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A NEW SPECIES OF MERREMIA FROM SABAH, NORTH BORNEO

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ABSTRACT. *Merremia gracilis* Campbell & Argent (Convolvulaceae) is described from Sabah, north Borneo as a new species.

At the roadside near the Danum Valley Field Station one of the commonest plants is a yellow-flowered member of the Convolvulaceae which sprawls across open ground, occasionally twining and climbing small trees. This has proved to be an undescribed species of *Merremia*.

Merremia gracilis E. J. F. Campbell & G. Argent, **sp. nov.** (Convolvulaceae section Wavula).

Affinis *M. similis* Elmer sed tota planta fere glabrata foliis minoribus, pedunculis brevioribus, corolla breviore aurea (non alba rubro-tincta) distincta.

Herba prostrata vel volubilis. Folia longe petiolata, petiolis 4–7cm longis; lamina cordiformis, 6–10cm longa, 5–8cm lata, basi cordata, apice acuminata, nervis lateralibus utrinque 5–7. Inflorescentiae axillares, pedunculatae, pedunculis 9cm longis, ramis c.1cm longis, pedicellis 2–2·5cm longis, gracilibus gradatim versus apicem spissescentibus, proxime infra calycem annulo crasso lobato, bracteis ellipticis c.1mm longis. Sepala exteriora 2, oblonga, mucronata, c.6mm longa, interiora 3, obovata, mucronata, c.8–9mm longa. Corolla angusta infundibuliformis ad 2cm longa, luteola. Stamina inclusa, filamentis ad 1cm longis, supra basin corollae insertis, basi laciniatis, antheris c.3mm longis. Discus annularis. Ovarium glabrum, stylo incluso, 10mm longa. Capsula late ovata 10–12mm longa, quadrivalvata. Semen nigrum, 5–6mm longum, pilis longis brunneis fulvescentibus hirtum.

A twining or prostrate herb. Stems terete, finely striate, fistulose, slightly pilose to glabrous, 4–6mm diam. in mature stems. Leaves heart-shaped, 5–8 × 6–10cm, cordate at base, acuminate at the apex, with a broad blunt acumen, both surfaces glabrous, with a few scattered hairs on the main veins; lateral veins 5–7 pairs on either side of the midrib, tertiary veins parallel between them; petioles 4–7cm, slightly pilose to glabrous, with transverse lenticel-like excrescences on the adaxial side. Inflorescences axillary; peduncles to 9cm, slightly pilose, branching in the upper part, pedicels slender, gradually thickening towards the apex, slightly pilose below more densely so above, 20–25mm at flowering, 25–30mm in fruit; bracts ovate, 1mm, glabrous, caducous. Sepals concave, coriaceous, with a membranous margin, the outer two oblong, mucronate, c.6mm each with two thickened glands near the base; the inner three obovate, mucronate, c.8–9mm, with or without a solitary gland near the base. Corolla narrowly funnel-shaped to 2cm, yellow, slightly five-lobed, glabrous. Filaments shorter than the corolla, inserted above the corolla, laciniate at the broadened base, c.1cm, anthers 3mm; disc annular; ovary glabrous. Capsule globose, 10–12mm, 4-valved; seeds 5–6mm, black, covered in long brownish-yellow hairs.

SABAH: Lahad Datu District, Ulu Segama, Danum Valley Field Centre; creeping at roadside to several metres long: flowers clear yellow, smelling, with heavy scent like banana flowers: fruit splitting open to reveal grey-brown, hairy seeds; 150m, 4 xi 1985, *Argent & Campbell* 411854 (holo. SAND; iso. E, K, L). Tenom District, Agricultural Research Station grounds,

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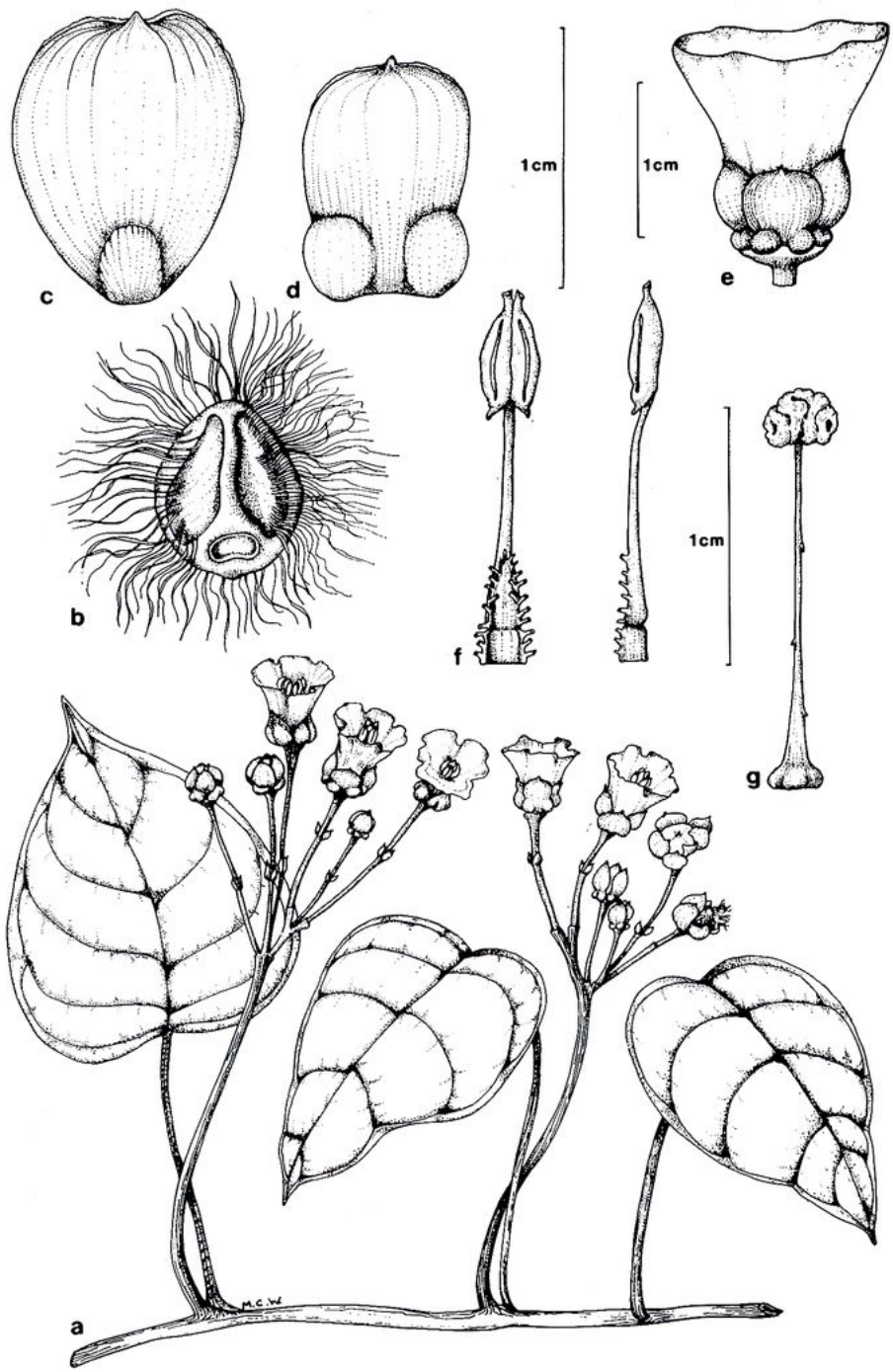

FIG. 1. *Merremia gracilis*. A, habit; B, seed; C, outer sepal; D, inner sepal; E, flower; F, stamens; G, style and stigma. From *Argent & Campbell* 411854.

hilly ground behind visitor centre; creeping at roadside and climbing small secondary tree, open situation in highly disturbed vegetation, 300m, 2 iv 1987, *Argent & Jong* s.n. (SAND, E).

Merremia gracilis is instantly recognizable with its entire leaves, small yellow flowers without distinct mid-petaline lines, the thick lobed ring below the calyx and its hairy seeds which often persist in the open ovary well into a second flowering phase. *M. borneense*, another common roadside species, has flowers over twice the size and appears to occur at higher altitudes; this is the common species along the roads crossing the Crocker Range in Sabah. *M. gracilis* clearly belongs in van Ooststroom's section *Wavula* (Ooststroom, 1939) on account of the distinctive thickening at the base of the calyx and is the fourth species recorded in this section. *M. similis* Elmer from the Philippines, the type species of sect. *Wavula*, is probably more closely related than any described Bornean species but it is quite different in being densely hairy, at least in the younger parts with a flower twice the size (c.4cm long) which is recorded as being white or white with a tinge of red.

The other two described species from this section (*M. pacifica* van Ooststr. and *M. calyculata* van Ooststr.) come from Fiji, very far removed geographically from Borneo. Both are said to have white flowers although in *M. calyculata* they are described as being 'white, inside the base yellow' (Ooststroom, 1939) but this species is described from incomplete rather juvenile material. In addition, these Fijian species all have longer sepals than *M. gracilis*.

KEY TO THE SPECIES OF MERREMIA SECT. WAVULA

(Modified from van Ooststroom, 1939a)

1. Plant densely hairy (Philippines) . . . . . *M. similis*
\+ Plant glabrous or with only scattered hairs mostly restricted to the veins on the undersides of the leaves 2
2. Flower yellow, inner sepals 8–9mm long (Borneo) . *M. gracilis*
\+ Flower white or mostly white, inner sepals more than 10mm long (Fiji) 3
3. Inner sepals 10–12mm long. Epicalyx consisting of a thick undulate ring . . . . . *M. pacifica*
\+ Inner sepals more than 17mm long. Epicalyx consisting of broadly-triangular, obtuse, flat lobes . . . . . *M. calyculata*

It is interesting to note that the glands at the apex of the pedicel and also glands on the calyx were functioning as nectaries and secreting a sugary solution several days before the flowers actually opened and were visited by an abundance of ants and small bees. This is presumed to be some protective adaptation thus confirming van Ooststroom's supposition that the glands in this section represent a kind of extrafloral nectary (Ooststroom, 1939).

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Reference

Ooststroom, S. J. van (1939a). Two new species of Merremia from Fiji, representatives of a new section, Wavula (Convolvulaceae). *Blumea* 3:263–266.