
New Taxa in *Maerua* (Capparaceae) proposed for the *Flora of Ethiopia*

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ABSTRACT. During studies of Capparaceae carried out for the *Flora of Ethiopia*, the following new taxa in *Maerua* were discovered.

***Maerua intricata* Kers, sp. nov.** TYPE: Ethiopia.

Ogaden: Mustahil to Ferfer, 5 Dec. 1954, *Peggy E. Ellis 357* (holotype, K).

A speciebus quas A. Brongniart et alii auctores ad *Courboniam* ascripserunt habitu intricato foliis minutis costa plerumque immersa ideo utrinque occulta distinguenda, ab eis etiam in combinatione petioli brevissimi (ut in *M. pseudopetalosa* (Gilg & C. Benedict) De Wolf) cum fructibus ellipsoidalibus basi regulariter per quattuor valvas dehiscentibus (ut in *M. subcordata* (Gilg) de Wolf) differt.

Virgate shrub 0.5–2 m tall, intricately branched, stems erect or ascending, glabrous, ± minutely scabrous, branches and branchlets stiffly divaricate, somewhat striate. Leaves simple, minute, 5–15 mm long, 1–5(–8) mm wide, stiff, coriaceous, narrowly elliptic, oblong or lanceolate, seemingly often nerveless (midrib imbedded), petiole very short, 0.5–1.5(–2) mm long. Flowers without petals, solitary and axillary; pedicel short, 7–11(–13) mm long; receptacle cylindrical, (2–)3–4.5 mm long; sepals three, (6–)8–10 mm long; androgynophore finally exceeding the receptacle by 1–2.5 mm; stamens ca. 20–25; gynophore 12–16 mm long, longer than the pedicel; ovary fusiform, 4-nerved; placenta 2, ovules two on each placenta. Fruit broadly ellipsoid, with one or rarely two seeds, pericarp finally breaking up into four valves at the very base of the fruit, otherwise indehiscent. Seed (9–)14–15 mm long, narrowly ovate to oblong, cotyledons pale yellowish.

Maerua intricata is clearly allied to the species of *Maerua* that were formerly grouped in the genus *Courbonia* Brongniart. It differs in the intricately branched growth, the minute leaves with a generally

completely immersed and consequently hidden midrib. The petioles are as short as in *M. pseudopetalosa*, whereas in shape and mode of dehiscence the fruits are comparable with those of *M. subcordata*.

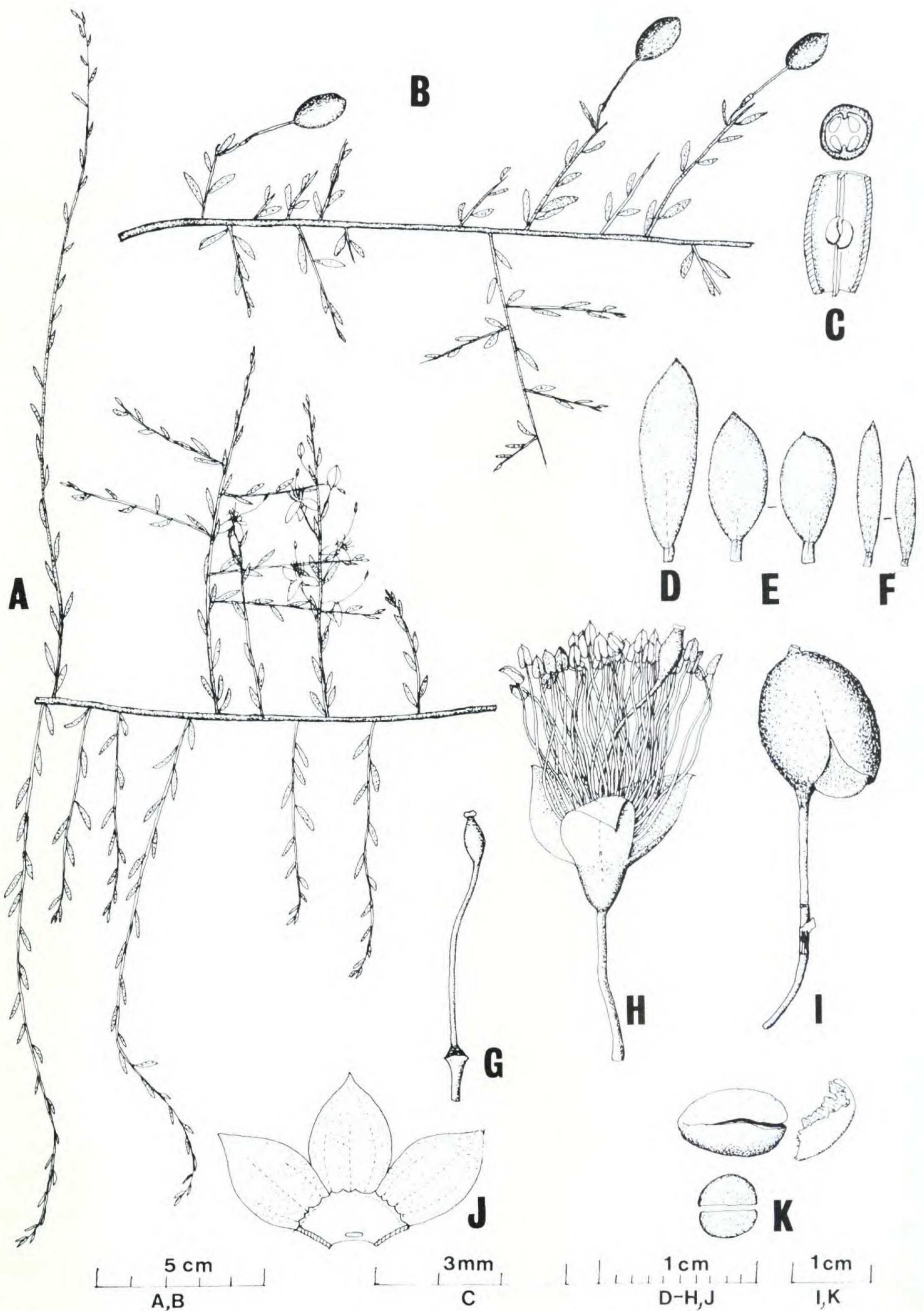
Distribution. Known from the area around the River Schebelli in eastern Ethiopia and central Somalia and from there north into the African Horn of the northeastern Somali Republic; from 100 m near the coast to 350 m inland.

Habitat. In *Acacia-Commiphora* bushland or in scattered low bush. Growing on rocky slopes, in stony soil at foot of hills, in sandy areas with limestone ridges or in dry water courses.

Indigenous names. Cagàt, cagah (Bari region), Dugal erigiren (Hiraan region).

Paratypes. ETHIOPIA. OGADEN: Scivelli to Beletuen, June 1943, *Hummel 151* (K); Webi (= Schebelli River), July–Aug. 1891, *Robecchi-Brichetti 228* (FT). SOMALIA REPUBLIC. SANAAG REGION: below Einad, 11°55'N, 48°55'E, 1957, *Newbould 1022* (K). BARI REGION: Alula, without date, *Anonymous s.n.* (FT fragments); along road from Alula to Seyn Wayn, 9 Oct. 1982, *Barbier 939* (FT, K); near Bender Merhagno, 11°41'N, 50°27'E, 15 Oct. 1982, *Barbier 946* (K); Mt. Bolimock W of Alula, 29 Oct. 1959, *Hemming 1786* (K); 40 km SW of Alula, 11°55'N, 50°30'E, 14 Nov. 1980, *Hemming & Watson 3087* (K); near Bosaso, to Cassim Bender, 7 July 1924, *Puccioni & Stefanini 1034* (= 1136) (FT); Wadi Merero, *Scortecci*, 1957 (FT); mountain pass W of Bargal, ca. 11°15'N, 51°00'E, 25 Nov. 1985, *Thulin & Warfa 5532* (UPS); mountains S of Bender Murrayha, valley above Tayeega, 29 Oct. 1959, *Thulin & Warfa 5814* (K, UPS). NUGAAL REGION: valley slope of Nugal River, 7 Oct. 1959, *Hemming 1679* (K). MUDUG REGION: 69 km SW of Gal-kayo on main road, 06°27'N, 46°53'E, 4 June 1979, *Gillett, Hemming & Watson 22347* (K). HIRAAN REGION: 03°06'N, 45°04'E, 1 Aug. 1983, *Abukar Sheik 2023* (K); Bulu Burti district, 4 km N of Murkayale, 03°50'N, 45°13'E, 28 Sep. 1986, *Kuchar 17082* (K); El Mocoile, on road from Bulu Burti to Galgiel, 5 Apr. 1933, *Suckert 66* (FT, K).

Figure 1. *Maerua intricata* Kers. —A. Portion of stem with flowering twigs. —B. Portion of stem with immature fruits. —C. Ovary in transversal and longitudinal sections. —D–F. Leaves. —G. Gynophore with ovary, torus with stamen scars, androgynophore. —H. Flower. —I. Mature fruit showing the basal dehiscence, seed partially exposed.



—J. Receptacle opened showing sepals and the minute corona. —K. Embryo in lateral view and transversal section showing the cotyledons. Fragment of the seed coat (right). A, F, *Abukar Sheik 2023* (K); B, *Suckert 66* (FT); C, E, G, H, J, *Barbier 939* (FT); D, *Barbier 946* (K); I, K, *Thulin & Warfa 5814* (UPS).

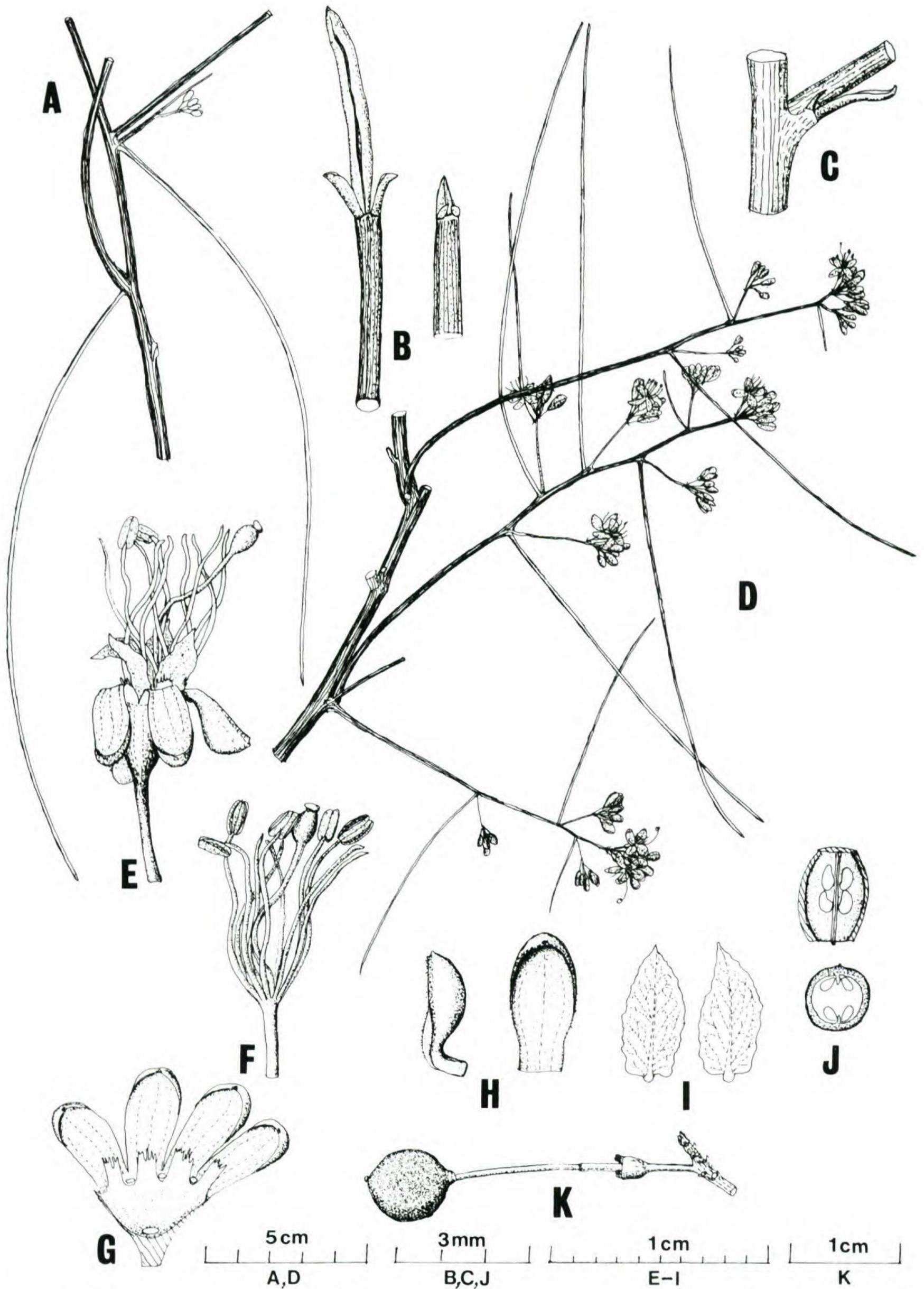


Figure 2. *Maerua gillettii* Kers. —A. Portion of stem showing reflexed phyllodes. —B. Apex of petioles with rudimentary leaflets. —C. Floral bract with stipule. —D. Portion of stem with flowering twigs and spreading phyllodes. —E. Flower. —F. Androgynophore, stamens, gynophore with ovary. —G. Receptacle opened showing sepals and the lobed corona. —H. Sepals. —I. Petals. —J. Ovary in longitudinal and transversal section. —K. Fruit with gynophore, androgynophore, receptacle, and pedicel. A–J, *Bally & Smith 14887* (K); K, *Haugen 1915* (S).

Maerua gillettii Kers, sp. nov. TYPE: Kenya. Northern Frontier Province: Moyale, 15 km out Wajir road, 03°25'N, 39°07'E, 5 Nov. 1952, *J. B. Gillett 14148* (holotype, K; isotype, FT). "*Maerua spec. A*" in *Flora of Tropical East Africa, Capparaceae*, 49–50, 1964.

Haec species *M. glaucae* Chiovenda verosimiliter affinis sed phyllodia habet ideo inter omnes *Maeruas* africanas bene distincta.

Shrub, glabrous, to 1.5 m tall, stems green, striate and slender but generally rigid, branches and branchlets divaricate. Leaves well spaced, initially 3-foliolate but readily forming phyllodes; leaflets very reduced, rudimentary, scarious and usually dropping off early; petioles transformed into phyllodes. Phyllodes similar to the stems, becoming reflexed, gradually elongating, finally up to 19 cm long. Inflorescences few-flowered and rather loose, racemose or corymbose; pedicel short, 4–6(–9) mm long; flowers small; sepals 4, 4–5 mm long; petals elliptic, 3–4(–5) mm long; receptacle shortly cylindrical to narrowly campanulate, 2.5–3 mm long; corona 1–1.75 mm long, cleft to base into usually four segments; stamens 8–10(–12), 0.8–1.1 cm long, borne in one series; anthers 1 mm long. Androgynophore 4.5–5.5(–6) mm long, exceeding the receptacle by (2–)4–5 mm. Gynophore thin, ca. 1.2 cm long. Ovary 1–1.5 mm long, ellipsoid at first; placenta 2; ovules 8; stigma sessile to subsessile. Fruit globose to subglobose, ca. 0.5 cm diam., smooth, generally 1-seeded. Seed subspherical, filling the interior of the fruit, mature seeds unknown.

Maerua gillettii is well characterized by its stem-like phyllodes, which are not found in other African *Maeruas*. The phyllodes are usually reflexed, with early dropped rudimentary leaflets. The flowers and fruits are similar to those of *M. glauca* Chiovenda, a species that differs in having ordinary leaves and a longer pedicel (to 1.8 cm long).

Maerua filiformis Drake from Madagascar develops phyllodes, but they are not reflexed; this species differs also in its narrowly cylindrical receptacle 3–4 mm long, the shorter androgynophore exceeding the receptacle by only 1 mm, the inconspicuous or practically wanting corona, the subcordate, 2.5–3-mm-long petals, and the ovate to subglobose shape and blunt apex of the ovary.

Distribution. Only known from northernmost Kenya and the adjacent parts of southern Ethiopia; from 600 m in Kenya, to 1,400 m in Ethiopia. Reported to be locally common below 1,300 m in southern Ethiopia.

Habitat. In *Acacia-Commiphora* scrub or in *Acacia mellifera* bushland. Growing on sandy or

loamy soil near exposed bedrock of granite, gneiss, or schist. Average rainfall in northern Kenya 635 mm/year with maximum rainfall in April and October.

This species is named after Jan B. Gillett (K), formerly of the East African Herbarium in Nairobi, an acknowledged expert on the flora of northeastern Africa and an important collector.

Paratypes. KENYA. NORTHERN FRONTIER PROVINCE: S end of Huri Hills, 25 Feb. 1963, *Bally 12531* (K); 16 km SE of Sololo on road to Moyale, ca. 03°26'N, 38°42'E, 18 Jan. 1972, *Bally & Smith B 14887* (K); Huri Hills, ca. 03°25'N, 37°46'E, 4 Nov. 1976, *Herlodier 179* (K). ETHIOPIA. SIDAMO PROVINCE: Hadessa, ca. 70 km S of Neghelle, 11 Nov. 1991, *Haugen 1943* (S); ca. 60 km from Neghelle, on road to Dawa River, ca. 90 km from Dawa, 9 Feb. 1991, *Haugen 1915* (S).

THE *MAERUA ANGOLENSIS* COMPLEX OF NORTHEAST AFRICA

Two species are involved in the *Maerua angolensis* complex of northeast Africa: *M. angolensis* DC. (sens. str.), which is widely distributed in Africa and also extends into Arabia; and *M. socotrana* (Schweinfurth ex I. B. Balfour) Gilg, based on specimens from Socotra. The Socotran population and *M. angolensis* are easily separated by the length of the receptacle and the size of flowers and leaf blades. They also differ in habit, *M. socotrana* being a much more slender-stemmed shrub or low tree. These clearly distinct taxa were found to almost grade into each other by means of numerous, more or less isolated populations growing in the Somali Republic and eastern Ethiopia. When previously determined, these atypical specimens had generally been labeled *M. socotrana*. Sometimes the name *M. thomsonii* T. Anderson had been applied to them.

Maerua angolensis and *M. socotrana* cannot be kept separate specifically. The broad concept of *M. angolensis* results in a complex species. The morphological variation within this complex is not continuous and is subdivided into the taxonomic entities presented below. These differ in a number of features, of which only the more easily observed and measured are mentioned here. A more detailed treatment of them will be found in the *Flora of Ethiopia*. The geographical areas of the allied taxa seldom meet or overlap. Further studies of the complex will be of great biogeographical interest.

The Socotran population (*M. socotrana* sens. str.) is fairly uniform and can be separated taxonomically on a subspecific level. To some extent, its distinctness may be due to geographical isolation within a small area.

Maerua thomsonii T. Anderson was described in

1860 from Aden. This species has previously been regarded as identical to *M. socotrana* (Elffers et al., 1964). *Maerua thomsonii* is not, however, a close ally and does not belong to this complex.

KEY TO THE INFRASPECIFIC ENTITIES OF
MAERUA ANGOLENSIS

- 1a. Receptacle (7-)9-15(-19) mm long, cylindrical, androgynophore (9-)11-18(-20) mm long, exceeding the receptacle by 2-5 mm; leaf blades commonly 2-5.5 cm long; low trees with a rounded crown or shrubs, much branched . . .
..... subsp. *angolensis*
- 1b. Receptacle 2-6(-9) mm long, cylindrical, infundibular or campanulate, androgynophore (3.5-)4-7(-11) mm long, equal or exceeding the receptacle by 1-5 mm; leaf blades 1-2(-3) cm long; low, often very slender trees or shrubs, few-branched subsp. *socotrana*
- 2a. Sepals 0.5-1 cm long, stamens (0.5-)0.7-1(-1.5) cm long, receptacle 2-3(-4) mm long subsp. *socotrana* var. *socotrana*
- 2b. Sepals 1.2-2.2 cm long, stamens 1.5-2.4 cm long, receptacle 2-6 mm long subsp. *socotrana* var. *africana*

1. *Maerua angolensis* DC. subsp. *angolensis*.

TYPE: Angola. Benguela: *José da Silva s.n.* (holotype, P).

This subspecies is characterized by the long receptacle, commonly 9-15 mm long, and by the long androgynophore, commonly 11-18 mm long. It varies in shape of leaf blades, direction of sepals (spreading or reflexed), and hairiness. Widely distributed in Africa; also found in Arabia.

2. *Maerua angolensis* DC. subsp. *socotrana*

(Schweinfurth ex I. B. Balfour) Kers, stat. nov. Basionym: *Maerua angolensis* DC. var. *socotrana* Schweinfurth ex I. B. Balfour, Proc. Roy. Bot. Gard. Edinburgh 12: 402, 1883. *Maerua socotrana* (Schweinfurth ex I. B. Balfour) Gilg, Engler Bot. Jahrb. 33: 228, 1903. SYNTYPES: Socotra, *Bayley Balfour 193* (BM), *588* (B, BM, P); *Schweinfurth 251* (not seen), *457* (B, P), *603* (P).

The flowers are smaller than in subspecies *angolensis*, with a receptacle commonly 2-6 mm long and with an androgynophore commonly 4-7 mm long and sometimes not exceeding the receptacle.

Distribution. Ethiopia, Somalia, and Socotra.

2A. *Maerua angolensis* DC. (subsp. *socotrana*) var. *socotrana*. TYPE: as for *M. angolensis* DC. subsp. *socotrana*.

Sepals 0.5-1 cm long, 2.75-4 mm wide, glabrous within, stamens (0.5-)0.7-1(-1.5) cm long, anthers 1-1.5(-1.75) mm long, receptacle 2-3(-4) mm long.

Distribution. Socotra.

2B. *Maerua angolensis* DC. (subsp. *socotrana*) var. *africana* Kers, var. nov. TYPE: Ethiopia. Ogaden: Lamaloye, 7 July 1988, *C. F. Hemming 1517* (holotype, K).

Sepalis 1.2-2.2 cm longis, 3-6 mm latis, intus glabris vel puberulis, staminibus 1.5-2.4 cm longis, antheris 1.5-2.5 mm longis, receptaculo 2-6 mm longo. Haec varietas plantas plus-minusque intermedias inter subsp. *angolensem* et var. *socotram* includit.

Maerua angolensis var. *africana* differs from variety *socotrana* in the somewhat bigger flowers with sepals 1.2-2.2 cm long and 3-6 mm wide, glabrous or puberulous within. Stamens 1.5-2.4 cm long and with anthers 1.5-2.5 mm long. The receptacle is 2-6 mm long.

The occurrence of variety *africana* is split into a number of more or less isolated local forms, in some localities rather intermediate between subspecies *angolensis* and subspecies *socotrana* var. *socotrana*.

Distribution. Eastern Ethiopia and Somalia.

Literature Cited

- Elffers, J., R. A. Graham & G. P. De Wolf. 1964. Capparidaceae. In: C. E. Hubbard & E. Milne-Redhead (editors), *Flora of Tropical East Africa*. Crown Agents, London.