte Alén, km 85–86, *Carvalho* 5424 (MA, WAG); Bikurga, *Lisowski M-1386* (BRLU); P.N. Monte Alén, carretera Moka-Engong, *Pérez Viso* 395 (MA); P.N. Monte Alén, Enkumekien, *Pérez Viso* 1550 (MA).

Previously reported from Bioko (Hutchinson 1928: 404; Guinea 1946: 299; Keay 1958: 564; Exell 1973a: 359; Lebrun and Stork 2008b: 184), Río Muni (Guinea 1946: 155; Cufodontis 1955b: 329) and generally from Equatorial Guinea (Keay 1958: 564). Distributed in West and Central Africa, this species has been reported from CMR, COD, GAB, GHA, CIV, LBR, NGA and SLE (Lock 1989: 421).

***Platysepalum* Welw. ex Baker**

125. ***Platysepalum violaceum* Welw. ex Baker**

Syn.: *Platysepalum polyanthum* Harms; *Platysepalum tessmannii* Harms

Kie Ntem: inselberg de Mfui, 50 km à l'Est de Añisok, *Obama & Lejoly* 384 (BRLU, MA). Litoral: Bebai Campogebiet, *Tessmann* 511 (K). Wele Nzaz: inselberg de Piedra Nzaz, *Lejoly* 99/181 (BRLU); Cucumancoc (13 km Ouest de Aconibe), inselberg Mongum, *Lejoly & Esono* 93 (BRLU).

Previously reported generally from Equatorial Guinea (Guinea 1946: 297, as *Platysepalum polyanthum* and *P. tessmannii*; Keay 1958: 524; Gillett 1960: 466). This species is distributed in West and Central Africa, and has been reported from AGO, CMR, COD, GAB and NGA (Lock 1989: 366).

***Pterocarpus* Jacq.**

126. ***Pterocarpus mildbraedii* Harms**

Bioko: *Mann* 188 (K). Bioko Norte: Malabo-Baney, km 10, *Carvalho* 3473 (K, MA); Malabo-Punta Hermosa, *Fernández Casas & Carvalho* 12069 (K, MA).

Previously reported from Bioko (Guinea 1946: 298; Exell 1973a: 360; Mackinder 2004: 324) and generally from Equatorial Guinea (Keay 1958: 517). Distributed in

tropical Africa, this species has been reported from BEN, CMR, GAB, GHA, CIV, LBR, NGA, SLE and TZA (Lock 1989: 242).

(127). *Pterocarpus osun* Craib

Previously reported generally from Equatorial Guinea (Keay 1958: 518). We have not found any herbarium material of *P. osun* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in West and Central Africa, this species has been reported from COG, CMR, COD, GAB and NGA (Lock 1989: 242). The distribution range of this species suggests it may occur in the country.

(128). *Pterocarpus santalinoides* L'Hér. ex DC.

Syn.: *Pterocarpus esculentus* Schumach. & Thonn.

Previously reported from Bioko (Oliver 1871: 238, as *Pterocarpus esculentus*; Mildbraed 1922: 184, as *P. esculentus*) and Río Muni (Guinea 1946: 157, as *P. esculentus*). We have not found any herbarium material of *P. santalinoides* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This pantropical species has been reported in Africa from BEN, BFA, CMR, GAB, GMB, GHA, GIN, GNB, CIV, LBR, MLI, NGA, SEN, SLE and TGO (Lock 1989: 243; Sosef et al. 2006: 246). The distribution range of this species suggests it may occur in the country.

129. *Pterocarpus soyauxii* Taub.

Centro Sur: SO du P.N. de Monte Alén, rio Uolo, transect ECOFAC de Mosumo, Senterre & Ngomo 471 (BRLU). Litoral: Bata-Sendje, km 13, *Carvalho 6121* (MA, WAG); Bata-Bolondo, km 24, *Carvalho 6338* (MA). Wele Nzaz: Region d'Añisok, ca. Temelon, pres du village Ayene, *Lisowski M-773* (BRLU); Nkolentangan, *Tessmann 80* (K). Río Muni: Uelleberg, *Tessmann 482* (K).

Previously reported from Río Muni (Guinea 1946: 141 and 145) and Equatorial Guinea (Guinea 1946: 298). Distributed in tropical and subtropical Africa, this species has been reported from AGO, CMR, CAF, COG, COD, GAB and NGA (Lock 1989: 243; Lebrun and Stork 2008b: 197).

130. *Pterocarpus tessmannii* Harms

Wele Nzaz: Nkolentangan, *Tessmann 253* (BM drawing, K).

Previously reported from Río Muni (Evrard 1988: 452; Estrella 2008). Distributed in Central Africa, this species has been previously reported from COD and GAB (Evrard 1988: 452).

Pueraria DC.

131. (*) *Pueraria phaseoloides* (Roxb.) Benth.

Bioko Norte: Malabo-Cupapa, km 14, *Carvalho 3173* (K, MA); Malabo-Luba-Riaba, km 16–17, *Carvalho 4118* (K, MA); ca. Rebola, *Fernández Casas 11307* (K,

MA); Malabo, *Fernández Casas & Carvalho 11165* (K, MA); Malabo-Luba, km 15, *Fernández Casas & Carvalho 12187* (K, MA); servicio agronómico de Malabo, *Guinea 140–145* (MA). Bioko Sur: Ruiché-Luba, *Fernández Casas 11356* (K, MA); Luba-Veiga y Avendaño, *Fernández Casas 12034* (MA). Centro Sur: P.N. Monte Alén, Moka-Engong, *Pérez Viso 292* (MA); Bindung, km 17 de la carretera de Niefang, *Pérez Viso 3785* (MA), *Pérez Viso 3801* (MA); P.N. Monte Alén, transect de Monte Chocolate, *Van Reeth 162* (BRLU). Litoral: 10 km de Ayaniken, route de Bata, *Lisowski M-407* (BRLU).

Not previously reported from Equatorial Guinea. Originally from Asia, this species has been introduced throughout the tropics. Distributed in West, Central and South Central Africa, it has been reported from AGO, CMR, CAF, COD, GHA, LBR, NGA, STP, SLE and TGO (Lock 1989: 424; Harris 2002: 123).

***Rhynchosia* Lour.**

132. *Rhynchosia densiflora* subsp. *debilis* (G. Don) Verdc.

Bioko Sur: Malabo-Riaba, alrededores de Bilelipa, *Carvalho 2709* (K, MA).

Not previously reported from Equatorial Guinea. Distributed in West, Central and South Central Africa, this species has been reported from AGO, BEN, CMR, CAF, COD, GAB, GHA, GNB, MWI, NGA, STP, SLE, TGO, UGA and ZMB (Lock 1989: 428; Harris 2002: 123).

(133). *Rhynchosia hirta* (Andrews) Meikle & Verdc.

Syn.: *Rhynchosia cyanosperma* Benth. ex Baker

Previously reported from Bioko (Hutchinson 1928: 401, as *Rhynchosia cyanosperma*; Guinea 1946: 299, as *R. cyanosperma*). We have not found any herbarium material of *R. hirta* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. This Palaeotropical species, found in tropical and subtropical Africa, has been reported from BDI, CMR, COD, GAB, CIV, KEN, NGA, RWA, ZAF, SDN, TZA, TGO, UGA and ZMB (Lock 1989: 430; Sosef et al. 2006: 247). The distribution range of this species suggests it may occur in the country.

134. *Rhynchosia mannii* Baker

Bioko: Mann 88 (K). Bioko Sur: Malabo-lago Loreto, km 62–63, *Carvalho 4191* (K, MA). Centro Sur: Bata-Mongo (Alosa), km 77–78, *Carvalho 5517* (MA); P.N. de Monte Alén, *Ngomo 262* (BRLU). Kie Ntem: Ebon-Oyac, Ebebiyin, *Pérez Viso 4319* (MA). Litoral: Bata-Asonga, *Castelo & Juste s.n.* (MA-712104). Wele Nzaz: inselberg Dumu, *Lejoly 99/356* (BRLU).

Previously reported from Bioko (Oliver 1971: 217; Mildbraed 1922: 184; Hutchinson 1928: 401; Guinea 1946: 299; Keay 1958: 554; Exell 1973a: 360) and Río Muni (Guinea 1946: 184i). Distributed in West, Central and South Central Africa, this species has been reported from AGO, CMR, CAF, COG, COD, GAB, LBR, NGA and UGA (Lock 1989: 431; Mackinder 2004: 324; Lebrun and Stork 2008b: 211).

135. *Rhynchosia minima* (L.) DC.

Syn.: *Rhynchosia memnonia* (Del.) DC.

Annobón: base pico Santa Estefanía, *Newton s.n.* (LISU-165634).

Previously reported from Annobón (Sobrinho 1953: 182, as *Rhynchosia memnonia*; Exell 1956: 17, as *R. memnonia*; Exell 1973a: 360). This pantropical species, distributed in tropical and subtropical Africa, has been reported from BDI, CMR, CPV, CAF, TCD, COD, ETH, GHA, CIV, KEN, MLI, NAM, NER, NGA, RWA, STP, SEN, SLE, SOM, ZAF, SDN, SWZ, TZA, TGO and UGA (Lock 1989: 432).

136. *Rhynchosia preussii* (Harms) Taub. ex Harms

Litoral: Bata-Mbubuin-San Joaquin de Ndyjacon, km 35, *Carvalho 4964* (MA, WAG); Bata-Pembe-San Joaquin de Ndyjacon, km 28–29, *Carvalho 5246* (BRLU, MA, WAG); Ayamiken (Reserva de Río Campo), *Lejoly 97/83* (BRLU). Wele Nzas: Bimville, *Guinea 180, 204* (MA).

Previously reported from Bioko (Keay 1958: 554; Exell 1973a: 360). Distributed in West and Central Africa, this species has been reported from CMR, COD and GAB (Lock 1989: 433).

137. *Rhynchosia pycnostachya* (DC.) Meikle

Syn.: *Rhynchosia calycina* Guill. & Perr.

Bioko: *Mann 88a* (K). Bioko Norte: Malabo-Baney, km 14, *Carvalho 3205* (K, MA).

Previously reported from Bioko (Oliver 1871: 217, as *Rhynchosia calycina*; Mildbraed 1922: 184, as *R. calycina*; Keay 1958: 554; Exell 1973a: 360). Distributed in tropical and subtropical Africa, this species has been reported from CMR, TCD, COD, GMB, GHA, GIN, GNB, CIV, LBR, MLI, NGA, SEN, SLE and TGO (Lock 1989: 434).

Rothia* Pers.*(138). *Rothia hirsuta* (Guill. & Perr.) Baker**

Previously reported generally from Equatorial Guinea (Keay 1958: 544). We have not found any herbarium material of *R. hirsuta* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in tropical and subtropical Africa, this species has been reported from AGO, BFA, CMR, TCD, ETH, GMB, GHA, GNB, KEN, MLI, MOZ, NER, NGA, SEN, ZAF, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 232). The distribution range of this species suggests it may occur in the country.

Sesbania* Scop.*139. *Sesbania sericea* (Willd.) Link**

Syn.: *Sesbania pubescens* DC.

Annobón: *Newton s.n.* (LISU-165626); Ambo, *Wrigley 43* (K, MA).

Previously reported from Annobón (Mildbraed 1922: 161–162, as *Sesbania pubescens*; Exell 1944: 154–155, as *S. pubescens*; Sobrinho 1953: 181, as *S.*

pubescens; Cufodontis 1955b: 287, as *S. pubescens*; Exell 1956: 15, as *S. pubescens*, Exell 1973a: 360). Pantropical species, in Africa it has been reported from AGO, BEN, BDI, TCD, COD, ETH, GAB, GHA, KEN, MWI, MLI, NER, NGA, STP, SEN, SOM, SDN, TZA, TGO and UGA (Lock 1989: 463).

Stylosanthes Sw.

140. *Stylosanthes erecta* P. Beauv.

Bioko Sur: proximidades playa de Ureka, *Guinea* 2480 (MA). Litoral: Asonga-aeroporto, *Carvalho* 4633 (MA, WAG); Bata, *Davies* 226 (K); Ndote, *Eneme* 262 (BRLU), Mboete, *Eneme* 377 (BRLU); Réserve de Ndote, Espigon, pradera de Baga, *Eneme & Lejoly* 96 (BRLU); Ecucu, *Guinea* 187, 605 (MA), Ecucu, *Guinea* 199, 755 (MA), 489, 755 (MA); Ndote Nord, près de Jandye, *Lisowski M-85* (BRLU); Bata, *Lisowski M-249* (BRLU); Bata, *Nguema* 1070 (BRLU); desemboadura del río Campo, *Pérez Viso* 2160 (MA); Bata, 8 km from the airport, *Sanford* 5770 (K).

Not previously reported from Equatorial Guinea. Distributed in tropical Africa, it has been reported from AGO, BEN, CMR, COD, GAB, GHA, CIV, KEN, LBR, MLI, NER, NGA, SEN, SLE and TGO (Lock 1989: 120).

Swartzia Schreb.

141. *Swartzia fistuloides* Harms

Centro Sur: Bata-Mongo, km 42, *Carvalho* 5416 (MA, WAG). Litoral: Bata-Pembe, km 29–30, *Carvalho* 5284 (MA, WAG), Bata-Pembe, km 27–28, *Carvalho* 5390 (MA, WAG). Wele Nzaz: Nkolentangan, *Tessmann* 82 (BM drawing, K).

Previously reported generally from Equatorial Guinea (Keay 1958: 446). Distributed in West, Central and South Central Africa, this species has been reported from AGO, CMR, CAF, COD, GAB, GHA, GIN, CIV and NGA (Lock 1989: 477; Harris 2002: 124).

Tephrosia Pers.

142. *Tephrosia vogelii* Hook. f.

Bioko: *Ansell s.n.* (K); *Vogel* 27 (K). Bioko Norte: Malabo-Baney, km 14–15, *Carvalho* 3502 (K, MA, WAG); servicio agronómico de Malabo, *Guinea* 637 (MA). Bioko Sur: Malabo-Luba, ca. Sampaka, *Fernández Casas et al.* 10441 (K, MA, WAG); Malabo-Riaba, km 60, *Fernández Casas & Carvalho* 12207 (K, MA). Litoral Bata-Pembe-San Joaquin de Ndyjacon, km 21–22, *Carvalho* 5247 (MA, WAG); Ayamiken, *Lisowski M-417* (BRLU). Wele Nzaz: Nkolentangan, *Tessmann* 85 (K). Equatorial Guinea: *Lope del Val s.n.* (MA-710881).

Previously reported from Bioko (Oliver 1871: 110; Mildbraed 1922: 184; Exell 1944: 154, 1973a: 360; Guinea 1946: 297; Keay 1958: 530; Lebrun and Stork 2008b: 254) and generally from Equatorial Guinea (Guinea 1946: 297). Distributed

in tropical and subtropical Africa, this species has been reported from BDI, CMR, COD, ETH, GAB, GHA, GNB, CIV, KEN, LBR, MWI, MOZ, NGA, RWA, STP, SLE, SDN, TZA, UGA, ZMB and ZWE (Lock 1989: 385).

***Teramnus* P. Browne**

143. ***Teramnus labialis* (L. f.) Spreng.**

Annobón: *Burton s.n.* (K); Palé, alturas de Mol, *Carvalho 3095* (K, MA, WAG); towards pico de Fogo, S of Ambo, *Melville 109* (K, MA); base do pico Santa Estefanía, *Newton s.n.* (LISU-165633).

Previously reported from Annobón (Mildbraed 1922: 162; Exell 1944: 159, 1956: 16, 1973a: 360; Sobrinho 1953: 182; Verdcourt 1970: 273; Fernández Casas 1992: 60). Pantropical species, in Africa it has been reported from AGO, BDI, CMR, TCD, COD, ETH, GHA, GNB, KEN, LBR, MLI, MOZ, NGA, RWA, STP, SLE, SOM, ZAF, SDN, SWZ, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 439).

***Trifolium* L.**

144. ***Trifolium rueppellianum* Fresen.**

Syn.: *Trifolium preussii* Taub. ex Baker f.; *Trifolium subrotundum* auct. non Steudel & Hochst.

Bioko Norte: pico Basilé, *Cabezas, Estrella & Posa 900* (MA), 914 (MA), 929 (MA); pico carretera del pico Basilé, km 28, *Carvalho 2147* (K, MA, WAG), km 22, *Carvalho 4526* (K, MA, WAG); pico Basilé, *Mann 603* (K); pico Basilé, *Pérez Viso 1463* (MA).

Previously reported from Bioko (Hooker 1862: 8, as *Trifolium subrotundum*, Hooker 1864: 190, as *T. subrotundum*; Oliver 1871: 59, as *T. subrotundum*; Mildbraed 1922: 184, as *T. subrotundum*; Hutchinson 1928: 400, as *T. subrotundum*; Guinea 1946: 296, as *T. preussii* and sub *T. subrotundum*; Gillett 1952: 389; Keay 1958: 553; Guinea 1968: 131, as *T. subrotundum*; Exell 1973a: 360; Fernández Casas 1992: 60; Lebrun and Stork 2008b: 262). Distributed in tropical and subtropical Africa, this species has been previously reported from CMR, COD, ETH, KEN, MWI, NGA, SDN, TZA, UGA and ZWE (Lock 1989: 495–496).

145. ***Trifolium simense* Fresen.**

Bioko Norte: pico Basilé, *Carvalho 2142* (MA, WAG), *Carvalho 3646* (K, MA, WAG); carretera del pico Basilé, km 28–29, *Carvalho 4540* (K, MA, WAG); cumbre del pico Basilé, *Fernández Casas 10176b* (K, MA), *Fernández Casas 11189* (K, MA), *Fernández Casas 11204* (K, MA, WAG); pico Basilé, *Guinea 2717* (MA), regreso del pico Basilé, *Guinea 2901* (MA), *Guinea 2904* (MA), *Guinea 2906* (MA); Basilé, *Mann 602* (K).

Previously reported from Bioko (Hooker 1862: 9, Hooker 1864: 190; Oliver 1871: 58; Mildbraed 1922: 184; Hutchinson 1928: 400; Guinea 1946: 296; Gillett 1952: 375; Cufodontis 1955a: 255; Keay 1958: 553; Guinea 1968: 131; Exell 1973a: 360; Fernández Casas 1992: 60–61; Mackinder 2004: 325; Lebrun and Stork 2008b:

264). Distributed in tropical and subtropical Africa, this species has been previously reported from BDI, CMR, COD, ETH, KEN, MWI, RWA, SDN, TZA, UGA and ZMB (Lock 1989: 496).

146. *Trifolium usambarense* Taub.

Bioko Norte: pico Basilé, *Cabezas, Estrella & Posa* 937 (MA); cumbre pico Basilé, *Fernández Casas* 11191 (K, MA), *Fernández Casas* 11207 (K, MA, WAG); pico Basilé, *Guinea* 2907 (K).

Previously reported from Bioko (Gillett 1952: 370; Cufodontis 1955a: 255; Keay 1958: 553; Exell 1973a: 360; Fernández Casas 1992: 61; Mackinder 2004: 325; Lebrun and Stork 2008b: 264). Distributed in tropical and subtropical Africa, this species has been previously reported from CMR, COD, ETH, KEN, MWI, MOZ, NGA, RWA, ZAF, TZA, UGA, ZMB and ZWE (Lock 1989: 496).

Uraria Desv.

147. *Uraria picta* (Jacq.) DC.

Annobón: N da ilha, *Newton s.n.* (LISU-165631).

Previously reported from Annobón (Exell 1956: 16, 1973a: 360). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BEN, BFA, CMR, TCD, COD, ETH, GAB, GMB, GHA, GNB, CIV, LBR, MWI, MLI, NER, NGA, RWA, STP, SEN, SLE, SDN, TZA, TGO and UGA (Lock 1989: 251).

Vigna Savi

148. *Vigna adenantha* (G. Mey.) Maréchal, Mascherpa & Stainier

Syn.: *Phaseolus adenanthus* G. Mey.

Bioko Norte: Malabo-aeropuerto, km 6, *Carvalho* 3194 (K, MA); Malabo-Praia das Carboneras, *Carvalho* 4217 (K, MA); Malabo-Luba-Belebú Balachá, *Carvalho* 4574 (K, MA); Bahía de Venus, *Guinea* 219 (MA), 260 (MA). Litoral: Bata, *Lisowski M-250* (BRLU); Mbini, *Lisowski M-959* (BRLU); Mbini, bord du fleuve Wele, *Lisowski M-1068* (BRLU); Bata, *Nguema* 1154 (BRLU).

Previously reported from Río Muni (Guinea 1946: 159). Pantropical species, in Africa it has been reported from AGO, CMR, COD, GAB, GMB, GIN, GNB, LBR, NGA, STP, SEN, SLE, SDN, TZA and TGO (Lock 1989: 420, as *Phaseolus adenanthus*).

149. *Vigna gracilis* (Guill. & Perr.) Hook. f.

Syn.: *Vigna multiflora* Hook. f.

Bioko: *Vogel* 245 (K). Bioko Norte: Malabo-Basupú del Este, km 3, *Carvalho* 4109 (K, MA). Bioko Sur: Moca, *Boughey* 1 (K), *Boughey* 57 (K); Luba-Belebú Balachá, km 7, *Carvalho* 2276 (K, MA); estación Moca, *Estrella, Cabezas & Fero* 226 (MA); Musola, Monkey bush, *Guinea* 1044 (MA); Moca, *Wrigley* 547 (K). Centro Sur: P.N. de Monte Alén, 3 km à l'O de station ECOFAC, *Lejoly* 99/029

(BRLU); P.N. de Monte Alén, 5 km au NO de Engong, *Lejoly* 99/059 (BRLU); P.N. Monte Alén, *Parmentier & Esono* 2961 (BRLU); inselberg de Bicurga, *Parmentier & Esono* 3182 (BRLU); P.N. Monte Alén, Engong, *Pérez Viso* 361 (MA). Litoral: Mbini, *Lisowski M-956, M-960* (BRLU); Ndote Nord, près de Jandye, *Lisowski M-1288* (BRLU). Wele Nzas: inselberg de Piedra Nzas, *Lejoly* 99/161 (BRLU); inselberg de Piedra Nzas, *Lejoly* 99/201 (BRLU), 3 km au S de Asoc, *Lejoly* 99/300 (BRLU); inselberg de Asoc, *Obama & Lejoly* 500 (BRLU).

Previously reported from Bioko (Oliver 1871: 205, as *Vigna multiflora*; Mildbraed 1922: 184, as *V. multiflora*; Hutchinson 1928: 409, as *V. multiflora*; Keay 1958: 569, as *V. multiflora*; Exell 1973a: 360, as *V. multiflora*). Distributed in tropical and subtropical Africa, this species has been reported from AGO, CMR, CAF, COG, COD, GAB, GMB, GHA, GIN, GNB, CIV, LBR, MLI, NGA, STP, SEN and SLE (Lock 1989: 442; Harris 2002: 124).

150. (*) *Vigna juruana* (Harms) Verdc.

Litoral: Bata-Asoga, *Carvalho* 5444 (MA, WAG); Corisco, playa SO de la isla, *Pérez Viso* 1983 (MA).

Not previously reported from Equatorial Guinea. Probably originally from the new world; it has been introduced in several African countries including CMR, CAF, COD, GAB, GHA, GIN, CIV, NGA and SLE (Lock 1989: 443).

151. *Vigna luteola* (Jacq.) Benth.

Syn.: *Vigna marina* subsp. *oblonga* auct. non (Benth.) Padulosi

Bioko Norte: Luba-Malabo, km 4, *Carvalho* 2752 (K, MA). Bioko Sur: Malabo-Luba, praia de Areia Branca, *Carvalho* 2052 (K, MA).

Previously reported from Bioko (Padulosi and Ng 1993: 124, as *Vigna marina* subsp. *oblonga*). This pantropical species has been reported in Africa from AGO, BEN, BWA, BDI, CMR, TCD, COD, CIV, EGY, ETH, GAB, GHA, GNB, KEN, LBR, MWI, NER, RWA, SEN, SLE, ZAF, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 443; Sosef et al. 2006: 248; Lebrun and Stork 2008b: 273).

152. *Vigna marina* (Burm.) Merr.

Syn.: *Vigna oblonga* Benth.

Bioko: *Vogel* 221 (K); Concepción, *Wrigley* 546 (K). Bioko Norte: Bahía de Venus, *Guinea* 309 (MA), 310 (MA), 311 (MA). Litoral: Baga, *Eneme & Lejoly* 88 (BRLU); Bata, *Lisowski M-3* (BRLU), Ndote Nord, ca. Jandye, *Lisowski M-95* (BRLU); Bata, *Lisowski M-102* (BRLU); Reserve Río Campo, près de Niuma, *Lisowski M-1015* (BRLU); Bata, *Nguema* 1152 (BRLU). Río Muni: *Lisowski M-1140* (BRLU).

Previously reported from Bioko (Oliver 1871: 206, as *Vigna oblonga*; Mildbraed 1922: 184, as *V. oblonga*; Hutchinson 1928: 409, as *V. oblonga*; Guinea 1946: 299, as *V. oblonga*; Keay 1958: 569; Exell 1973a: 360, as *V. oblonga*; Padulosi and Ng 1993: 124, as *V. luteola* (Jacq.) Benth.) and Río Muni (Guinea 1946: 159, as *V.*

oblonga). Distributed in tropical Africa, this species has been reported from CMR, GAB, GHA, LBR, MOZ, NGA, STP, ZAF and TZA (Lock 1989: 444).

153. *Vigna racemosa* (G. Don) Hutch. & Dalziel

Bioko Norte: Malabo-Basupú, km 12–13, *Carvalho 4128* (K, MA); Malabo-aeroporto, km 2, *Carvalho 2714* (K, MA); Malabo-aeroporto, km 6–7, *Carvalho 4219* (K, MA).

Not previously reported from Equatorial Guinea. Distributed in tropical and subtropical Africa, this species has been reported from AGO, BFA, BDI, CMR, CAF, TCD, COD, GMB, GHA, GNB, CIV, LBR, MLI, NER, NGA, RWA, STP, SEN, SLE, SDN, TZA, TGO, UGA and ZMB (Lock 1989: 446).

154. *Vigna unguiculata* subsp. *denkindtiana* (Harms) Verdc.

Annobón: Palé, *Carvalho 3161* (K, MA); E. path towards Crater Lake, *Melville 162* (K, MA).

Previously reported generally from Equatorial Guinea (Lock 1989: 447). Distributed in tropical and subtropical Africa, this species has been reported from AGO, BDI, CMR, COD, ETH, GAB, GMB, GHA, GIN, GNB, CIV, KEN, LBR, MWI, MOZ, NAM, NER, NGA, STP, SLE, SDN, TZA, TGO, UGA, ZMB and ZWE (Lock 1989: 447; Sosef et al. 2006: 249).

(155). *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*

Syn.: *Vigna sinensis* Endl.

Previously reported from Annobón (Exell 1963: 99, 1973a: 361) and Bioko (Oliver 1871: 205, as *Vigna sinensis*; Mildbraed 1922: 184, as *V. sinensis*; Cufodontis 1955b: 336; Exell 1973a: 361). We have not found any herbarium material of *V. unguiculata* subsp. *unguiculata* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed and cultivated in tropical and subtropical Africa, this species has been reported from CMR, ETH, GHA, GNB, KEN, NAM, NGA, SLE, SDN, TZA, TGO, and ZMB (Lock 1989: 448; Pasquet 2001: 139). The distribution range of this species suggests it may occur in the country.

156. *Vigna vexillata* (L.) A. Rich.

Syn.: *Vigna thonningii* Hook. f.

Bioko: *Vogel 222* (K).

Previously reported from Bioko (Oliver 1871: 199–200; Mildbraed 1922: 184; Hutchinson 1928: 409, as *Vigna thonningii*; Guinea 1946: 299, as *V. thonningii*; Cufodontis 1955b: 337; Keay 1958: 567; Exell 1973a: 361). This Palaeotropical species has been reported in Africa from AGO, BWA, BDI, CMR, TCD, COD, ETH, GAB, GMB, GHA, GNB, CIV, KEN, LBR, MWI, MOZ, NER, NGA, RWA, SEN, SLE, SOM, ZAF, SDN, SWZ, TZA, TGO, ZMB and ZWE (Lock 1989: 448; Sosef et al. 2006: 249).

Zornia J.F. Gmel.

157. (*) **Zornia latifolia** Sm.

Litoral: Corisco, *Cabezas, Tellería & Velayos 9920* (MA); Bata-Pembe, pradera de Pembe, *Carvalho 5586* (BRLU, MA, WAG); Ndote Nord, près de Jandye, *Lisowski M-314* (BRLU); Reserve de Rio Campo, près de Niuma, *Lisowski M-1006* (BRLU); Bata, *Nguema 1159* (BRLU); Corisco, *Pérez Viso 1990* (MA).

Not previously reported from Equatorial Guinea. Originally from the new world, this species has been introduced throughout the tropics. In Africa it has also been reported from BEN, BDI, CMR, COD, GAB, GHA, GIN, CIV, LBR, MLI, NGA, SEN, SLE and TGO (Lock 1989: 122; Sosef et al. 2006: 249).

Doubtful and Excluded Records

Arachis hypogaea L.

Litoral: Reserva de Río Campo, Ayamiken, *Obama 166* (BRLU); Bebai, Campogebiet, *Tessmann 631* (K).

Previously reported from Annobón (Exell 1963: 98, 1973a: 356), Bioko (Guinea 1946: 297; Exell 1973a: 356) and generally from Equatorial Guinea (Guinea 1946: 297). Originally from Asia, this species has been introduced throughout the world. In Africa it has also been reported from many countries including the neighbouring CMR, GAB and STP (Lock 1989: 110). Although the presence of this species is well documented in Equatorial Guinea, we have not found any report of this species escaping from cultivation. Hence, its presence as naturalized in the country seems unlikely.

Crotalaria lanceolata E. Mey.

Previously reported from Bioko (Guinea 1946: 296; Exell 1973a: 357) and generally from Equatorial Guinea (Guinea 1946: 296). We have not found any herbarium material of *C. lanceolata* from Equatorial Guinea in BM, BRLU, K, LISU, MA and P. Distributed in subtropical Africa, this species has been reported from ETH, KEN, MWI, MOZ, SDN, ZAF, SWZ, TZA, UGA, ZMB and ZWE (Lock 1989: 186). The distribution range of this species suggests it occurs in drier zones than Equatorial Guinea. Hence, its presence in the country seems unlikely.

Dalbergia montana L. f.

Previously reported from Río Muni (Guinea 1946: 141). We have not found any reference to this species name in literature, and neither in the International Plant Name Index (www.ipni.org). We also have not found any herbarium material labelled as *D. montana* from Equatorial Guinea in BM, BRLU, K, LISU, LISU and MA, supporting this record. This could be a misprint by Guinea (1946) and we include it under the excluded records.

Dalbergia tessmannii Harms, *nom. nud.*

This name was published by Harms (1915a: 630) without any description: “TESSMANN fand die eigentümliche Art in Spanisch Guinea (*D. tessmannii* Harms mscr.)”. Moreover, no precise locality or specimen was reported. Although Guinea (1946: 298) included this name in his catalogue, we have not found any herbarium material related to *D. tessmannii* in the herbaria checked. Thus, we treat *D. tessmannii* Harms as an excluded name.

Statistical Summary

The total number of indigeneous and introduced taxa of *Papilionoideae* listed here for Equatorial Guinea is 157. The species list is primarily based on herbarium material, with the exception of 17 reports from literature, species whose distribution ranges suggest they may occur in Equatorial Guinea.

Forty-eight taxa are recorded for the first time from the country; these reports are mainly from Río Muni, which is the less explored territory (Aedo and Velayos 2001). This work represents an increase over 30% in the floristic knowledge of *Papilionoideae* from the country, although many plants reported from Cameroon or Gabon that may appear in Equatorial Guinea have yet to be found. The number of collections available per species (Fig. 2) also supports the idea that future explorations are needed to increase the floristic and taxonomic knowledge of the Legumes in Equatorial Guinea as well as in West and Central Africa.

In the checklist, we included 15 species (9%) that may be naturalized in Equatorial Guinea, which is near the 8% found in *Caesalpinioideae* (Estrella et al. 2006) and lower

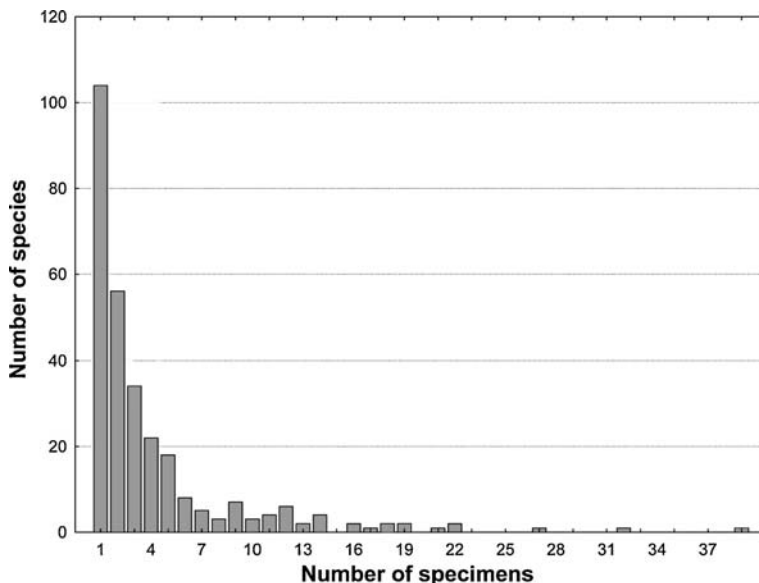


Fig. 2 Diagram representing the number of collections studied per each species of Leguminosae reported from Equatorial Guinea

Table 1 Indigenous and introduced species of Papilionoideae from Mt. Cameroon and the four islands of the Gulf of Guinea (sources: ¹Cable and Cheek 1998; ²Liberato 1972)

	Mt. Cameroon ¹	Bioko	São Tomé ²	Príncipe ²	Annobón
Indigenous	69	79	48	18	22
Introduced	7	12	19	3	4

than those figures found in the Mimosoideae (20.5%; Estrella et al. 2005). According to Binggeli (1996), the Mimosoideae taxa are the most important group of invasive woody plants in the world. The number of introduced species is higher in the islands of Gulf of Guinea (Table 1), probably because they have been cultivated for a long time. The highest number of introduced species found in S. Tomé could be explained by its importance as a port during the slave trade (Paiva, pers. comm.), with the transit of ships between continental Africa and the new world.

According to our previous works (Estrella et al. 2005, 2006; Estrella 2009), the total number of Legumes species currently known from Equatorial Guinea is 322 distributed in 129 genera (Table 2). What is most striking is the high number of Papilionoideae taxa growing in Bioko. The high number of species found in Bioko and its low endemic level has usually been explained by its continental influence (Exell 1973b: 7). Pérez del Val (1993: 14) also reported that a continental bridge appeared in the last ice age between Bioko and the Cameroon coast (lasting 30,000–40,000 years). In Bioko we found the highest mountains of the country, such as the volcanic peaks of Basilé (3,011 m), the Gran Caldera de Luba (2,261 m) or the peak Biaó (2,009 m) (Velayos et al. 2008). These highlands are included in the Afromontane region, from which several species of Papilionoideae are endemic, such as *Adenocarpus mannii* or the *Trifolium* species, which are the genera more common in temperate areas. These species could not be found in Río Muni, where the highest mountains are Monte Mitra or Monte Alén, which hardly reach 1,200 m (Velayos et al. 2008).

By contrast, in Río Muni the most important subfamily is the Caesalpinoideae (Table 2), which is considered the most important group in low evergreen rainforests in tropical Africa. Río Muni and Gabon are considered two of the best conserved territories in West and Central Africa (Hamilton 1994; Wieringa 1999; Sosef et al. 2006).

The lower number of Legumes found in Annobón (17 km²) might be explained by its oceanic isolation. From the 35 Legumes species reported from Annobón

Table 2 Number of genera and species of the three Leguminosae subfamilies in Equatorial Guinea (sources: ¹Estrella et al. 2005; ²Estrella et al. 2006; ³Estrella 2009)

	Annobón		Bioko		Río Muni		Equatorial Guinea	
	Genera	Species	Genera	Species	Genera	Species	Genera	Species
Mimosoideae ^{1,3}	2	2	13	19	21	37	21	40
Caesalpinoideae ^{2,3}	4	7	20	31	48	113	53	125
Papilionoideae ³	17	26	40	91	42	110	55	157
Total	23	35	73	141	111	260	129	322

(Table 2), nine should be considered as introduced (possibly naturalized) due to human activity on the island.

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Appendix 1.

Index to scientific names. Accepted names are in **boldface**. Synonyms are in *italic*. Doubtful and excluded records are in normal type

A

Abrus L.	4
melanospermus subsp. tenuiflorus (Benth.) D.K. Harder.	4
precorius L.	4
<i>pulchellus</i> subsp. <i>tenuiflorus</i> (Benth.) Verdc.	4
Adenocarpus DC.	4
mannii (Hook. f.) Hook. f.	4
Aeschynomene L.	5
americana L.	5
elaphroxylon (Guill. & Perr.) Taub.	5
Aganope Miq.	5
gabonica (Baill.) Polhill.	5
impressa (Dunn) Polhill.	5
lucida (Welw. ex Baker) Polhill.	5
Airyantha Brummitt.	6
schweinfurthii (Taub.) Brummitt subsp. confusa (Hutch. & Dalziel) Brummitt.	6
Alysicarpus Desv.	6
vaginalis (L.) DC.	6
Amphimas Pierre ex Harms.	6
ferrugineus Pierre ex Pellegr.	6
tessmannii Harms.	6
Andira Juss.	6
inermis (W. Wright) Kunth ex DC. subsp. inermis	6
Angylocalyx Taub.	7
oligophyllus (Baker) Baker f.	7
<i>ramiflorus</i> Taub.	7
talbotii Baker f. ex Hutch. & Dalziel.	7
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<i>hypogaea</i> L.	43

B

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buettneri Harms	
subsp. buettneri	7
subsp. hylophila (Harms) Soladoye.	7
capparidifolia subsp. polygalacea Brummitt.	8
<i>confusa</i> Hutch. & Dalziel.	6

cuspidata Taub.	8
dewevrei De Wild.	8
dubia De Wild.	8
laurifolia Baill.	8
leptostemma Baill. subsp. leptostemma	9
maxima Baker.	9
nitida Lodd.	9
pilosa Baill.	9
<i>polygalacea</i> (Hook. f.) Baker.	8
<i>pyrifolia</i> Baill.	9
<i>spathacea</i> auct.	6
spathacea Hook. f.	9
<i>Baphiastrum</i> Harms	
<i>confusum</i> (Hutch. & Dalziel) Pellegr.	6
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parviflora Benth. ex Baker.	10
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<i>mucunoides</i> Desv.	10
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brevicalyx Benth.	11
<i>maxima</i> Benth.	11
scandens (Welw.) J.B. Gillett.	11
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<i>ensiformis</i> (L.) DC.	11
<i>maritima</i> (Aubl.) Thouars.	11
<i>obtusifolia</i> (Lam.) DC.	11
<i>rosea</i> (Sw.) DC.	11
Centrosema (DC.) Benth.	12
<i>pubescens</i> Benth.	12
Clitoria L.	12
<i>ternatea</i> L.	12
Crotalaria L.	12
<i>goreensis</i> Guill. & Perr.	12
junceae L.	13
<i>lanceolata</i> E. Mey.	43
<i>mucronata</i> Desv.	13
pallida Aiton.	13
retusa L.	13
<i>Cytisus</i> Desf.	
<i>mannii</i> Hook. f.	4

D

Dalbergia L. f.	13
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bakeri Welw. ex Baker.	14
crispa Hepper.	14
ecastaphyllum (L.) Taub.	14
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hostilis Benth.	15
lactea Vatke.	15
monetaria L. f.	15
montana L. f.	43
oblongifolia G. Don.	15
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Dalbergiella Baker f.	16
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<i>glabrata</i> Welw. ex Baker.	26
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<i>latifolium</i> DC.	19
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setigerum (E. Mey.) Benth.	19
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triflorum (L.) DC.	19
velutinum (Willd.) DC.	19
Dioclea Kunth.	20
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<i>hendecaphylla</i> Jacq.	24
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fasciculata (Benth.) Dunn.	26
glabrata (Welw. ex Baker) Dunn.	26
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M

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<i>hypolampra</i> Harms.	29
<i>laurentii</i> De Wild.	30
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<i>mannii</i> Baker.	30
<i>micrantha</i> Harms.	33
<i>mildbraedii</i> Harms.	30
<i>sanagana</i> Harms.	30
<i>thonningii</i> (Schumach. & Thonn.) Baker.	31
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3113 (64), 3119 (59), 3134 (116), 3137 (2), 3146 (96), 3161 (154), 3162 (83), 3164 (116), 3166 (30), 3173 (131), 3181 (36), 3194 (148), 3205 (137), 3367 (54), 3399 (19), 3438 (103), 3445 (52), 3447 (8), 3453 (48), 3463 (89), 3473 (126), 3486 (48), 3502 (142), 3511 (103), 3540 (8), 3567 (6), 3593 (46), 3603 (67), 3646 (145), 3712 (82), 3751 (51), 3784 (26), 3786 (119), 3805 (103), 3827 (97), 3945 (26), 4096 (57), 4109 (149), 4118 (131), 4128 (153), 4165 (26), 4191 (134), 4217 (148), 4219 (153), 4284 (51), 4286 (49), 4291 (119), 4297 (121), 4298 (103), 4301 (99), 4342 (82), 4368 (48), 4382 (8), 4383 (41), 4397 (8), 4414 (31), 4440 (67), 4489 (116), 4494 (106), 4507 (83), 4526 (144), 4540 (145), 4574 (148), 4625 (26), 4633 (140), 4641 (68), 4650 (61), 4660 (70), 4745 (49), 4812 (80), 4823 (23), 4879 (20), 4932 (24), 4940 (53), 4944 (84), 4964 (136), 4966 (48), 4971 (23), 5005 (27), 5104 (45), 5117 (117), 5143 (103), 5155 (42), 5172 (20), 5174 (27), 5182 (9), 5194 (91), 5196 (6), 5216 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217 (57), 219 (83), 220 (114), 222 (84), 223 (31). **Estrella & Fero** 176 (57), 177 (57). **Estrella, Cabezas & Fero** 226 (149), 231 (79). **Exell** 865 (57), 890 (58), 898 (2), 900 (60). **Fernández Casas** 10121 (57), 10176b (145), 10414 (79), 11173 (3), 11189 (145), 11191 (146), 11204 (145), 11207 (146), 11251 (45), 10261 (45), 10267 (96), 11307 (131), 11320 (76), 11356 (131), 11496 (31), 11664 (45), 11688 (36), 11809 (79), 11860 (51), 12030 (31), 12034 (131), 12173 (79), 12196 (97). **Fernández Casas et al.** 10099 (114), 10130 (114), 10141 (3), 10262 (96), 10266 (45), 10305 (79), 10341 (107), 10441 (142), 10444 (73), 10456 (119). **Guinea** 49 (70), 58 (40), 89 (41), 119, 121 (30), 140–145 (131), 174–808 (45), 180, 204 (136), 186–603 (70), 187, 605 (140), 193–761 (45), 197–749 (80), 199, 755 (140), 201–1008 (57), 208 (MA), 209 (96), 211 (96), 212 (96), 213 (96), 219 (148), 221 (96), 224–529 (96), 225–529 (61), 247 (59), 260 (148), 305 (59), 307 (59), 309 (152), 310 (152), 311 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(149), 99/267 (70), 99/300 (149), 99/325 (50), 99/341 (53), 99/356 (134), 99/385 (74). **Lejoly & Elad** 98/78 (98), 98/94 (114), 98/95 (67), 98/126 (103), 98/213 (103). **Lejoly & Esono** 35 (88), 74 (70), 93 (125). **Lejoly & Van Asbroeck** 4 (17), 69 (41). **Lisowski** M-3 (152), M-48 (119), M-52 (67), M-64 (2), M-82 (70), M-85 (140), M-92 (45), M-95 (152), M-102 (152), M-107 (64), M-117 (35), M-127 (41), M-178 (53), M-194 (41), M-206 (36), M-214 (83), M-223 (65), M-245 (35), M-248 (45), M-249 (140), M-250 (148), M-257 (96), M-276 (57), M-312 (36), M-314 (157), M-407 (131), M-417 (142), M-422 (108), M-424 (43), M-542 (43), M-547 (53), M-577 (31), M-641 (42), M-646 (70),

'M-672 (98), M-709 (98), M-773 (129), M-939 (114), M-946 (25), M-956, M-960 (149), M-959 (148), M-964 (17), M-1004 (116), M-1006 (157), M-1015 (152), M-1050 (26), M-1068 (148), M-1100 (70), M-1106 (43), M-1140 (152), M-1168, M-1199 (53), M-1228 (65), M-1238 (41), M-1278 (43), M-1288 (149), M-1300 (45), M-1329 (45), M-1386 (114), M-1386 (124), M-1463 (65), M-1480 (70), M-1486 (88), M-1592 (68), M-1601 (61), M-1646 (119), M-1647 (68), M-4584 (84). **Mann** 21 (114), 30 (2), 37 (38), 42 (116), 56 (59), 88 (134), 88a (137), 157 (88), 184 (19), 188 (126), 205 (96), 216 (9), 262 (45), 286 (79), 396 (19), 401 (122), 407 (57), 409 (26), 594 (3), 602 (145), 603 (144), 1436 (103), 1768 (120), 1842 (32). **Melville** 105 (61), 108 (60), 109 (143), 126 (83), 143 (77), 159 (85), 162 (154), 199 (121), 209 (57), 407 (79), 453 (114), 609 (70). **Ngomo** 57 (14), 103 (54), 104 (108), 0130 (31), 0152 (114), 262 (134). **Nguema** 1050 (57), 1077 (41), 1083 (68), 1084 (31), 1085 (61), 1099 (70), 1105 (83), 1119 (36), 1070 (140), 1123 (59), 1152 (152), 1154 (148), 1155 (45), 1157 (35), 1159 (157), 1172 (31), 1224 (121), 1252 (81), 1268 (36). **Nguema & Parmentier** 464 (101). **Nguema, Esono & Lejoly** 228 (56). **Obama** 155 (121), 754 (35). **Obama & Lejoly** 384 (125), 414 (14), 430 (70), 481 (70), 496 (70), 500 (149), 610 (45), 617 (45). **Parmentier** 1511 (70), 1739 (70). **Parmentier & Esono** 2961 (149), 3011 (70), 3182 (149), 3477 (98), 3478 (70), 3699 (70). **Parmentier & Nguema** 186 (95), 355 (80). **Pérez Viso** 30 (57), 148 (114), 192 (108), 217 (103), 292 (131), 293 (67), 359 (70), 361 (149), 395 (124), 1313 (24), 1366 (56), 1413 (83), 1442 (36), 1446 (61), 1453 (65), 1458 (41), 1461 (3), 1463 (144), 1550 (124), 1581 (28), 1691 (108), 1723 (57), 1730 (71), 1824 (17), 1910 (40), 1918 (96), 1929 (45), 1973 (45), 1976 (35), 1983 (150), 1990 (157), 1994 (57), 2014 (57), 2114 (56), 2139 (45), 2153 (113), 2160 (140), 2309 (67), 2400 (31), 2410 (54), 2670bis (57), 2743 (2), 2827bis (63), 3161 (84), 3297 (61), 3310 (108), 3338 (31), 3358 (117), 3359 (41), 3372 (31), 3443 (114), 3505 (61), 3542 (70), 3578 (31), 3579 (4), 3627 (61), 3785 (131), 3786 (31), 3797 (36), 3801 (131), 3858 (41), 3889 (41), 3945 (36), 4169 (31), 4222 (15), 4267 (70), 4319 (134), 4348 (31). **Porembski, Biedinger & Nguema** 3485 (96). **Sanford** 5770 (140), 5791 (103), 5926 (3). **Senterre & Ngomo** 471 (129), 678 (11). **Senterre, Obiang & Esono** 2827 (11). **Senterre, Obiang & Ngomo** 2347 (24). **Swarbrick** 2903 (81), 2919 (64). **Tessmann** 63 (67), 80 (129), 82 (141), 85 (142), 87 (89), 95 (93), 102 (100), 131 (56), 136 (104), 228 (106), 253 (130), 277 (18), 286 (62), 298 (18), 381 (114), 412 (108), 482 (129), 492 (16), 511 (125), 519 (94), 566 (103), 576 (1), 621 (121), 641 (115), 707 (88), 834 (102), 873 (47), 940 (106), 970 (23), 1016 (22), 2574 (69). **Van Reeth** 162 (131). **Velayos, Aedo & Pérez Viso** 9490 (57). **Vogel** 3 (67), 27 (142), 105 (78), 107 (120), 199 (116), 205 (59), 221 (152), 222 (156), 235 (121), 245 (149), 256 (119), 264 (95), 337 (107). **Wieringa & Haegens** 2271 (120), 2272 (103). **Wrigley** 4 (58), 5 (2), 16 (35), 30 (116), 43 (139), 46 (68), 76 (30), 525 (57), 546 (152), 547 (149). **Wrigley & Melville** 545 (67).