

## Marantaceae of Equatorial Guinea

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A checklist of the Marantaceae of Equatorial Guinea, comprising eleven genera and twenty-six species, is presented. The best represented genus is *Marantochloa*, with eight species. In addition, bibliographic references for Marantaceae from Equatorial Guinea are gathered and checked. Eight species of Marantaceae are vouched for the first time from the country.

Key words: Annobón, Bioko, checklist, Equatorial Guinea, Marantaceae, Río Muni

### Introduction

Marantaceae comprises ca. 31 genera and 550 species. It is an essentially pantropical family, but absent from Australia, with a few members outside the tropics in South and North America. The African flora is poor in species (30–35), but comparatively rich in genera (10–12). This reflects great diversity in growth habit, inflorescence and fruit structure. The family is distributed from Sierra Leone to Sudan, Uganda and Zimbabwe, but mainly centred in the west (Andersson 1998).

In Equatorial Guinea, the “arrowroot family” is widely distributed and highly diverse too, common in habitats ranging from shady places in rain forest to secondary forest, in which they tend to be climbers.

Important works on the Marantaceae of Central and West tropical Africa are those of Baker (1898), Hutchinson and Dalziel (1936), Milne-Redhead (1950, 1952), Koechlin (1964, 1965) and Hepper (1968a, 1968b, 1968c). Other rel-

evant studies on nomenclature, conservation or floristics of the neighbouring countries were also considered (Brenan 1953, Guinea 1968, Lebrun & Stork 1995).

There is no treatment of the Marantaceae for the whole of Equatorial Guinea, even though parts of the country are covered by other treatments (Annobón was included in Exell 1944, 1963, 1973a, 1973b; Bioko was included in Hepper 1968a; Río Muni was included in Guinea 1946). General more or less detailed information about geography, climate and vegetation of Equatorial Guinea can be found in Guinea (1946), Exell (1973a, 1973b), De Castro and De la Calle (1985), Pérez de Val (1993) and Heras *et al.* (2002). A compilation of data about location, phytogeography, climate, hydrogeography, soils and vegetation is available in the internet at <http://www.floradeguinea.com/guinea.php>.

Over the last 22 years the Real Jardín Botánico has carried out intensive fieldwork on both Bioko and Río Muni. The identification of these collections at MA has revealed further new

records and new areas of distribution for some taxa (Herrero *et al.* 2001, Velayos *et al.* 2001, Fero *et al.* 2003, Parmentier & Geerinck 2003, Cabezas *et al.* 2004). Studies on the inselbergs and related vegetation, carried out in the Université Libre of Bruxelles, such as Lejoly and Lisowski (1999) and Parmentier (2001, 2003) or Parmentier *et al.* (2001) and Parmentier and Geerinck (2003) have complemented this floristic approach in the last five years.

The aim of this work is to update the catalogue of Marantaceae for the whole of Equatorial Guinea including both bibliographic 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 200 specimens collected in Equatorial Guinea from BM, BRLU, K, and MA, including both the historic collections made under British expeditions by Barter, Mann, Tessmann and Vogel, and modern collections obtained by Spanish and Belgian expeditions. For comparative purposes some selected specimens of Marantaceae from neighbouring countries were also studied in these herbaria.

Bibliographic references for the Marantaceae of Equatorial Guinea were also checked, most

of them gathered and compiled in the previous phases of our project (Aedo *et al.* 1999). One species, *Thalia geniculata* was included based only on literature records, since its distribution area makes its presence in Equatorial Guinea likely. The locality names used in this checklist were brought up-to-date following Velayos *et al.* (2001: 147–149). A list of the localities where the Marantaceae have been collected in Equatorial Guinea is provided, including the geographic coordinates (Table 1).

The checklist is alphabetically arranged by genera and species. Generic circumscriptions are in accordance with Andersson (1998). The authors of scientific names are abbreviated according to Brummit and Powell (1992). Those abbreviations not found in that book were confirmed from 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 we mainly used regional floras (Baker 1898, Hutchinson & Dalziel 1936, Koechlin 1964, 1965, Hepper 1968a), but for *Marantochloa* we followed Dhetchuvi’s study (1996).

Under each accepted name, a list of synonyms used in the literature was included. Specimens were ordered alphabetically by the 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).

**Table 1.** Localities in Equatorial Guinea where Marantaceae have been collected.

Locality (province)	Coordinates
Abang, Niefang (Centro Sur)	1°55'N, 10°22'E
Aconibe-Acurenam, Eviam (Wele Nzas)	1°11'N, 10°47'E
Acurenam-Aconibe, Akok (Wele Nzas)	1°5'N, 10°45'E
Asok (P. N. Monte Alén) (Centro Sur)	1°34'N, 10°21'E
Ayangtang (P. N. Monte Alén) (Centro Sur)	1°33'N, 10°25'E
Bahía de Venus (Bioko Norte)	3°46'N, 8°44'E
Basilé (Bioko Norte)	3°42'N, 8°48'E
Bata-Bicomo, sobre el río Ecucu, estrada km 22 (Litoral)	1°40'N, 9°50'E
Batoicopo (Bioko Norte)	3°38'N, 8°39'E
Bicurga, inselberg près du Bicurga (Centro Sur)	1°35'N, 10°28'E
Bimvile (Wele Nzas)	1°50'N, 10°45'E
Bioko (Bioko AD)	3°30'N, 8°42'E
Bisun (Centro Sur)	1°43'N, 10°18'E
Bococo (Bioko Sur)	3°25'N, 8°26'E
Boloco (Bioko Sur)	3°26'N, 8°45'E
Bonyoma (Bioko Norte)	3°36'N, 8°45'E

*continued*

Table 1. Continued.

Locality (province)	Coordinates
bosque Basuala (Bioko Norte)	3°38' N, 8°55' E
Campo (Litoral)	1°13' N, 9°48' E
Corisco (Litoral)	0°55' N, 9°18' E
dalle rocheuse de Monte Alén, à 1h 30 du site ECOFAC (P. N. Monte Alén) (Centro Sur)	1°39' N, 10°18' E
dalle rocheuse d'Engong (P. N. Monte Alén) (Centro Sur)	1°37' N, 10°18' E
Ebolowa (Centro Sur)	1°28' N, 10°30' E
Ebon-Oyac (Kie Ntem)	2°5' N, 11°10' E
Engong (P. N. Monte Alén) (Centro Sur)	1°37' N, 10°19' E
Enkumekien (Centro Sur)	1°34' N, 10°22' E
Enkumekien (P. N. Monte Alén) (Centro Sur)	1°32' N, 10°22' E
Esamalang (P. N. Monte Alén) (Centro Sur)	1°33' N, 10°12' E
Eviám-Aconibe (Wele Nzás)	1°12' N, 10°49' E
Evinayong (Centro Sur)	1°27' N, 10°34' E
Eyan Bot, km 12 de la carretera a Cogo (Litoral)	1°47' N, 9°47' E
inselberg d'Asoc (Wele Nzás)	1°18' N, 10°50' E
inselberg de Akoak Ebanga (Wele Nzás)	1°4' N, 11°12' E
inselberg de Djimbamarac, 15 min de Mfuin (Wele Nzás)	1°52' N, 10°58' E
inselberg de Dumu (Wele Nzás)	1°22' N, 11°19' E
inselberg Mungum, a 45 min de Cucumancoc (Wele Nzás)	1°19' N, 10°49' E
Laca (Litoral)	1°5' N, 9°42' E
Malabo (Bioko Norte)	3°45' N, 8°47' E
Malabo-Cupapa, cerca de la población Cupapa (Bioko Norte)	3°40' N, 8°55' E
Mbiet, Añisok (Wele Nzás)	1°52' N, 10°45' E
Mbut, km 30 de la carretera de Enkue (Wele Nzás)	1°51' N, 10°40' E
Meboman (Litoral)	1°44' N, 9°53' E
Misergue (P. N. Monte Alén) (Centro Sur)	1°25' N, 10°13' E
Misergue-Churu (P. N. Monte Alén) (Centro Sur)	1°24' N, 10°16' E
Miyobo (Centro Sur)	1°45' N, 10°11' E
Miyoman (Litoral)	1°53' N, 9°58' E
Mofú, cerca de Oven (Wele Nzás)	1°4' N, 10°48' E
Moka, subida al monte Alén, por el camino que va a Bong (P. N. Monte Alén) (Centro Sur)	1°39' N, 10°16' E
Monte Alén, subida al mirador (Centro Sur)	1°39' N, 10°18' E
Monte Alén-repetidor TV (P. N. Monte Alén) (Centro Sur)	1°39' N, 10°19' E
Monte Balea (Bioko Norte)	3°42' N, 8°53' E
Monte Chocolate (Centro Sur)	1°46' N, 10°16' E
Monte Kundum (P. N. Monte Alén) (Centro Sur)	1°35' N, 10°4' E
Montes de Oca (Bioko Norte)	3°43' N, 8°53' E
Mosumu (P. N. Monte Alén) (Centro Sur)	1°43' N, 10°4' E
Mosumu, cataratas río Uoro (P. N. Monte Alén) (Centro Sur)	1°36' N, 10°2' E
Musola (Bioko Sur)	3°26' N, 8°37' E
Musola-Riaba (Bioko Sur)	3°25' N, 8°42' E
Ncum Esong Oyen (Centro Sur)	1°36' N, 10°19' E
Nfamam (P. N. Monte Alén) (Centro Sur)	1°33' N, 10°21' E
Ngong (Centro Sur)	1°37' N, 10°18' E
Niefang (Centro Sur)	1°50' N, 10°14' E
Niefang, explotación forestal de Matroguisa (Centro Sur)	1°57' N, 10°23' E
Nsuameyong-Akuom (Wele Nzás)	1°0' N, 11°0' E
Nvua-Nnvam Oveng, Añisok (Wele Nzás)	1°49' N, 10°42' E
Oborobikó (Litoral)	1°51' N, 9°45' E
pico Basilé (Bioko Norte)	3°35' N, 8°46' E
praia Manuel Rodrigues (Bioko Sur)	3°34' N, 8°36' E
Rilaja (Bioko Sur)	3°25' N, 8°38' E
río Bimvile, Mikomeseng-Benito (Wele Nzás)	1°51' N, 10°46' E
Sendje (Litoral)	1°34' N, 9°50' E
servicio agronómico de Musola (Bioko Sur)	3°26' N, 8°37' E
Temelon, Añisok (Wele Nzás)	1°56' N, 10°38' E
Utonde-Punta Mbonda-Mepemba (Litoral)	2°2' N, 9°48' E

Previous bibliographical records of each taxon were grouped under the above-mentioned three regions. When the taxon was recorded under a synonym it is indicated in this form: "Guinea 1946: 263, sub *Clinogyne filipes*". In cases of a misidentification the author's name is included following the cited species: "Baker 1898: 319 and 320, sub *Trachyphrynium poggeanum* K. Schum."

The distribution ranges of the species are provided, the information was obtained from local floras of the neighbouring countries (Koechlin 1964, 1965, Hepper 1968a) and from several studies by Andersson (1998). For *Marantochloa* we compared these sources with Dhetchuvi's study (1996).

A summary table is included comparing the checklist of the Marantaceae of Equatorial Guinea with the accounts of the Marantaceae of Cameroon and Gabon (Table 2). This summary table also includes information about the distribution of the species in the three main regions of Equatorial Guinea. Doubtful and erroneous records are listed at the end of the checklist.

## Checklist

### *Ataenidia* Gagnep.

#### 1. *Ataenidia conferta* (Benth.) Milne-Redh.

*Phrynium confertum* (Benth.) K. Schum.

Bioko: *Fernández Casas 11594* (MA-712706). Bioko Norte: Batoicopo, *Lope del Val s.n.* (MA-500355); Malabo-Riaba, km 53, *Carvalho 3238* (MA-702673). Centro Sur: P. N. Monte Alén, Engong, *Pérez Viso 782* (MA-706623); P. N. Monte Alén, Enkumekien, *Pérez Viso 1546* (MA-687717), *4088* (MA-702664). Litoral: Bata-Cogo, km 47, *Sendje 2°*, *Pérez Viso 2937* (MA-691427); Corisco, *Pérez Viso 1905* (MA-690945). Unknown province: *Guinea 1208* (MA-687701).

Although this species is distributed from West Africa to the Central African Republic, Sudan and Uganda (Andersson 1998), and has previously been recorded from Río Muni (Guinea 1946: 262, sub *Phrynium confertum*, Hepper 1968a: 89), *Ataenidia conferta* is vouchered for the first time from Bioko.

### *Halopegia* K. Schum.

#### 2. *Halopegia azurea* (K. Schum.) K. Schum.

*Donax azurea* K. Schum.

*Phrynium coriscense* Baker

Bioko Norte: Bonyoma, *Lope del Val s.n.* (MA-712453). Bioko Sur: Musola, *Guinea s.n.* (MA-386482); *Lope del Val s.n.* (MA-702656). Litoral: SE of Bata, Oborobikó, *Sabater & Sandford 6051* (K). Wele Nzaz: Eviam-Aconibe, pista forestal, *Pérez Viso 2079* (MA-691412); Nkolentangan, *Tessmann 179* (K). Unknown province: *Guinea & Lope del Val 73* (MA-691867), *Guinea & Lope del Val 74* (MA-691868).

Previously recorded from Bioko (Exell 1973b: 390) and Río Muni (Guinea 1946: 157, 184i, 262).

The genus *Halopegia* comprises about four species distributed from West Africa, the Congo Basin and Indonesia (Andersson 1998). *Halopegia azurea* is an African species that has been frequently recorded throughout the tropical region of the continental mainland (Baker 1898: 316 sub *Donax azurea*, Hutchinson & Dalziel 1936: 337, Koechlin 1964: 138, 1965: 140, Hepper 1968a: 85).

Baker (1898: 322) recorded under "*Phrynium coriscense* Baker" the specimen *Mann 1907*, collected in "Corisco Bay". *Phrynium coriscense* was recorded by Koechlin (1964: 136, 1965: 140) and given as a synonym of *Halopegia azurea*, currently an accepted species.

### *Haumania* J. Léonard

#### 3. *Haumania danckelmaniana* (J. Braun & K. Schum.) Milne-Redh.

*Trachyphrynium danckelmanianum* J. Braun & K. Schum.

Centro Sur: Ebolowa, entre Bicurga y Evinayong, *Pérez Viso 1703* (MA-691415); inselberg de Bicurga, près du village de Bicurga, *Parmentier 1781bis* (BRLU); P. N. Monte Alén, Engong, *Pérez Viso 334* (MA-685875); P. N. Monte Alén, Enkumekien, *Pérez Viso 1521* (MA-687718); P. N. Monte Alén, Esamalang, *Pérez Viso 513* (MA-687155), *1129* (MA-687154); Niefang-Evinayong, Bisun, *Pérez Viso 3425* (MA-687728). Litoral: Bata-Monson-Dibolo, estrada km 53–54, *Carvalho 4884* (MA-597846); Bata-Pembe, estrada km 20–21, *Carvalho 5400* (MA-598322). Wele Nzaz: Acurenam-

Aconibe, Akok, *Pérez Viso* 2045 (MA-691422), 2055 (MA-691420); Mbiet, Añisok, *Pérez Viso* 3595 (MA-687162), Nvua-Nvam Oveng, Añisok, *Pérez Viso* 3007 (MA-688931).

89, Parmentier 2001: 915, Parmentier & Nguema 2001: 212, 223, Parmentier *et al.* 2001: 358).

This species is distributed in Cameroon, Gabon and Congo (Baker 1898: 319, Koechlin 1964: 110, 1965: 116, Hepper 1968a: 89), and previously recorded from Río Muni (Guinea 1946: 65, 149, 184i and 262, sub *Trachyphrynium danckelmanianum*, Milne-Redhead 1950: 162, Hepper 1968a:

*Hypselodelphys* (K. Schum.) Milne-Redh.

#### 4. *Hypselodelphys hirsuta* (Loes.) Koechlin

*Trachyphrynium hirsutum* Loes.

**Table 2.** Species list and comparison of the catalogue of the Marantaceae of Equatorial Guinea with the accounts from neighbouring countries. Acronyms and sources: Ann = Annobón (this study), Bio = Bioko (this study), Mun = Río Muni (this study), Gab = Gabon (Koechlin 1964), Cam = Cameroon (Koechlin 1965), MtC = Mount Cameroon (Cable & Cheek 1998). Data of *Marantochloa* were checked with Dhetchuvi's study (1996). **Boldface** = species expected to occur in Equatorial Guinea, since they are vouched from neighbouring countries, but still not collected. \* = the presence of this species is supported by a single collection from Gabon, which is the type specimen; its absence from neighbouring countries suggests that more precise studies are needed.

Species	Equatorial Guinea			Gab	Cam	MtC
	Ann	Bio	Mun			
<i>Afrocalathea rhizantha</i>	–	–	–	+	+	+
<i>Ataenidia conferta</i>	–	+	+	+	+	+
<i>Halopegia azurea</i>	–	+	+	+	+	+
<b><i>Haumania liebrechtsiana</i></b>	–	–	–	+	–	–
<i>Haumania danckelmaniana</i>	–	–	+	+	+	–
<i>Hypselodelphys hirsuta</i>	–	–	+	+	+	–
<i>Hypselodelphys poggeana</i>	–	–	+	+	+	–
<i>Hypselodelphys scandens</i>	–	–	+	+	+	+
<i>Hypselodelphys violacea</i>	–	–	+	+	+	+
<i>Hypselodelphys zenkeriana</i>	–	+	+	+	+	+
<i>Maranta arundinacea</i>	+	+	+	+	+	–
<i>Marantochloa congensis</i>	–	–	+	+	+	+
<b><i>Marantochloa cordifolia</i></b>	–	–	–	+	+	–
<i>Marantochloa filipes</i>	–	+	+	+	+	+
<i>Marantochloa leucantha</i>	–	+	+	+	+	+
<i>Marantochloa mannii</i>	–	+	–	+	+	+
<i>Marantochloa mildbraedii</i>	–	–	+	+	+	–
<i>Marantochloa monophylla</i>	–	+	+	+	+	+
<i>Marantochloa purpurea</i>	–	–	+	+	+	+
<i>Marantochloa ramosissima</i>	–	+	–	–	+	+
<b><i>Marantochloa sulphurea</i></b>	–	–	–	+	–	–
<i>Megaphrynium distans</i>	–	–	+	–	–	–
<i>Megaphrynium gabonense</i>	–	–	–	+	–	–
<i>Megaphrynium macrostachyum</i>	–	–	+	+	+	+
<i>Megaphrynium trichogynum</i>	–	–	+	+	+	+
<i>Megaphrynium velutinum</i>	–	–	+	–	+	–
<i>Sarcophrynium brachystachyum</i>	–	+	+	+	+	+
<b><i>Sarcophrynium prionogonium</i></b>	–	–	–	+	+	+
<i>Sarcophrynium schweinfurthianum</i>	–	+	+	+	+	+
<i>Sarcophrynium villosum</i> *	–	–	–	+	–	–
<i>Thalia geniculata</i>	–	–	+	+	+	–
<i>Thaumatococcus danielli</i>	–	+	+	+	+	+
<i>Trachyphrynium braunianum</i>	–	+	+	+	+	+
	1	12	23	30	28	20

Wele Nzaz: inselberg de Akoak Ebanga, à 1 h de marche du village de Ngong Mocomo, à 10 km de Nsork, *Parmentier & Nguema 26* (MA-712468); inselberg de Dumu, près du village de Dumu, *Parmentier & Esono 3611* (MA-712469). Unknown province: Río Muni: Bebai, Campogebiet, *Tessmann 671* (K).

This species is distributed in Cameroon and Gabon (Koechlin 1964: 103, 1965: 109) and has also been recorded from Río Muni (Guinea 1946: 262, sub *Trachyphrynium hirsutum*).

##### 5. *Hypselodelphys poggeana* (K. Schum.) Milne-Redh.

*Trachyphrynium poggeanum* K. Schum.

Centro Sur: Niefang-Mosumu, Miyobo, *Pérez Viso 2555* (MA-690903); P. N. Monte Alén, dalle rocheuse d'Engong, 5 km à l'ouest du village d'Engong, *Parmentier & Esono 2720* (MA-712696).

Previously not recorded from Equatorial Guinea. *Hypselodelphys poggeana* is widespread in tropical Africa and has frequently been recorded from Sierra Leone to Angola (Hepper 1968a: 88–89) including the neighbouring Gabon and Cameroon (Koechlin 1964: 104 and 1965: 110, respectively).

Baker (1898: 320) recorded the specimen *Mann 1175*, collected in "Fernando Po" (Bioko) as *Trachyphrynium poggeanum*. We have revised these vouchers at K and identified them as *Trachyphrynium braunianum* (K. Schum.) Baker.

##### 6. *Hypselodelphys scandens* Louis & Mullend.

Centro Sur: inselberg de Bicurga, près du village Bicurga, *Parmentier 1788* (BRLU); P. N. Monte Alén, dalle rocheuse de Monte Alén, à 1 h 30 de marche du site ECOFAC de Monte Alén, *Parmentier & Esono 3080, 3084* (BRLU).

Previously not recorded from Equatorial Guinea. Distributed in West Africa, *Hypselodelphys scandens* has been recorded from Ivory Coast to Angola (Koechlin 1964: 107, 1965: 114, Hepper 1968a: 89).

##### 7. *Hypselodelphys violacea* (Ridl.) Milne-Redh.

*Trachyphrynium violaceum* Ridl.

Centro Sur: Ngong, *Cabezas 145* (MA-695694). Litoral: Bata-Niefang, km 23–24, *Carvalho 5406* (MA-598316).

Distributed from West tropical Africa to Congo and Angola (Koechlin 1964: 106, 1965: 112, Hepper 1968a: 88), this species has also been recorded from Río Muni (Guinea 1946: 262, sub *Trachyphrynium violaceum*, *Parmentier 2001: 915*, *Parmentier & Nguema 2001: 212, 223*, *Parmentier et al. 2001: 362*).

##### 8. *Hypselodelphys zenkeriana* (K. Schum.) Milne-Redh.

*Trachyphrynium zenkerianum* K. Schum.

Bioko Norte: Malabo-pico Basilé, *Carvalho 2189* (K, MA-706714), *4074* (K, MA-700563).

Previously recorded from Río Muni (Guinea 1946: 155, sub *Trachyphrynium zenkerianum*), this species is vouched for the first time from Bioko.

Distributed from Central and West tropical Africa, *Hypselodelphys zenkeriana* has been recorded from Cameroon and Congo (Koechlin 1965: 110).

##### *Maranta* L.

##### 9. *Maranta arundinacea* L.

Bioko Norte: Bonyoma, *Lope del Val s.n.* (MA-712451). Centro Sur: P. N. Monte Alén, Engong, *Pérez Viso 2664* (MA-687178).

Previously recorded from Annobón (Exell 1973b: 390). *Maranta* is distributed in humid areas of tropical America, and comprises about 25 species (Andersson 1998). *Maranta arundinacea* has been frequently introduced and cultivated throughout the tropical regions of the world (Koechlin 1964: 113, 1965: 118), and is vouched for the first time from Equatorial Guinea since

Exell (1973b: 390) did not cite any specimen in his record. This species is introduced in Equatorial Guinea, and is probably naturalized.

## *Marantochloa* Brongn. ex Gris

### 10. *Marantochloa congensis* (K. Schum.) J. Léonard & Mullend.

Centro Sur: Niefang-Mosumu, Miyobo, *Pérez Viso* 2567 (MA-706622). Litoral: Eyan Bot, km 12 de la carretera del puerto a Cogo, *Pérez Viso* 3556 (MA-706621). Wele Nzaz: inselberg de Mungum, a 45 minutes de marche du village de Cucumancoc, *Parmentier & Esono* 3390 (MA-712695).

Previously not recorded from Equatorial Guinea. *Marantochloa congensis* is widespread in tropical Africa and has frequently been vouched and recorded throughout this area from Sierra Leone to Angola and Democratic Republic of Congo (Baker 1898: 317, sub *Donax congensis*, Koechlin 1964: 120–122, 1965: 123–126, Hepper 1968a: 83, Dhetchuvi 1996: 376–381).

In addition to the name variety, two further varieties have been described under *M. congensis*: var. *nitida* and var. *pubescens*, based on the presence or the lack of pubescence and coriaceous leaves. The specimens from Equatorial Guinea have always some degree of pubescence, which places them in var. *pubescens*. This agrees with the distribution range of the varieties (Dhetchuvi 1996: 376–381).

### 11. *Marantochloa filipes* (Benth.) Hutch.

*Clinogyne filipes* Benth.

*Donax filipes* (Benth.) K. Schum.

Bioko: *Fernández Casas* 11392 (K, MA-712699); *Vogel* 163 (K). Bioko Norte: Basilé, próximo da povoação, *Carvalho* 2473 (MA-400267); Monte Balea, *Guinea* 407 (MA-223457), *Guinea s.n.* (K). Bioko Sur: entre Luba y Moca, por encima de Rilaja, *Fernández Casas, Carvalho, Regueiro & Tellería* 10072 (K, MA-712455); Malabo-Luba, km 35, *Guinea* 742 (MA-223437), 763 (MA-386526); between Musola & Concepcion edg, *Wrigley & Melville* 553 (K). Centro Sur: cercanías de Alosa, Niefang, *Castelo & Juste s.n.* (MA-685878); Monte Chocolate, transecto que está entre Mondúa y el transecto de Aconanguí, *Cabezas* 189 (MA-695787); P. N. Monte Alén, *Esamalang, Pérez Viso*

3290 (MA-685881); P. N. Monte Alén, Nfamam, *Pérez Viso* 1000 (MA-687174); Misergue-Churu, *Pérez Viso* 1653 (MA-685879); Mosumu, cataratas del río Uoro, *Pérez Viso* 383 (MA-687179); Monte Alén-Evinayong, Enkumekien, *Pérez Viso* 3570 (MA-687165). Litoral: Bata-Sendje, km 17–18, *Carvalho* 5628 (MA-598782); Laca, *Lope del Val s.n.* (MA-699502); Sendje, *Pérez Viso* 1615 (MA-687177), 2939 (MA-689872), 3388 (MA-687729), Miboman, km 27 carretera Bata-Movo, *Castelo, Cabeza & Juste* (MA-319773). Wele Nzaz: Acurenam-Aconibe, Akok, *Pérez Viso* 2057 (MA-691413); Bimvile, *Guinea* 154 (MA-687700).

Distributed in West tropical Africa, *Marantochloa filipes* is vouched for the first time from Río Muni.

Previously recorded from Bioko (Baker 1898: 316, sub *Donax filipes*, Hutchinson & Dalziel 1936: 338, Guinea 1946: 263, sub *Clinogyne filipes*, Hepper 1968a: 83, Exell 1973b: 390, Dhetchuvi, 1996: 382). This species was recorded from Río Muni by Parmentier (2001: 916) and Parmentier *et al.* (2001: 361), but without any precise locality or specific voucher.

### 12. *Marantochloa leucantha* (K. Schum.) Milne-Redh.

*Clinogyne leucantha* (K. Schum.) K. Schum.

Bioko: *Fernández Casas* 11439 (K, MA-712705), 11581 (MA-712701). Bioko Sur: between Musola and Concepcion edg, *Wrigley & Melville* 554 (K). Centro Sur: P. N. Monte Alén, Monte Alén, *Cabezas* 117 (MA-695651); P. N. Monte Alén, Mosumo, *Pérez Viso* 625 (MA-687151); P. N. Monte Alén, Monte Kundum, *Senterre & Ngomo* 893 (MA-712467). Wele Nzaz: Acurenam-Aconibe, Akok, *Pérez Viso* 2020 (MA-691414); inselberg de Mungum, a 45 minutes de marche du village de Cucumancoc, *Parmentier & Esono* 3335 (BRLU).

Widely distributed in tropical Africa (Baker 1898: 317, Koechlin 1964: 125, 1965: 128, Hepper 1968a: 83, Dhetchuvi 1996: 389–391). Previously recorded from Bioko (Exell 1973b: 390) and Río Muni (Guinea 1946: 159, sub *Clinogyne leucantha*). *Marantochloa leucantha* is vouched for the first time from Río Muni.

### 13. *Marantochloa mannii* (Benth.) Milne-Redh.

*Calathea mannii* Benth.

*Phrynium mannii* (Benth.) K. Schum.  
*Marantochloa mannii* var. *lasiocolea* (K. Schum.)  
 Koechlin

Bioko: *Mann 1173* (K).

Distributed and frequently recorded throughout tropical Africa (Dhetchuvi 1996: 393), this species has also been reported from Bioko (Baker 1898: 327, sub *Calathea mannii*, Hutchinson & Dalziel 1936: 337, sub *Phrynium mannii*, Guinea 1946: 263, sub *Phrynium mannii*, Brenan 1953: 454, Hepper 1968a: 83, Exell 1973b: 390, Dhetchuvi 1996: 392, sub *Marantochloa mannii* var. *lasiocolea*).

#### 14. *Marantochloa mildbraedii* Koechlin

Centro Sur: P. N. Monte Alén, dalles rocheuses de Monte Alén, à 1 h 30 de marche du site ECOFAC de Monte Alén, *Parmentier & Esono 3428* (MA-715179).

Previously recorded from the neighbouring Cameroon, Gabon, Congo and Central African Republic (Koechlin 1964: 130, 1965: 133, Dhetchuvi 1996: 397), *Marantochloa mildbraedii* is vouchered for the first time from Equatorial Guinea.

#### 15. *Marantochloa monophylla* (K. Schum.) D'Orey

*Marantochloa holostachya* (Baker) Hutch.

Bioko: *Carvalho 3599* (K). Bioko Norte: Malabo-Baney, km 13–14, Montes de Oca, *Carvalho 4455* (K, MA-712707). Centro Sur: inselberg de Bicurga, près du village de Bicurga, *Parmentier 1619* (BRLU); *1649* (BRLU); *1762* (BRLU); *1814* (BRLU); *Parmentier & Esono 3138* (BRLU); *3179* (BRLU); Mosumo, *Aedo et al. 5130* (MA-689168); P. N. Monte Alén, Asok, *Pérez Viso 894* (MA-689877); P. N. Monte Alén, Ayantang, camino hacia el río Laña, *Pérez Viso 968* (MA-687716); P. N. Monte Alén, dalle rocheuse d'Engong, 5 km à l'ouest du village d'Engong, *Parmentier & Esono 2994* (BRLU). Litoral: Bata-Mbini, km 24, *Carvalho 6344* (MA-620817). Wele Nzaz: Eviam, Aconibe-Acurenem, *Pérez Viso 1761bis* (MA-712473), *1767* (MA-687150).

Distributed in tropical Africa (Hutchinson & Dalziel 1936: 338, sub *M. holostachya*, Koechlin

1964: 116 and 1965: 122, sub *M. holostachya*, Hepper 1968a: 83, sub *M. holostachya*, Dhetchuvi 1996: 371–372). *Marantochloa monophylla* has been recorded from Río Muni (Parmentier 2001: 916), but without a precise locality or a specific voucher. Therefore, this species is vouchered for the first time from Equatorial Guinea.

#### 16. *Marantochloa purpurea* (Ridl.) Milne-Redh.

*Clinogyne arillata* K. Schum. ex De Wild. & T. Durand

Litoral: Bata-Pembe-San Joaquín de Ndyjacon, km 23–24, *Carvalho 5248* (MA-598207); Corisco Bay, *Mann 1906* (K); Mechenque, Río Benito, *Lope de Val 1067* (MA-685877). Wele Nzaz: Bimvile, *Guinea 92* (MA-706619); inselberg de Akoak Ebanga, à 1 h de marche du village de Ngong Mocomo, à 10 km de Nsork, *Parmentier & Nguema 40* (BRLU); Nkolentangan, *Tessmann 255* (K).

Distributed from tropical Africa to Angola (Dhetchuvi 1996: 385), and previously recorded from Río Muni (Baker 1898: 316, sub *Donax cuspidata* K. Schum., Guinea 1946: 143 and 263, sub *Clinogyne arillata*).

#### 17. *Marantochloa ramosissima* (Benth.) Hutch.

*Phrynium ramosissimum* Benth.

*Clinogyne ramosissima* (Benth.) K. Schum.

Bioko: *Mann 100* (K), *1174* (K); *Vogel 165* (K), *178* (K); near Clarence (Malabo), *Barter 1544* (K); Malabo-Cupapa, cerca de la povoação Cupapa, *Carvalho 2388* (K, MA-706717).

This species is distributed in West tropical Africa, and has been recorded from Ivory Coast to Cameroon (Dhetchuvi 1996: 394), as well as from Bioko (Baker 1898: 326, sub *Phrynium ramosissimum*, Hutchinson & Dalziel 1936: 338, Guinea 1946: 263, sub *Clinogyne ramosissima*, Hepper 1968a: 85, Exell 1973b: 390, Dhetchuvi 1996: 394).



***Megaphrynium* Milne-Redh.****18. *Megaphrynium distans* Hepper**

Centro Sur: inselberg de Bicurga, près du village de Bicurga, *Parmentier & Esono 3234* (BRLU); P. N. Monte Alén, Ayangtang, camino hacia el río Laña, *Pérez Viso 964* (MA-690904). Litoral: Bata-Bicomu, río Ecucu, km 22, *Carvalho 4983* (MA-598914); Bata-Pembe-San Joaquín de Ndyjacon, km 20–21, *Carvalho 5259* (MA-598008). Wele Nzaz: Akok, carretera Acurenam-Aconibe, *Pérez Viso 2015* (MA-690946); Oveng Esandong, carretera Nkue-Mongomo, km 61, *Pérez Viso 3077* (MA-690938).

Distributed in West tropical Africa (Hepper 1968b: 461), *M. distans* is vouched for the first time from Equatorial Guinea.

**19. *Megaphrynium macrostachyum* (Benth.) Milne-Redh.**

*Sarcophrynium oxycarpum* (K. Schum.) K. Schum.

*Sarcophrynium macrostachyum* (Benth.) K. Schum.

Litoral: Bata-Sendje, km 25–26, *Carvalho 5257* (MA-598006).

Distributed in tropical Africa (Koechlin 1964: 157, 1965: 156, Hepper 1968a: 87), *M. macrostachyum* has also been recorded from Río Muni (Guinea 1946: 157, sub *Sarcophrynium macrostachyum* and sub *Sarcophrynium oxycarpum*, Hepper 1968a: 87, *Parmentier 2001*: 915).

**20. *Megaphrynium trichogynum* Koechlin**

Centro Sur: Niefang, explotación forestal de Matroguisa, *Pérez Viso 2257* (MA-712472); P. N. Monte Alén, Mosumu, *Pérez Viso 642* (MA-687171); P. N. Monte Alén, Monte Alén, subida al mirador, *Cabezas 121* (MA-695654). Kie Ntem: Ebon-Oyac, Ebebiyin, *Pérez Viso 4309* (MA-687172). Wele Nzaz: Oveng Esandong, carretera Nkue-Mongomo, km 61, *Pérez Viso 3079* (MA-690939), *3083* (MA-690942).

Distributed in Central Africa (Koechlin 1964: 154, 1965: 155), *Megaphrynium trichogynum* is vouched for the first time from Equatorial Guinea.

**21. *Megaphrynium velutinum* (Baker) Koechlin**

*Sarcophrynium velutinum* (Baker) K. Schum.

Centro Sur: inselberg de Bicurga, près du village Bicurga, *Parmentier 1642* (BRLU); Monte Alén, subida al mirador, *Cabezas 125* (MA-695658); Ncum Esong Oyen, *Cabezas 102* (MA-695681); Nfing Ntagan, carretera Niefang-Bata, a continuación de Mosumu, *Pérez Viso 2745* (MA-702651); P. N. Monte Alén, Misergue-Churu, *Pérez Viso 1664* (MA-690905); P. N. Monte Alén, Moka-Bong, Monte Alén, *Pérez Viso 172* (MA-690906). Litoral: Bata-Monson-Dibolo, estrada km 52–53, *Carvalho 4825* (MA-597747). Kie Ntem: Ebon-Oyac, Ebebiyin, *Pérez Viso 4307* (MA-687173). Wele Nzaz: Akok: carretera Acurenam-Aconibe, *Pérez Viso 2054* (MA-690943); entre Nsuameyong e inselberg Akuom, *Obama & Lejoly 441* (BRLU); Oveng Esandong, km 61 carretera Nkue-Mongomo, *Pérez Viso 3082* (MA-690941).

Distributed in Ivory Coast and Cameroon (Koechlin 1964: 158), *M. velutinum* has also been recorded from Río Muni (Guinea 1946: 216 g and 262 sub *Sarcophrynium velutinum*).

***Sarcophrynium* K. Schum.****22. *Sarcophrynium brachystachyum* (Körn.) K. Schum.**

*Phrynium brachystachyum* Körn.

Bioko: *Fernández Casas 11293* (MA-712700). Bioko Norte: Monte Balea, *Guinea 408* (MA-223455); Malabo-Cupapa, km 15, Montes de Oca, entrada para o pico Basilé, *Carvalho 3922* (K, MA-700565), *4126* (MA-700564). Centro Sur: Monte Alén, subida al mirador, *Velayos & Pérez Viso 9299* (MA-702095); Nfing Ntagan, carretera forestal Niefang-Bata, a continuación de Mosumu, *Pérez Viso 2750* (MA-685887); P. N. Monte Alén, Asok, senda que va hacia el río Laña, *Pérez Viso 897* (MA-689878); P. N. Monte Alén, dalle rocheuse d'Engong, 5 km à l'ouest du village d'Engong, *Parmentier & Esono 2782* (BRLU); P. N. Monte Alén, Enkumekien, *Velayos & Pérez Viso 9340* (MA-685884); P. N. Monte Alén, Esamalang, *Pérez Viso 1179* (MA-687157), *Pérez Viso 3272* (MA-702652); P. N. Monte Alén, Moka-Bong, Monte Alén, *Pérez Viso 733* (MA-687720); P. N. Monte Alén, Moka, subida al monte Alén, por el camino que va a Bong, *Pérez Viso 821* (MA-689859), *822* (MA-689858). Wele Nzaz: inselberg d'Asoc, a côté de la route près du village d'Asoc, à 15 km de Mongomo, *Parmentier & Esono 3775* (BRLU); Mbut, km 30 de la carretera de Encue, *Pérez Viso 3683* (MA-687164).

Distributed from West tropical to Central Africa (Koechlin 1964: 146, 1965: 148, Hepper 1968a: 87), *Sarcophrynium brachystachyum* has been recorded from Ivory Coast to Congo. Although this species has also been reported from Bioko (Guinea 1946: 262, sub *Phrynium brachystachyum*, Exell 1973b: 390) and Río Muni (Corisco Island) (Baker 1898: 322, sub *P. brachystachyum*), *S. brachystachyum* is vouchered for the first time from Río Muni continental mainland.

### 23. *Sarcophrynium schweinfurthianum* (Kuntze) Milne-Redh.

*Clinogyne schweinfurthiana* (Kuntze) K. Schum.  
*Sarcophrynium baccatum* (K. Schum.) K. Schum.

Bioko Sur: Malabo-Moca, granja agrícola de Musola, *Carvalho* 2724 (MA-400269). Centro Sur: Monte Bata-Río Campo, antigua trocha forestal, *Pérez Viso* 2454 (MA-689862); Ngong, *Cabezas* 155 (MA-695689); P. N. Monte Alén, carretera que sube desde el hotel de Monte Alén hasta el repetidor de televisión, *Pérez Viso* 87 (MA-685883). Wele Nzaz: inselberg Dumu, près du village Dumu, *Parmentier & Esono* 3650 (BRLU); Mbut, km 30 de la carretera de Nkue, *Pérez Viso* 3685 (MA-687156); Mofú, cerca de Oven, *Pérez Viso* 2120 (MA-690399); inselberg de Mungum, a 45 minutes de marche du village de Cucumancoc, *Parmentier & Esono* 3408 (BRLU); Nkue-Mongomo, km 61, Oveng Esandong, *Pérez Viso* 3081 (MA-690940); Temelon, Añisok, *Pérez Viso* 4145 (MA-690944).

This species is distributed in tropical Africa (Guinea 1946: 263, Koechlin 1964: 150, 1965, 151). Although this species has been previously recorded from Río Muni (Guinea 1946: 143, sub *Sarcophrynium baccatum* and 263, sub *Clinogyne schweinfurthiana*, *Parmentier* 2001: 916), *Sarcophrynium schweinfurthianum* is vouchered for the first time from Bioko.

### *Thalia* L.

#### 24. *Thalia geniculata* L.

*Thalia caerulea* Ridl.  
*Thalia welwitschii* Ridl.

This species has been recorded from Río

Muni, province Centro Sur (Evinayong, Aconibe (con paso por el Mafanebú) y Nsoc, más el ramal de Acurenam, recorrido triangular) by Guinea (1946: 143, sub *Thalia caerulea*). We found no herbarium material of *T. geniculata* from Equatorial Guinea in BM, BRLU, K and MA. It is widespread in tropical Africa (*Andersson* 1998: 278) and has frequently been recorded from this area (Baker 1898: 313, *Hutchinson & Dalziel* 1936: 338, Koechlin 1964: 140, sub *Thalia welwitschii*, 1965: 143, sub *T. welwitschii*, Hepper 1968a: 85, sub *T. welwitschii*, *Vanden Berghen* 1988: 447). The distribution range of the species suggests it may occur in Equatorial Guinea.

### *Thaumatococcus* Benth.

#### 25. *Thaumatococcus danielli* (Benn.) Benth.

Bioko Sur: Malabo-Moca, servicio agronómico de Musola, *Carvalho* 2729 (K, MA-706715), *Guinea* 1198 (MA-386511).

Distributed in West tropical and Central Africa (Koechlin 1964: 142, 1965: 144–145, Hepper 1968a: 81–82), this species has also been recorded from Bioko (Guinea 1946: 262, Exell 1973b: 390) and Río Muni (Guinea 1946: 157, 262).

### *Trachyphrynium* Benth.

#### 26. *Trachyphrynium braunianum* (K. Schum.) Baker

*Hybophrynium braunianum* K. Schum.

Bioko: *Fernández Casas* 11560 (MA-712703), 11686 (MA-712698), 12038 (K, MA-712702), 12079 (K, MA-712704), *Mann* 1175 (K). Bioko Norte: Malabo-Punta Hermosa, km 9–10, *Carvalho* 4410 (K, MA-702668). Bioko Sur: Luba-Malabo, km 6, *Carvalho* 2853 (MA-702669); Malabo-Luba, praia Manuel Rodrigues, *Carvalho* 2341 (K, MA-702653); Boloco de San Carlos (Luba), *Guinea* 861 (MA-223449), *Guinea* 862 (MA-386510). Centro Sur: Abang, Niefang, *Pérez Viso* 4235 (MA-702654); Niefang, *Pérez Viso* 2300 (MA-685886), 2292 (MA-690406); P. N. Monte Alén, dalles rocheuses de Monte Alén, à 1 h 30 de marche du site ECOFAC de Monte Alén, *Parmentier & Esono* 3415 (MA-712694). Litoral: Corisco Bay, *Mann* 1909 (K).

Distributed from tropical Africa to Sudan (Baker 1898: 319, Koechlin 1964: 100, 106, Hepper 1968a: 89), *Trachyphrynium braunianum* has also been recorded from Bioko (Baker 1898: 319 and 320, sub *Trachyphrynium poggeanum* K. Schum., Guinea 1968: 130, sub *Hybophrynium braunianum*, Hepper 1968a: 89, Exell 1973b: 390) and from Río Muni (Guinea 1946: 157, sub *H. braunianum*).

### Doubtful and erroneous records

***Marantochloa cuspidata*** (Roscoe) Milne-Redh.

*Donax cuspidata* (Roscoe) K. Schum.  
*Clinogyne flexuosa* (Benth.) K. Schum.  
*Marantochloa flexuosa* (Benth.) Hutch.

This species has been recorded from Bioko (Hutchinson & Dalziel 1936: 338, sub *Marantochloa flexuosa*, Guinea 1946: 263, sub *Clinogyne flexuosa*, Exell 1973: 390), from Río Muni in Corisco Island (Baker 1898: 316, sub *Donax cuspidata*) and from the mainland (Guinea 1946: 263 sub *C. flexuosa*). The sheets *Mann 1906* at K, on which Baker's record was based, were identified by us as *Marantochloa purpurea* because their seeds had a lacinate aril, and they have a ramified inflorescence and pubescent internodes (Koechlin 1964: 118–119, 1965: 122–123, Dhetchuvi 1996: 370–371). We have not found any other vouchers supporting any of the other records in BM, BRLU, K and MA.

Although Koechlin included this species in *Flore du Gabon* and *Flore du Cameroun*, he did not cite any vouchers from those countries, and only mentioned the presence of *Marantochloa cuspidata* as “possible” in both of them. According to Dhetchuvi (1996: 394–396) this species is distributed in Senegal, Sierra Leone, Liberia, Ivory Coast and Ghana.

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

Aedo et al. 5130 (15). Barter 1544 (17). Cabezas 102 (21); 117 (12); 121 (20); 125 (21); 145 (7); 155 (23); 189 (11). Carvalho 2189 (8); 2189 (8); 2341 (26); 2341 (26); 2388 (17); 2388 (17); 2473 (11); 2724 (23); 2729 (25); 2729 (25); 2853 (26); 3238 (1); 3599 (15); 3922 (22); 3922 (22); 4074 (8); 4074 (8); 4126 (22); 4410 (26); 4410 (26); 4455 (15); 4455 (15); 4825 (21); 4884 (3); 4983 (18); 5248 (16); 5257 (19); 5259 (18); 5400 (3); 5406 (7); 5628 (11); 6344 (15). Fernández Casas 10072 (11); 11293 (22); 11392 (11); 11439 (12); 11560 (26); 11581 (12); 11594 (1); 11686 (26); 12038 (26); 12079 (26). Fernández Casas, Carvalho, Regueiro & Tellería 10072 (11). Guinea 92 (16); 154 (11); 407 (11); 408 (22); 742 (11); 763 (11); 861 (26); 862 (26); 1198 (25); 1208 (1). Guinea & Lope del Val 73 (2); 74 (2). Mann 100 (17); 1173 (13); 1174 (17); 1175 (26); 1906 (16); 1909 (26). Obama & Lejoly 441 (21). Parmentier 1619 (15); 1642 (21); 1649 (15); 1762 (15); 1781bis (3); 1788 (6); 1814 (15). Parmentier & Esono 2720 (5); 2782 (22); 2994 (15); 3080 (6); 3084 (6); 3138 (15); 3179 (15); 3234 (18); 3234 (18); 3335 (12); 3390 (10); 3408 (23); 3415 (26); 3428 (14); 3611 (4); 3650 (23); 3775 (22). Parmentier & Nguema 26 (4); 40 (16). Pérez Viso 87 (23); 172 (21); 334 (3); 383 (11); 513 (3); 625 (12); 642 (20); 733 (22); 782 (1); 821 (22); 822 (22); 894 (15); 897 (22); 964 (18); 968 (15); 1000 (11); 1129 (3); 1179 (22); 1521 (3); 1546 (1); 1615 (11); 1653 (11); 1664 (21); 1703 (3); 1761bis (15); 1767 (15); 1905 (1); 2015 (18); 2020 (12); 2045 (3); 2054 (21); 2055 (3); 2057 (10); 2079 (2); 2120 (23); 2257 (20); 2292 (26); 2300 (26); 2454 (23); 2555 (5); 2664 (9); 2567 (10); 2745 (21); 2750 (22); 2937 (1); 2939 (11); 3007 (3); 3077 (18); 3079 (20); 3081 (23); 3082 (21); 3083 (20); 3272 (22); 3290 (11); 3388 (11); 3425 (3); 3556 (10); 3570 (11); 3595 (3); 3683 (22); 3685 (23); 4088 (1); 4145 (23); 4235 (26); 4307 (21); 4309 (20). Sabater & Sandford 6051 (2). Senterre & Ngomo 893 (12). Tessmann 60 (3); 179 (2); 255 (16); 671 (4); 684 (3). Velayos 9299 (22); 9340 (22). Vogel 163 (11); 165 (17); 178 (17). Wrigley 553 (11). Wrigley & Melville 554 (12).