

# Taxonomic treatment of *Memecylon* L. section *Felixiocydon* R.D.Stone (Melastomataceae), with descriptions of four new species from Cameroon, Gabon, and Equatorial Guinea (Bioko)

Robert Douglas STONE

School of Life Sciences, University of KwaZulu-Natal,  
Pietermaritzburg campus, Private Bag X01, Scottsville 3209 (South Africa)  
stonerd@ukzn.ac.za

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## ABSTRACT

Jacques-Félix (1979) informally recognized the *Memecylon normandii* Jacq.-Fél. group with three species (*M. normandii*, *M. macrodendron* Gilg ex Engl., *M. oubanguianum* Jacq.-Fél.) from the forests of West and Central Africa. More recently this group has been formally treated as *M.* section *Felixiocydon* R.D.Stone. In this paper, four new species are described and illustrated for this section: *M. korupense* R.D.Stone, sp. nov. (South-West Region, Cameroon), *M. fugax* R.D.Stone, sp. nov. (South Region, Cameroon), *M. alipes* R.D.Stone, sp. nov. (Woleu-Ntem Province, Gabon & South Region, Cameroon), and *M. biokoense* R.D.Stone, sp. nov. (Bioko Sur Province, Equatorial Guinea). A lectotype is designated for *M. macrodendron*. New country-records are reported or confirmed for *M. normandii* (Nigeria), *M. oubanguianum* (Gabon, Congo-Kinshasa), and *M. macrodendron* (Gabon, Congo-Brazzaville). A key to the species of *M.* section *Felixiocydon* is provided, together with an assessment of conservation status for each species according to the criteria of the IUCN.

**KEY WORDS**  
Melastomataceae,  
*Memecylon*,  
West Africa,  
Central Africa,  
Cameroon,  
Gabon,  
Equatorial Guinea,  
new species.

## RÉSUMÉ

*Traitement taxonomique du Memecylon L. section Felixiocydon R.D.Stone (Melastomataceae), avec la description de quatre espèces nouvelles du Cameroun, du Gabon et de la Guinée-Équatoriale (Bioko).* Jacques-Félix (1979) a reconnu le groupe informel du *Memecylon normandii* Jacq.-Fél. avec trois espèces (*M. normandii*, *M. macrodendron* Gilg ex Engl., *M. oubanguianum* Jacq.-Fél.) qui occupent les forêts de l'Afrique occidentale et centrale. Plus récemment, le même groupe a été traité comme *M.* section *Felixiocydon* R.D.Stone. Dans ce travail, quatre nouvelles espèces de cette section sont décrites et illustrées: *M. korupense* R.D.Stone, sp. nov. (de la Région du Sud-Ouest, Cameroun), *M. fugax* R.D.Stone, sp. nov. (de la Région du Sud, Cameroun), *M. alipes* R.D.Stone, sp. nov. (de la Province du Woleu-Ntem, Gabon et de la Région du Sud, Cameroun) et *M. biokoense* R.D.Stone, sp. nov. (de la Province de Bioko Sud, Guinée équatoriale). Un lectotype est désigné pour le *M. macrodendron*. Les premiers enregistrements du pays sont rapportés ou confirmés pour le *M. normandii* (du Nigeria), le *M. oubanguianum* (du Gabon et du Congo-Kinshasa), et le *M. macrodendron* (du Gabon et du Congo-Brazzaville). Une clef des espèces du *M.* section *Felixiocydon* est fournie, ainsi qu'une évaluation du statut de conservation de chaque espèce selon les critères de l'UICN.

**MOTS CLÉS**  
Melastomataceae,  
*Memecylon*,  
Afrique de l'Ouest,  
Afrique centrale,  
Cameroun,  
Gabon,  
Guinée-Équatoriale,  
nouvelles espèces.

## INTRODUCTION

The woody paleotropical genus *Memecylon* L. (350+ spp.) is now circumscribed to exclude *Spathandra* Guill. & Perr., *Lijndenia* Zoll. & Moritzi, and *Warneckea* Gilg (Jacques-Félix 1978b; Bremer 1982; Stone 2006, 2014; Stone & Andreasen 2010). From these segregate genera, *Memecylon* sensu stricto can usually be distinguished by its apparently uninervate leaves (rarely subtrinervate sensu Jacques-Félix 1979: 424). Within *Memecylon* sensu stricto, molecular phylogenetic analyses have resolved a sister-group relationship between *M.* subgenus *Mouririoides* (Jacq.-Fél.) R.D.Stone representing a small group of West- and Central-African species with ovary 4-loculed, and *M.* subgenus *Memecylon* representing the remaining diversity with ovary 1-loculed (Stone 2014). In West and Central Africa, seven morphologically well-defined, monophyletic species-groups are currently recognized as sections within *M.* subgenus *Memecylon*: section *Diluviana* R.D.Stone, section *Sitacylon* R.D.Stone, section *Felixiocydon* R.D.Stone, section *Obtusifolia* Engl., section *Polyanthema* Engl. (sensu stricto), section *Germainiocydon* R.D.Stone, and section *Afzeliana* Jacq.-Fél. (Stone 2014).

This paper concerns *Memecylon* section *Felixiocydon*, which was previously treated informally as the *M. normandii* Jacq.-Fél. group within an expanded *M.* section *Polyanthema* characterized by the combination of apparently uninervate leaves, a unilocular ovary, and globose fruits (Jacques-Félix 1978a, b, 1979). Within this broadly defined section, Jacques-Félix (1979) distinguished the *M. normandii* group by its leaf-blades with transverse veins clearly oblique relative to the midnerve, flowers relatively large in comparison to those of the *M. polyanthemos* Hook. f. complex, hypanthium patellate with calyx margin truncate to sinuate and corolla well-exposed before anthesis, anthers with conspicuous dorsal oil-gland, epigynous chamber with interstaminal partitions well-developed, and ovary with 10-16 ovules.

Within the *M. normandii* group, Jacques-Félix (1979) recognized three species which appeared to occupy distinct geographic areas: *M. normandii* from West Africa; *M. macrodendron* Gilg ex Engl. from southern Cameroon and Gabon; and *M. oubanguianum* Jacq.-Fél. from eastern Cameroon and the Central African Republic. Recent collections from Cameroon, Gabon, and Equatorial Guinea (Bioko) have revealed that this species-group, presently recognized as *M.* section *Felixiocydon*, also includes four new species. Studies of herbarium material have further indicated several new or confirmed country-records for *M. normandii*, *M. macrodendron*, and *M. oubanguianum*. The section *Felixiocydon* now holds seven species, for which I provide a formal taxonomic treatment including a dichotomous key. The conservation status of each species is given according to the criteria of IUCN (2012).

## SYSTEMATICS

Genus *Memecylon* L.

*Memecylon* section *Felixiocydon* R.D.Stone, *Taxon* 63: 554 (2014).

TYPE SPECIES. — *Memecylon normandii* Jacq.-Fél.

ETYMOLOGY. — This section is named for Henri Jacques-Félix (1907-2008), who as a researcher in the Laboratoire de Phanérogamie (Paris) made an enormous contribution to our knowledge of the Melastomataceae of tropical Africa and Madagascar.

DISTRIBUTION AND HABITAT. — Tropical forests of West and Central Africa, from Guinea-Bissau to Gabon and the western part of the Congo basin.

## DESCRIPTION

Evergreen shrubs or trees (1.3-)3-15 m tall. Young branchlets in cross section terete to subquadrangular, quadrangular or conspicuously quadrangular-alate, the wings excoriating with age and the older branchlets becoming terete. Leaves  $\pm$  coriaceous, borne on petioles 1-5 mm long; blades mostly 5.5-22.5 cm long  $\times$  2.5-7.5 cm wide, varying from elliptic to elliptic-oblong or  $\pm$  ovate, narrowly elliptic, oblanceolate or obovate, the base cuneate to rounded or angustate, the apex rounded and  $\pm$  abruptly acuminate (vaguely short-acuminate in *M. normandii*); only the midnerve clearly visible, the transverse veins 4-17 pairs, oriented at an oblique angle relative to the midnerve, scarcely visible as are the weak intramarginal nerves. Inflorescences solitary or fascicled in the leaf axils or at the defoliated nodes of older branchlets, pedunculate, 1-3  $\times$  branched, varying from contracted and 1-4-flowered to lax and 20-60-flowered, the ultimate axes well-developed and generally subtending groups of 3 flowers; bracts lanceolate to subulate, 1-2 mm long, rapidly caducous or  $\pm$  persistent. Flowers on  $\pm$  stout pedicels 2-5 mm long; hypantho-calyx cupulo-patellate to cupuliform, 1-2 mm high, 2.5-4.5 mm wide, the margin shallowly sinuate to truncate and remotely 4-microdentate. Corolla well exposed in bud, hemispherical, apiculate; petals white or rose-pink, 2.5-3.5 mm long  $\times$  2-4.5 mm wide, broadly ovate to depressed-ovate, transversally elliptic, or rhombiform in outline, truncate at base, apiculate at apex. Staminal filaments 2-2.6 mm long; anthers versatile, blue to blue-violaceous, 1.25-2.6 mm long, with thecae frontally positioned; connective conical-elongated, dorsally incurved by the elliptic oil-gland positioned medially or toward the posterior end, the extremity obtuse. Style 2.5-4.5 mm long. Epigynous chamber with interstaminal partitions well-developed, membranous. Ovary unilocular; ovules 10-16. Fruits globose, 9-12 mm in diameter, crowned by the persistent calyx.

1. *Memecylon normandii* Jacq.-Fél.

*Bulletin de l'Institut français d'Afrique noire* 15: 995, fig. 7 (1953). — Keay, *Flora of West Tropical Africa*, 2<sup>nd</sup> edition, 1: 262 (1954); 761 (1958). — A. Fernandes & R. Fernandes, *Garcia de Orta* 2: 277 (1954). — Jacques-Félix & Mouton, *Bulletin du Muséum national d'Histoire naturelle*, Paris, sér. 4, sect. B, 2 (1): 12, tab. 1: 8 (1980). — Aké Assi, *Boissiera* 57: 371 (2001). — Type: Guinea-Conakry, Kindia, bords de la Kolenté, X.1933, fl. & fr., Jacques-Félix 400 (holo-, P[P00412641]; iso-, K[K000242819], P[P00412642]).

ADDITIONAL SPECIMENS. — **Guinea-Bissau.** Catió, 14.VI.1945, fr., *Espírito Santo 2074* (COI n.v., LISC n.v.).

**Guinea-Conakry.** Cercle de Beyla, entre Manankoro et Bola,

KEY TO SPECIES OF *MEMECYLON* L. SECTION *FELIXIOCYDON* R.D.STONE

1. Leaf-blades mostly 5.5-15.5 cm long × 2.5-5 cm wide; flowers with petals white ..... 2  
— Leaf-blades mostly 9-22.5 cm long × 4-7.5 cm wide; flowers with petals rose-pink ..... 4
2. Young branchlets terete to subquadrangular in cross-section; leaf apices obtuse or vaguely short-acuminate; cymes at the defoliated nodes of older branchlets (rarely in the leaf-axils); West Africa from Guinea-Bissau to Ghana and southern Nigeria ..... 1. *M. normandii* Jacq.-Fél.  
— Young branchlets distinctly quadrangular or narrowly quadrangular-alate; leaf apices distinctly acuminate (the acumen at least 10 mm long); cymes axillary ..... 3
3. Leaf-blades oblanceolate to obovate (rarely ± elliptic), mostly 7-9.5 cm long × 2.5-4 cm wide; cymes 1-2.5 cm long, 10-20-flowered, borne on peduncles 3-9(-10.5) mm long, the primary and secondary axes c. 4 and 2 mm long, respectively; Cameroon (East and South regions) to Gabon, Central African Republic and Congo-Kinshasa ..... 2. *M. oubanguiantum* Jacq.-Fél.  
— Leaf-blades elliptic to narrowly elliptic, 8-15.5 cm long × 3.2-5 cm wide; cymes 1-1.3 cm long, 1-4-flowered, borne on peduncles 1-3 mm long, the axes 1-1.5 mm long; Equatorial Guinea (Bioko) ..... 3. *M. biokoense* R.D.Stone, sp. nov.
4. Young branchlets quadrangular (not conspicuously quadrangular-alate with wings fugacious); cymes contracted, 1-1.25 cm long; Cameroon (South-West Region) ..... 4. *M. korupense* R.D.Stone, sp. nov.  
— Young branchlets conspicuously quadrangular-alate, the wings fugacious and the branches becoming terete with age; cymes 1-8 cm long ..... 5
5. Leaf blades elliptic to obovate or elliptic-oblong, mostly 9-14 cm long × 4-6 cm wide; leaf bases cuneate to angustate (never convexly curved or rounded); cymes ± contracted, 1-2(-2.5) cm long; Cameroon (South-West, Centre and South regions) to Gabon and Congo-Brazzaville ..... 5. *M. macrodendron* Gilg ex Engl.  
— Leaf blades elliptic-oblong, mostly 13-22.5 cm long × 4.5-7 cm wide; leaf bases cuneate to rounded (never angustate); cymes 1.4-8 cm long ..... 6
6. Cymes contracted, 1.4-1.8 cm long, c. 15-flowered, borne on very short, quadrangular to inconspicuously 4-winged peduncles 1-2 mm long; Cameroon (South Region) ..... 6. *M. fugax* R.D.Stone, sp. nov.  
— Cymes lax, 4-8 cm long, 30-60-flowered, borne on quadrangular to conspicuously 4-winged peduncles 1.8-3.8 cm long (if peduncles shorter than primary inflorescence branches greater than 1.5 cm long); Cameroon (South Region) and Gabon (Woleu-Ntem Province) ..... 7. *M. alipes* R.D.Stone, sp. nov.

14.III.1909, fl., *Chevalier 20911* (P[P05225822]). — Pita et environs, VII.1909, fl., *Pobéguin 2170* (K, P[P05225820]). — De Dalaba à Pita, galerie forestière de torrents, 15.XI.1930, fr., *Chevalier 34436* (P[P05225821]). — Environs de Kindia, bords du Samou, VI.1934, fl. buds, *Jacques-Félix 427* (P[P05225469]). — Environs de Pita, XII.1935, fr., *Jacques-Félix 692* (K, P[P05225474]). — Environs de Macenta, Késséridou, IV.1936, fl., *Jacques-Félix 816* (P[P05225468]). — Environs de Macenta, route de Bô, s.d., fl., *Jacques-Félix 923* (P[P05225475]). — Environs de Beyla, galerie forestière, VI.1936, fl., *Jacques-Félix 967* (P[P05225467, P05225471]). — Environs de Forécariah, bosquet de Kankanara, VI.1937, fl., *Jacques-Félix 1742* (P[P05225473]). — s. loc., s.d., fl. & fr., *Jacques-Félix s.n.* (P[P05225470, P05225472, P05225476, P05225477]). — Beyla, Chaîne de Fon, alt. 1500 m, IV.1945, fl., *Adam 5* (MO, P[P05225819]). — Iabé, grès du Kinkon, 20.XII.1948, *Adam 2776* (MO). — Macenta, Dendano, 2.II.1949, *Adam 3576* (MO). — Macenta, Bala sud, 28.III.1949, fr., *Adam 4086* (MO). — Nzérékoré, Gbiniamou, 27.V.1949, fl., *Adam 5251* (MO). — Macenta, massif du Ziama, 20.XII.1949, fr., *Adam 7550* (MO). — Macenta, Ziama, 20.XII.1949, fl., *Adam 30444* (MO). — Galerie forestière au Sud de Kankan, II.1950, fr., *Schnell 4251* (P[P05225479]). — Région de Kissidougou, en forêt mésophile de basse altitude, 27.II.1950, fr., *Schnell 4634* (P[P05225478]). — Guinée Forestière, Beyla, collines sud-est du Pic de Tibé, en face du village Sondou, 8°51'10"N, 8°52'46"W, alt. 1300 m, lisière entre forêt et savane, 09.XII.2007, fr., *Traoré et al. 33* (K). — Nzérékoré, Nimba Mountains, Cavally River, 7°40.4'N, 8°26.7'W, alt. 573 m, forest on riverbank, 2.VIII.2008, fl. past anthesis, *Jongkind et al. 8277* (BR n.v., MO, WAG n.v.). — Guinée Forestière, Macenta & Beyla prefectures, Simandou Range, Elephant Rock forest along road from Pic de Fon towards Whiskey 2 forest, 8°31'58"N, 8°54'08"W, alt. 1470 m,

submontane forest margin, 18.X.2008, fr., *Darbyshire et al. 477* (K). — Dubreka, Mansombonbon, 9°48'21.3"N, 13°32'0.0"W, alt. 12 m, *Elaeis* forest at foot of granite inselberg adjacent to mangrove swamp, 18.VII.2012, fl., *Merklinger et al. 97* (K).  
**Sierra Leone.** Near Kukuna, Scarcies River, 17.I.1892, fr., *Scott Elliot 4686* (K). — Near Berria (Niger basin), 30.III.1892, fl. buds, *Scott Elliot 5432* (K). — Near Kahreni, 15.IV.1892, fr., *Scott Elliot 5636* (K). — Matotoka, alt. 400 ft., 29.VII.1914, fl. past anthesis, *Thomas 1265* (K). — Jigaya, 28.IX.1914, fl. past anthesis, *Thomas 2692* (P[P05225823, P05225824]) & 2722 (K). — Yombana, 12.XI.1914, young fr., *Thomas 4952* (K). — Loma Mountains, plateau over Yifin, gallery forest edge, 28.III.1964, fl. & fr., *Morton & Gledhill SL 1125* (K). — Tingi Hills above Konelo, on rocks by river in forest at c. 2000 ft., 11.IV.1965, fr., *Morton & Gledhill SL 1824* (K). — By bridge c. 18 miles from Kabala on Makeni road, 24.VI.1966, fl., *Morton SL 3699* (K). — Top of hills above Kasine, forest edge, 25.IX.1967, fl. past anthesis, *Morton & Cole SL 4915* (K). — Northern Region, Tonkolili District, along Seli River opposite Bumbuna, 9°3'10.2"N, 11°45'02.2"W, alt. 120 m, forest strip along river, 28.V.2014, fl., *Van der Burgt et al. 1831* (K).  
**Liberia.** Yekepa, 21.V.1973, fl., *Adam 27648* (BR, M, MO, PRE).  
**Ivory Coast.** Région de Danané, Mont Momi, 5.IV.1932, fr., *Aubréville 1178* (P[P05225826]). — Région d'Agboville, Rubino, 2.VII.1957, *Aké Assi 4360* (UCJ n.v.). — 18-25 km NE of Sassandra, III.1962, fl., *Bernardi 8557* (K, mixed sheet with *M. polyanthemos*). — Région de Danané, Liapleu, 6.IX.1962, fl. past anthesis, *Aké Assi 6280* (P[P05225825], UCJ n.v.). — Forêt de Mahino, 4.III.1965, *Aké Assi 7932* (UCJ n.v.). — Forêt de Mopri, 17.XII.1965, *Aké Assi 8354* (UCJ n.v.). — Route de Tabou, entre Sakré et Nigré, 23.V.1968, *Aké Assi 10155* (K, UCJ n.v.).

**Ghana.** Western province, Bonsa Su, *s.d.*, fl., *Vigne 1998* (K). — Ashanti province, Goaso district, Gambia no. 2 (Mim area), VI.1951, fl., *Andoh FH 5499* (BR, K, MO, P[P05225817, P05225818]). — Kade Agriculture Research Station, forest understory, 28.III.1968, st., *Enti & Hall GC 38238* (K). — Aiyoola Forest Reserve, Kade, 03.V.1972, fl., *Enti R. 706* (MO). — Pamu-Berekum Forest Reserve, 18.VI.1973, fl., *Hall & Abbiw GC 44539* (K, MO, P[P05225816]). — Brong Ahafo region, Pamu-Berekum Forest Reserve, 1.VI.1981, fl., *Abbiw 138* (MO). — Eastern region, Kade Agriculture Research Station, forest, 3.VI.1981, fl. buds, *Abbiw 146* (MO). — Eastern province, Asiakwa district, Sagyimase village, Atewa Range (Forest Reserve), c. 4 km NW of intersection of Accra-Kumasi road at Sagyimase along forest access rd., 6°13'48"N, 0°32'43"W, alt. 600 m, disturbed humid evergreen forest and along Adaesu stream, 02.VII.1995, fl. past anthesis, *Harder et al. 3301* (MO). — Eastern province, Atewa Range Forest Reserve, c. 2 km S of Asiakwa town, N-NW along mtn. ridge, 6°09'47"N, 0°36'15"W, alt. 500-700 m, disturbed secondary forest, heavily timbered, granitic and heavy clay soils, 14.XI.1995, fr., *Schmidt et al. 1689* (MO).

**Nigeria.** Ezi, 10.II.1913, fr., *Thomas 2338* (K). — Kabba province, Igala district, Ibaji Ojoko N.A.F.R., near Eghbada, secondary forest, 10.VI.1963, fl., *Latilo FHI 47678* (K).

**DISTRIBUTION AND HABITAT.** — West Africa from Guinea-Bissau (Fernandes & Fernandes 1954: 277) to Ghana, with a new country-record from Nigeria (Fig. 1). Lowland, submontane and gallery forests from near sea level to 1500 m altitude.

Of the seven collections cited from Ivory Coast, four have been seen by the present author, and the remaining three were reported in Aké Assi (2001).

Keay (1954) reported the Ezi locality of *Thomas 2338* as being in Sierra Leone, but this appears to be in error since the original label clearly indicates the collection was from Southern Nigeria. The collector, Mr. Northcote W. Thomas, was employed as British Government Anthropologist in Nigeria from 1909 to 1913 (Blench 1995), and in Sierra Leone from about 1913 to 1915 (R. Blench, pers. comm.). The collection date of *Thomas 2338* (10.II.1913) would thus seem to have been prior to his transfer to Sierra Leone. The collecting locality Ezi (= Izi) is also the name of an Igbo language (Blench 1995). Furthermore, the vernacular name "ulokono" shown on the specimen-label has the form of an Igbo word (R. Blench, pers. comm.). From these observations, one can conclude that *Thomas 2338* was collected in southern Nigeria (not in Sierra Leone).

**CONSERVATION STATUS.** — Over the past 120 years, over-exploitation of wood products and other anthropogenic activities have caused a 90-percent reduction in West-African forests from their original extent of 1 265 000 km<sup>2</sup> (Myers *et al.* 2000). This extraordinary loss of habitat must have produced substantial population declines in many formerly widespread West-African forest species, including *M. normandii* which is an understory shrub or tree with very hard wood, a slow growth rate and a projected long generation time. Accordingly, *M. normandii* is here provisionally assessed as Vulnerable (VU) A4c. It should be noted, however, that some occurrences of this species would seem to lie within protected areas, e.g. the Ziama Strict Nature Reserve (Guinea-Conakry), the recently established Loma Mountains National Park (Sierra Leone), and the proposed Atewa Range National Park (Ghana).

#### DESCRIPTION

Shrub or small tree 3-15 m high with trunk up to 20 cm in diameter. Young branchlets terete to subquadrangular in cross-section. Leaves coriaceous, on petioles 5 mm long; blades elliptic, (3.7-)5.5-10(-12.8) cm long, (1.7-)2.5-4.5 (-5.8) cm

wide, cuneate at both extremities or the apex variably obtuse or obscurely narrowed into a short acumen; only the midnerve prominent on the lower surface, the transverse veins 4-6 pairs, oriented at a very oblique angle (50°-60°) relative to the midnerve, spaced 8-10 mm apart, scarcely visible as are the intramarginal nerves.

Cymes 1-3 cm long, one or two times divided, with up to 8-12 flowers but often fewer, solitary or rarely paired in fascicles on the defoliated branchlets (less often in the lower leaf axils); peduncles 0.3-1.2(-2.1) cm long; primary branches c. 5 mm long, with lateral branches generally few or lacking altogether; bracts subulate and very rapidly caducous.

Flowers borne on pedicels 2-3 mm long; hypantho-calyx cupulo-patellate, 1.5-2 mm high, 2.5-3.5 mm in diameter; calyx limb thick, very scarcely developed above the line of insertion of the petals, with quadrangular outline, denticulate on the angles. Corolla largely exposed in bud, hemispherical, apiculate; petals white, 2-2.5 mm long, 2.5-3 mm wide, acuminate, reflexed at anthesis. Stamens with filaments 2-3 mm long; anthers c. 1.5 mm long, the connectives blue, clearly impressed by an elliptic-oblong gland. Epigynous chamber flat, remarkably partitioned by the equidistant strips which are low-cut in their middle; style slender, 3-4 mm long; ovary unilocular, with 10-12 ovules.

Fruits globose to depressed-globose or slightly asymmetric in longitudinal profile, 9-11 mm in diameter, crowned by the persistent calyx.

#### REMARKS

The protologue of *M. normandii* (Jacques-Félix 1953) described the fruits as being ovoid, but it would be better to say that the shape is globose to depressed-globose. The size of the fruit was described as 7 mm high × 8 mm in diameter (based on the type specimen), and another specimen from Guinea-Conakry (*Adam 7550*) has fruits of similar dimensions. Other collections of *M. normandii* have somewhat larger fruits, and there is an evident trend toward increasing fruit size in the more easterly parts of the geographic range. This needs further investigation.

*Memecylon normandii* has been most often confused with the distantly related *M. polyanthemos* Hook. f. (type species of *M.* section *Polyanthema* sensu stricto). The two species have overlapping distributions in forests from Guinea-Bissau to Ivory Coast, but *M. polyanthemos* differs in having leaf-blades elliptic-lanceolate with apices distinctly acuminate (the acumen c. 1.5 cm long), transverse veins 6-8 pairs with orientation less strongly oblique relative to the midnerve, cymes many-flowered and umbellulate, and calyx completely covering the corolla in bud but deciduous after anthesis, the fruits thus lacking a persistent calycinal crown (Jacques-Félix 1953; Jacques-Félix & Mouton 1980).

Two collections from South-West Cameroon (*Onana 181*, P[P05225827], YA; *Gereau et al. 5573*, MO) were previously determined as *M. normandii*, but this determination is now considered to be in error as these specimens appear closer to *M. dasyanthum* Gilg & Ledermann ex Engl. (a member of *M.* section *Polyanthema* sensu stricto).

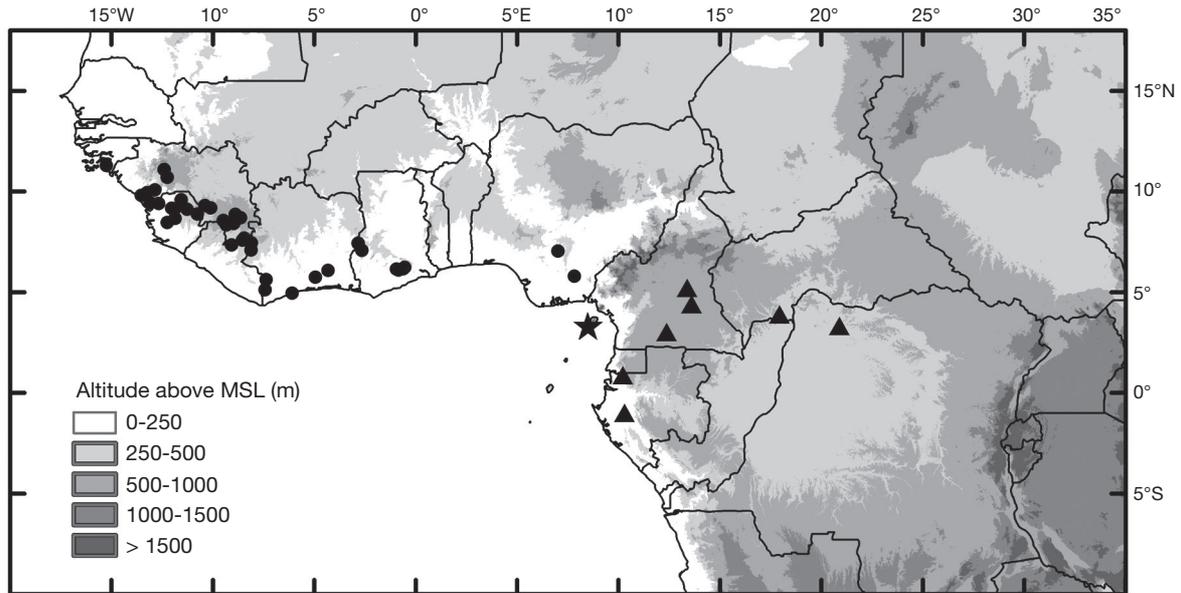


Fig. 1. — Distribution of species of *Memecylon* L. section *Felixiocydon* R.D.Stone with white petals: *M. normandii* Jacq.-Fél. (●); *M. oubangianum* Jacq.-Fél. (▲); *M. biokoense* R.D.Stone, sp. nov. (★).

## 2. *Memecylon oubangianum* Jacq.-Fél.

*Adansonia*, sér. 2, 18: 418, tab. 5 (1979); *Flore du Cameroun* 24: 128, tab. 42 (1983). — Type: Central African Republic, Boukoko, 13.II.1948, fl. & fr., *Tisserant* 695 (holo-, P[P00412645]; iso-, P[P00412646, P00512060]).

*Memecylon eurypetalum* Mildbr., *in sched.* — Based on: Cameroon, c. 185 km NE of Yaoundé, near the confluence of the rivers Lom (Sanaga) and Djerem, II.1914, fl., *Mildbraed* 8447 (K).

*Memecylon lebrunii* Staner, *in sched.* — Based on: Congo-Kinshasa, Businga (Ubangi), galerie de la Mongala, I.1931, fl., *Lebrun* 1986 (BR, CAS, P[P04801887]).

ADDITIONAL SPECIMENS. — **Central African Republic.** Boukoko, 22.I.1951, fr., *Tisserant* 1991 (P[P05225828, P05225829]).

**Cameroon.** Bityé, near River Dja, *s.d.*, fl., *Bates* 1878 (K). — East region, between Bertoua and Dimako along small river named Miandi, alt. c. 650 m, 13.XII.1961, fl., *Breteler* 2220 (K, M, P[P05225458], UC, YA). — East region, c. 5 km N of Dimako along route toward Bertoua, between Dimako and Longtimbi village, just E of road along small, swampy, intermittent watercourse called Miandi, 4°24'24"N, 13°35'55"E, alt. 610 m, densely shaded forest understory at base of slope adjacent to stream channel, 14.V.2003, st., *Stone & Ghogue* 2561 (CAS, YA).

**Gabon.** Cristal Mountains, forest exploitation Leroy, 20 km NW of Asok, 0°53'N, 10°12'E, alt. c. 600 m, closed high forest in hilly country, growing on edge of marshy place, 20.I.1983, fr., *J. de Wilde et al.* 97 (MO, P[P05259268]). — Moyen-Ogooué, SW of Lambarene, near Lake Ezanga, 1°0'S, 10°17'E, alt. 15 m, forest on sand, 02.II.1991, fl., *McPherson* 15194 (BR, CAS, G, K, MO, P[P05225459, P05225460], S). — Same locality, 09.II.1991, fl. buds, *McPherson* 15233 (BR, CAS, MO).

DISTRIBUTION AND HABITAT. — Western part of the Congo basin in Cameroon (East and South regions) and the Central African Republic, with new country-records from Gabon and Congo-Kinshasa (Fig. 1). Lowland and gallery forests from near sea level to 610 m altitude.

CONSERVATION STATUS. — Onana & Cheek (2011) assessed *M. oubangianum* as Vulnerable (VU) B2a,b(iii) citing an extent of occurrence (EOO) of 442750 km<sup>2</sup> and an area of occupancy (AOO) of 28 km<sup>2</sup> assuming 4 km<sup>2</sup> grid cells. According to these authors, the species is threatened by slash-and-burn agriculture and logging.

### DESCRIPTION

Shrub or small tree 4–12 m high; young branchlets quadrangular. Leaves coriaceous, somewhat shining on the upper surface; petiole 2–4 mm long; blades oblanceolate to obovate or ± narrowly elliptic, (4.4–)7–9.5(–11.5) cm long, (2–)2.5–4(–5.7) cm wide, cuneate-attenuate at the base, abruptly acuminate at the apex, the acuminate 1 cm long, acute; transverse veins 8–10 pairs, oblique relative to the midnerve; intramarginal nerves scarcely visible, c. 1 mm from the margin.

Cymes 10–20-flowered, solitary in the leaf axils, 1–2.5 cm long, with peduncle 3–9(–10.5) mm, once to three times branched, the primary and secondary axes robust and c. 4 and 2 mm long, respectively; bracts caducous.

Flowers globose and feebly apiculate in bud, borne on pedicels 4–5 mm long; hypantho-calyx cupuliform, 2.2 mm high × 4.5 mm wide; calyx truncate and 4-microdentate; epigynous chamber with membranous partitions in four prominent pairs; style 2.5 mm long. Petals white, transversally elliptic, 3.5 × 4.5 mm, truncate at the base, fleshy. Stamens relatively large; anthers 2.6 × 1.4 mm; connective blue, conical-obtuse, moderately curved by the elliptical gland occupying the middle third of the length; filaments 2.6 mm long. Ovules 14–16.

Fruit globose, 12 mm in diameter; calycinal crown persistent, c. 1 mm long.

### REMARKS

*Memecylon oubangianum* appears most closely related to the West-African *M. normandii* and the newly described

*M. biokoense* sp. nov. (q.v.). It differs from both of these species by its oblanceolate to obovate leaves, although one of the collections from Gabon (*J. de Wilde et al.* 97) has leaves  $\pm$  narrowly elliptic and is vegetatively difficult to separate from *M. biokoense* sp. nov. The distinctly quadrangular young branchlets, distinctly acuminate leaf apices, and relatively large flowers and fruits further distinguish *M. oubanguianum* from *M. normandii*. From *M. biokoense* sp. nov. it is also separable by its larger cymes with more numerous flowers.

The leaves of *M. oubanguianum* are generally smaller and narrower than those of *M. macrodendron*, but between these species there is a degree of overlap in leaf size and shape. Among the above-cited collections of *M. oubanguianum*, there are several (i.e. *Bates 1878*, *Lebrun 1986*) that have relatively broad leaves resembling those of *M. macrodendron*. In any case, the two species can be reliably separated by the slender, quadrangular twigs of the former versus the robust, quadrangular-alate twigs of the latter.

### 3. *Memecylon biokoense*

R.D.Stone, sp. nov.

(Fig. 2)

TYPUS. — Equatorial Guinea. Bioko Sur Province, Hormiga Camp north 0.5 km [from] river, 3°19'47"N, 8°28'46"E, alt. 600 m, lowland forest near rocky river, 31.I.2009, fl., *Q. Luke 13266A* (holo-, EA; iso-, K, NU).

PARATYPE. — Equatorial Guinea. Bioko Sur Province, Badja E trail, 3°18'05"N, 8°31'01"E, alt. 740 m, lowland forest, 21.I.2009, st., *Q. Luke 13116* (NU).

ETYMOLOGY. — The epithet refers to the type locality on the island of Bioko situated in the Gulf of Guinea off the southwestern coast of Cameroon.

DISTRIBUTION AND HABITAT. — Equatorial Guinea, Bioko Sur Province (Fig. 1). Lowland forest; alt. 600-740 m.

CONSERVATION STATUS. — *Memecylon biokoense* sp. nov. is only known from two collections made some 5 km apart in the lowland forest of Bioko Sur, around the Caldera de Luba. This area falls within the previously well preserved Caldera de Luba Scientific Reserve and would in the past have been considered free of any human threats. No EOO can be calculated for only 2 points and, assuming a grid cell size of 3.2 km<sup>2</sup>, would give an AOO of just over 20 km<sup>2</sup>. If plans to build a road down to Ureca on the southern end of the island are realized, then this would greatly increase human activity in the Reserve, but, to date, human activity in the area has been restricted to hunting, with little or no clearance for agriculture on this rugged terrain with rainfall approaching 10 m per year. If some stochastic event could be envisaged to threaten this one location in a short space of time, then perhaps an assessment of Vulnerable (VU) D2 could be accepted, but it seems more appropriate to assess the species as Least Concern (LC) but conservation dependent (i.e., contingent on maintaining the protected status of the Caldera and enforcement of normal protected-area rules).

#### DESCRIPTION

Evergreen small tree to 4 m high; young branchlets slender, quadrangular to narrowly quadrangular-alate, becoming terete

or the wings fugacious by the third or fourth internode from the shoot apex; internodes (3.3-)-4-6(-6.8) cm long. Leaves subcoriaceous to coriaceous, dark green and shining on the upper surface, paler below; petioles (2-)-3(-5) mm long; blades elliptic to narrowly elliptic, 8-15.5 cm long, 3.2-5 cm wide, cuneate at the base and gradually narrowed to the petiole, rounded then abruptly acuminate to caudate-acuminate at the apex, the acumen (8-)-10-25.5 mm long, often curved; midnerve conspicuous, canaliculate on the upper surface, prominent on the lower; transverse veins much thinner than the mid-nerve, faintly prominent on both surfaces in dried material (obscure on the lower surface if leaves coriaceous), 8-10 pairs oriented at an oblique angle relative to the mid-nerve,  $\pm$  straight and spaced 5-10 mm relative to one another, confluent with the equally faint lateral nerves situated 0.5-1 mm from the margin.

Cymes 1-1.3 cm long, 1-4-flowered, fascicled in the leaf axils (rarely at the bracteate nodes situated 5-6 mm above the normal, leafy nodes); peduncles 1-3 mm long; axes 1-1.5 mm long; inflorescence bracts lanceolate,  $\pm$  1 mm long, caducous (bracts at the leafless nodes opposite, linear-acute, 5 mm long, rapidly deciduous).

Flowers borne on quadrangular pedicels 3-3.5(-5) mm long; hypantho-calyx green, cupulo-patellate, 2 mm high, 3-4 mm wide, the margin shallowly sinuate and remotely 4-microdentate. Corolla well exposed in bud, hemispherical, apiculate; petals white, 2.5-3 mm long, 3 mm wide, depressed-ovate, apiculate, reflexed at anthesis. Stamens with blue anthers *c.* 1.5 mm long, the thecae frontally positioned, the connective elongated and incurved by an ellipsoid oil-gland situated medially on the dorsal side, the posterior extremity obtuse; filaments green, 2 mm long. Epigynous chamber with 8 membranous partitions, these alternating with a radial line or keel leading to each anther scar; style green, 3.5-4.5 mm long; ovules 12.

Fruits not seen.

#### REMARKS

In molecular phylogenetic analyses, *M. biokoense* sp. nov. is strongly supported as the sister-species of *M. macrodendron* (Stone 2014), yet it seems closer morphologically to *M. normandii* and *M. oubanguianum*. From both of these species it differs by its short, few-flowered cymes; it also differs from *M. normandii* in position of the inflorescence (axillary vs. mostly at the defoliated nodes of older branchlets). *Memecylon biokoense* sp. nov. and *M. oubanguianum* also differ at the DNA sequence level (uncorrected ETS divergence = 0.020, ITS1 + ITS2 divergence = 0.022).

The paratype specimen of *M. biokoense* sp. nov. (*Luke 13116*) differs from the type (*Luke 13266A*) in having young branchlets narrowly quadrangular-alate (vs quadrangular) and leaf-blades narrowly ellipsoid and 10-15.5 cm long with acumen 14-25.5 mm long (vs ellipsoid and 8-10 mm long with acumen 8-14 mm long). Yet the 100% DNA sequence identity between these samples is strong evidence that they belong to the same species.

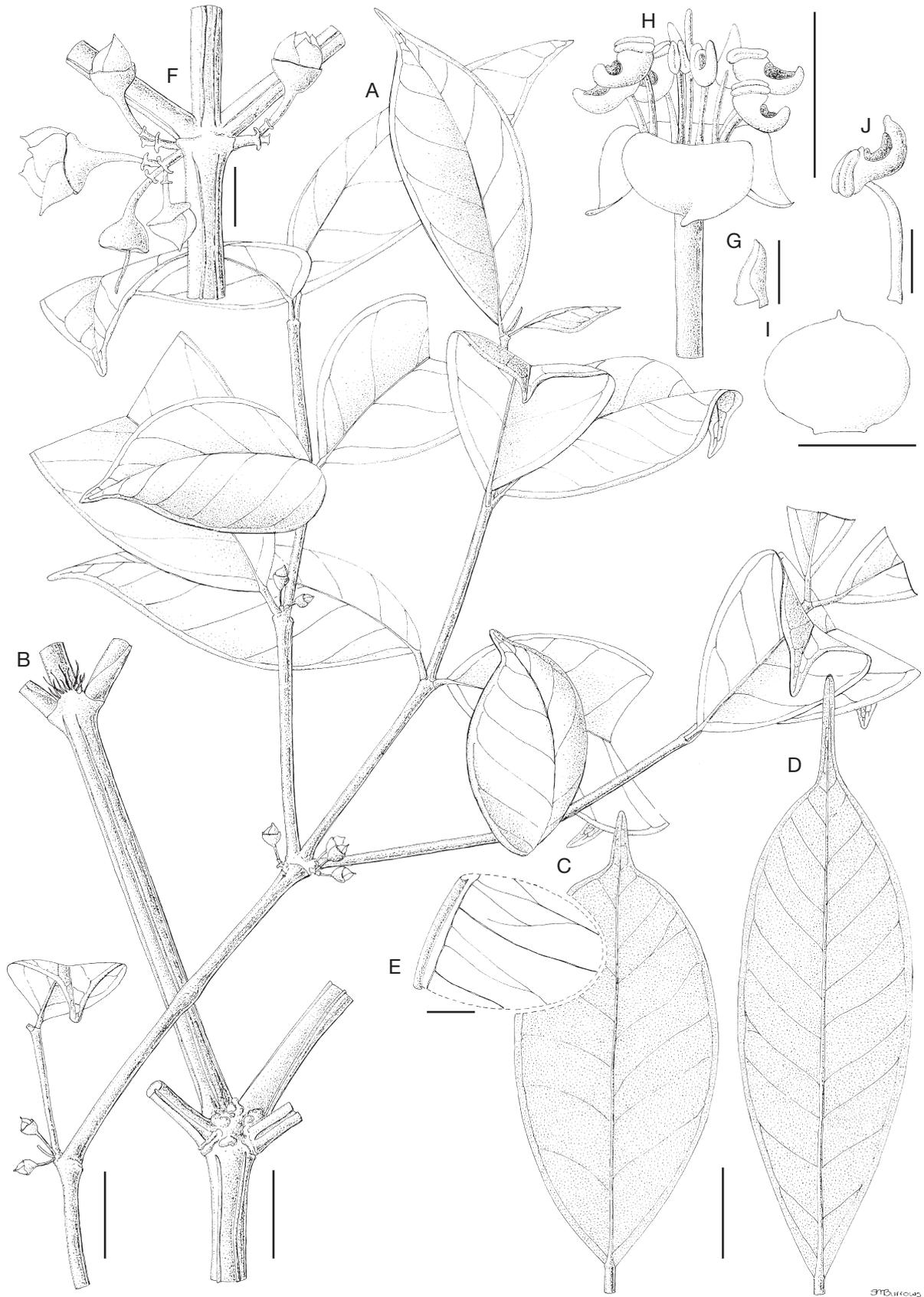


FIG. 2. — *Memecylon biokoense* R.D. Stone, sp. nov.: **A**, flowering branch; **B**, detail of branchlet; **C**, **D**, leaves; **E**, detail of lower leaf surface; **F**, inflorescence; **G**, bract; **H**, flower; **I**, petal; **J**, stamen (side view). **A**, **C**, **E**–**J**, *Luke 13266A*; **B**, **D**, *Luke 13116*. Scale bars: **A**, **C**–**D**, 20 mm; **B**, 10 mm; **E**, 30 mm; **F**, 4 mm; **G**, **J**, 1 mm; **H**, 5 mm; **I**, 3 mm. Drawing by Sandie Burrows.

#### 4. *Memecylon korupense*

R.D.Stone, sp. nov.

(Fig. 3)

**TYPUS.** — **Cameroon.** South-West Region, Korup National Park, footpath between Ikenge and Bajo villages, 3-6 km NE of Ikenge, 5°18'N, 9°08'E, alt. 150 m, mature lowland forest, 07.IV.1988, fl., *Thomas & Namata 7663* (holo-, MO[3627590]; iso-, MO[3701947], YA[HNC56008]).

**PARATYPE.** — **Cameroon.** South-West Region, Korup National Park, P transect, plot 16S, 5°0'N, 8°48'E, alt. 100 m, primary forest, in gap, 10.XII.1999, fr., *Van der Burgt 564* (G, P[P05259211], SCA n.v., WAG n.v., YA[HNC64057]).

**ETYMOLOGY.** — The epithet refers to the type locality in Korup National Park.

**DISTRIBUTION AND HABITAT.** — Cameroon, South-West Region (Fig. 4). Lowland forest; alt. 100-150 m.

**CONSERVATION STATUS.** — *Memecylon korupense* sp. nov. was assessed as Critically Endangered (CR) B2a,b(iii) by Onana & Cheek (2011). At the time of their publication, the species was known from just a single location with an AOO of 4 km<sup>2</sup> (assuming a 4 km<sup>2</sup> grid cell size). With the discovery of a second locality (represented by the paratype *Van der Burgt 564*), the conservation status of *M. korupense* sp. nov. may need to be re-assessed. The forest in Korup National Park is generally well protected, but the species may be threatened by slash-and-burn agriculture and wood cutting especially near villages (Onana & Cheek 2011).

#### DESCRIPTION

Evergreen shrub or small tree 1-4 m high; young branchlets quadrangular in cross-section, becoming terete with age; internodes (2.2-)4-8 cm long. Leaves coriaceous, dark green and shining on the upper surface, paler below; petioles robust, 2.5-4 mm long; blades elliptic to elliptic-oblong, (11-)13-19.5 cm long, 4.5-7.5 cm wide, cuneate to rounded at base, the apex rounded then ± abruptly acuminate, the acumen narrow, 4-18 mm long; midnerve conspicuous, canaliculate on the upper surface, prominent on the lower; transverse veins much thinner than the mid-nerve, faintly prominent on both surfaces in dried material, 10-14 pairs oriented at an oblique angle relative to the mid-nerve, ± straight or occasionally forked and spaced 7-15 mm relative to one another, confluent with the equally faint lateral nerves situated c. 1.5 mm from the margin.

Cymes 1-1.25 cm long, 6-9-flowered, once branched or the branches obsolete and the flowers thus subumbellate, fascicled at the recently defoliated nodes below the current leaves (rarely in the lower leaf axils); peduncles 1-2 mm long; axes (0-)1-3 mm long; bracts caducous.

Flowers reportedly pale pink, borne on slender pedicels 3.5-5 mm long; hypantho-calyx broadly cupuliform, 1-2 mm high, 3-4 mm wide, the margin truncate and remotely 4-microdentate. Corolla well exposed in bud, ± globose, apiculate; petals in bud depressed-ovate to rhombiform, c. 3 mm long × 3 mm wide, apiculate. Stamens reportedly blue; anthers 1.5-1.7 mm long, the thecae frontally positioned, the connective elongated and incurved by an ellipsoid gland occupying greater than half the length on the dorsal side, the posterior

extremity obtuse; fully extended filaments not seen. Epigynous chamber with 8 radial partitions alternating with an equal number of radial lines, the partitions arrayed in pairs and forming V-shaped notches beneath the petal scars; style slender, c. 4 mm long; ovules 12.

Fruits globose to depressed-globose, 7-10 mm in diameter.

#### REMARKS

The oblong-elliptic leaves and contracted inflorescences of *M. korupense* sp. nov. resemble those of *M. viride* Hutch. & Dalziel, but in the latter species the young branchlets are terete (not quadrangular as in *M. korupense* sp. nov.), the leaves are generally caudate-acuminate (the acumen c. 2 cm long) with transverse veins spaced 3-4 mm apart (not 7-15 mm), and the flowers are relatively small with hypantho-calyces 1 mm high × 2 mm wide (not 1.5 mm high × 3-4 mm wide).

Within *M.* section *Felixiocydon* there is a possibility of confusion between *M. korupense* sp. nov. and *M. macrodendron*. The latter species is mostly known from further south in Cameroon and Gabon, but there is also one collection seen from Korup National Park (*Thomas 3316*, MO, YA). *Memecylon korupense* sp. nov. notably differs from *M. macrodendron* in having young branchlets quadrangular (not strongly quadrangular-alate), leaf-blades oblong-elliptic, 14-18.5 × 6-7.5 cm with bases rounded to cuneate (not elliptic to obovate, 9-14 × 4-6 cm with bases angustate), and cymes borne on relatively short peduncles 1-2 mm long (not 4-8 mm).

#### 5. *Memecylon macrodendron* Gilg ex Engl.

(Fig. 5)

*Pflanzenwelt Afrikas* 3 (2): 740, 768 (1921); A. Fernandes & R. Fernandes, *Memórias da Sociedade Broteriana* 11: 58 (1956); Jacques-Félix, *Flore du Cameroun* 24: 128 (1983); Sita & Moutsambote, *Catalogue des Plantes vasculaires du Congo*, 88 (2005). — Type: Cameroon, South Region, Bipindi, 1907, fr., *Zenker 3349* (holo-, B, destroyed; lecto-, K[K000242806], designated here; isolecto-, BR[626116], HBG[HBG509135], M, MO[2528103], P[P00412630], PRE n.v., S[S-G-11042], US[553740]).

**ADDITIONAL SPECIMENS.** — **Cameroon.** Type locality, 1913, fr., *Zenker 4728* (BR, G, K, M, MO, P[P05225450], S). — Région du Sud, près Bella, 45 km NE de Kribi, en sous-bois ombragé, 24.I.1962, fl., *Letouzey 4139* (P[P05225452, P05225453, P05225454], YA). — Centre region, 50 km NW of Eséka, W of Yaoundé, on opposite [side] of Kélé river, ± primary forest, 22.XI.1963, fl., *W. de Wilde 1297* (MO, P[P05225451], YA). — South Region, c. 9 km S of Kribi, S bank of Lobe river, 2°52'N, 9°54'E, gallery forest, 20.I.1969, fl. buds, *Bos 3688* (BR, K, LMA, MO, P[P05259248], UPS, YA). — South Region, near Bipaga II, km 40 road Kribi - Edéa, 3°09'N, 10°01'E, alt. 30 m, high forest, 28.XII.1982, fl., *De Kruif 974* (YA). — South-West Region, Korup National Park, NE corner near Baro village, 5°16'N, 9°11'E, alt. 200 m, mature (old secondary) forest, III.1984, fl., *Thomas 3316* (MO, YA). — South Region, 25 km N of Kribi along route toward Edéa, then a few km E of the village of Bipaga 2 along a forest exploitation track, 3°08'24"N, 10°01'37"E, alt. 50 m, shaded forest understory, 05.V.2003, st., *Stone & Ghogwe 2545* (CAS, YA).

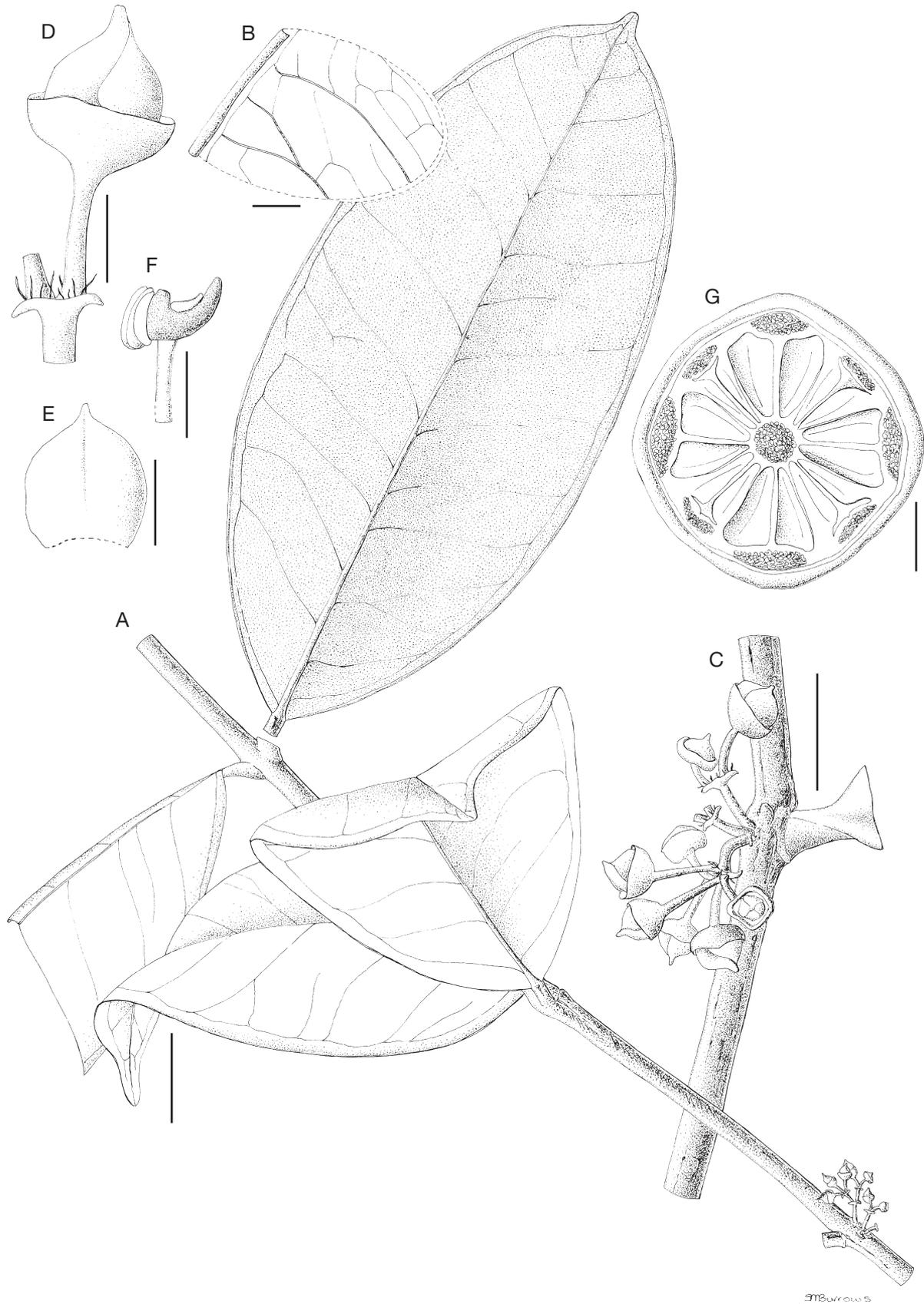


FIG. 3. — *Memecylon korupense* R.D. Stone, sp. nov. : **A**, flowering branch; **B**, detail of lower leaf surface; **C**, inflorescence; **D**, flower before anthesis; **E**, petal; **F**, anther (side view) and part of filament; **G**, epigynous chamber (top view showing detail of interstaminal partitions). **A-G**, Thomas & Namata 7663. Scale bars: A, 20 mm; B, 30 mm; C, 8 mm; D, F, 4 mm; E, 2 mm; G, 1 mm. Drawing by Sandie Burrows.

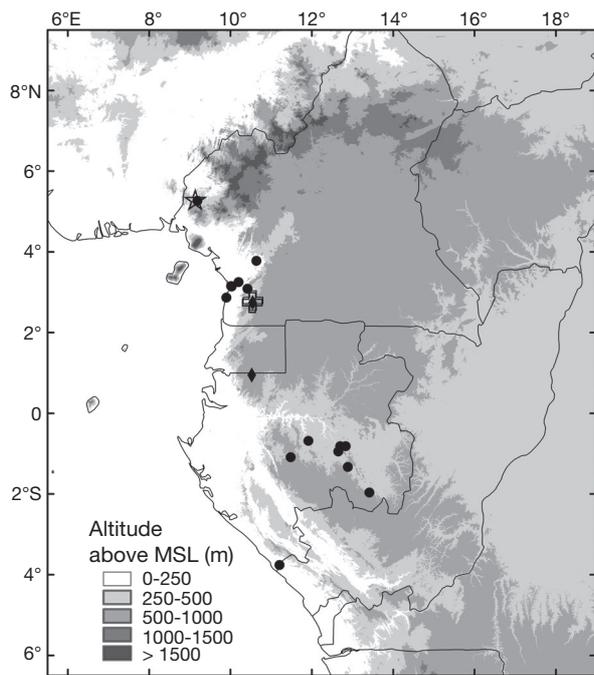


FIG. 4. — Distribution of species of *Memecylon* L. section *Felixiocylon* R.D.Stone with rose-pink petals: *M. korupense* R.D.Stone, sp. nov. (☆); *M. macrodendron* Gilg ex Engl. (●); *M. fugax* R.D.Stone, sp. nov. (✚); *M. alipes* R.D.Stone, sp. nov. (◆).

**Congo-Brazzaville.** Mayombe, 15 km N du campement forestier de Ngongo, sous-bois, 27.III.1969, fl. past anthesis & fr., *Attims 173* (P[P05225447]).

**Gabon.** Lastoursville, 03.II.1930, fl., *Le Testu 7891* (P[P05225455, P05225456]). — Itamba (région de Lastoursville), 22.VII.1930, fl., *Le Testu 8177* (P[P05225445, P05225446]). — Same locality, 03.I.1931, fl., *Le Testu 8654* (P[P05225448, P05225449]). — Bangoussou, 01.IV.1931, fl., *Le Testu 8718* (P[P05224501, P05225457]). — 23 km from Lastoursville Railway Bridge, 0°49'S, 12°50'E, forest in SBL concession, 25.XI.1988, fr., *Van der Maesen et al. 5842* (LBV n.v., P[P04802419, P04802420], WAG). — Ogooué-Lolo, 65 km SSW of Booué, Makande, 0°41'S, 11°55'E, in forest at roadside, 13.II.1999, fl., *Breteler et al. 15044* (WAG). — Ogooué-Lolo, Mont Ibondji, forêt en bas vers le Nord-Est de la montagne, 1°05'24"S, 11°28'48"E, alt. 600 m, 08.II.2000, fl., *Sosef et al. 649* (LBV n.v., P[P04801886]). — Haut-Ogooué, Ndambi region, Le Lama, Okoumé forest, 1°58'S, 13°25'E, 08.III.2001, fl., *Breteler 15685* (WAG).

**DISTRIBUTION AND HABITAT.** — Cameroon to Gabon and Congo-Brazzaville (Fig. 4). Lowland and gallery forests; alt. 30-600 m. The occurrence of *M. macrodendron* in Gabon was mentioned twice by Jacques-Félix (1979: 16; 1983a: 128), and the material in P is labelled as having been examined for the *Flore du Gabon*; hence its omission from that treatment (Jacques-Félix 1983b) appears to be unintentional. Similarly, the collection from Congo-Brazzaville cannot be regarded as a new country-record, because the species has already been cited in the *Catalogue des Plantes vasculaires du Congo* (Sita & Moutsambote 2005).

**CONSERVATION STATUS.** — Onana (2011) has assessed *M. macrodendron* as being of Least Concern (LC).

**DESCRIPTION**

Tree often attaining a height of 15-20 m; young branchlets with four slender cortical wings, rapidly exfoliating. Leaves coriaceous; petiole robust, 1-4 mm long; leaf blades elliptic

to obovate or elliptic-oblong, (6.3-)9-14(-17.3) cm long, (3.1-)4-6(-7.8) cm wide, cuneate to angustate at the base, rounded and acuminate at the apex, the acumen 1 cm long; transverse veins 10-12 pairs, obscure to somewhat prominent on both surfaces, oblique; intramarginal nerves *c.* 2 mm from the margin.

Cymes 1-2(-2.5) cm long, two or three times shortly branched and 7-30-flowered, axillary and at the defoliated nodes of older branchlets below the current leaves; peduncles (2-)4-8(-10) mm; bracts caducous. Flowers with robust pedicel 2.5 mm long, subglobose-apiculate in bud; hypantho-calyx cupulo-patellate, 3 × 1.7 mm, margin truncate or slightly undulate. Epigynous chamber with 8 partitions sometimes excurrent toward the calyx, attached at the base to the style; style 3-4 mm. Petals rose-pink, semi-ovate, 2.7 × 2.5 mm, subfleshy, the base truncate. Anthers 2 × 1.2 mm; thecae straight or slightly convex; connective blue, abruptly curved by a short ellipsoid gland, obtuse to rounded at its extremity; filament 2.5 mm long. Ovules 10.

Fruit globose to depressed-globose, 1 cm in diameter, crowned by the persistent calyx.

**REMARKS**

*Memecylon macrodendron* is easily recognized by its young branchlets conspicuously quadrangular-alate, leaf bases cuneate to angustate (i.e. with convexly curved sides narrowed gradually and concavely to the petiole), and cymes contracted. The leaf-blades of plants from Gabon and Congo-Brazzaville tend to be longer relative to their width (mostly 11.4-15.6 × 4.3-5.9 cm) in comparison to plants from Cameroon (mostly 8.7-12.7 × 3.9-5.9 cm). The leaves of the type material (*Zenker 3349*) are especially broad relative to their length (mostly 8.9-12.7 × 5.2-6.7 cm).

**6. *Memecylon fugax***

R.D.Stone, sp. nov.  
(Fig. 6)

**TYPUS.** — **Cameroon.** South Region, Akom II, Nkol Ndangueng, colline de Ndangueng, 2°47'30"N, 10°33'10"E, alt. 700 m, primary forest, 09.II.2001, old fl. & young fr., *Van Andel & Evina Evina 3117* (holo-, WAG[WAG0145590]; iso-, SCA n.v., YA n.v., herb. Kribi n.v.).

**PARATYPES.** — **Cameroon.** South Region, Campo-Ma'an area, Akom II, Efulan and Egongo hills, 2°44'58"N, 10°32'04"E, alt. 840 m, transitional submontane forest, 06.XII.2000, st., *Tchouto & Elad EFOUX 123* (WAG). — South Region, Campo-Ma'an area, Akom II, Efulan and Egongo hills, 2°44'11"N, 10°32'11"E, alt. 880 m, transitional submontane forest, 29.II.2002, st., *Tchouto & Elad EGONX 383* (WAG).

**ETYMOLOGY.** — The epithet refers to the fugacious wings of the young branchlets (a characteristic not unique to this species but seen also in *M. macrodendron*, *M. alipes* R.D.Stone, sp. nov., and the paratype specimen of *M. biokoense* sp. nov.). In *M. fugax* sp. nov., however, the internodal wings are most pronounced.

**DISTRIBUTION AND HABITAT.** — Cameroon, South Region (Fig. 4). Submontane forest; alt. 700-880 m.

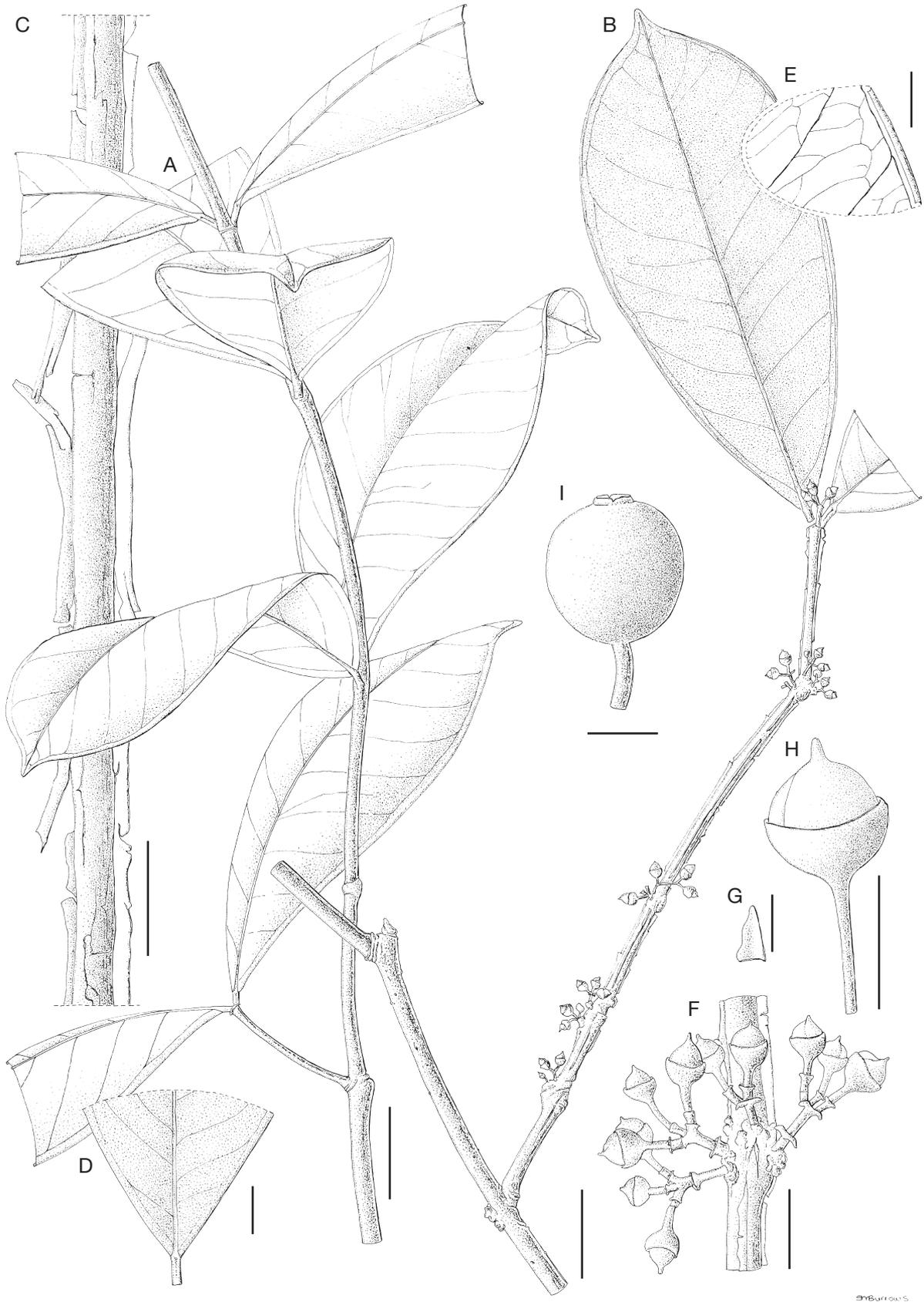


FIG. 5. — *Memecylon macrodendron* Gilg ex Engl.: **A**, leafy branch; **B**, flowering branch; **C**, detail of branchlet; **D**, detail of leaf base; **E**, detail of lower leaf surface; **F**, inflorescence; **G**, bract; **H**, flower before anthesis; **I**, fruit (side view). **A**, **D**, *Zenker 4728*; **B**, **C**, **E**-**G**, *W. de Wilde 1297*; **H**, *Bos 3688*; **I**, *Zenker 3349*. Scale bars: **A**, **B**, **I**, 10 mm; **C**, 20 mm; **D**, **E**, 5 mm; **F**, 6 mm; **G**, 1 mm; **H**, 3 mm. Drawing by Sandie Burrows.

CONSERVATION STATUS. — *Memecylon fugax* sp. nov. was assessed as Critically Endangered (CR) B2a,b(iii) by Onana & Cheek (2011), with two closely neighboring locations and an AOO of 8 km<sup>2</sup> (assuming a 4 km<sup>2</sup> grid cell size). According to these authors, forest coverage in Cameroon is generally declining slowly but steadily due to clearance for timber and slash-and-burn agriculture, and the sites where this species occurs are not formally protected.

#### DESCRIPTION

Evergreen small tree to 6.5 m high; young branchlets ± strongly 4-winged to alate-cripsed, the wings up to 2 mm wide, conspicuously dilated just below the nodes, fugacious (the older branchlets thus ± terete in cross section); internodes 4-7.5 cm long. Leaves coriaceous, dark green and shining on the upper surface, paler below; petioles robust, 1-3.5 mm long; blades oblong to elliptic-oblong, (9.3-)13-17.5(-18.6) cm long, (3.4-)4.5-6(-6.8) cm wide, rounded at the base and the apex then ± abruptly acuminate, the acumen very narrow, (9-)12-16(-19) mm long; midnerve conspicuous, canaliculate on the upper surface, prominent on the lower; transverse veins much thinner than the mid-nerve, faintly prominent on both surfaces in dried material, 10-13 pairs oriented at an oblique angle relative to the mid-nerve, ± straight or occasionally forked and spaced 6-15 mm relative to one another, confluent with the equally faint lateral nerves situated *c.* 1.5 mm from the margin.

Cymes 1.4-1.8 cm long, *c.* 15- flowered, two to three times branched, fascicled at the defoliated nodes of older branchlets; peduncles quadrangular to narrowly 4-winged, 1-2 mm long; axes 1.5-3 mm long; bracts ± persistent, subulate, 1-2 mm long.

Flowers borne on stout, granular-roughened pedicels *c.* 3 mm long; hypantho-calyx cupulo-patellate to cupuliform, 2 mm high, 3-3.5 mm wide, the margin truncate and remotely 4-microdentate. Corolla and stamens not seen. Epigynous chamber with 8 radial partitions alternating with an equal number of radial lines, the partitions arrayed in pairs and forming V-shaped notches beneath the petal scars; style *c.* 2 mm long; ovule number not determined.

Developing fruits globose, crowned by the persistent calyx. Fully developed fruits not seen.

#### REMARKS

Additional flowering and fruiting material is needed before this species can be fully described. Based on the dimensions of the hypantho-calyx, its affinities are clearly with the *M.* section *Felixiocylon*, and within this group it most closely resembles *M. korupense* sp. nov., notably differing from that species in having young branchlets conspicuously quadrangular-alate (not quadrangular).

### 7. *Memecylon alipes* R.D.Stone, sp. nov. (Fig. 7)

TYPUS. — **Gabon.** Woleu-Ntem Province, Monts de Cristal, Inselberg Milobo, 0°56.8'N, 10°31.4'E, alt. 630 m, forêt primaire, 21.X.2001, fl., *Ngok Banak 221* (holo-, WAG[WAG0104291]; iso-, LBV n.v., WAG[WAG0121345, WAG0121346]).

PARATYPE. — **Cameroon.** South Region, Campo Ma'an area, Efoulan, 2°44'45"N, 10°32'52"E, alt. 960 m, submontane forest, 04.XII.2000, fl. buds, *Tchouto 3101* (SCA n.v., WAG, YA n.v., herb. Kribi n.v.).

ETYMOLOGY. — The epithet derives from the inflorescence in which the peduncles and primary axes are quadrangular to conspicuously 4-winged.

DISTRIBUTION AND HABITAT. — Southern Cameroon and northern Gabon (Fig. 4). Lowland and submontane forest; alt. 630-960 m.

CONSERVATION STATUS. — Onana & Cheek (2011) assessed *M. alipes* sp. nov. as Endangered (EN) B2a,b(iii), with just two known localities and an AOO of 8 km<sup>2</sup> assuming 4 km<sup>2</sup> grid cells. According to these authors, the species is threatened by slash-and-burn agriculture, logging, and plantation agriculture.

#### DESCRIPTION

Evergreen shrub or small tree 5-7 m high; young branchlets quadrangular-alate, the wings 1-1.5 mm wide, conspicuously dilated just below the nodes, fugacious; internodes (5.4-)6-8.5(-9.5) cm long. Leaves coriaceous, dark green and shining on the upper surface, paler below; petioles 2-3 mm long; leaf blades ovate-oblong to elliptic-oblong (narrowly so in the type material), (15.5-)17-22.5(-24) cm long, 5.5-7(-7.4) cm wide, rounded at the base and the apex (or the blades ± attenuate in the upper third), the apex further provided with a narrow acumen 12-18(-20.5) mm long; midnerve conspicuous, canaliculate on the upper surface, prominent on the lower; transverse veins much thinner than the mid-nerve, faintly prominent on both surfaces in dried material, 12-17 pairs oriented at an oblique angle relative to the mid-nerve, straight or occasionally forked and spaced (8-)10(-15) mm relative to one another, confluent with the equally faint intramarginal nerves.

Cymes 4-8 cm long, generally three times branched, 30-60- flowered, solitary in the leaf axils or fascicled at the leafless nodes of older branchlets; peduncles quadrangular to conspicuously 4-winged, (0.6-)1.8-3.8 cm long; primary inflorescence branches 3 or 4 in number, (0.1-)0.5-2.7 cm long; secondary branches 0.4-1.8 cm long; bracts caducous, not seen, the nodes of the inflorescence strongly articulated.

Flowers reportedly rose-pink, borne on stout pedicels 2.5-3 mm long (the pedicels densely rugulose/verruculose in *Ngok Banak 221*); hypantho-calyx broadly cupuliform, 2 mm high, 3 mm wide, the margin shallowly sinuate and remotely 4-denticulate. Corolla well exposed in bud, ± globose, apiculate; petals broadly ovate, 3 mm long, 2 mm wide, acute, thickly textured except along the margins, the midnerve keeled on the abaxial surface. Stamens reportedly blue-violaceous; anthers in bud *c.* 1.25 mm long, the thecae frontally positioned, the connective elongated-obtuse and incurved by a minute gland situated toward the posterior extremity on the dorsal side; fully extended filaments not seen. Epigynous chamber with 8 shallow, radial partitions alternating with an equal number of radial lines, the partitions forming V-shaped notches beneath the petal scars, the calyx limb extending by 0.5 mm beyond the line of insertion of the filaments; style slender, 3 mm long; ovules 10-12.

Fruits not seen.

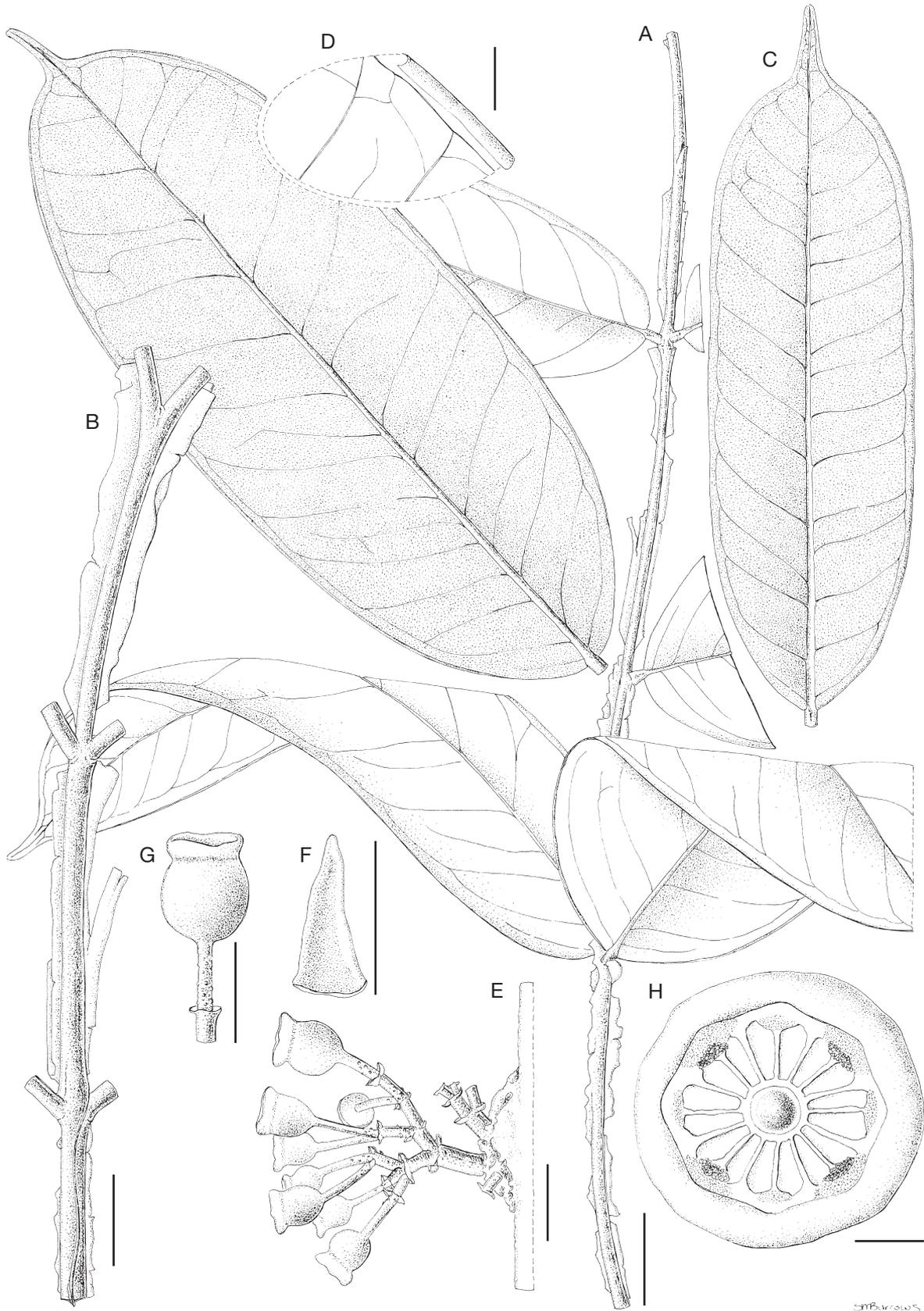


FIG. 6. — *Memecylon fugax* R.D. Stone, sp. nov.: **A**, leafy branch; **B**, detail of branchlet; **C**, leaf; **D**, detail of lower leaf surface; **E**, inflorescence; **F**, bract; **G**, immature fruit; **H**, epigynous chamber (top view showing detail of interstaminal partitions). **A, D-H**, *Van Andel & Evina Evina 3117*; **B**, *Tchouto & Elad EGONX 383*; **C**, *Tchouto & Elad EFOUX 123*. Scale bars: **A, C**, 20 mm; **B, E**, 10 mm; **D, G**, 5 mm; **F, H**, 1 mm. Drawing by Sandie Burrows.

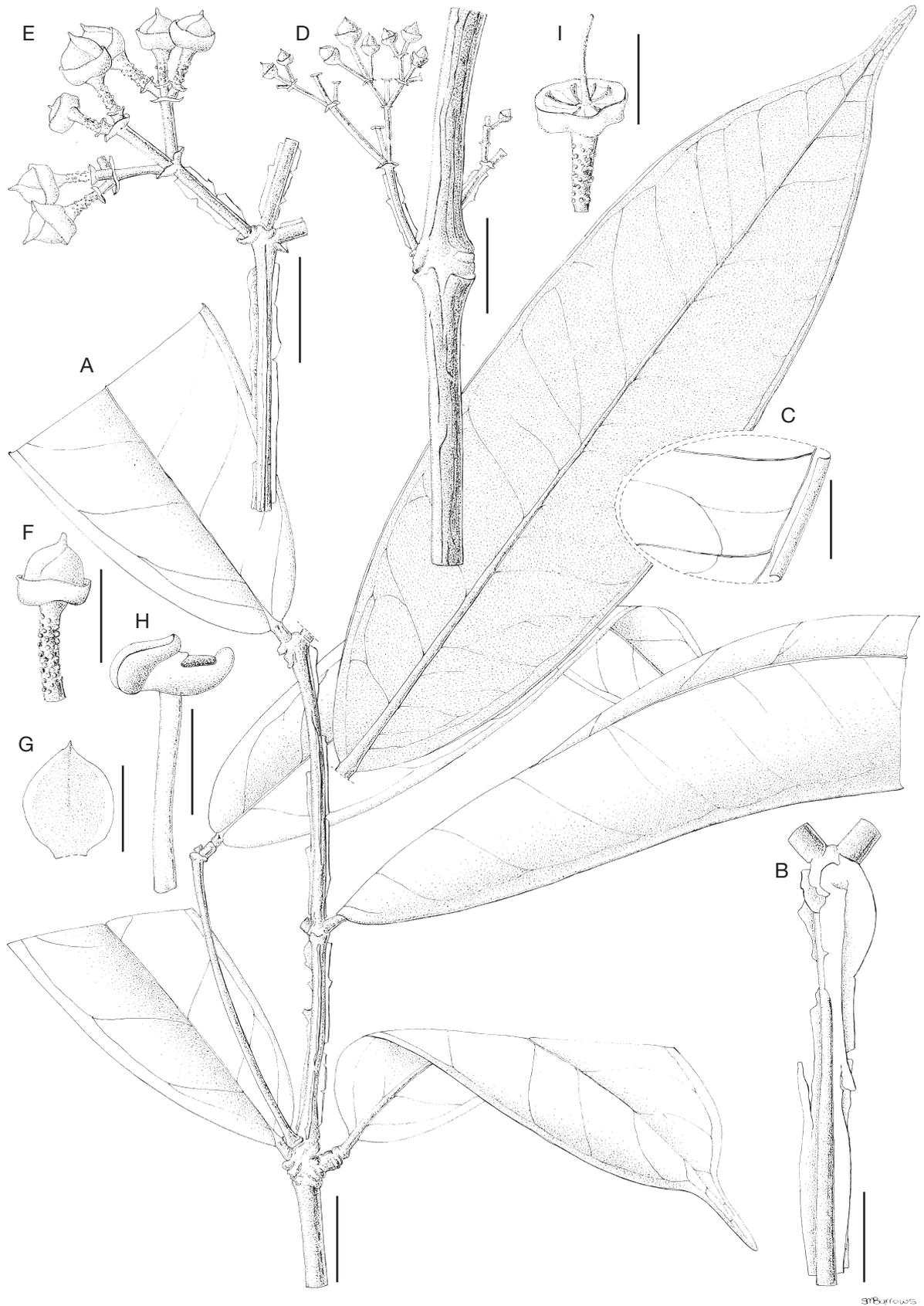


FIG. 7. — *Memecylon alipes* R.D.Stone, sp. nov.: **A**, leafy branch; **B**, detail of branchlet; **C**, detail of lower leaf surface; **D**, inflorescence; **E**, detail of inflorescence; **F**, flower before anthesis; **G**, petal; **H**, anther (side view) and part of filament; **I**, flower past anthesis. **A-I**, *Ngok Banak 221*. Scale bars: **A**, **D**, 20 mm; **B**, **C**, 10 mm; **E**, 8 mm; **F**, **G**, **I**, 3 mm; **H**, 1 mm. Drawing by Sandie Burrows.

## REMARKS

*Memecylon alipes* sp. nov. is clearly allied to *M. normandii* and the other members of section *Felixiocydon*, but is distinguished by its combination of young branchlets quadrangular-alate, oblong-elliptic leaves, and lax inflorescences with peduncles conspicuously quadrangular to quadrangular-alate.

The type collection of *M. alipes* sp. nov. was originally (and incorrectly) determined as *M. nodosum* (Engl.) Gilg ex Engl., a species of section *Afzeliana* which also has young branchlets quadrangular-alate and leaf-blades oblong-acuminate to lanceolate. However, the resemblance of these two species is only superficial since *M. nodosum* has fruits ellipsoid (not globose as presumably the case in *M. alipes* sp. nov.), and the inflorescences are up to 1.5 cm long and short-pedunculate (not 4–8 cm long and long-pedunculate).

The type and paratype collections of *M. alipes* sp. nov. differ in several respects, notably the width of the leaves, the inflorescence position (axillary versus defoliated nodes of older branchlets), the prominence of wings on the inflorescence axes, and the presence versus absence of granular roughenings on the inflorescence axes and pedicels. It is not yet clear whether these differences represent variation within a single species, or whether the populations in Gabon and Cameroon ought to be viewed as separate species. A conservative treatment is indicated until additional material becomes available for study.

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