



Three new species of *Craterispermum* (Rubiaceae) from the Lower Guinea Domain

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Key words

Cameroon
Craterispermum
C. deblockianum
C. rumpianum
C. sonkeanum
Equatorial Guinea
Gabon
Rubiaceae

Abstract Three species of *Craterispermum* are described from Cameroon, Equatorial Guinea and Gabon. Detailed descriptions and distribution maps are provided for each species, their conservation status is assessed and their taxonomic affinities are discussed. An identification key for the *Craterispermum* species present in Cameroon, Equatorial Guinea and Gabon is given.

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INTRODUCTION

The genus *Craterispermum* (Rubiaceae) is distributed in tropical Africa, Madagascar and the Seychelles (Robbrecht 1988). *Craterispermum* can easily be diagnosed at genus level by the presence of raphides, by its axillary or supra-axillary, often condensed, inflorescences generally borne on stout flattened peduncles and by its small white heterostylous flowers. The ovary is bilocular with a single, apically attached, pendulous ovule in each locule. One ovule aborts and the fleshy fruit contains a single, asymmetrical bowl-shaped seed, the seed-coat of which is discontinuous and comprised of isolated cells with ring-like thickenings (Igersheim 1992). Typical for *Craterispermum* is also the accumulation of aluminium in leaf and stem tissue, which gives the characteristic yellowish green foliage in dried condition (Jansen et al. 2000).

Because no recent monograph of the genus exists, it is currently very difficult to identify at species level the several thousand existing herbarium specimens. The taxonomic position of the genus *Craterispermum* within the Rubiaceae family is not clear. Sometimes *Craterispermum* is considered to belong to a monogeneric tribe of uncertain affinity (*Craterispermeae* Verdc.; Verdcourt 1958). Alternatively, it is considered closely related to *Morindeae* Miq. s.l. and *Schradereae* Bremek. (Robbrecht & Manen 2006), or to *Prismatomerideae* Y.Z.Ruan. (Razafimandimbison et al. 2008). More recently, Bremer & Eriksson (2009) maintained the tribal status of *Craterispermum* and stated that *Craterispermeae*, *Gaertnereae* Bremek. ex Darwin, *Morindeae*, *Psychotrieae* Cham. & Schltdl. and *Schradereae* belong to the *Psychotrieae* alliance.

Herbarium material of *Craterispermum* is often poor, generally carrying only residual inflorescences. Because of the compact structure of the inflorescences, flowers and fruits fall easily during collecting, pressing, drying and the assembly in the herbarium. Moreover, flowers are short-lived and ripe fruits do

not remain on the plant for long, making identification of species in the field easier but still difficult. The above-mentioned reasons make new *Craterispermum* species hard to describe. We are currently undertaking the revision of the genus for continental Africa. The examination of the available material allowed us to highlight the existence of several new species. Next to the 16 species currently known to science (Govaerts et al. 2011), several new species exist, both in continental Africa (e.g. Sosef et al. 2006) and in Madagascar (Verdcourt 1973, Randriamboavonjy & De Block 2010, Taedoumg pers. obs.). Hitherto, we have described two new species from continental Africa, bringing the total up to 18 (Taedoumg et al. 2011). The present paper describes three species from Cameroon, Gabon and Equatorial Guinea, *C. deblockianum*, *C. rumpianum* and *C. sonkeanum*. An identification key for the *Craterispermum* species present in Cameroon, Equatorial Guinea and Gabon is also given.

MATERIALS AND METHODS

Herbarium specimens from BR, BRLU, MO, P, WAG and YA (abbreviations after Holmgren et al. 1990) were examined. Measurements, colours and other details are based on the study of herbarium specimens, material conserved in alcohol, and data derived from field notes. In the descriptions, inflorescence size does not include the corollas, and colours (except for flower colours) given are for dried material. Descriptive terminology follows Robbrecht (1988) and Anonymous (1962). Specimens are cited per country, alphabetically by collector. The conservation status was assessed by applying the IUCN Red List Category criteria (IUCN 2001) using the Conservation Assessment Tools extension in ArcView 3.3.

IDENTIFICATION KEY TO THE SPECIES OF CRATERISPERMUM PRESENT IN CAMEROON, EQUATORIAL GUINEA AND GABON

1. Tertiary and especially quaternary venation obscure; leaf blades coriaceous 2
1. Tertiary and quaternary venation conspicuous; leaf blades coriaceous or papyraceous 3

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2. Inflorescences 25–65 mm long, not very compact, consisting of 2 branches up to 60 mm long; peduncle 7–23 mm long; leaf blades 11–35 by 6–13.5 cm; corolla tube 6–8 mm long. — Cameroon, Equatorial Guinea, Gabon *C. ledermannii* K.Krause (1912: 417)
2. Inflorescences 2.2–18 mm long, very compact, subcapitate or consisting of 2–3 branches, each 4.5–15 mm long; peduncle 0.6–7 mm long; leaf blades 6–23 by 1.5–8 cm; corolla tube c. 4 mm long. — Cameroon, Gabon *C. robbrechtianum* Taedoumg & Sonké (in Taedoumg et al. 2011: 704)
3. Bracteoles longer than calyx, long aristate; peduncles 1–5 mm long 4
3. Bracteoles shorter than calyx, broadly triangular or ovate; peduncles 1.4–23 mm long 5
4. Stipules 5–11 mm long, with short and broadly triangular tips; 5–6 pairs of secondary veins; flowers 5-merous; calyx lobes equal; tertiary and higher order venation laxly and irregularly reticulate; leaf blades 11–25.5 by 4–8 cm. — Cameroon, Nigeria . *C. aristatum* Wernham (in Rendle et al. 1913: 51)
4. Stipules 5–16 mm long, with long narrowly triangular tips; 10–12 pairs of secondary veins; flowers 4-merous; calyx lobes unequal; tertiary and higher order venation closely and ± regularly reticulate; leaf blades 6.7–14 by 2–4.8 cm. — Equatorial Guinea, Gabon *C. sonkeanum*
5. Stipules with conspicuous narrowly triangular tip, tip 2–8 mm long; fruits pedicellate; venation ± regularly reticulate with secondary veins parallel and ± perpendicular to midrib. . 6
5. Stipules with short tip not exceeding 1.5 mm; fruits sessile; venation irregularly reticulate with secondary veins not parallel to midrib 7
6. Stipules persistent; leaf blades papyraceous, 3.3–11 by 0.9–3.5 cm; fruits shortly pedicellate, pedicels 1–1.5 mm long; inflorescences with 1–4 flowers; peduncles 0.5–4.5 mm long; inter-secondary and tertiary venation parallel and ± perpendicular to midrib. — Cameroon, Equatorial Guinea, Gabon *C. parvifolium* Taedoumg & Sonké (in Taedoumg et al. 2011: 701)
6. Stipules caducous; leaf blades coriaceous or subcoriaceous, 5–25 by 1.9–7.5 cm; fruits long pedicellate, pedicels 2.5–9 mm long; inflorescences 3- to several-flowered; peduncles 0.5–9 mm long; inter-secondary and tertiary venation not as above 8
7. Inflorescences pedunculate or sessile, subcapitate or rarely with 2(–3) very short branches, very compact; peduncles (when present) stout, 0–10 mm long; leaf blades coriaceous or subcoriaceous, tertiary and higher order venation closely reticulate 9
7. Inflorescences pedunculate, with 2(–3) branches, each 1.5–20 mm long or rarely subcapitate especially in young stage, not compact; peduncles slender, (7–)10–23 mm long; leaf blades papyraceous to subcoriaceous, tertiary and higher order venation laxly and irregularly reticulate. — Benin, Cameroon, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Ghana, Ivory Coast, Nigeria, Popular Republic of the Congo, Togo *C. cerinanthum* Hiern (in Oliver 1877: 161)
8. Twigs decurrently ridged but otherwise smooth; 6–10 pairs of secondary veins, leaf blades 5–14.5 by 1.7–5.3 cm; peduncles 4–9 mm long. — Cameroon, Gabon, Guinea Conakry, Ghana, Ivory Coast, Nigeria, Senegal *C. caudatum* Hutch. (1920: 23)
8. Twigs not decurrently ridged with surface granular; 14–16 pairs of secondary veins; leaf blades 8.5–25 by 3.2–7.5 cm; peduncles 0.5–5 mm long. — Gabon . . . *C. deblockianum*
9. Inflorescences sessile, stipules caducous; leaves blades subcoriaceous. — Cameroon *C. rumpianum*

9. Inflorescences pedunculate; peduncles stout, 1–7(–10) mm long, stipules persistent; leaf blades coriaceous. — Angola, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Ethiopia, Gabon, Kenya, Malawi, Mozambique, Nigeria, Popular Republic of the Congo, Rwanda, Sudan, Tanzania, Uganda, Zambia, Zimbabwe, but absent from Madagascar *C. schweinfurthii* Hiern (in Oliver 1877: 161)

***Craterispermum deblockianum* Taedoumg & Hamon, sp. nov.**
— Fig. 1; Map 1

C. caudatum Hutch. praecipue propter fructus longe pedicellatos sed etiam propter stipulas acuminatas atque foliorum laminas longe acuminatas proximum; foliorum laminis multinervis (cum nervis lateralibus in 14–16 paribus vs in 6–10 paribus) et majoribus (8.5–25 × 3.2–7.5 cm vs 5–14.5 × 1.7–5.3 cm) atque ramorum novellorum aspectu granulari (vs glabri et cristato in *C. caudatum*) ab illo differt. — Typus: *Louis AM, Bretelet & De Bruijn* 1255 (holo WAG; iso MO, WAG), Gabon, old forest along exploitation road, km 2 SE of forestry camp Waka, situated about 32 km SE of Sindara, Waka river basin (S1°14' E10°53'), 10 Dec. 1983.

Etymology. The species is named after Dr Petra De Block, specialist of *Rubiaceae* and senior researcher in the Department of Phanerogamy of the National Botanical Garden of Belgium, for her contribution to the knowledge of the African *Rubiaceae*.

Shrub or treelet 1–5 m tall, all vegetative and generative parts glabrous. *Twigs* pale green or brown or fawnish, with surface granular. *Stipules* caducous; basal portion 2–3 mm long; tip narrowly triangular, 2–7 mm long. *Leaves* petiolate; petioles canaliculate, 8–20 mm long; leaf blades narrowly obovate or more rarely, narrowly elliptic, 8.5–25 by 3.2–7.5 cm, subcoriaceous, pale green or pale greenish brown above, not discoloured or slightly paler below; base cuneate; apex acuminate, acumen 9–16 mm long; midrib prominent below; secondary and tertiary venation prominent on both surfaces, 14–16 pairs of secondary veins, tertiary and higher order venation ± regularly reticulate. *Inflorescences* supra-axillary, borne 1–3 mm above the nodes, paired and opposite, erect, subcapitate, very compact, 2.8–8 by 2–5.5 mm, with several to many flowers; peduncle flattened, 0.5–5 mm long; bracts broadly triangular, keeled, acuminate, 1–4 mm long; bracteoles broadly triangular, acuminate, c. 0.2 mm long. *Flowers* presumed heterostylous (but only longistylous morph known), 4-merous, subsessile. *Longistylous flowers*: calyx creamy white; tube 0.8–1 mm long; lobes triangular, 0.2–0.4 mm long. *Corolla* white; tube narrowly cylindrical, 3.5–4 mm long, sparsely to densely pubescent at throat and upper quarter of the tube inside; lobes c. 3.5 mm long, finely pubescent in the lower half inside, apex acute. *Stamens* with anthers only 1/3 included in corolla tube, c. 1 mm long; filaments c. 0.4 mm long. *Ovary* 0.8–1 mm long. *Style* exserted for c. 3 mm, stigma bilobed, stigmatic lobes c. 1.5 mm long. *Fruits* pedicellate with pedicels 2.5–5 mm long, subglobose, asymmetrical, 5–7 mm diam, crowned with persistent calyx, purple or violet when ripe.

Habitat & Ecology — *Craterispermum deblockianum* occurs in primary or old forest on sandy soil, often near a stream. Altitude 50–400 m. Flowers: December–January; mature fruits: April.

Distribution — *Craterispermum deblockianum* is endemic to Gabon and is restricted to the 'Province du Moyen-Ougoué'. The species is mostly collected from the Njolé area.

Conservation status — Endangered. See Table 1.

Critical remarks — Flowers and fruits are rare on the specimens of *C. deblockianum*. Only longistylous flowers were seen and measurements were based on only two flowers.

Taxonomic affinities — The affinities of *Craterispermum deblockianum* appear to lie with *C. caudatum* in sharing stipules with long narrowly triangular tips, long acuminate leaves, subcapitate inflorescences and long pedicellate fruits. However,

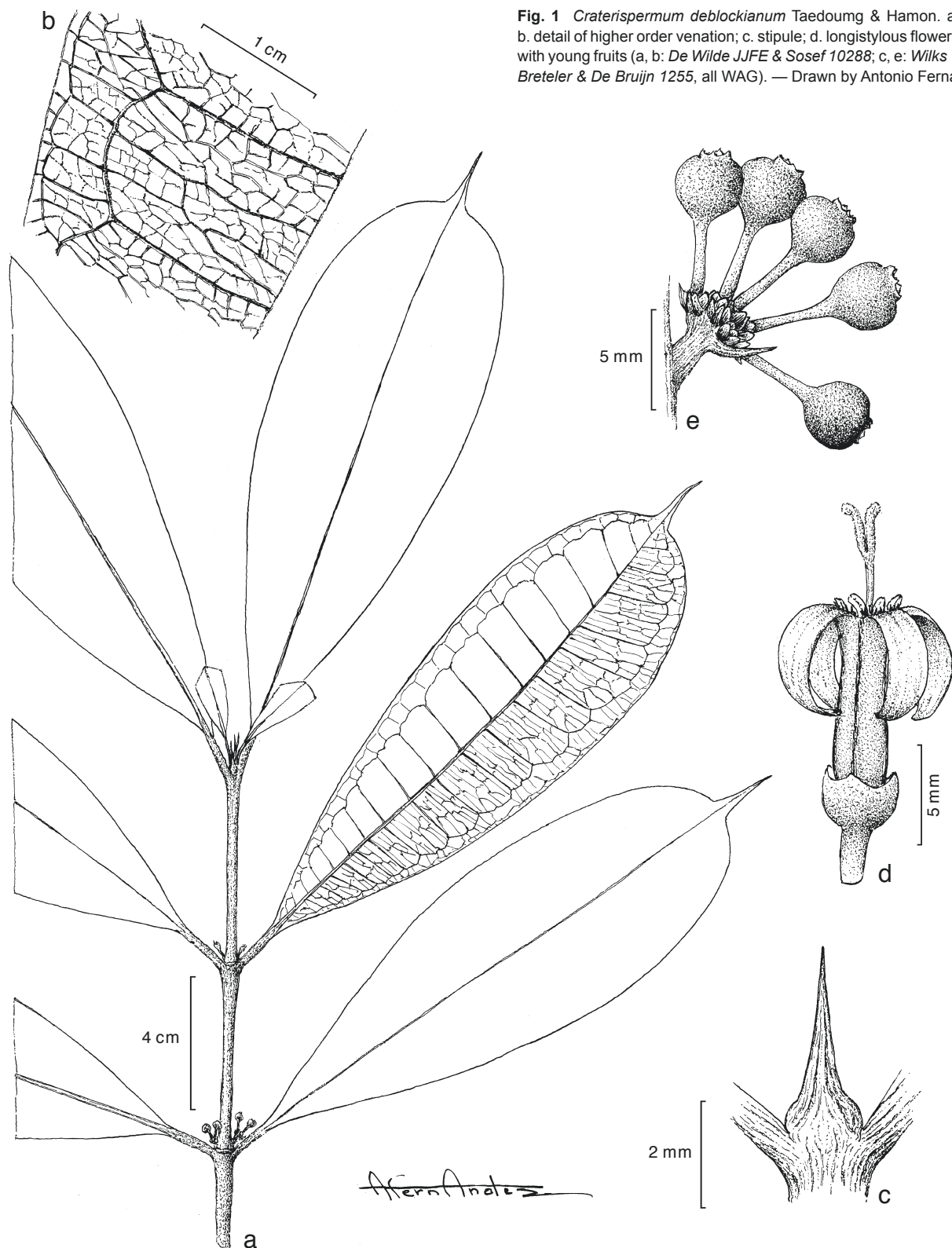


Fig. 1 *Craterispermum deblockianum* Taedoumg & Hamon. a. Fruiting branch; b. detail of higher order venation; c. stipule; d. longistylous flower; e. infructescence with young fruits (a, b: *De Wilde JJFE & Sosef 10288*; c, e: *Wilks 1202*; d: *Louis AM, Breteler & De Bruijn 1255*, all WAG). — Drawn by Antonio Fernandez.

C. deblockianum differs from *C. caudatum* in having the following main characters: the number of secondary veins (14–16 pairs in *C. deblockianum* vs 6–10 pairs in *C. caudatum*), the texture of the young branches (with surface granular in *C. deblockianum* vs smooth with decurrent ridges in *C. caudatum*), the size of leaf blades (8.5–25 by 3.2–7.5 cm in *C. deblockianum* vs 5–14.5 by 1.7–5.3 cm in *C. caudatum*) and the length of the peduncles (0.5–5 mm long in *C. deblockianum* vs 4–9 mm long in *C. caudatum*).

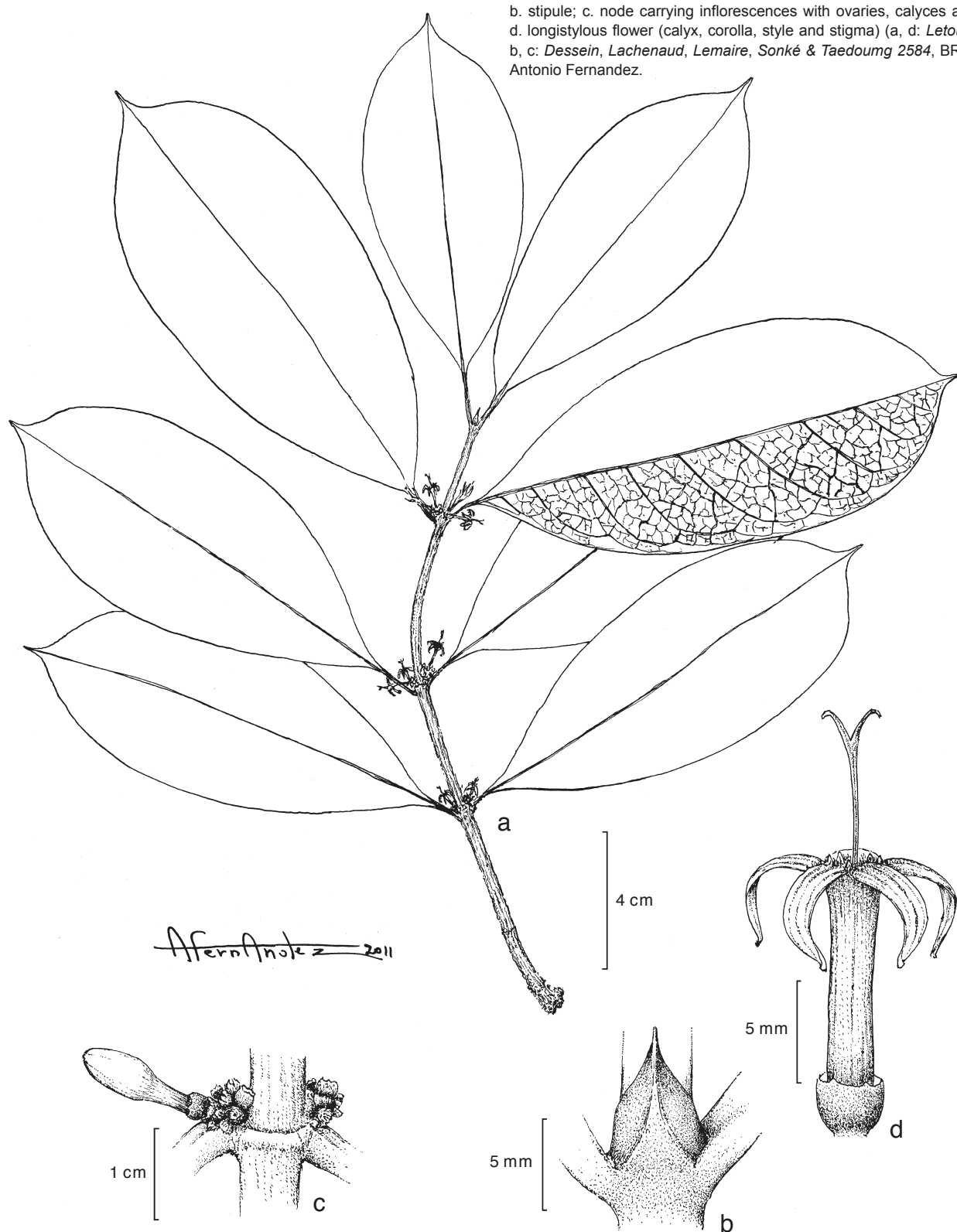
Additional specimens examined. GABON, Breteler, Jongkind & Wieringa 11061 (WAG), 5–30 km NNW of Ndjolé, 23 Apr. 1992; *De Wilde JJFE & Sosef 10288* (WAG), 9 km N of Ndjolé, exploitation track of Forest Exploitation of

Gabon, 28 Jan. 1991; *Dibata 58* (MO, WAG), Moyen Ogooué, ENE de Belle Vue, layon X, 22 Jan. 1987; *Hallé N 1855* (P), 10 km S de Ndjolé, C.E.T.A. Ayem, 24 Apr. 1963; *Wilks 1202* (WAG), Ngounié, vallée de la Waka, 28 km ENE du confluent Ngounié-Waka, 5 Feb. 1986.

Craterispermum rumpianum* Taedoumg & Hamon, *sp. nov.
— Fig. 2; Map 1

C. schweinfurthii Hiern propter inflorescentias subcapitatas et nervos intersecundarios subtiliter reticulatos proximum, sed ab illo differt inflorescentis sessilibus, stipulis caducis atque corollarum tubis longioribus (6.5–8 mm vs 3.7–5.8 mm in *C. schweinfurthii*). — *Typus*: *Letouzey 14521* (holo P; iso YA), Cameroon, Monts Rumpi, près de Lokando, 30 km NNW de Kumba (N4°52' E9°17'), 23 Mar. 1976.

Fig. 2 *Craterispermum rum pianum* Taedoumg & Hamon. a. Flowering branch; b. stipule; c. node carrying inflorescences with ovaries, calyces and flower bud; d. longistylous flower (calyx, corolla, style and stigma) (a, d: Letouzey 14521, P; b, c: Dessein, Lachenaud, Lemaire, Sonké & Taedoumg 2584, BR). — Drawn by Antonio Fernandez.



Etymology. The species is named after the type locality.

Shrub 1–2 m tall; all vegetative and generative parts glabrous; twigs pale brown, decurrently ridged. *Stipules* caducous, keeled; basal portion 4.5–6 mm long; tip narrowly triangular or needle-like, 1–1.5 mm long. *Leaves* petiolate; petioles canaliculate, 10–18 mm long; leaf blades obovate, 11.5–14.8 by 4.5–6.1 cm, subcoriaceous, yellowish brown above, paler below; base cuneate; apex acuminate, acumen 8–10 mm long; midrib prominent below; secondary venation prominent below and moderately prominent above, 8–9 pairs of secondary veins, tertiary and higher order venation conspicuous, closely and

irregularly reticulate on both sides. *Inflorescences* sessile, axillary, paired, opposite, very compact cymes consisting of three subcapitate parts, the central part sessile and less developed and the lateral ones larger and borne on short axes < 1 mm long, 9–16 by 3–10 mm, several-flowered; bracts and bracteoles very congested, triangular to ovate, c. 1.5 mm long, apex acute or obtuse. *Flowers* presumed heterostylous (but only longistylous morph known), 5-merous, sessile. *Longistylous flowers*: calyx creamy white tinged violet; tube c. 0.6 mm long; lobes triangular, c. 0.3 mm long. *Corolla* white; tube narrowly cylindrical, 6.5–8 mm long, sparsely to moderately pubescent

Table 1 Conservation status of *Craterispermum deblockianum*, *C. rumpianum* and *C. sonkeanum* assessed by applying the IUCN Red List Category criteria (IUCN 2001).

Species	IUCN Red List Category	IUCN criteria and status of <i>Craterispermum</i> species B1 (extent of occurrence); B2 (area of occupancy)			Other information
<i>C. deblockianum</i>	Endangered [(EN B1ab(i, ii, iii))]	B1 – total extent of occurrence (EOO) 3743.34 km ²	a – existing at 5 locations (6 collections)	b – continuing decline inferred or projected for: i) extent of occurrence ii) area of occupancy iii) quality of habitat and area extent	Current area of occupancy (AOO) 0049.93 km ² based on 5 cells of 3.16 km ²
<i>C. rumpianum</i>	Critically Endangered [(CR B2ab(ii, iii))]	B2 – total area of occupancy (AOO) 0.886816 km ²	a – existing at only one location (2 collections)	b – continuing decline inferred or projected for: ii) area of occupancy iii) quality of habitat and area extent	The Rumpi Hills are poorly collected and threatened with clearance for agriculture of cocoa (Taedoumg, pers. obs.) Current area of occupancy (AOO) based on 1 cell of 3.16 km ²
<i>C. sonkeanum</i>	Endangered [(EN B1ab(i, ii, iii))]	B1 – total extent of occurrence (EOO) 3692.02 km ²	a – existing at no more than 5 locations (11 collections from 8 localities)	b – continuing decline inferred or projected for: i) extent of occurrence ii) area of occupancy iii) quality of habitat and area extent	Current area of occupancy (AOO) 0059.91 km ² based on 6 cells of 3.16 km ² .

at throat and in upper half of corolla tube inside: lobes c. 6 mm long, finely pubescent in the basal half, apex acute and thickened with a subapical spike-like protuberance. *Stamens* with anthers only half exerted from corolla tube, inserted below the level of the throat, c. 2.5 mm long, white; filaments c. 0.2 mm long. *Ovary* c. 2 mm long. *Style* exerted for c. 5 mm; stigma bilobed, stigmatic lobes c. 2.5 mm long. *Young fruits* dark purple.

Habitat & Ecology — *Craterispermum rumpianum* occurs in submontane forest with low canopy (15–20 m). Altitude 900–1400 m. Flowers: March; fruits: April (immature fruits).

Distribution — *Craterispermum rumpianum* is endemic to Cameroon and only known from the Rumpi Hills in the South-west Region.

Conservation status — Critically endangered. See Table 1.

Critical remarks — *Craterispermum rumpianum* has only been collected twice. Brevistylous flowers and mature fruits were not available for description.

Taxonomic affinities — *Craterispermum rumpianum* and *C. schweinfurthii* share subcapitate, compact inflorescences and closely, irregularly reticulate venation. However, *C. rumpianum* differs from *C. schweinfurthii* by its sessile inflorescences (vs pedunculate in *C. schweinfurthii*), its caducous stipules (vs persistent in *C. schweinfurthii*) and the size of the corolla tube (6.5–8 mm long in *C. rumpianum* vs 3.7–5.8 mm long in *C. schweinfurthii*).

Additional specimens examined. CAMEROON, Dessein, Lachenaud, Le-maire, Sonké & Taedoumg 2584 (BR, YA), south-west, Rumpi Hills near Dikome Balue, 19 Apr. 2009.

Craterispermum sonkeanum Taedoumg & Hamon, *sp. nov.*

— Fig. 3; Map 1

C. aristatum Wernham propter bracteas bracteolasque aristatas proximum, sed ab illo differt stipulis acicularibus, foliorum laminis multinervis (cum nervis lateralibus in 10–12 paribus, vs 5–6 paribus), floribus 4-meris (vs 5-meris), calycis lobis inaequalibus (vs aequalibus) et nervis tertiariis dense regulariterque reticulatis (vs laxae irregulariterque in *C. aristatum*). — Typus: De Wilde JJFE, Arends, Louis AM, Bouman & Karper 98 (holo BR; iso MO, WAG), Cristal Mountains, forest exploitation Leroy, 20 km NW of Asok (N0°53' E10°12'), 20 Jan. 1983.

Etymology. The species is named after Professor Doctor Bonaventure Sonké, specialist of *Rubiaceae* and Director of the Plant Systematic and Ecology Laboratory in Higher Teacher's Training College of the University of Yaoundé I in Cameroon, for his contribution to the knowledge of African *Rubiaceae*.

Shrub up to 3 m tall; all vegetative and generative parts glabrous; twigs greenish grey or brown, smooth but each internode with two decurrent ridges in line with the stipular tip. *Stipules* persistent; basal portion 2–3 mm long; tip narrowly triangular, 4–13 mm long. *Leaves* petiolate; petioles canaliculate, 5–10 mm long; leaf blades narrowly obovate 6.7–14 by 2–4.8 cm, subcoriaceous, greenish above, paler green below; base cuneate; apex acuminate-caudate, acumen 7–15 mm long; midrib prominent below; secondary venation slightly to moderately prominent on both surfaces, 10–12 pairs of secondary veins, secondary, inter-secondary and tertiary venation ± parallel and almost perpendicular to the midrib; quaternary venation ± obscure. *Inflorescences* pedunculate, axillary to slightly supra-axillary, borne 1–2 mm above the nodes, paired, opposite, subcapitate, 9–16 by 3–10 mm, few-flowered; peduncle flattened, 3–4 mm long; bracts and bracteoles very congested, triangular to ovate with long aristate apex, sometimes sparsely ciliate; bracts 5–9 mm long; bracteoles c. 4 mm long. *Flowers* presumed heterostylous (but only brevistylous morph known), 4-merous, sessile. *Brevistylous flowers*: calyx green; tube c. 1–1.5 mm long; lobes linear, opposite lobes equal in length, largest pair c. 2 mm long and smallest pair 1–1.2 mm long,

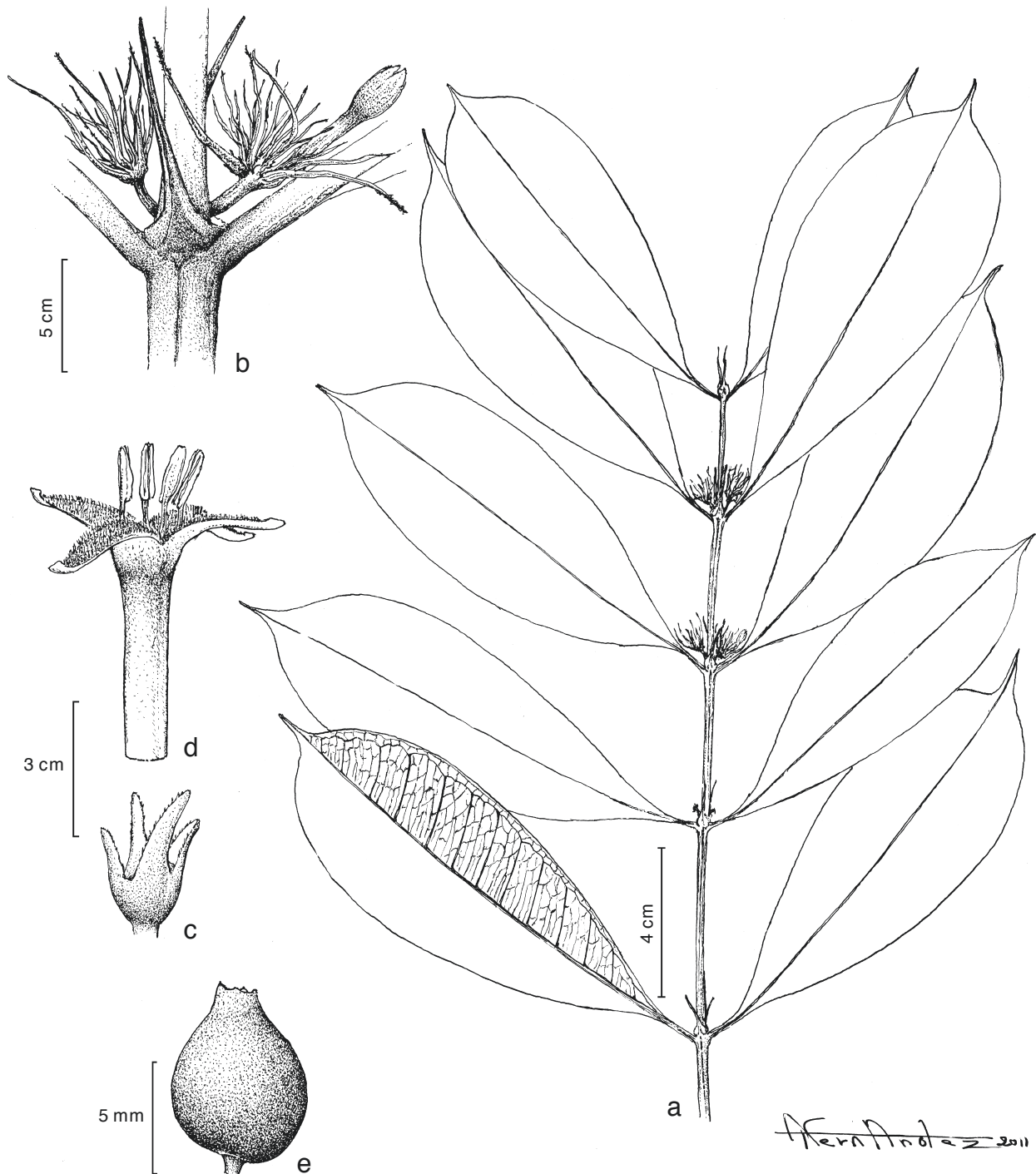


Fig. 3 *Craterispermum sonkeanum* Taedoumg & Hamon. a. Flowering branch; b. node carrying stipules and inflorescences with bracts, bracteoles and flower bud; c. calyx (brevistylous flower); d. corolla with anthers (brevistylous flower); e. young fruit (a, b: Desmet, Nguema R & Nguema N 6, BRLU; c–e: De Wilde JJFE, Arends, Louis AM, Bouman & Karper 98, BR). — Drawn by Antonio Fernandez.

margins densely ciliate, sparse collectors present in the sinu. *Corolla* white; tube narrowly cylindrical, 5–6.5 mm long, sparsely to densely pubescent at throat and in upper half of tube inside; lobes c. 3 mm long, moderately to densely pubescent inside, tips acute and thickened. *Stamens* with anthers completely exserted from corolla tube, inserted in the throat, c. 1.3 mm long, white; filaments c. 1.3 mm long. *Ovary* c. 1 mm long. *Style* and *stigma* included in the corolla tube, c. 5.5 mm long; stigma bilobed, stigmatic lobes c. 1.5 mm long. *Fruits* sessile, subglobose, asymmetrical, 8–7 mm diam (immature), crowned with persistent calyx, dark violet to black when ripe.

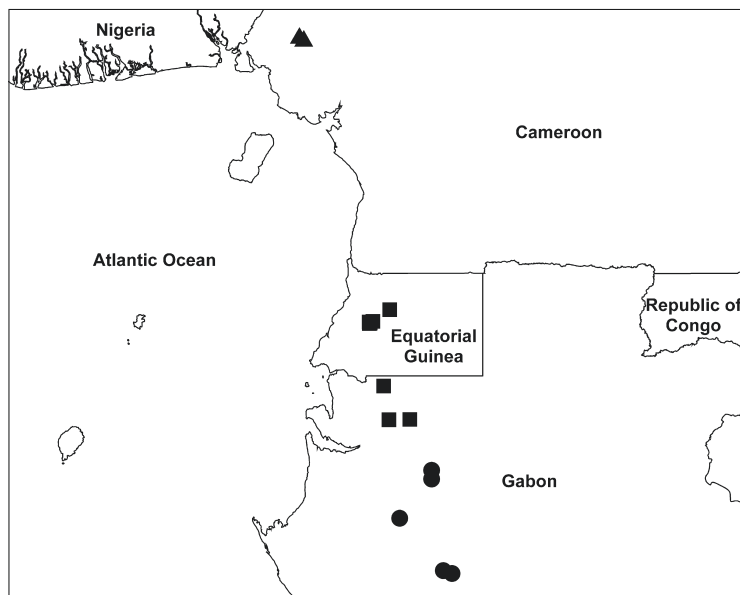
Habitat & Ecology — *Craterispermum sonkeanum* occurs in humid forest on terra firma. Altitude 185–750 m. Flowers: November to February; fruits recorded in: January, August and October.

Distribution — *Craterispermum sonkeanum* occurs in the continental part of Equatorial Guinea and in Gabon. The species is mostly collected from the National Park of Monte Alén and 'Monts de Cristal'.

Conservation status — Endangered. See Table 1.

Critical remarks — Flowers and fruits are rare on the specimens of *C. sonkeanum*. Only a few brevistylous flowers were available and measurements were based on two of them.

Taxonomic affinities — *Craterispermum sonkeanum* and *C. aristatum* share long aristate bracts and bracteoles, short peduncles and subcapitate inflorescences. However, *C. sonkeanum* differs from *C. aristatum* by the following characters: stipules with long narrowly triangular tips in *C. sonkeanum* vs short and broadly triangular tips in *C. aristatum*, 10–12 pairs vs 5–6 pairs of secondary veins, 4-merous vs 5-merous flowers,



Map 1 Distribution of *Craterispermum deblockianum* (●), *C. rumpianum* (▲) and *C. sonkeanum* (■). Based on the specimens cited in the text.

unequal vs equal calyx lobes, closely and \pm regularly reticulate vs laxly and irregularly reticulate higher order veins and by the smaller leaf blades (6.7–14 by 2–4.8 cm in *C. sonkeanum* vs 11–25.5 by 4–8 cm in *C. aristatum*).

Additional specimens examined. EQUATORIAL GUINEA, *Desmet, Nguema R & Nguema N 6* (BRLU), transect de Monte Chocolate, 16 Nov. 2002; *Senterre & Ngomo 188* (BRLU), SO du Parc National de Monte Alén, sur le transect ECOFAC de Mosumo, 10 Feb. 2001; *Senterre & Ngomo 280* (BRLU), SO du Parc National de Monte Alén, entre la station ECOFAC de Mosumo et Monte Boracho, 12 Feb. 2001; *Senterre & Ngomo 582* (BRLU), SO du Parc National de Monte Alén, sur le transect ECOFAC de Mosumo, 3 Feb. 2001; *Senterre & Ngomo 2010* (BRLU), SO du Parc National de Monte Alén, 2 km au NE du site de traversée du rio Uolo pour aller aux cataractes, 20 Jan. 2002; *Senterre & Ngomo 3530* (BRLU), N du Parc National de Monte Alén, à proximité du transect ECOFAC de Monte Chocolate, 21 Nov. 2002; *Van Reeth 332* (BRLU), Parc National de Monte Alén, transect de Mosumo, 30 Jan. 1998. – GABON, *Hallé N 818* (P), Ngongolane, Monts de Cristal, 7 Aug. 1959; *Hallé N 4434* (P), Monts de Cristal, chûtes de Kingué, rivière Mbei, 15 Jan. 1968; *Leal, Nguema, Mounoumoulossi & Bissiemou 642* (BR), Monts de Cristal, Mbe National Park, Mt Mbilan Plateau, 26 Oct. 2005.

Note — The plants from Gabon show more conspicuous decurrent ridges on the young branches and stipules with a less-developed tip than the plants from Equatorial Guinea.

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