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## Checklist of Commelinaceae of Equatorial Guinea (Annobón, Bioko and Río Muni)

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A checklist of Commelinaceae of Equatorial Guinea, comprising 46 taxa in 12 genera, is presented. The best represented genus is *Palisota*, with 11 species. Bibliographical references for Commelinaceae from Equatorial Guinea have been gathered and checked. Eleven species of Commelinaceae are recorded for the first time in the country. © 2009 The Linnean Society of London, *Botanical Journal of the Linnean Society*, 2009, 159, 106–122.

ADDITIONAL KEYWORDS: biodiversity – flora – floristics – tropical Africa.

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### INTRODUCTION

The Commelinaceae comprise c. 42 genera and ± 650 species, and species can be found throughout the warm temperate and tropical regions of the world. In north temperate regions, the family is well represented in North America and Asia. No species are native to Europe. The centres of diversity for the family are Mexico, Central America, tropical Africa (especially for the tribes Commelineae and subtribes Palisotinae Faden & D.Hunt and Coleotrypinae Faden & D.Hunt), India and the foothills of the Himalayas to Thailand and south-west China. Commelinaceae are ecologically diverse, and can be found in both humid and mesic habitats, from sea level to 3800 m. Only a few species of Commelinaceae are aquatics, all in the genus *Floscopa* Lour. (Dahlgren, Clifford & Yeo, 1985; Takhtajan, 1997; Faden, 1998; Heywood *et al.*, 2007).

African Commelinaceae include 17 genera and c. 270 species, reflecting a great diversity in growth habit, inflorescence and fruit structure. This family is distributed from Ghana to Sudan, extending to Uganda and Zimbabwe, being especially diverse in the western part of the continental mainland and in Madagascar (Faden, 1998).

In Equatorial Guinea, the family is widely distributed and highly diverse, in habitats ranging from shady places in rainforest to secondary forest, in which they also grow as climbers (*Palisota tholloni* Hua).

Important floristic works on the Commelinaceae of Central and West tropical Africa are those of Clarke (1901), Hutchinson & Dalziel (1936) and, especially, Brenan (1952a, b, 1960, 1961, 1966, 1968a, b) or, more recently, of Akoègninou, van der Burg & van der Maesen (2006). Other relevant studies of nomenclature, conservation and floristics of neighbouring countries were also considered (Brenan, 1953; Aké Assi, 1963; Guinea, 1968; Adam, 1981; Anonymous, 1988; Lebrun & Stork, 1995).

There is no complete treatment of the Commelinaceae for Equatorial Guinea, although parts of the country have been covered by other studies [Annobón was included by Exell (1944, 1956, 1963, 1973a), Bioko was included by Brenan (1968a) and Faden (1996), and Río Muni was included by Guinea (1946)]. Information about geography, climate and vegetation of Equatorial Guinea can be found in Guinea (1946), Exell (1973a, b), De Castro & De la Calle (1985), Pérez de Val (1993) and Heras *et al.* (2002). A compilation of data on location, phytogeography, climate, hydrogeography, soils and vegetation is available on the Internet at <http://www.floradeguinea.com/guinea.php>.

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Over the last 24 years, the Real Jardín Botánico de Madrid has carried out intensive fieldwork in both Bioko and Río Muni. A study of the resulting collections at MA has revealed further new records and new areas of distribution for some taxa (Herrero *et al.*, 2001; Velayos, Aedo & Pérez Viso, 2001; Fero *et al.*, 2003; Parmentier & Geerinck, 2003; Cabezas, Aedo & Velayos, 2004; Cabezas *et al.*, 2005; Estrella *et al.*, 2005, 2006; Senterre, 2005). Studies on the inselbergs and related vegetation, carried out at the Université Libre de Bruxelles, including those of Lejoly & Lisowski (1999), Parmentier (2001, 2003), Parmentier, Lejoly & Nguema (2001), Parmentier & Nguema (2001) and Parmentier & Geerinck (2003), have complemented this floristic approach in the last 8 years.

The aim of this work was to update the catalogue of Commelinaceae for the whole of Equatorial Guinea, including both bibliographical records and herbarium specimens. This checklist is a step towards a modern Flora of Equatorial Guinea.

## MATERIAL AND METHODS

The checklist is primarily based on herbarium specimens. We studied more than 350 specimens collected in Equatorial Guinea from BM, BRLU, K, LISC, LISU, MA and US, including both historical collections made during British expeditions by Barter, Mann, Tessmann and Vogel and modern collections made mainly on Spanish and Belgian expeditions. For comparative purposes, some selected specimens of Commelinaceae from neighbouring countries were also studied in these herbaria.

Bibliographical references for the Commelinaceae of Equatorial Guinea were also checked. Most of these were gathered and compiled in the previous phases of our project (Aedo, Velayos & Tellería, 1999). Four species were included based only on literature records as their distribution area makes their presence in Equatorial Guinea likely. Locality names used in this checklist were brought up to date following Velayos *et al.* (2001: 147–149). A list of the localities in which Commelinaceae have been collected in Equatorial Guinea is given (Table S1, see Supporting Information), including information on geographical coordinates, mostly compiled from original labels (SOM).

The checklist is alphabetically ordered by genus and species. Generic circumscription follows Faden (1998). The authors of scientific names are abbreviated according to Brummitt & Powell (1992). Those abbreviations that were not located in this book were confirmed with the updated version of 'Authors of plant names', available on the Internet at [http://www.ipni.org/ipni/query\\_author.html](http://www.ipni.org/ipni/query_author.html).

For the identification of specimens, the available regional floras (Clarke, 1901; Hutchinson & Dalziel, 1936; Brenan, 1968a; Adam, 1981) were used. For *Aneilema* R.Br., Faden (1991) was used.

Under each accepted name, a list of synonyms used in the relevant literature and the basionym are included. 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).

Previous bibliographical records for each taxon were grouped under the three regions. When the taxon was recorded under a synonym, this is indicated as follows: Clarke, 1901: 77, sub *Forrestia tenuis*. In the case of a misidentification, the author's name is included following the cited species: Guinea, 1946: 328, sub *Aneilema nudiflorum* (L.) Sweet.

The distribution range of each species is included, the information being obtained from the existing floras of the neighbouring countries (Clarke, 1901; Brenan, 1968a). When the information included in these floras was incomplete or out of date, we used some floristic studies of West and Central Africa to complete this information (Cable & Cheek, 1998; Cheek, Onana & Pollard, 2000; Cheek *et al.*, 2004; Sosef *et al.*, 2006). Commentaries on some species are included when necessary.

A summary table is included comparing the checklist of Commelinaceae of Equatorial Guinea with the accounts of Commelinaceae of Cameroon and Gabon (Table 1). This summary table also includes data about the distribution of the species in the three main regions of Equatorial Guinea.

## THE CHECKLIST

### *AMISCHOTOLYPE* HASSK.

1. *Amischotolype tenuis* (C.B.Clarke) R.S.Rao  
*Buforrestia tenuis* C.B.Clarke  
*Forrestia tenuis* (C.B.Clarke) Benth.  
*Forrestia africana* K.Schum. ex C.B.Clarke  
*Forrestia lescrauwaetii* De Wild.  
*Forrestia preussii* K.Schum.

Centro Sur: Bicurga, *Lisowski 1493* (BRLU); Monte Bata-Río Campo, *Pérez Viso 2459* (MA-689863); SE du P.N. Monte Alén, au S du río Laña, près de la Cabaña ECOFAC de Misergue, *Senterre & Obiang 3401* (BRLU); P.N. Monte Alén, 1.5 km au NO de Moca, *Senterre, Obiang & Esono 2809* (BRLU); P.N. Monte Alén, près du village de Monte Alén (ECOFAC), *Senterre, Obiang & Esono 2915* (BRLU); P.N. Monte Alén, Mosumu, *Pérez Viso 1604* (MA-687148); SO P.N. Monte Alén, sur le transect ECOFAC de Mosumo à 500 m du début du layon,

**Table 1.** Species list

| Species                             | Equatorial Guinea |           |           |           |           |           |          |           |
|-------------------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|----------|-----------|
|                                     | Ann               | Bio       | Mun       | Gab       | Cam       | Kupe      | Oku      | MtC       |
| <i>Amischotolype</i> sp.            | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Amischotolype tenuis</i>         | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Aneilema aequinoctiale</i>       | –                 | –         | +         | –         | –         | –         | –        | –         |
| <i>Aneilema beniniense</i>          | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Aneilema dispernum</i>           | –                 | +         | –         | –         | +         | +         | –        | +         |
| <i>Aneilema paludosum</i>           | –                 | –         | +         | –         | –         | –         | –        | –         |
| <i>Aneilema silvaticum</i>          | –                 | +         | –         | –         | +         | +         | –        | +         |
| <i>Aneilema umbrosum</i>            |                   |           |           |           |           |           |          |           |
| ssp. <i>umbrosum</i>                | –                 | +         | +         | +         | +         | +         | +        | +         |
| ssp. <i>ovato-oblongum</i>          | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Buforrestia mannii</i>           | –                 | +         | –         | –         | +         | +         | –        | +         |
| <b><i>Buforrestia ovata</i></b>     | –                 | –         | –         | ?         | –         | –         | –        | –         |
| <b><i>Coleotrype laurentii</i></b>  | –                 | –         | –         | +         | –         | +         | –        | +         |
| <i>Commelina africana</i>           | –                 | +         | –         | –         | +         | +         | +        | +         |
| <i>Commelina benghalensis</i>       | +                 | +         | +         | –         | +         | +         | +        | +         |
| <b><i>Commelina bracteosa</i></b>   | –                 | –         | –         | –         | –         | +         | –        | –         |
| <i>Commelina cameroonensis</i>      | –                 | +         | –         | –         | +         | +         | +        | +         |
| <i>Commelina capitata</i>           | –                 | +         | +         | –         | +         | +         | –        | +         |
| <i>Commelina congesta</i>           | –                 | +         | –         | +         | +         | +         | –        | +         |
| <i>Commelina diffusa</i>            |                   |           |           |           |           |           |          |           |
| ssp. <i>diffusa</i>                 | –                 | +         | +         | –         | +         | +         | +        | +         |
| ssp. <i>montana</i>                 | +                 | +         | +         | –         | +         | +         | –        | +         |
| <i>Commelina erecta</i>             |                   |           |           |           |           |           |          |           |
| ssp. <i>erecta</i>                  | –                 | +         | –         | –         | –         | –         | –        | –         |
| <i>Commelina longicapsa</i>         | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Commelina thomasi</i>            | –                 | +         | –         | +         | –         | –         | –        | –         |
| <i>Cyanotis arachnoidea</i>         | –                 | –         | +         | +         | –         | –         | –        | –         |
| <i>Cyanotis barbata</i>             | –                 | +         | –         | –         | +         | +         | +        | +         |
| <i>Cyanotis lanata</i>              | –                 | +         | +         | –         | –         | –         | –        | –         |
| <b><i>Cyanotis longifolia</i></b>   | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Floscopa africana</i>            |                   |           |           |           |           |           |          |           |
| ssp. <i>majuscula</i>               | –                 | –         | +         | +         | +         | +         | –        | +         |
| ssp. <i>petrophila</i>              | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Floscopa aquatica</i>            | –                 | –         | +         | +         | –         | –         | –        | –         |
| <i>Floscopa confusa</i>             | –                 | –         | +         | –         | +         | –         | –        | –         |
| <i>Floscopa glomerata</i>           | –                 | –         | +         | +         | –         | +         | +        | –         |
| <i>Floscopa mannii</i>              | –                 | –         | +         | +         | –         | +         | –        | –         |
| <i>Murdannia simplex</i>            | –                 | –         | +         | +         | –         | +         | –        | –         |
| <b><i>Murdannia tenuissima</i></b>  | –                 | –         | –         | +         | –         | –         | –        | –         |
| <b><i>Palisota alopecurus</i></b>   | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Palisota ambigua</i>             | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Palisota barteri</i>             | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Palisota bogneri</i>             | –                 | –         | +         | +         | –         | –         | –        | –         |
| <b><i>Palisota brachythyrza</i></b> | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Palisota bracteosa</i>           | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Palisota hirsuta</i>             | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Palisota lagopus</i>             | –                 | –         | +         | +         | +         | –         | –        | +         |
| <i>Palisota manii</i>               | –                 | –         | +         | +         | +         | +         | –        | +         |
| <i>Palisota pedicellata</i>         | +                 | –         | –         | –         | –         | –         | –        | –         |
| <i>Palisota preussiana</i>          | –                 | +         | –         | –         | +         | +         | –        | +         |
| <i>Palisota satabiei</i>            | –                 | –         | +         | +         | +         | –         | –        | –         |
| <i>Palisota schweinfurthii</i>      | –                 | +         | –         | +         | +         | +         | +        | +         |
| <b><i>Palisota tholloni</i></b>     | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Pollia condensata</i>            | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Pollia mannii</i>                | –                 | +         | –         | +         | +         | +         | –        | +         |
| <b><i>Polyspatha hirsuta</i></b>    | –                 | –         | –         | +         | –         | –         | –        | –         |
| <i>Polyspatha paniculata</i>        | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Stanfieldiella brachycarpa</i>   | –                 | +         | –         | +         | +         | +         | –        | +         |
| <i>Stanfieldiella imperforata</i>   | –                 | +         | +         | +         | +         | +         | –        | +         |
| <i>Stanfieldiella oligantha</i>     | –                 | +         | –         | +         | +         | +         | –        | +         |
| <i>Tricarpelema africanum</i>       | –                 | –         | +         | +         | –         | –         | –        | –         |
| <b>Total</b>                        | <b>3</b>          | <b>27</b> | <b>32</b> | <b>40</b> | <b>34</b> | <b>37</b> | <b>8</b> | <b>34</b> |

Comparison of the catalogue of Commelinaceae of Equatorial Guinea with the accounts for neighbouring countries. Acronyms and sources: Ann, Annobón (this study); Bio, Bioko (this study); Mun, Río Muni (this study); Gab, Gabon (Sosef *et al.*, 2006); Cam, Cameroon (Govaerts, 2007); Kupé (Cheek *et al.*, 2004); Oku (Cheek *et al.*, 2000); MtC, Mount Cameroon (Cable & Cheek, 1998). Bold type: species expected to occur in Equatorial Guinea (but still not collected), as they are known from neighbouring countries. ?, doubtful report.

*Senterre & Ngomo 218* (BRLU), *Senterre & Ngomo 345* (BRLU), *Senterre & Ngomo 514* (BRLU), *Senterre & Ngomo 587* (BRLU). Litoral: Ayamiken, *Lisowski 428* (BRLU).

Previously reported from Río Muni (Clarke, 1901: 77, sub *F. tenuis*; Guinea, 1946: 159, sub *F. africana*; Guinea, 1946: 252, sub '*F. lescrauwaesii*' and sub *F. preussii*) and without any precise locality (Brenan, 1952b: 456, sub *F. tenuis*). This species has been reported from Cameroon, Central Africa Republic, Congo, D.R. Congo, Gabon, Nigeria and Senegal (Brenan, 1968a: 24; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**ANEILEMA R.BR.**

**2. *Aneilema aequinoctiale*** (P.Beauv.) G.Don  
*Commelina aequinoctiale* P.Beauv.

Centro Sur: Bata-Monte Alén-Engong, márgenes del río Lobo, c. Engong, *Carvalho 5525* (MA-599457); P.N. Monte Alén, Engong, *Pérez Viso 332* (MA-703873). Wele Nzaz: Añisok, *Pérez Viso 4178* (MA-703872); Nkolentangan, *Tessmann 51* (K).

Previously reported from Equatorial Guinea, without any precise locality (Guinea, 1946: 254). This species has been reported from Angola, Benin, D.R. Congo, Ethiopia, Guinea Conakry, Ghana, Ivory Coast, Liberia, Nigeria, Rwanda, South Africa, Sudan, Swaziland and Zimbabwe (Brenan, 1968a: 30; Faden, 1991: 62; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006).

**3. *Aneilema beniniense*** (P.Beauv.) Kunth  
*Commelina beniniensis* P.Beauv.

Bioko: *Barter s.n.* (K); *Mann 92* (K); *Vogel s.n.* (K; MA-713234; MA-713235). Bioko Norte: cerca del cruce de Bariobe, *Fernández Casas 11534* (K; MA-706608); Malabo-Luba, km 15, junto a la playa, *Fernández Casas 12190* (K; MA-706609); Monte Balea, *Guinea 529* (MA-223240); cerca de Rebola, *Fernández Casas 11268* (K; MA-706603). Bioko Sur: cerca de Basacato del Oeste, *Carvalho, Fernández Casas & al. 10053* (BM; MA-350198; MA-477130); Belebú Balachá, *Fernández Casas 12118* (K; MA-706602); finca Puente, *Guinea 1811* (MA-386543-2); Luba-Ruiché, *Fernández Casas 11331* (K; MA-706605); Musola, *Guinea 1152* (MA-386525); *Carvalho 2514* (BM; K; MA-350206; MA-477132). Centro Sur: Bicurga, *Lisowski 1390* (BRLU), *Lisowski 1520* (BRLU), *Lisowski 1521* (BRLU); Evinayong, *Guinea 92* (MA-714258); Monte Alén-Evinayong, Nsung, *Pérez Viso 1670* (MA-703867); Niefang-Mosumu, Miyobo, senda hacia el río Laña, *Pérez Viso 2519* (MA-703864); P.N. Monte Alén, Esamalang, camino hacia Mondung, *Pérez Viso 1137* (MA-687143); P.N. Monte Alén, *Ngomo 68* (BRLU); P.N. Monte Alén, Engong, *Lejoly*

*99/438* (BRLU), *Parmentier & Esono 2751* (BRLU); *Pérez Viso 2680* (MA-703865); P.N. Monte Alén, transect de Monte Alén, *Lejoly 93/332* (BRLU), *Van Reeth 91* (BRLU), *Van Reeth 118* (BRLU); SW du P.N. Monte Alén, 2 km NE du site de traversée du rivière Uolo, *Senterre, Obiang & Ngomo 1761* (BRLU). Litoral: Ayamiken (réserve de Río Campo), *Lejoly 97/063* (BRLU); Bata-Cogo, km 54, Binguro, *Pérez Viso 2863* (MA-703863); Corisco, 100 m al N de la casa de Yniestrosa, *Cabezas, Tellería & Velayos 9936* (MA-703869); Mandjani, estuaire du Río Muni, *Nguema 103* (BRLU); Ndote, *Eneme 277* (BRLU); Niuma, réserve de Río Campo, *Lisowski 1024* (BRLU); San Joaquín de Adjiakom-Ayamiken, km 14, Río Campo, *Pérez Viso 2501* (MA-703870). Wele Nzaz: Temelon, Añisok, *Pérez Viso 4125* (MA-703866).

Previously reported from Bioko (Clarke, 1901: 68; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 312; Exell, 1944: 348, 1973a: 388; Guinea, 1946: 254; Brenan, 1968a: 31; Cufodontis, 1971: 1517; Faden, 1996: 85) and Río Muni (Guinea, 1946: 157). This species has been reported from Angola, Benin, Burundi, Cameroon, Central Africa Republic, Chad, D.R. Congo, Ethiopia, Gabon, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Liberia, Nigeria, Senegal, Sierra Leone and Zambia (Brenan, 1968a: 31; Faden, 1991: 145–146; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

**4. *Aneilema dispersum*** Brenan

Bioko Sur: Moca-lago Biaó, *Fernández Casas 11955* (K).

Previously reported from Bioko (Brenan, 1968a: 31; Exell, 1973b: 388; Faden, 1996: 87). This species has been reported from Cameroon, Malawi and Tanzania (Faden, 1991: 145; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004). According to Faden (1991: 146), West African plants are quite different from eastern ones. Nevertheless, this author studied the specimen collected in Equatorial Guinea (Faden, 1996: 87) and also determined it as *A. dispersum*.

**5. *Aneilema paludosum*** A.Chev.

Litoral: Ayamiken, *Lisowski 436* (BRLU), *Lisowski 934* (BRLU).

Not previously reported from Equatorial Guinea. This species has also been reported from Benin, Chad, Ghana, Guinea Bissau, Ivory Coast, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo (Brenan, 1968a: 32; Faden, 1991: 145; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006).

**6. *Aneilema silvaticum*** Brenan

Bioko Norte: Monte Balea, *Guinea 348* (MA-386524).

Not previously reported from Equatorial Guinea. This species has been reported from Cameroon, D.R.



Congo and Nigeria (Brenan, 1968a: 31; Faden, 1991: 146; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004).

### 7. *Aneilema umbrosum* (Vahl) Kunth

*Commelina umbrosa* Vahl

Centro Sur: P.N. Monte Alén, dalle rocheuse d'Engong, 5 km à l'O du village d'Engong, *Parmentier & Esono 2847* (BRLU). Litoral: Ayamiken, *Lisowski 1054* (BRLU).

Previously reported from Bioko (Hutchinson & Dalziel, 1936: 312; Guinea, 1946: 254; Parmentier *et al.*, 2001: 361).

#### a. *ssp. umbrosum*

*Aneilema nigritanum* (C.B. Clarke) Hutch.

Bioko: *Milne & Moore s.n.* (K). Centro Sur: P.N. Monte Alén, Moca-Bicurga, *Pérez Viso 138* (MA-703871). Wele Nzaz: inselberg de Dumu, près du village de Dumu, *Parmentier & Esono 3830* (BRLU).

Previously reported from Bioko (Hutchinson & Dalziel, 1936: 312, sub *A. nigritanum*; Guinea, 1946: 254, sub *A. nigritanum*; Brenan, 1952a: 200, sub *A. umbrosum* var. *umbrosum* and 1968a: 30; Exell, 1973a: 388; Faden, 1996: 87). Not previously reported from Río Muni. This subspecies has also been reported from Angola, Benin, Cameroon, Congo, D.R. Congo, Chad, Gabon, Ghana, Ivory Coast, Nigeria, Senegal, Sierra Leone, Sudan and Togo (Brenan, 1968a: 30; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

#### b. *ssp. ovato-oblongum* (P.Beauv.) J.K.Morton

*Aneilema ovato-oblongum* P.Beauv.

*Aneilema umbrosum* var. *ovato-oblongum* (P.Beauv.) Brenan

*Commelina palisotii* A.Dietr.

Bioko Norte: Malabo-pico Basilé, km 6, *Carvalho 2742* (MA-350208; MA-477131); pico Basilé, *Vogel 143* (K). Bioko Sur: finca Puente, *Guinea 1811* (K; MA-386543-1); Musola, trocha, *Guinea 1172* (K; MA-386523). Litoral: Bata-Punta Mbonda, Esamangón, *Carvalho 4744* (MA-597961). Wele Nzaz: Mbiet, Añisok, *Pérez Viso 3611* (MA-703862).

Previously reported from Bioko (Clarke, 1901: 69; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 312; Brenan, 1952a: 201, sub *A. umbrosum* var. *ovato-oblongum*; Faden, 1996: 87) and from Equatorial Guinea [without any precise locality] (Guinea, 1946: 254, sub *Commelina palisotii*). Not previously recorded from Río Muni, this species, distributed pantropically, has been reported from Cameroon, Central Africa Republic, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, Sierra Leone and Uganda (Brenan, 1968a: 30–31; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

## *BUFORRESTIA* C.B. CLARKE

### 8. *Buforrestia mannii* C.B. Clarke

Bioko: *Mann 96* (K; MA-713233).

Previously reported from Bioko (Clarke, 1901: 76; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 309; Guinea, 1946: 157, 252; Brenan, 1960: 283; Morton, 1967: 169; Brenan, 1968a: 40; Exell, 1973a: 388; Faden, 1996: 87). This species has been reported from Cameroon, Gabon and Nigeria (Brenan, 1968a: 40; Faden, 1998: 124; Sosef *et al.*, 2006).

## *COMMELINA* L.

### 9. *Commelina africana* L.

*Commelina africana* var. *mannii* (C.B. Clarke) Brenan

This species has been reported from Bioko (Guinea, 1946: 253) and from Equatorial Guinea, without any precise locality (Guinea, 1946: 253, sub *C. africana* var. *mannii*). We have not found any herbarium material of *C. africana* from Equatorial Guinea in BM, BRLU, K, LISC, LISU, MA and US. This species has been reported from Cape Verde to South Africa and from the Arabian peninsula (Brenan, 1968a: 45; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004). The distribution range of this species suggests that it may occur in Equatorial Guinea.

### 10. *Commelina benghalensis* L.

Annobón: San Pedro, *Wrigley & Melville 228* (K; MA-223075). Bioko Sur: Moca, carretera, *Guinea 1886* (MA-386513). Litoral: Ayamiken, *Lisowski 922* (BRLU); Ndote Nord, près du village Jandje, *Lisowski 297* (BRLU), *Lisowski 1297* (BRLU).

Previously reported from Annobón (Exell, 1963: 116, 1973a: 388; Faden, 1996: 87), Bioko (Guinea, 1946: 253), Río Muni (Guinea, 1946: 184j) and Equatorial Guinea, without any precise locality (Guinea, 1946: 253). In Africa, this palaeotropical species has also been reported from Benin, Botswana, Burundi, Cameroon, Cape Verde, Chad, Congo, D.R. Congo, Ethiopia, Eritrea, Gambia, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Kenya, Malawi, Mozambique, Namibia, Niger, Nigeria, Rwanda, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda and Zambia (Brenan, 1968a: 48; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006).

### 11. *Commelina cameroonensis* J.K.Morton

This species has been reported from Bioko (Morton, 1955: 318, 1967: 179; Brenan, 1968a: 49; Exell, 1973a: 388; Faden, 1996: 87). We have not found any herbarium material of *C. cameroonensis* from Equatorial Guinea in BM, BRLU, K, LISC, LISU, MA and US. This species has been reported from neighbouring Cameroon and Nigeria (Brenan, 1968a: 49; Cable &

Cheek, 1998; Cheek *et al.*, 2000, 2004). The distribution range of the species suggests that it may occur in Equatorial Guinea.

**12. *Commelina capitata* Benth.**

Bioko: *Boughey 16* (K); Basacato, *Lope del Val s.n.* (MA-712323); *Mann 91* (p.p.) (K). Bioko Norte: Basupú, *Lope del Val s.n.* (MA-712322); Malabo-Baney, km 14, Monte de Oca, *Carvalho 3206* (MA-712327). Bioko Sur: orillas del lago Biaó, *Guinea 2218* (MA-386467); *Guinea 2219* (MA-386486); km 35 de la carretera de Luba, *Guinea 719* (MA-223241); Moca, *Lope del Val s.n.* (MA-500334-1); Moca, Las Costeras, *Guinea 2077* (MA-386487); Moca, *Boughey 74* (K). Centro Sur: près de Bicurga, *Lisowski 1369* (BRLU); Niefang, Abobem, *Pérez Viso 4203* (MA-712324); P.N. Monte Alén, *Ngomo 546* (BRLU), *Ngomo 646* (BRLU); P.N. Monte Alén, 3 km à l'O de la station ECOFAC, *Lejoly 99/408* (BRLU); P.N. Monte Alén, Engong, *Pérez Viso 342* (MA-712326); P.N. Monte Alén, Enkumekiem, *Velayos & Pérez Viso 9311* (MA-712328); P.N. Monte Alén, Esamalang, *Pérez Viso 1175* (MA-687144); P.N. Monte Alén, Esamalan-lago Atoc, *Senterre, Obiang & Ngomo 2148* (BRLU); P.N. Monte Alén, Moca-Bong, *Pérez Viso 752* (MA-687719); P.N. Monte Alén, transect de Monte Alén, *Senterre, Obiang & Ngomo 2157* (BRLU); P.N. Monte Alén, transect de Monte Alén, *Van Reeth 78* (BRLU); P.N. Monte Alén, Monte Chocolate, *Pérez Viso 4061* (MA-712325); P.N. Monte Alén, 2 km au NO du transect de Monte Chocolate, vers 5 km de l'origine *Senterre & Obiang 3784* (BRLU); transect de Monte Chocolate, *Desmet, Nguema & Nguema 28* (BRLU). Kie Ntem: Ebebiyín-Mongomo, Eloan, *Pérez Viso 4263* (MA-712321). Litoral: Bata-Niefang, km 35, zona de Comayá, *Carvalho 5680* (BRLU; MA-598990). Wele Nzaz: inselberg de Mfui, 50 km à l'E de Añisok, *Obama & Lejoly 397* (BRLU); Nkolentangan, *Tessmann 233a* (K).

Previously reported from Bioko (Clarke, 1901: 54; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 318; Guinea, 1946: 253; Brenan, 1968a: 47; Exell, 1973a: 388; Faden, 1996: 87), Río Muni (Lejoly & Lisowski, 1999: 120) and Equatorial Guinea, without precise locality (Guinea, 1946: 253). This species has been reported from Angola, Benin, Burundi, Cameroon, Central Africa Republic, Chad, D.R. Congo, Gabon, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Kenya, Liberia, Nigeria, Rwanda, Senegal, Sierra Leone and Uganda (Brenan, 1968a: 47; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006). The herbarium specimen *Mann 91* (studied at K) is a mixed collection of *C. capitata* and *C. congesta*.

**13. *Commelina congesta* C.B. Clarke**  
*Commelina condensata* C.B. Clarke

Bioko: *Mann 91* (p.p.) (K; MA-713243-photography-); *Mann s.n.* (K).

Previously reported from Bioko (Clarke, 1901: 43, sub *C. condensata*; Mildbraed, 1922: 179, sub *C. condensata*; Hutchinson & Dalziel, 1936: 320; Exell, 1944: 350, 1973a: 388; Guinea, 1946: 254; Brenan, 1968a: 49; Faden, 1996: 87) and Río Muni (Guinea, 1946: 157). This species has been reported from Benin, Cameroon, Central Africa Republic, Congo, D.R. Congo, Gabon, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Liberia, Nigeria, Sierra Leone and Uganda (Brenan, 1968a: 49; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

**14. *Commelina diffusa* Burm.f.**

Bioko: *Lope del Val s.n.* (MA-500335). Bioko Norte: Bahía de Venus, *Guinea 233bis* (K); Malabo, *Swarbrick 2926* (K); subida al pico Basilé, *Fernández Casas & al. 10185* (MA-350200; MA-477128). Bioko Sur: Moca, *Lope del Val s.n.* (MA-500334-2); *Lope del Val s.n.* (MA-714486); *Wrigley & Melville 690* (K); Ureca, *Guinea 2451* (MA-386514). Centro Sur: Niefang, explotación forestal de Matroguisa, *Pérez Viso 2295* (MA-712466); Niefang-Mosumo, Miyobo, senda hacia el río Laña, *Pérez Viso 2534* (MA-712454); P.N. Monte Alén, 5 km au NW de Engong, inselberg *Lejoly 99/075* (BRLU); P.N. Monte Alén, Moca-Bicurga, *Pérez Viso 137* (MA-712458). Litoral: Bata, cerca del puerto, *Pérez Viso 1441* (MA-687146); au S de Bata, près du fleuve Ecucu, *Lisowski 1216* (BRLU); Bata-Bome, *Carvalho 5521* (MA-599454); Mbini, *Lisowski 131* (BRLU); Ondoa, *Pérez Viso 3530* (MA-712465); réserve de Río Campo, près du village Niума, *Lisowski 1021* (BRLU); Río Campo, Yengüe, *Pérez Viso 2808* (MA-690379).

Previously reported from Annobón (Exell, 1944: 350–351), Bioko (Guinea, 1946: 96 h and 254, both sub *C. nudiflora*; Exell, 1944: 350–351; Faden, 1996: 87) and Río Muni (Guinea, 1946: 120, sub *C. nudiflora*, 157, sub *C. nudiflora*, 159, sub *C. nudiflora*, 328, sub *Aneilema nudiflorum* (L.) Sweet.; Lejoly & Lisowski, 1999: 101).

The specimen *Guinea 233bis* (K), collected in Bioko Sur, has a handwritten label by Emilio Guinea identifying it as *C. nudiflora*, a species currently included in *Murdannia*. We have studied and identified this voucher as *C. diffusa* as it has the inflorescence included in a spathe, a character absent in *Murdannia*.

**a. ssp. *diffusa***

Bioko: *Vogel 67* (K). Bioko Norte: Malabo-pico Basilé, km 13–14, *Carvalho 3791* (K; MA-712470). Bioko Sur: Belebú Balachá, *Fernández Casas 12117* (K; MA-706610); Moca, *Boughey 67* (K); Musola-Luba, km 11, *Carvalho 2741* (K; MA-350205; MA-477129). Kie

Ntem: Ebebiyín-Mongomo, Eloan, *Pérez Viso* 4279 (MA-712471). Litoral: Bata, *Davies* 333 (K).

Previously reported from Bioko (Clarke, 1901: 37, sub *C. nudiflora* L.; Mildbraed, 1922: 179, sub *C. nudiflora*; Brenan, 1968a: 47; Exell, 1973a: 388; Faden, 1996: 87). This subspecies has been reported from Benin, Botswana, Cameroon, Cape Verde, Chad, D.R. Congo, Gabon, Gambia, Ghana, Guinea Bissau, Ivory Coast, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland and Uganda (Brenan, 1968a: 47; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006). Exell (1973a: 388) ascribed some reports of *C. nudiflora* to *C. diffusa* ssp. *diffusa*, including the material from Annobon and Bioko islands.

**b. ssp. montana** J.K.Morton

Annobón: N shore of Crater Lake, *Wrigley & Melville* 77 (K; MA-223081). Bioko Sur: desembocadura del lago Biaó, *Fernández Casas* 11974 (K). Centro Sur: P.N. Monte Alén, 5 km au NO de Engong, *Lejoly* 99/439 (BRLU), *Lejoly* 99/457 (BRLU), *Parmentier & Esono* 2713 (BRLU), *Parmentier & Esono* 2935 (BRLU); *Parmentier & Esono* 2975 (BRLU); P.N. Monte Alén, à 1 h 30 de marche du site ECOFAC de Monte Alén, *Parmentier & Esono* 3022 (BRLU), *Parmentier & Esono* 3441 (BRLU). Litoral: Corisco, *Cabezas, Tellería & Velayos* 9951 (MA-712464).

Previously reported from Bioko (Brenan, 1968a: 47; Exell, 1973a: 388) and Río Muni (Parmentier, 2001: 915). This subspecies has been reported from neighbouring Cameroon and Nigeria (Brenan, 1968a: 47; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004).

**15. *Commelina erecta* L.**

**a. ssp. erecta**

*Commelina vogelii* C.B.Clarke

Bioko: *Vogel* 261 (K).

Previously reported from Bioko (Clarke, 1901: 56, sub *C. vogelii*; Hutchinson & Dalziel, 1936: 320, sub *C. vogelii*; Guinea, 1946: 254, sub *C. vogelii*; Brenan, 1968a: 49; Cufodontis, 1971: 1512; Exell, 1973a: 388; Faden, 1996: 87). In Africa, this widely distributed species has been reported from Angola, Benin, Botswana, Burkina Faso, Chad, Ethiopia, Ghana, Ivory Coast, Kenya, Malawi, Mozambique, Namibia, Nigeria, Somalia, South Africa, Swaziland and Uganda (Brenan, 1968a: 49; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006).

**16. *Commelina longicapsa* C.B.Clarke**

Centro Sur: P.N. Monte Alén, transect de Monte Alén, *Lejoly* 94/173 (BRLU); N P.N. Monte Alén, 2 km au NO du transect ECOFAC de Monte Chocolate, *Senterre & Ngomo* 3573 (BRLU); transect de Monte Chocolate, *Desmet, Nguema & Nguema* 29 (BRLU);

SO P.N. Monte Alén, transect ECOFAC de Mosumo, *Senterre, Obiang & Ngomo* 1988 (BRLU); *Senterre, Obiang & Ngomo* 2040 (BRLU); *Senterre & Ngomo* 227 (BRLU); *Senterre & Ngomo* 426 (BRLU); SE P.N. Monte Alén, près du transect ECOFAC de Enkumekien, *Senterre & Obiang* 3635 (BRLU); SO P.N. Monte Alén, 2 km au NE du site de traversée du rivière Wele, *Senterre, Obiang & Ngomo* 1751 (BRLU); *Senterre, Obiang & Ngomo* 2042 (BRLU). Litoral: aire protégée de Ndote-route forestière Engong-Jandje, *Lejoly & Van Asbroeck* 32 (BRLU). Wele Nzas: Aconibe-Acurenem, Eviam, *Pérez Viso* 1814 (MA-712463).

Previously reported from Río Muni (Clarke, 1901: 55; Brenan, 1968a: 47–48). This species has been reported from Angola, Cameroon, D.R. Congo, Gabon, Ivory Coast, Liberia and Nigeria (Brenan, 1968a: 48; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**17. *Commelina thomasi* Hutch.**

This species has been reported from Bioko (Morton, 1967: 189). We have not found any herbarium material of *C. thomasi* from Equatorial Guinea in BM, BRLU, K, LISC, LISU, MA and US. It has been reported from Benin, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, Sierra Leone and Togo (Brenan, 1968a: 47; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006). The distribution range of the species suggests that it may occur in Equatorial Guinea.

**CYANOTIS D.DON**

**18. *Cyanotis arachnoidea* C.B.Clarke**

Wele Nzas: région d'Añisok, village Nzuamayong, inselberg Akuom, *Lisowski* 658 (BRLU).

Not previously reported from Equatorial Guinea. This species, widely distributed in the palaeotropics, in Africa has been reported from Gabon, Ghana, Kenya, Liberia, Nigeria and Tanzania (Brenan, 1968a: 40; Sosef *et al.*, 2006).

**19. *Cyanotis barbata* D.Don**

*Cyanotis abyssinica* A.Rich.

*Cyanotis mannii* C.B.Clarke

Bioko Norte: pico Basilé, *Mann* 616 (K; MA-713242-photography-).

Previously recorded from Bioko (Hooker, 1862: 21, 1864: 224, sub *C. abyssinica*; Clarke, 1901: 83, sub *C. mannii*; Mildbraed, 1922: 179, sub *C. vogelii*; Hutchinson & Dalziel, 1936: 317; Guinea, 1946: 252, sub *C. mannii*; Brenan, 1968a: 38; Cufodontis, 1971: 1520; Exell, 1973a: 388; Faden, 1996: 87). In Africa, this palaeotropical species has been reported from Cameroon, Congo, D.R. Congo, Ethiopia, Ghana, Ivory Coast, Kenya, Malawi, Rwanda, Sudan, Tanzania,



Uganda and Zimbabwe (Brenan, 1968a: 38; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004).

The voucher *Mann 616* (K) seems to be the specimen supporting these historical records of this species, as a label handwritten by J. Hooker identifying the plant as *C. abyssinica* is included. On the label, the date of collection (December) and altitude (9000 ft) are also identical. Brenan (1964) studied the voucher and identified it as *C. barbata*, the currently accepted species.

**20. *Cyanotis lanata* Benth.**

Bioko Sur: Luba-Malabo, km 33, *Carvalho 2596* (MA-350203; MA-477127).

Previously reported from Bioko (Faden, 1996: 87) and Río Muni (Lejoly & Lisowski, 1999: 116, 118; Parmentier, 2001: 920, 921). This species has been reported from Angola, Benin, Botswana, Burkina Faso, Burundi, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Liberia, Mali, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland and Togo (Brenan, 1968a: 40; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006).

**FLOSCOPA LOUR.**

**21. *Floscopa africana* (P.Beauv.) C.B.Clarke**

Centro Sur: P.N. de Monte Alén, 5 km au NO de Engong, *Lejoly 99/454* (BRLU).

Previously reported from Bioko (Mildbraed, 1922: 179). This species has been reported from Cameroon, Gabon, Gambia, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Liberia, Nigeria, Sierra Leone and Uganda (Brenan, 1968a: 28; Sosef *et al.*, 2006).

**a. ssp. *majuscula* (C.B.Clarke) Brenan**

*Floscopa africana* var. *majuscula* C.B.Clarke

Litoral: Bebai Campogebiet, *Tessmann 681* (K).

Previously reported from Río Muni (Brenan, 1968a: 28). This subspecies has been reported from Benin, Cameroon, D.R. Congo, Gabon, Guinea Bissau, Liberia and Nigeria (Brenan, 1968a: 28; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

**b. ssp. *petrophila* J.K.Morton**

Bioko Sur: Malabo-Moca, servicio agronómico de Musola, *Carvalho 2726* (K; MA-350207; MA-477126); Moca-Ureca, *Carvalho 4178* (K; MA-700566); Ruiché-Gran Caldeira de Luba, *Carvalho 3831* (K; MA-703876). Centro Sur: Miyobo, Niefang-Mosumu, senda hacia el río Laña, *Pérez Viso 2546* (MA-703875). Litoral: Bata-Niefang, km 35, zona de Comayá, entre los ríos Sama y Comayá, *Carvalho 5763* (MA-599067). Wele Nzaz: Acasakira, 3 km au Sud de Nsork, *Obama & Lejoly 571* (BRLU; MA-612202).

Previously reported from Bioko (Faden, 1996: 87). This subspecies has been reported from Cameroon, D.R. Congo, Gabon, Ghana, Ivory Coast, Liberia and Uganda (Brenan, 1968a: 28; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**22. *Floscopa aquatica* Hua**

Litoral: Bata-Bome, *Carvalho 5562* (MA-598772).

Not previously reported from Equatorial Guinea. This species has been reported from Congo, Gabon, Guinea Bissau, Guinea Conakry, Ivory Coast, Liberia, Nigeria, Senegal and Sierra Leone (Brenan, 1968a: 28; Sosef *et al.*, 2006).

**23. *Floscopa confusa* Brenan**

Wele Nzaz: P.N. de Nsork, Obamico, *Nguema & Esono 264* (BRLU).

Not previously reported from Equatorial Guinea. This species has been reported from Cameroon, Congo, D.R. Congo, Ivory Coast, Nigeria and Uganda (Brenan, 1968a: 28; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004).

**24. *Floscopa glomerata* (Willd. ex Schult. & Schult.f) Hassk.**

*Tradescantia glomerata* Willd. ex Schult. & Schult.f

Centro Sur: P.N. Monte Alén, transect de Monte Alén, *Van Reeth 19* (BRLU). Litoral: Ayamiken, reserva de Río Campo, *Lejoly 97/103* (BRLU).

Not previously reported from Equatorial Guinea. It has been reported from Angola, Botswana, Burundi, Chad, D.R. Congo, Eritrea, Ethiopia, Gabon, Ghana, Guinea Bissau, Guinea Conakry, Liberia, Madagascar, Malawi, Namibia, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Sudan, Swaziland and Tanzania (Brenan, 1968a: 28; Sosef *et al.*, 2006).

**25. *Floscopa mannii* C.B.Clarke**

Litoral: Corisco Bay, *Mann 1867* (K; MA-713241).

Wele Nzaz: inselberg Acoak Banga, près de Ngong Mocomo (Nsork) *Lejoly & Elad 98/076* (BRLU).

Previously reported from Río Muni (Clarke, 1901: 86; Hutchinson & Dalziel, 1936: 311; Guinea, 1946: 253; Brenan, 1968a: 28). It has been reported from Gabon and Nigeria (Brenan, 1968a: 28; Sosef *et al.*, 2006).

**MURDANNIA ROYLE**

**26. *Murdannia simplex* (Vahl) Brenan**

*Commelina simplex* Vahl

Litoral: Bebai Campogebiet, *Tessmann 292* (K); isla de Corisco, *Obama 716* (BRLU); Macomo, 17 km from Bata-río Wele, *Sandford 6062* (K); Ndoté Nord, près du village Jandje, *Lisowski 269* (BRLU).

Not previously reported from Equatorial Guinea. Palaeotropical species. In Africa, it has been reported from Angola, Benin, Burundi, Chad, D.R. Congo,



Gabon, Ghana, Guinea Bissau, Guinea Conakry, Ivory Coast, Madagascar, Mali, Namibia, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan and Swaziland (Brenan, 1968a: 26; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

#### PALISOTA RCHB.

##### 27. *Palisota ambigua* (P.Beauv.) C.B.Clarke *Commelina ambigua* P.Beauv.

Centro Sur: inselberg de Bicurga, *Parmentier 1612* (BRLU), *Parmentier & Esono 3160* (BRLU); Monte Alén, *Ngomo 328* (BRLU); P.N. Monte Alén, Bicurga, *Senterre & Ngomo 481* (BRLU); P.N. Monte Alén, Engong, *Parmentier & Esono 2685* (BRLU); P.N. Monte Alén, Mosumo, *Desmet, Nguema & Nguema 277* (BRLU), *Senterre & Ngomo 389* (BRLU), *Senterre & Ngomo 518* (BRLU); P.N. Monte Alén, Encumenkien, *Senterre & Ngomo 39* (BRLU). Litoral: Río Campo, Yengüe, *Pérez Viso 2788* (MA-724249). Wele Nzas: inselberg de Mfui, 50 km à l'E de Añisok, *Obama & Lejoly 398* (BRLU); Nchoh Yenguem, km 38 de la carretera de Ncue, *Pérez Viso 3697* (MA-724246).

Previously reported from Río Muni (Guinea, 1946: 159; Brenan, 1968a: 35; Parmentier, 2001: 916; Parmentier *et al.*, 2001: 364). This species has been reported from Cameroon, Central Africa Republic, D.R. Congo, Gabon and Nigeria (Brenan, 1968a: 35; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

##### 28. *Palisota barteri* Hook. *Palisota staudtii* K.Schum.

Centro Sur: Monte Alén, *Lisowski 1538* (BRLU); P.N. Monte Alén-transect de Monte Alén, *Van Reeth 45* (BRLU); transect de Monte Chocolate, *Desmet, Nguema & Nguema 34* (BRLU); transect de Enkumekien, *Desmet, Nguema & Nguema 125* (BRLU); *Senterre & Obiang 3636* (BRLU). Litoral: Ayamiken, Río Campo, *Obama 17* (BRLU), *Obama 111* (BRLU); estuaire du Río Muni, Mandjani, *Nguema 101* (BRLU). Wele Nzas: inselberg de Akoak Ebanga, à 1 h de marche du village de Ngong Mocomo, à 10 km de Nsork, *Parmentier & Nguema 32* (BRLU).

Previously reported from Bioko (Clarke, 1901: 29; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 315; Guinea, 1946: 253; Brenan, 1968a: 35–36; Exell, 1973a: 388; Faden, 1996: 91), Río Muni (Guinea, 1946: 142, 157, 159, sub *P. staudtii*) and Equatorial Guinea, without any precise locality (Guinea, 1946: 253). This species has been reported from Cameroon, D.R. Congo, Gabon, Ghana, Ivory Coast, Liberia, Nigeria and Sierra Leone (Brenan, 1968a: 35; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

##### 29. *Palisota bogneri* Brenan

Centro Sur: P.N. Monte Alén, transect ECOFAC de Mosumo, *Senterre & Ngomo 896* (BRLU).

Not previously reported from Equatorial Guinea. This species has only been reported from neighbouring Gabon (Brenan, 1984: 829; Sosef *et al.*, 2006).

##### 30. *Palisota bracteosa* C.B.Clarke

Centro Sur: P.N. Monte Alén, transect de Monte Alén, *Lejoly 94/164* (BRLU); P.N. Monte Alén, transect ECOFAC de Enkumekien, *Senterre & Ngomo 8* (BRLU); *Senterre & Obiang 3637* (BRLU). Litoral: Ayamiken, Río Campo, *Lejoly 97/099* (BRLU); *Obama 65* (BRLU); Eman-ngos, *Obama 833* (BRLU).

Not previously reported from Equatorial Guinea. This species has been reported from Cameroon, Gabon, Ghana, Guinea Conakry, Ivory Coast, Liberia, Nigeria and Sierra Leone (Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

##### 31. *Palisota hirsuta* (Thunb.) K.Schum. *Dracaena hirsuta* Thunb.

Bioko: *Lope del Val s.n.* (MA-724253). Centro Sur: cercanías de Alosa, Niefang, *Castelo & Juste s.n.* (MA-724241); Bicaba, Niefang-Monte Alén, *Pérez Viso 3460* (MA-687692); Bisun, Niefang-Evinayong, *Pérez Viso 3395* (MA-687695); Monte Alén, *Ngomo 23* (BRLU), *Ngomo 318* (BRLU); Mosumo, *Aedo & al. 5132* (MA-691425); P.N. Monte Alén, Engong, *Pérez Viso 350* (MA-724254); P.N. Monte Alén, Moca-Bong, *Pérez Viso 175* (MA-724256); P.N. Monte Alén-transect de Monte Alén, *Van Reeth 83* (BRLU), *Van Reeth 349* (BRLU); *Van Reeth 275* (BRLU); P.N. Monte Alén, río Vog-yii, *Pérez Viso 3211* (MA-724250). Litoral: Ayamiken, *Lejoly 97/27* (BRLU), *Lejoly 97/96* (BRLU); *Lisowski 921* (BRLU); *Obama 7* (BRLU), *Obama 51* (BRLU); cerca de Bongoro, Río Campo, *Pérez Viso 2216* (MA-724252); río Benito, camino de Kogasim, *Lope del Val s.n.* (MA-724247); Etembue, réserve de Ndote, *Eneme & Lejoly 39* (BRLU); *Lisowski 561* (BRLU); village Jandje, Ndote Nord, *Eneme 481* (BRLU); *Lisowski 115* (BRLU). Wele Nzas: 3 km au S de Asoc, *Lejoly 99/306* (BRLU); Eviam, *Pérez Viso 2617* (MA-724248); Mikomeseng-Ncue, Alum, *Pérez Viso 3028* (MA-688930); P.N. Nsork, Obamico, *Nguema, Esono & Lejoly 255* (BRLU); Temelon, Añisok, *Pérez Viso 4148* (MA-724242). Unknown province: Río Muni: río Wele, camino de Kogasim, *Lope del Val s.n.* (MA-724243, MA-724247).

Previously reported from Bioko (Clarke, 1901: 32, sub *P. thyrsiflora*; Mildbraed, 1922: 179, sub *P. thyrsiflora*; Guinea, 1946: 253, sub *P. thyrsiflora*, 1968: 130; Brenan, 1968a: 35; Exell, 1973a: 388; Faden, 1996: 91) and Río Muni (Guinea, 1946: 142, 159, 184i, 232b, 253; Lejoly & Lisowski, 1999: 120). This species has been reported from Angola, Benin, Cameroon,

D.R. Congo, Gabon, Ghana, Guinea Bissau, Ivory Coast, Liberia, Nigeria, Senegal and Sierra Leone (Vanden Berghen, 1988: 138; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

**32. *Palisota lagopus*** Mildbr.

Centro Sur: P.N. Monte Alén, Asok, *Pérez Viso 424* (MA-724255); P.N. Monte Alén, au N du río Laña, près de la Cabaña ECOFAC de Misergue, *Senterre & Obiang 3227* (BRLU); P.N. Monte Alén, transect de Monte Alén-Cabaña Bong, *Senterre & Obiang 2665* (BRLU); P.N. Monte Alén, transect ECOFAC de Monte Chocolate, vers 1100 m de l'origine, *Senterre & Ngomo 3460* (BRLU); P.N. Monte Alén, 200 m au S du transect ECOFAC de Mosumo à 1620 m du début du layon, *Senterre & Ngomo 711* (BRLU); *Senterre & Ngomo 819* (BRLU); P.N. Monte Alén, 2 km au NE du site de traversée du río Wele pour aller aux cataractas, *Senterre, Obiang & Ngomo 2386* (BRLU).

Not previously reported from Equatorial Guinea. This species has only been reported from neighbouring Cameroon and Gabon (Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**33. *Palisota mannii*** C.B. Clarke

Centro Sur: inselberg de Bicurga, près du village de Bicurga, *Parmentier & Esono 3217* (BRLU); P.N. Monte Alén, 5 km à l'O du village d'Engong, *Parmentier & Esono 2817* (BRLU); P.N. Monte Alén, transect ECOFAC de Monte Chocolate, *Senterre & Ngomo 3532* (BRLU); P.N. Monte Alén, transect ECOFAC de Enkumekien, *Senterre & Obiang 3759* (BRLU), *Senterre & Obiang 3633* (BRLU). Wele Nzaz: inselberg de Akoak Ebanga, à 10 km de Nsork, *Parmentier & Esono 3576* (BRLU); *Parmentier & Esono 3577* (BRLU); inselberg de Mungum, 45 min de marche du village de Cucumancoc, *Parmentier & Esono 3411* (BRLU).

Previously reported from Bioko (Clarke, 1901: 29; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 315; Guinea, 1946: 253; Brenan, 1968a: 35; Exell, 1973a: 388; Faden, 1996: 91). This species has been reported from Angola, Cameroon, Central Africa Republic, D.R. Congo, Gabon, Nigeria, Rwanda, Sudan and Uganda (Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**34. *Palisota pedicellata*** K.Schum.

*Palisota laxiflora* var. *annobonensis* Mildbr.

Annobón: Sulcada, *Melville 271* (BM826251); Santa Mina, *Mildbraed 6695* (HBG).

Previously reported from Annobón (Mildbraed, 1922: 160, sub *P. laxiflora* var. *annobonensis*; Exell, 1944: 349, 1968: 134, 1973a: 388). This species has been reported from neighbouring São Tomé & Príncipe (Exell, 1944, 1973a).

**35. *Palisota preussiana*** K.Schum ex C.B. Clarke

Bioko Sur: Moca, *Boughey 51* (K).

Previously reported from Bioko (Morton, 1967: 205–206; Brenan, 1968a: 35; Exell, 1973a: 388; Faden, 1996: 91) and from Equatorial Guinea, without any precise locality (Guinea, 1946: 253). This species has otherwise only been reported from Cameroon (Govaerts, 2007).

**36. *Palisota satabiei*** Brenan

Centro Sur: P.N. Monte Alén, N du río Laña, près de la Cabaña ECOFAC de Misergue, *Senterre, Obiang & Ngomo 2102* (BRLU); P.N. Monte Alén, transect de Monte Alén, *Senterre, Obiang & Esono 2807* (BRLU); P.N. Monte Alén, NO du transect ECOFAC de Monte Chocolate, *Senterre & Ngomo 3457* (BRLU), *Senterre & Ngomo 3575* (BRLU); *Senterre & Ngomo 3576* (BRLU); P.N. Monte Alén, transect ECOFAC de Mosumo, *Senterre & Ngomo 246* (BRLU), *Senterre & Ngomo 579* (BRLU); *Senterre & Obiang 4138* (BRLU); P.N. Monte Alén, près du transect ECOFAC de Enkumekien, *Senterre & Obiang 3634* (BRLU); P.N. Monte Alén, traversée du río Wele pour aller aux cataractas, *Senterre, Obiang & Ngomo 1779* (BRLU), *Senterre, Obiang & Ngomo 2041* (BRLU); *Senterre & Nguema 3091* (BRLU). Litoral: along river Metom, 52 km from Bata on the río Wele road, *Sandford 5876* (K); réserve de Ndoté, à proximité de la piste forestière SOFOGE, 9.5 km à l'O de Engong, *Senterre & Obiang 4202* (BRLU).

Not previously reported from Equatorial Guinea. This species has only been reported from Cameroon and Gabon (Brenan, 1984; Sosef *et al.*, 2006).

**37. *Palisota schweinfurthii*** C.B. Clarke

Bioko Norte: carretera del pico Basilé, km 13–14, *Carvalho 3796* (K).

Previously reported from Bioko (Faden, 1996: 91), Río Muni (Brenan, 1968a: 35) and Equatorial Guinea, without any precise locality (Guinea, 1946: 253). This species has been reported from Angola, Burundi, Cameroon, Central Africa Republic, D.R. Congo, Gabon, Sudan, Tanzania, Uganda and Zambia (Sosef *et al.*, 2006).

**POLLIA THUNB.**

**38. *Pollia condensata*** C.B. Clarke

Bioko: *Barter s.n.* (K; MA-713230); *Mann s.n.* (K-307675; MA-713229-photography-); *Mann 93* (K; MA-713231-photography-). Bioko Norte: Malabo-Baney, km 14, Montes de Oca, *Carvalho 3211* (MA-701169); Malabo-Cupapa, km 21–22, *Carvalho 4125* (MA-706615); Monte Balea, *Guinea 385* (MA-387146). Centro Sur: Bata-Niefang, Nhogo Ebaiñ, *Pérez Viso 2700bis* (MA-703858); Monte Alén, *Ngomo 111* (BRLU); P.N. Monte Alén, subida al mirador, *Cabezas,*

*Tellería & Velayos 10023* (MA-703859); P.N. Monte Alén, subida al monte Alén, *Pérez Viso 114* (MA-703878); P.N. Monte Alén-transect de Monte Alén, *Desmet, Nguema & Nguema 190* (BRLU), *Lejoly 94/163* (BRLU), *Van Reeth 82* (BRLU); P.N. Monte Alén, Moca, *Pérez Viso 80* (MA-703861); P.N. Monte Alén, Mosumu, *Pérez Viso 640* (MA-687145); P.N. Monte Alén, Ngong, *Cabezas 153* (MA-695690); SO du P.N. Monte Alén, transect Ecofac de Mosumo, *Senterre & Ngomo 506* (BRLU). Litoral: Bata-Cogo, km 67, *Pérez Viso 1852* (MA-703860); carretera de Mbini, *Pérez Viso 3350* (MA-687724); *Pérez Viso 3351* (MA-687697). Wele Nzaz: Akok, Acurenam-Aconibe, *Pérez Viso 2017* (MA-691421); région d'Añisok, environs de Temelon, près du village Ayene, *Lisowski 600* (BRLU).

Previously reported from Bioko (Henriques, 1887: 205; Clarke, 1901: 27; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 314; Exell, 1944: 348, 1973a: 388; Guinea, 1946: 252, 1968: 130; Brenan, 1968a: 33; Cufodontis, 1971: 1507; Faden, 1996: 91–92), Río Muni (Guinea, 1946: 157) and Equatorial Guinea [without any precise locality] (Guinea, 1946: 252). This species has also been reported from Angola, Cameroon, Congo, Central Africa Republic, D.R. Congo, Ethiopia, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, São Tomé & Príncipe, Sierra Leone, Sudan, Tanzania and Uganda (Brenan, 1968a: 33; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

### 39. *Pollia mannii* C.B. Clarke

This species has been reported from Bioko (Guinea, 1946: 252). We have not found any herbarium material of *P. mannii* from Equatorial Guinea in BM, BRLU, K, LISU, MA and US. *Pollia mannii* is common in the understorey of both undisturbed and secondary rainforest in tropical regions. In tropical Africa, this species has been reported from Cameroon, Gabon, Ghana, Ivory Coast, Nigeria, São Tomé & Príncipe, Tanzania and Uganda (Brenan, 1968a: 32; Sosef *et al.*, 2006). The distribution range of the species suggests that it may occur in Equatorial Guinea.

## POLYSPATHA BENTH.

### 40. *Polyspatha paniculata* Benth.

*Polyspatha glaucescens* (C.B. Clarke) Hutch.

*Polyspatha paniculata* var. *glaucescens* C.B. Clarke

Bioko: *Barter 1474* (K), *Barter 2055* (K), *Guinea 2646* (MA-386469), *Mann s.n.* (K; MA-713237), *Vogel s.n.* (K; MA-713240-photography-), *Vogel 93* (K; MA-713238-photography-; MA-713239-photography-). Bioko Norte: Malabo-aeroporto, km 3, *Carvalho 2556* (K; MA-350202; MA-477120); misión de Malabo, *Guinea 794* (MA-386468); Monte Balea, *Guinea 394* (MA-386484). Bioko Sur: carretera de Luba, km 35,

*Guinea 717* (MA-386485); Musola, *Guinea 1133* (MA-223242); Musola, Monkey Bush, *Guinea 939* (K). Centro Sur: Abobem, Niefang, *Pérez Viso 4192* (MA-687051); versant d'une montagne près de Bicurga, *Lisowski 1494* (BRLU), *Parmentier 1796* (BRLU), *Parmentier & Esono 3161* (BRLU); Monte Alén, *Lisowski 1439* (BRLU); P.N. Monte Alén, station ECOFAC, *De Wilde, Bakhuizen & Elad 12017* (BRLU); P.N. Monte Alén, Engong, *Pérez Viso 2667* (MA-703205); *Velayos, Aedo & Pérez Viso 9499* (MA-703201); N du P.N. Monte Alén, sur le sentier pédagogique, 1.5 km au NO de Moca, *Senterre, Obiang & Esono 2780* (BRLU). Litoral: Bata-Niefang, km 35, Adjape-Comayá, *Carvalho 5679* (BRLU; MA-598973); Bebai, Campogebiet, *Tessmann 703* (K); carretera de Cogo, km 19, Mokomo, *Pérez Viso 3896* (MA-703200); Ndote Nord, près du village Jandje, *Lisowski 165* (BRLU). Wele Nzaz: Nzuamayong et inselberg Akuom, *Obama & Lejoly 429* (BRLU). Unknown province: Río Muni, *Sandford 6046* (K).

Previously reported from Bioko (Clarke, 1901: 62; Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 320a and 320b, sub *P. glaucescens*; Guinea, 1946: 254a and 254b, sub *P. glaucescens*, 1968: 130; Brenan, 1968a: 42; Exell, 1973a: 388; Faden, 1996: 92), Río Muni (Guinea, 1946: 159; Brenan, 1968a: 42; Parmentier *et al.*, 2001: 364) and Equatorial Guinea, without any precise locality (Guinea, 1946: 254). This species has also been reported from Angola, Benin, Guinea Conakry, Cameroon, Central Africa Republic, Congo, D.R. Congo, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, Sierra Leone and Uganda (Brenan, 1968a: 42; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Akoègninou *et al.*, 2006; Sosef *et al.*, 2006).

## STANFIELDIELLA BRENAN

### 41. *Stanfieldiella brachycarpa* (Gilg & Lederm. ex Mildbr.) Brenan

*Buforrestia brachycarpa* Gilg & Lederm. ex Mildbr.

*Buforrestia brachycarpa* var. *hirsuta* Brenan

*Stanfieldiella brachycarpa* var. *hirsuta* (Brenan) Brenan

Bioko: *Mann s.n.* (K).

Previously reported from Bioko (Morton, 1967: 207–208; Brenan, 1968a: 24, sub *S. brachycarpa* var. *hirsuta*; Exell, 1973a: 388; Faden, 1996: 92). This species has been reported from Cameroon, Central Africa Republic, D.R. Congo, Gabon and Nigeria (Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

### 42. *Stanfieldiella imperforata* (C.B. Clarke) Brenan

*Buforrestia imperforata* C.B. Clarke



Bioko: Moca-cascadas do río Iladyi, *Carvalho* 3893 (MA-703202). Centro Sur: inselberg de Bicurga, près du village de Bicurga, *Lisowski* 1499 (BRLU), *Parmentier* 1687 (BRLU), *Parmentier & Esono* 3115 (BRLU); Monte Alén, *Lisowski* 1441 (BRLU); Nfing Ntagan, Niefang-Bata, a continuación de Mosumu, *Pérez Viso* 2749 (MA-703173); P.N. Monte Alén, Bong, senda hacia el lago Atok, *Pérez Viso* 1322 (MA-703204); P.N. Monte Alén, 5 km au NO de Engong, inselberg, *Lejoly* 99/453 (BRLU), *Parmentier & Esono* 2712 (BRLU); P.N. Monte Alén, Esamalang, camino hacia Mondung, *Pérez Viso* 1132 (MA-687142); P.N. Monte Alén, Misergue-río Laña, *Pérez Viso* 3233 (MA-703874); P.N. Monte Alén, transect de Monte Alén, *Lejoly* 93/341 (BRLU); *Parmentier & Nguema* 402 (BRLU), *Parmentier & Esono* 3440 (BRLU), *Parmentier & Esono* 3043 (BRLU), *Senterre, Obiang & Esono* 2757 (BRLU), *Van Reeth* 17 (BRLU); P.N. Monte Alén, NO du transect Ecofac de Monte Chocolate, *Senterre & Obiang* 3794 (BRLU); P.N. Monte Alén, Moca, *Pérez Viso* 874 (MA-689884); P.N. de Monte Alén, 1.5 km au NO de Moca, *Senterre, Obiang & Esono* 2808 (BRLU); P.N. Monte Alén, transect Ecofac de Enkumekien, *Senterre & Ngomo* 20 (BRLU); SE P.N. Monte Alén, au N du río Laña, près de la Cabaña Ecofac de Misergue, *Senterre & Obiang* 3284 (BRLU). Litoral: Bata-Niefang, km 35, Adjape-Comayá, *Carvalho* 5795 (MA-609958); 5893 (MA-599789); Bongoro, Río Campo, *Pérez Viso* 2210 (MA-703877); Etembue, réserve de Ndote, *Eneme & Lejoly* 48 (BRLU); Ndote Sud, Espigon, *Lisowski* 1135 (BRLU); réserve de Ndote, *Eneme* 159 (BRLU). Wele Nzaz: Acasakira, 3 km au S Nsork, *Obama & Lejoly* 545 (MA-612120; BRLU); inselberg de Akoak Ebanga, à 1 h de marche du village de Ngong Mocomo, à 10 km de Nsork, *Parmentier & Nguema* 201 (BRLU), *Nguema & Parmentier* 491 (BRLU); inselberg d'Akuom, à 1 h 30 de marche (6 km) du village de Nzuameyong, à 25 km d'Añisoc, *Parmentier & Nguema* 340bis (BRLU); inselberg d'Asoc, a côté de la route près du village d'Asoc, à 15 km de Mongomo, *Parmentier & Esono* 3730 (BRLU); Mofú, cerca de Oven, *Pérez Viso* 2137 (MA-702674); P.N. Nsork, Obamicu, *Nguema, Esono & Lejoly* 276 (BRLU); région d'Añisok, environs de Temelon, près du village Ayene, *Lisowski* 351 (BRLU).

Previously reported from Bioko (Clarke, 1901: 76, sub *B. imperforata*; Mildbraed, 1922: 179, sub *B. imperforata*; Hutchinson & Dalziel, 1936: 309, sub *B. imperforata*; Exell, 1944: 348, sub *B. imperforata*, 1973a: 389; Guinea, 1946: 252, sub *B. imperforata*; Faden, 1996: 92, sub *S. imperforata* (C.B. Clarke) Brenan var. *imperforata*) and Río Muni (Guinea, 1946: 159, sub *B. imperforata*). This species has also been reported from Angola, Cameroon, Central Africa Republic, D.R. Congo, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, Sierra Leone, Tanzania and Uganda

(Brenan, 1968a: 24; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**43. *Stanfieldiella oligantha*** (Mildbr.) Brenan  
*Buforrestia oligantha* Mildbr.

Bioko Norte: Malabo-aeroporto, *Carvalho* 4098 (K; MA-703203); Malabo-Baney, Monte Oca, *Carvalho* 3208 (K; MA-703174).

Previously reported from Bioko (Faden, 1996: 92). This species has also been reported from Cameroon, Gabon, Ghana, Ivory Coast, Liberia and Nigeria (Brenan, 1968a: 24; Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Sosef *et al.*, 2006).

**TRICARPELEMA** J.K.MORTON

**44. *Tricarpelema africanum*** Faden

Centro Sur: Bicurga, *Lejoly* 99/483 (US); inselberg de Bicurga, *Parmentier & Esono* 3101 (BRLU), *Parmentier & Esono* 3253 (BRLU). Wele Nzaz: Région d'Añisok, au-dessus du village Nzuamayong, inselberg Akuom *Lisowski* 640 (BRLU); monument naturelle de Piedra Nzaz, *Lejoly* 99/244 (BRLU); inselberg Akuom, 6 km à l'est de Nzuamayong, *Obama & Lejoly* 645 (BRLU); inselberg Dumu, *Parmentier & Esono* 3586 (BRLU); inselberg de Dumu, *Porembski et al.* 3573 (BRLU, US); inselberg de Mfui, 50 km à l'E de Añisok, *Obama & Lejoly* 363 (BRLU), *Nguema* 179 (US); inselberg de Mfui, *Porembski & al.* 3512 (BRLU).

Previously reported from Río Muni (*Lejoly & Lisowski*, 1999: 116, 118, both sub *Tricarpelema* sp.; *Parmentier*, 2001: 915, sub *T. africanum*; *Parmentier et al.*, 2001: 351, 360; *Parmentier & Nguema*, 2001: 218, picture, sub *T. africanum*). This species has previously been reported from Gabon (Reitsma, Louis & Floret, 1992 sub *Tricarpelema* sp.; Faden, 2007).

DOUBTFUL RECORDS

*Forrestia grewenii* (Hub.) Winkl.

This species has been reported previously from Río Muni, Litoral province, 'Entre Utonde y Punta Mbonda y Mepemba' (Guinea, 1946: 157), and from Equatorial Guinea, without any precise locality (Guinea, 1946: 252). We have not found any herbarium material of *F. grewenii* from Equatorial Guinea in BATA, BM, BRLU, K, LISC, LISU, MA and US.

*Forrestia pedunculosa* Mildbr.

This species has been reported previously from Equatorial Guinea [without any precise locality] (Guinea, 1946: 252). We have not found any herbarium material of *F. pedunculosa* from Equatorial Guinea in BATA, BM, BRLU, K, LISC, LISU, MA and US.

*Palisota bicolor* Mast.

This species has been reported from Bioko (Mildbraed, 1922: 179; Hutchinson & Dalziel, 1936: 315; Guinea, 1946: 253; Exell, 1973b: 388; Faden, 1996: 91). Nevertheless, none of the current authors could study the material supporting these records. Masters described *P. bicolor* (1878: 527) from a cultivated plant at the Royal Botanic Gardens, Kew, collected from Bioko by 'Messrs. Veitch'. The original collection seems to have disappeared, and no herbarium material has been located. The original poor description refers only to the leaves, and none of the reports from this plant has enabled us to unravel the identity of this species. Clarke (1901: 32) proposed that *P. bicolor* should be one of the 'hemiscapose' group of species of this genus: *P. barteri*, *P. bracteosa* or *P. mannii*. We have not found any herbarium material supporting these reports in BATA, BM, BRLU, K, LISC, LISU, MA and US. Until material or more references become available, we have to treat *P. bicolor* as a doubtful species.

*Tradescantia spathacea* Sw.*Rhoeo spathacea* (Sw.) Stearn*Rhoeo discolor* (L'Hér.) Hance

Although this species has been reported from Bioko by several authors (Guinea, 1946: 254, 352b, both sub *Rhoeo discolor*; Exell, 1973b: 388; Faden, 1996: 92), no voucher supporting these records was indicated. We have found one voucher (*Guinea s.n.*, MA-715177) of this species collected in Equatorial Guinea. This confirms the presence of this species in the country. Nevertheless, the genus *Rhoeo*, included in *Tradescantia* in Faden (1998), grows only in the New World. The specimen and the literature reports probably refer to plants growing in cultivation in the Agronomic Service in Malabo as ornamentals. We have not found any other reference or collection that could indicate the naturalization of this species in this area.

## SUMMARY

The total number of taxa listed here for Equatorial Guinea is 46. The list of species is based on herbarium material, with the exception of four reports from the literature; the distribution ranges of the species suggest that they may occur in Equatorial Guinea.

Eleven species are reported for the first time for the country. These reports are mainly from Río Muni, one of the least explored territories of the country and probably of West and Central Africa (Aedo & Velayos, 2001). Our work increases the catalogue of Commelinaceae for Equatorial Guinea by 114%. Although we show an increase in species of Commelinaceae, many plants already reported from Cameroon and Gabon

still have not been found in Equatorial Guinea (Table 1), reflecting the need for further exploration, especially of less well-known areas, such as the south-east region of Río Muni and Annobon Island.

Rainforests of West Africa are estimated to contain about 50% of the total number of African plant species (Sayer, Harcourt & Collins, 1992), and this is reflected in the higher values of diversity, endemism and floristic richness obtained in different floristic studies in the Gulf of Guinea area (Cable & Cheek, 1998; Cheek *et al.*, 2000, 2004; Fero *et al.*, 2003; Parmentier & Geerinck, 2003; Cabezas *et al.*, 2004, 2005; Estrella *et al.*, 2005, 2006; Akoègninou *et al.*, 2006; Cabezas, 2006; Sosef *et al.*, 2006). Our results support previous data in indicating that Equatorial Guinea, despite its small area, and neighbouring Gabon are the most undisturbed primary rainforest regions of continental Africa (Hamilton, 1994).

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## SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

**Table S1.** SOM. List of localities of collection in Equatorial Guinea. The information on coordinates was obtained from the original labels in most cases; when the information was incomplete, it was approximated using available data at the Internet sites ([http://www.getty.edu/research/conducting\\_research/vocabularies/tgn/](http://www.getty.edu/research/conducting_research/vocabularies/tgn/); <http://earth.google.es/>).

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## LIST OF COLLECTIONS

Species are indicated by a number in parentheses corresponding to the number in the checklist.

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