

CHECK-LIST OF THE PIPERACEAE OF EQUATORIAL GUINEA

by

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Resumen

FERRO, M., F. CABEZAS, C. AEDO & M. VELAYOS (2003). Catálogo de las Piperaceae de Guinea Ecuatorial. *Anales Jard. Bot. Madrid* 60(1): 45-50 (en inglés).

Se presenta el catálogo florístico de la familia Piperaceae para Guinea Ecuatorial, en el que se recogen un total de 13 especies englobadas en tres géneros. En Annobón están presentes tres especies, 13 en Bioko y cinco en Río Muni. *Peperomia* es el género mejor representado, con 10 especies. Los otros dos géneros, *Pothomorphe* y *Piper*, están representados por una y dos especies, respectivamente. Se han recopilado y revisado las referencias bibliográficas previas para la zona hasta un total de 223 citas. *Peperomia molleri* y *Piper capense* se citan por primera vez para Río Muni.

Palabras clave: Piperaceae, Guinea Ecuatorial.

Abstract

FERRO, M., F. CABEZAS, C. AEDO & M. VELAYOS (2003). Check-list of the Piperaceae of Equatorial Guinea. *Anales Jard. Bot. Madrid* 60(1): 45-50.

A check-list of the Piperaceae from Equatorial Guinea is presented, with 13 species. Three species are known from Annobón, 13 species from Bioko and 5 species from Río Muni. The best represented genus is *Peperomia*, with 10 species. The other two genera, *Piper* and *Pothomorphe*, are represented by two and one species, respectively. Additionally, bibliographic references on Piperaceae of Equatorial Guinea (223 records) have been gathered and revised. *Peperomia molleri* and *Piper capense* are recorded as new to Río Muni.

Key words: Piperaceae, Equatorial Guinea.

INTRODUCTION

Piperaceae grow in tropical forests from S Asia to Tropical America, including those of Africa and Australia. Although TEBBS (1990) reduced Piperaceae to only 5 genera, most authors (YUNKER, 1958; DINIZ, 1997; IMMELMAN, 2000) include the 3000 species of the family in at least 7 genera.

Tropical Africa's Piperaceae were studied by BAKER & WRIGHT (1913), VERDCOURT (1996), DINIZ (1997), and especially by HUTCHINSON & DALZIEL (1927-28, 1954) and BALLE (1940-42; 1948) in West Tropical Africa. Further studies on Equatorial Guinea refer only to Bioko (ESCARRÉ, 1969; FERNÁNDEZ CASAS 1992, 1995). There is no account of Piperaceae in Río Muni, though they were

included in Guinea's complete catalogue of vascular plants (GUINEA, 1946).

Over the last twenty years the Real Jardín Botánico, Madrid, has performed intensive fieldwork in both Bioko and Río Muni, in order to prepare a vascular Flora of Equatorial Guinea. First results with the identifications of these collections are those of VELAYOS & *al.* (2001) or this check-list of Piperaceae.

The aim of this study is to update the catalogue of Piperaceae of the whole of Equatorial Guinea using both bibliographic records and herbarium material.

MATERIAL AND METHODS

This check-list is primarily based on herbarium specimens. We have studied the whole collection of Piperaceae of Equatorial Guinea from MA, including the collections of earlier Spanish expeditions (Guinea, Carvalho, Fernández Casas, etc.). In addition, we have included the collections made under the Agencia Española de Cooperación Internacional project "*Inventario florístico de Guinea Ecuatorial*" –from 1998 to 2001– by Aedo, Pérez Viso and Velayos. These materials are deposited in MA. Bibliographic references on Piperaceae of Equatorial Guinea have been gathered too (AEDO & *al.*, 1999). We include one species based only on literature records, *Peperomia pellucida* (L.) Kunth, since its distribution area makes probably the presence of this species in Equatorial Guinea.

The locality names used in this check-list have been brought up-to-date and made uniform, according to VELAYOS & *al.* (2001). For instance, we use Pico Basilé for "Clarence Peak", or "pico de Santa Isabel", etc.

The check-list is alphabetically ordered by genera and species. Generic and specific circumscription is in accordance with LEBRUN & STORK (1991). Under each accepted name a list with the synonyms used in the literature of Equatorial Guinea and a bibliographic reference of a drawing of the species are included.

Herbarium specimens are ordered alphabetically by collectors within the different regions and provinces: Annobón, Bioko

(provinces of Bioko Norte, and Bioko Sur) and Río Muni (provinces of Centro-Sur, Nkiew-Ntem, Litoral, Wele-Nzas). New records for each region are indicated under the species.

Previous bibliographical records of each taxon are grouped under the previously mentioned three regions. When the taxon was recorded under a different name (synonym or misidentification) it is indicated (i.e.: GUINEA, 1946: 271, sub *P. mannii*).

Pothomorphe, which taxonomic position is unclear, is treated as a separated genus, according to LEBRUN & STORK (1991). Several authors prefer to reduce it to a section under *Piper* (TEBBS, 1990).

CHECK-LIST

1. *Peperomia fernandopoiana* C. DC.

Icon.: DÜLL (1973: 80).

EQG, BOKO NORTE: Malabo-Pico Basilé, km 12, *Carvalho 2951*, MA 512080, *Fernández Casas 10217*, MA 511793. BOKO SUR: Moka-Lago Loreto, *Fernández Casas 11891*, MA 513668. Belebú Balachá, *Fernández Casas 12153*, MA 513237. Alrededores del Lago Loreto, *Guinea 1828*, MA 387584.

Previously recorded from Annobón (DÜLL, 1973: 115), Bioko (DE CANDOLLE, 1866: 134; BAKER & WRIGHT, 1909: 152; MILDBRAED, 1922: 181; HUTCHINSON & DALZIEL, 1928: 79; 1954: 82; GUINEA, 1946: 271; 1968: 130; ESCARRÉ, 1969: 6-7; DÜLL, 1973: 114-115; JOHANSSON, 1974: 42; FERNÁNDEZ CASAS, 1992: 43) and Río Muni (GUINEA, 1946: 151).

2. *Peperomia kamerunana* C. DC.

Icon.: DÜLL (1973: 76).

EQG, BOKO SUR: Moka-Lago Biaó, *Fernández Casas 10416*, MA 512917.

Previously recorded from Bioko (HUTCHINSON & DALZIEL, 1954: 83; ESCARRÉ, 1969: 5; DÜLL, 1973: 95; FERNÁNDEZ CASAS, 1992: 43-44).

3. *Peperomia laeteviridis* Engl.

Icon.: DÜLL (1973: 78).

EQG, BOKO NORTE: Malabo-Pico Basilé, *Fernández Casas 10318*, MA 511668, *Fernández Casas 11228*, MA 512661.

Previously recorded from Bioko (DÜLL, 1973: 104; FERNÁNDEZ CASAS, 1992: 44; FERNÁNDEZ CASAS & MORALES, 1995: 238).

4. *Peperomia molleri* C. DC.

Icon.: DÜLL (1973: 79).

EQG, CENTRO SUR: Bata-Niefang, Monte Alén, río Otom-Asok, *Carvalho* 5354, MA 598278.

Previously recorded from Bioko (HUTCHINSON & DALZIEL, 1954: 82; ESCARRÉ, 1969: 6; DÜLL, 1973: 108; JOHANSSON, 1974: 42; FERNÁNDEZ CASAS & MORALES, 1995: 238).

Not previously recorded from Río Muni.

5. *Peperomia pellucida* (L.) Kunth

Piper pellucidum L.

Peperomia vogelii Miq.

Icon.: DÜLL (1973: 73).

This species has been previously recorded from Bioko: Bioko, unknown collector, (GUINEA, 1946: 271; CUFODONTIS, 1953: 3); Bioko Norte: *Guinea* 609 (HUTCHINSON & DALZIEL, 1954: 82; ESCARRÉ, 1969: 6; DÜLL, 1973: 70; FERNÁNDEZ CASAS, 1992: 44), *Escarré* 395, 397 (ESCARRÉ, 1969: 6), *Boughey* 188 (DÜLL, 1973: 70; FERNÁNDEZ CASAS, 1992: 44) and *Wrigley & Melville* 687 (FERNÁNDEZ CASAS, 1992: 44); Bioko Sur: *Mildbraed* 6805 (MILDBRAED, 1922: 181, sub *Peperomia vogelii*); *Mildbraed* 6803 (DÜLL, 1973: 70, probably is the same collection that Millbraed recorded as *Millbraed* 6805), *Fernández Casas* 11424 (FERNÁNDEZ CASAS, 1992: 44).

We have not found any herbarium material of this species. Its distribution area suggests as acceptable the presence of this species in Equatorial Guinea (BALLE, 1940-42: 386; 1948: 22; ESCARRÉ, 1969: 6; VERDCOURT, 1996: 11; DINIZ, 1997: 33; CABLE & CHEEK, 1998: 98).

6. *Peperomia retusa* (L. f.) A. Dietr.

Piper retusum L. f.

Peperomia retusa var. *mannii* (Hook. f) Düll

Peperomia mannii Hook. f.

Peperomia buëana C. DC.

Icon.: DÜLL (1973: 75).

EQG, BIKO SUR: Moka-Ureka, *Fernández Casas* 11735, MA 513500. Moka-Lago Biaó, *Fernández Casas* 11951, MA 513588. Belebú Balachá-Ureka, *Fernández Casas* 12177, MA 512907.

Previously recorded from Bioko (HOOKER, 1864: 217, sub *Peperomia mannii*; BAKER & WRIGHT, 1909: 153, sub *P. mannii*; MILDBRAED, 1922: 181a, sub *P. mannii*, 181b, sub *P. buëana*; HUTCHINSON & DALZIEL, 1928: 80, sub *P. retusa* var. *mannii*; 1954: 82, sub *P. mannii*; GUINEA, 1946: 271, sub *P. mannii*; ESCARRÉ, 1969: 7, sub *P. mannii*; DÜLL, 1973: 91, sub *P. retusa* var. *mannii*; FERNÁNDEZ CASAS, 1992: 44, sub *P. retusa* var. *mannii*).

7. *Peperomia rotundifolia* (L.) Kunth

Piper rotundifolium L.

Icon.: DÜLL (1973: 74).

EQG, BIKO NORTE: Malabo-Pico Basilé, km 3-4, *Carvalho* 4487, MA 511707.

Previously recorded from Bioko (FERNÁNDEZ CASAS, 1992: 44; FERNÁNDEZ CASAS & MORALES, 1995: 238).

8. *Peperomia tetraphylla* (G. Forst.) Hook. & Arn.

Piper tetraphyllum G. Forst.

Icon.: DÜLL (1973: 74).

EQG, BIKO NORTE: Malabo-Pico Basilé, km 12, *Carvalho* 2642, MA 512233. Km 3-4, *Carvalho* 4524, MA 511682. BIKO SUR: Moka, *Guinea* 2277, MA 387562. Moka-Lago Loreto, *Fernández Casas* 11887, MA 513574; Lago Biaó, *Fernández Casas* 11970, MA 513435.

Previously recorded from Bioko (FERNÁNDEZ CASAS, 1992: 44; FERNÁNDEZ CASAS & MORALES, 1995: 238).

9. *Peperomia thomeana* C. DC.

Peperomia vacciniifolia C. DC.

Icon.: DÜLL (1973: 80).

EQG, BIKO SUR: Lago Biaó, *Fernández Casas* 11966, MA 513443.

Previously recorded from Bioko (HUTCHINSON & DALZIEL, 1954: 82, sub *Peperomia*

vaccinifolia; ESCARRÉ, 1969: 7, sub *P. vac-*
cinifolia; DÜLL, 1973: 105; FERNÁNDEZ
CASAS, 1992: 44).

**10. *Peperomia vulcanica* Baker & C.H.
Wright**

Peperomia hygrophila Engl.

Peperomia annobonensis Mildbr.

Icon.: DÜLL (1973: 80).

EQG, ANNOBÓN: Pico Surcado, *Wrigley & Melville* 70,
MA 294800. BIOKO NORTE: Malabo-Pico Basilé, km 5-6,
Carvalho 4226, MA 514147. BIOKO SUR: Moka, fuentes
de Míoco, *Fernández Casas* 11893, MA 513669.

Previously recorded from Annobón (MILDBRAED, 1922: 160, sub *Peperomia annobonensis*; EXELL, 1944: 276, sub *P. annobonensis*; GUINEA, 1946: 271, sub *P. annobonensis*; EXELL, 1963: 110, sub *P. hygrophila*; 1968: 134, sub *P. hygrophila*; DÜLL, 1973: 103) and Bioko (FERNÁNDEZ CASAS, 1992: 44-45; FERNÁNDEZ CASAS & MORALES, 1995: 238).

11. *Piper capense* L. f.

Coccolobium capense (L. f.) Klotzsch

Icon.: ENGLER (1910: 649); BALLE (1948: 19).

EQG, BIOKO NORTE: Malabo-Pico Basilé, *Carvalho* 2368, MA 512226; *Fernández Casas* 10169, MA 511711; *Fernández Casas* 11233, MA 512666. BIOKO SUR: Moka-Riaba, camino viejo, *Fernández Casas* 11808, MA 513252. Moka-Lago Biaó, *Fernández Casas* 11942, MA 513595. Musola, servicio agronómico, *Guinea* 1194, MA 412217. Musola, Finca Puente, *Guinea* 1752, MA 294858; *Guinea* 1753, MA 412216. CENTRO SUR: Bata-Monte Alén, río Otom-Asok, *Carvalho* 5331, MA 598178.

Previously recorded from Bioko (HOOKER, 1864: 217, sub *Coccolobium capense*; BAKER & WRIGHT, 1909: 146; MILDBRAED, 1922: 181; HUTCHINSON & DALZIEL, 1928: 80; 1954: 84; GUINEA, 1946: 271; CUFODONTIS, 1953: 3; ESCARRÉ, 1969: 8; FERNÁNDEZ CASAS, 1992: 45).

Not previously recorded from Río Muni.

12. *Piper guineense* Schum. & Thonn.

Piper clusii C. DC.

Icon.: ENGLER (1910: 649); BALLE (1940-42: 379).

Common names. Spanish: pimienta de Guinea (GUINEA, 1946). Bubi dialect: Topotótopo, Tökolo to muan.

EQG, BIOKO NORTE: Malabo-Pico Basilé, km 3, *Carvalho* 2269, MA 512203. Malabo-Cupapa, km 18-19, *Carvalho* 3476, MA 511908; km 22-23, *Carvalho* 4131, MA 655094. Malabo-Basilé, Finca Vigatana, *Fernández Casas*, *Carvalho*, *Regueiro & Tellería* 10103, MA 399760, 407526. Malabo-Riaba, Bariobé, *Fernández Casas* 10219, MA 511794. Cupapa, *Fernández Casas* 11494, MA 512919; Malabo-Punta Hermosa, km 11-12, *Fernández Casas* 12090, MA 513360. Misión Católica de Malabo, *Guinea* 778, MA 412218; *Guinea* 780, MA 294879. BIOKO SUR: Ruiché, *Fernández Casas* 11346, MA 512790. Luba-Malabo, km 40, *Fernández Casas* 12215, MA 512647. CENTRO SUR: Bata-Niefang, km 35, Mboete, *Carvalho* 5548, MA 598581; *Carvalho* 5590, MA 598813. P. N. Monte Alén, *Pérez Viso* 95, MA 655093.

Previously recorded from Bioko (BAKER & WRIGHT, 1909: 145; MILDBRAED, 1922: 181; HUTCHINSON & DALZIEL, 1928: 80; 1954: 84; GUINEA, 1946: 271a; 271b, sub *Piper clusii*; 1968: 130; ESCARRÉ, 1969: 9; FERNÁNDEZ CASAS, 1992: 45a; 45b, sub *Piper capense* L. f.) and Río Muni (GUINEA, 1946: 142, 149, 151, 155).

13. *Pothomorphe umbellata* (L.) Miq.

Piper umbellatum L.

Piper subpeltatum Willd.

Heckeria subpeltata (Willd.) Kunth

Icon.: HUTCHINSON & DALZIEL (1954: 83); DINIZ (1997: 26).

Common names. Fang dialect: Abomenjan, Abomenchan, Abomndzan (GUINEA, 1946). Bubi dialect: Lootáotá, Mëvotö.

EQG, ANNOBÓN: S Lago A Pot, *Wrigley & Melville* 147, MA 294974. BIOKO NORTE: Malabo-Rebola, km 10-11, *Fernández Casas* 11262, MA 512639. Malabo-Riaba, Baloeri, *Carvalho* 2493, MA 512114. Baó Basuala, *Fernández Casas* 11506, MA 513519. Monte Balea, *Guinea* 366, MA 412215. BIOKO SUR: Basacato del Oeste, *Fernández Casas*, *Carvalho*, *Regueiro & Tellería* 10060, MA 425807. Malabo-Luba, km 32, *Fernández Casas* 11318, MA 512583. Ruiché-Luba, *Fernández Casas* 11357, MA 512783. Basacato del Oeste, *Lope del Val* 469, MA 389402. Playa de Arenas Blancas, *Fernández Casas* 11652, MA 513750. Luba-Veiga y Avenida, límite Batete-Luba, *Fernández Casas* 12024, MA 513362. Moka-Riaba, km 7-8, *Fernández Casas* 11601, MA 513218. Belebú Balachá, *Fernández Casas* 12127, MA 513229. CENTRO SUR: P. N. Monte Alén, *Pérez Viso* 54, MA 655092. P. N. Monte Alén, Ocuam, *Pérez Viso* 618, MA 655090. P. N. Monte Alén, Miser-

gue-Churu, *Pérez Viso 1641*, MA 655089. Bata-Niefang, Nhogo Ebañ, *Pérez Viso 2671bis*, MA 655088. Niefang-Evinayong, Bisun, *Pérez Viso 3427*, MA 655087. Bindung, *Pérez Viso 3781*, MA 655086. LITORAL: Bata-Kogo, km 67, *Pérez Viso 1846*, MA 655091.

Previously recorded from Annobón (MILDBRAED, 1922: 160, sub *Heckeria subpeltata*; EXELL, 1944: 276, sub *Piper umbellatum*), Bioko (BAKER & WRIGHT, 1909: 145, sub *P. umbellatum*; MILDBRAED, 1922: 181, sub *P. subpeltatum*; GUINEA, 1946: 271, sub *P. subpeltatum*; 1968: 130, sub *P. umbellatum*; HUTCHINSON & DALZIEL, 1954: 84, sub *P. umbellatum*; ESCARRÉ, 1969: 8, sub *P. umbellatum*; FERNÁNDEZ CASAS, 1992: 45, sub *P. umbellatum*) and Río Muni (GUINEA, 1946: 142, sub *Heckeria subpeltata*, 151, sub *H. subpeltata*, 157, sub *H. subpeltata*; 1946: 271, sub *P. subpeltatum*).

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

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