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Three new species of *Mitrephora* (Annonaceae) from Sabah, Malaysia

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Three new species of *Mitrephora* (Blume) Hook. f. & Thomson, ***M. clemensiorum, M. vittata*** and ***M. woodii***, are described from Sabah, Malaysia. *Mitrephora clemensiorum* is related to *M. korthalsiana* Miq., but is distinguished by having long inflorescences, long flowering and fruiting pedicels, and fruits with sessile monocarps. *Mitrephora vittata* is related to *M. reflexa* Merr., but has lanceolate, subcoriaceous leaves, and densely pubescent inflorescence rachides, flowering pedicels and bracts. *Mitrephora woodii* is similar to *M. heyneana* (Hook. f. & Thomson) Thwaites, but has smaller flowers and fruits with sessile monocarps.

ADDITIONAL KEYWORDS: Borneo – Kinabalu – Malesia – systematics – taxonomy.

INTRODUCTION

The genus *Mitrephora* (Blume) Hook. f. & Thomson (Annonaceae) consists of approximately 40 species of shrubs and small to large trees. It is widely distributed in tropical Asia, extending from China (Yunnan and Hainan) in the north, to India (Karnataka, Kerala and Tamil Nadu) in the west, and Australia (Queensland) in the south-east. The centre of diversity of the genus lies in Borneo and the Philippines. No comprehensive taxonomic treatment has ever been attempted, although several regional accounts have been published, *viz.* Malay Peninsula (Sinclair, 1955), Java (Backer & Bakhuizen van den Brink, 1963), Sri Lanka (Huber, 1985), and India (Mitra, 1993).

Mitrephora possesses extra-axillary (rarely terminal) inflorescences. The inflorescences are cymose as a result of monochasial branching, and generally consist of 2–3 flowers with only one open flower at any time. The rachis is sympodial, and is shorter when the development of new flowers continues for a shorter period of time. Some species (e.g. *M. maingayi* Hook. f. & Thomson) bear long rachides since new flowers develop over a long period, and in these species the rachis becomes woody and bears prominent scars from abscised flowers. The floral pedicels are taxonomically important, exhibiting variation in length and indument; each pedicel furthermore bears a basal and a median bract, which are highly variable in size, shape and indument. Each flower has three sepals and two whorls of three petals, showing valvate aestivation. The outer petals are large, free and spreading, whereas the inner petals are smaller, rhombic, clawed and are apically connivent to form a mitriform dome over the reproductive organs. Apertures between the basal claws of the inner petals enable access by the pollinators. Taxonomically significant variation is evident in the size, shape, colour and indument of the perianth. The androecium is composed of numerous 'uvarioid' stamens (*sensu* Prantl, 1888). The carpels are free, and lack distinct styles. The ovules are numerous and arranged in two rows. The fruits are apocarpous, with taxonomically important variation in the length of the pedicels and stipes, and the shape, colour and indument of the monocarps. Vegetative characters are less important taxonomically in *Mitrephora*, although petiole length, leaf indumentum (particularly the indumentum of the abaxial and adaxial surfaces of the primary vein), and the number of secondary veins are useful.

Caution is required in the interpretation of taxonomic data since *Mitrephora* flowers are protogynous, with consonant age-associated variation in the colour, size and shape of many organs. The outer petals, for example, have comparatively light pigmentation

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during the 'female' phase and become either darker or lighter during the 'male' phase; the outer petals become enlarged in the 'male' phase; and in some species (e.g. *M. maingayi*, pers. obs.) the margins of outer petals become undulate with the transition into the 'male' phase.

Ecological variation also appears to have a significant impact on phenotype, with populations growing over limestone hills differing significantly in leaf shape and size from populations of the same species growing in wet dipterocarp forests where there is high litter decomposition and accumulation of organic matter.

Six species of *Mitrephora* have previously been reported from Borneo, *viz. M. humilis* Miq. (Miquel, 1865), *M. korthalsiana* Miq. (Miquel, 1865), *M. longipetala* Miq. (Miquel, 1865), *M. glabra* Scheff. (Scheffer, 1885), *M. obtusa* Blume var. *glabra* Ridl. (Ridley, 1913), and *M. rufescens* Ridl. (Ridley, 1913). In addition, Boerlage (1899) described a new variety of *M. glabra*, var. *brevifolia* Boerl., and Merrill (1929) listed three unnamed species from Borneo. The taxonomic status of these taxa is unclear, however, because of the lack of any recent published revision. As part of a comprehensive global revision of the genus, three new species of *Mitrephora* are described here from Sabah, Malaysia.

TAXONOMIC TREATMENT

Mitrephora clemensiorum A. D. Weerasooriya & R. M. K. Saunders, **sp. nov.**
(Fig. 1)

Type

[Malaysia]. British North Borneo [Sabah]: Mt. Kinabalu, Keebambang [Kibambangan] river, 6.viii. 1933, *J. Clemens & M. S. Clemens 34355* (holotype: NY!; isotypes: B!, BM!, BO [× 3]!).

Species *M. korthalsianae* Miq. similis, sed inflorescentiis longis (internodiis rhachium 4.5–12.5 mm longis), pedicellis longis (16.5–33 mm), et fructibus monocarpiis sessilibus differt.

Large trees, up to 25 m, dbh 25–60 cm; young branches with long pale brown hairs, becoming glabrous; outer bark *n.v.* LEAF laminas (8–)11–17(–20) cm long, (4–)5–9(–11) cm wide, length:width ratio (1.6–)1.8–2.5(–2.9), coriaceous, elliptic to ovate, subglabrous adaxially, subglabrous to sparsely hairy abaxially; primary vein variably plane to slightly impressed adaxially, prominent abaxially, sparsely hairy towards base adaxially and abaxially; secondary veins (8–)9–13(–14) pairs per leaf, glabrescent and prominent adaxially, sparsely pubescent and prominent abaxially, intersecondary veins conspicuous; base obtuse or rounded, apex acute or shortly acuminate; petioles (6–)7.5–12(–13) mm long, (1.6–)2–3(–3.5) mm in diameter, shallowly grooved on upper surface, with pale brown short hairs particularly when young. INFLORESCENCES cymose, opposite leaves, with velvety indument, main rachis scorpioid and woody at maturity, more than 3 flowers per inflorescence, single flower open at any time. FLOWER pedicel (16.5–)22.5–29(–33) mm long, 1.9–3 mm in diameter, fleshy, with pale brown hairs; basal bract 4–5 mm long, 3–4 mm wide, ovate, caducous; median bract 5.6–7.5 mm long, 8.0–9.9 mm wide, ovate, persistent; sepals 3, valvate, 6–8.5 mm long, 8–9.5(–11) mm wide, deltate, outer surface with velvety indument, inner surface glabrous or sparsely covered with appressed hairs; petals 6, valvate, free, in 2 whorls; outer petals 21–29(–31) mm long, (13–)14.5–18.5(–20.5) mm wide, dull yellow, elliptic to ovate, apex acute, base not clawed, outer surface with short soft pale brown hairs, inner surface sparsely hairy; inner petals (19.5–)21.5–22.5(–28) mm long, 8–12 mm wide, cream with red-purple stripes, rhombic, clawed, outer surface sparsely covered with appressed hairs, inner surface woolly distally, margins connivent distally, forming a dome with 3 basal apertures between adjacent petals; stamens numerous (>150), 1.8–2.2 mm long, 0.6–0.8 mm wide, glabrous, connective apically discoid over thecae, thecae not septate, extrorse; pollen in tetrahedral tetrads, exine verrucate; carpels 28–30, free, 2.3–2.7 mm long, 0.6–0.8 mm wide, pubescent, style absent, stigma narrowly obconical, ovules 8–13, biseriate, lateral. FRUITS apocarpous; fruiting pedicel woody, *c.* 25 mm long, 4.6–6.0 mm in diameter, sparsely pubescent with pale brown hairs; monocarps 16–22 per fruit, (18–)23–28.5(–33.5) mm long, (11–)14–20.5 mm in diameter, sessile, obovoid, closely packed, sometimes basally connate, becoming black when dry, with simple hairs. SEEDS 3–6 per monocarp, 15–17 mm long, 5–10 mm wide, ovoid, brown, attached laterally, compressed and oriented horizontally filling the monocarp completely in 2 rows, raphe a straight, shallow groove, hilum narrowly elliptic.

Habitat and distribution

Wet forests in ultramafic regions, at 1200–2000 m altitude; endemic to Mt. Kinabalu (Kibambangan, Marai Parai and Penibukan) (Fig. 2).

Paratypes

[Sabah, Kota Belud District], Marai Parai, headwaters Sadikan [Sesediken] river, *J. Clemens & M. S. Clemens 33075* (B, BO, NY); [Sabah], Ranau District, Mt. Kinabalu, head of Colombon [Kilembun] river, near Keebamban [Kibambagan] Lobang, *J. Clemens & M. S. Clemens 35119* (BM, BO, NY); [Sabah, Ranau District], Penibukan, near Pinokok [Tinekek] falls, *J. Clemens*

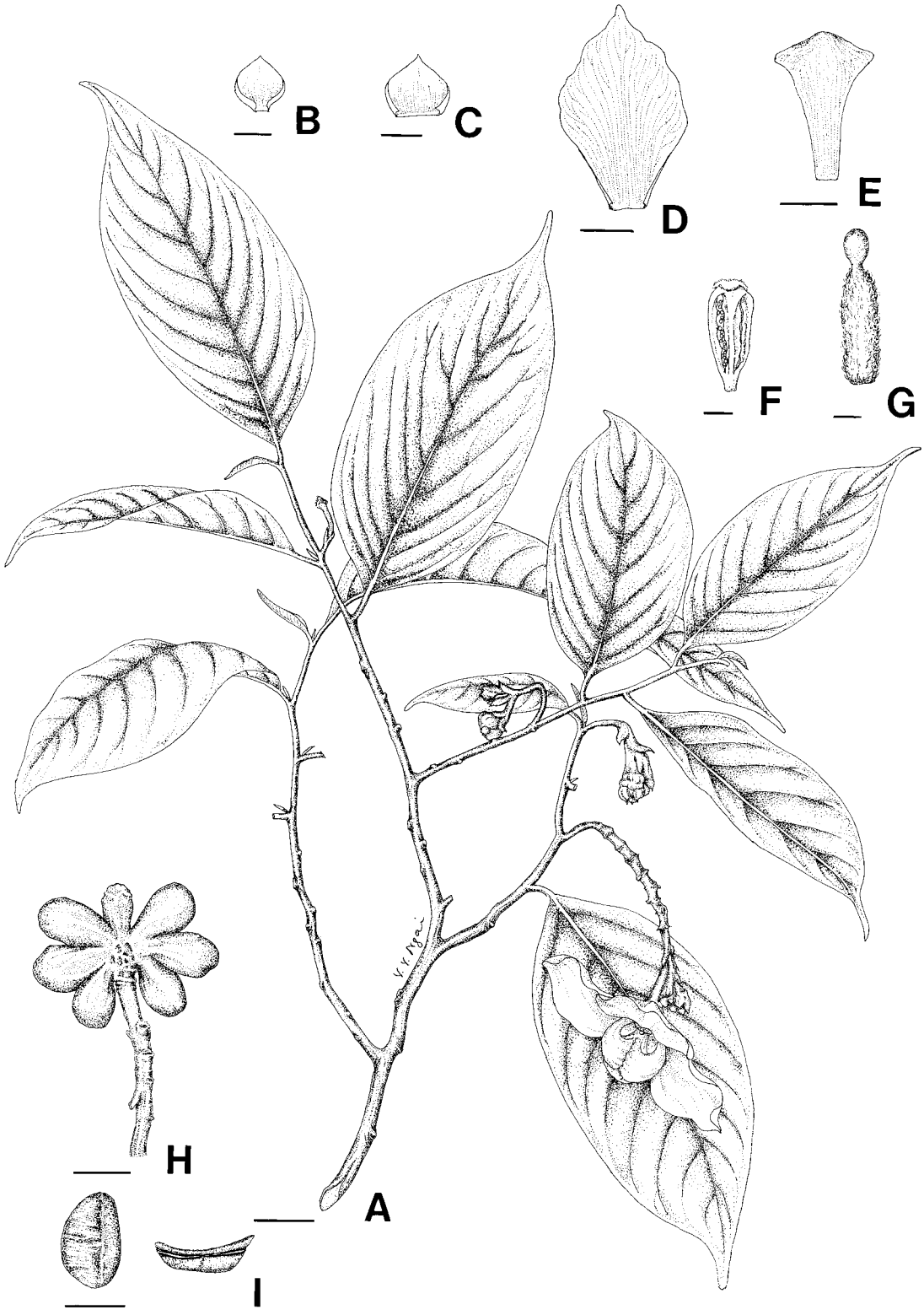

Figure 1. ***Mitrephora clemensiorum*** **sp. nov.** A, flowering branch. B, median bract. C, sepal. D, outer petal. E, inner petal (adaxial surface). F, stamen (abaxial surface). G, carpel. H, fruit. I, seeds. (A, H, *J. Clemens & M. S. Clemens 34355* [BO]; B–G, *J. Clemens & M. S. Clemens 33075* [NY]; I, *J. Clemens & M. S. Clemens 40873* [NY]). Scale bars: A = 2 cm, B,C = 5 mm, D,E = 1 cm, F,G = 0.5 mm, H = 2 cm, I = 1 cm. Drawing by Ngai Yuen Yi.

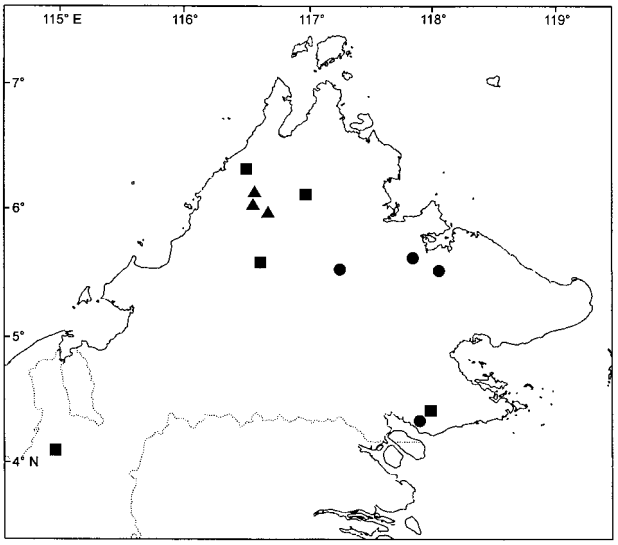

Figure 2. Distribution of ***Mitrephora clemensiorum*** (▲), ***M. vittata*** (■), and ***M. woodii*** (●) in Sabah, Malaysia.

& M. S. Clemens 40873 (BM, K, NY); [Sabah, Ranau District], Penibukan, Pinokok [Tinekek] Falls, *J. Clemens & M. S. Clemens 40870* (A, K [×2], L, NY).

Mitrephora clemensiorum and *M. korthalsiana* are the only species in the genus that are large trees (20–30 m): all others are either small or medium-sized trees, reaching a maximum height of 15 m (pers. obs.). *Mitrephora clemensiorum* and *M. korthalsiana* are also similar in possessing large, elliptic to ovate, glabrous leaves. *Mitrephora clemensiorum* is distinct, however, in bearing long inflorescences with rachides consisting of distinctly long internodes (4.5–12.5 mm) which later become woody, long pedicels (16.5–33 mm), and closely packed, sessile monocarps; in contrast, *M. korthalsiana* has short inflorescences with very short rachides without clear internodes that rarely become woody, short pedicels (6.8–9.2 mm), and monocarps with long stipes (10.5–16.3 mm) (pers. obs.).

Mitrephora clemensiorum also appears to be closely related to the Philippine species *M. fragrans* Merr. (Merrill, 1906), since both have large showy flowers with pale yellow outer petals that turn bright yellow, and yellow inner petals with red-purple stripes; other characters serve to distinguish the two species, however, including leaf shape, primary vein indument, flower pedicel length, median bract indument, and sepal indument.

Some of the specimens cited here have previously been identified as a species of *Enicosanthum*. *Enicosanthum* can be distinguished, however, on the basis of its axillary inflorescences, imbricate sepals, pollen monads, and carpels with a single basal ovule (Huber, 1985; Kessler, 1993); in contrast, *Mitrephora* possesses extra-axillary inflorescences that are opposite the leaves, valvate sepals, tetrahedral pollen tetrads, and carpels with several lateral ovules. The fruiting monocarps of *Enicosanthum* are furthermore invariably stipitate, whereas *M. clemensiorum* has sessile monocarps.

It appears that *M. clemensiorum* has only ever been collected by J. & M. S. Clemens, and is not known to have been collected again since their 1931–33 expedition; the species has accordingly been named in their honour. Although the species is a very narrow endemic, it occurs in south-western regions of Mt Kinabalu that are comparatively well collected according to Beaman, Beaman & Anderson (1998). Significantly, *M. clemensiorum* is restricted to areas with an ultramafic (ultrabasic) geology; Beaman & Beaman (1990; Beaman, Beaman & Anderson, 1998) have shown that ultramafic regions have many species with extremely localized distributions, and that many of these are neo-endemics arising from frequent speciation events in the recent past.

Mitrephora vittata A. D. Weerasooriya & R. M. K. Saunders, **sp. nov.**
(Figs 3–5)

Type

[Malaysia]. British North Borneo [Sabah]: [Tawau District], Menetendok [Minitinduk] Gorge, 21.iii.1933, *C. E. Carr 26689* (holotype: SING!).

M. humilis auct. non Miq.; Ridl., Sarawak Mus. J. 1(3): 85 (1913), pro parte; Merr., J. Straits Branch Roy. Asiat. Soc., spec. no.: 263–264 (1921), pro parte.

M. maingayi auct. non Hook. f. & Thomson; Stapf, Trans. Linn. Soc., Bot. 4: 130 (1894). [Stapf erroneously cited the collection *Haviland 1301* as *'1311'*, presumably as a result of difficulties in interpreting the handwritten herbarium label].

Species *M. reflexae* Merr. similis, sed foliis lanceolatis et subcoriaceis, et inflorescentiarum rhachibus, pedicellis florum, et bracteis pedicellorum vix pubentibus differt.

Small trees, up to 6 m, dbh 60 cm (single record); young branches with short brown hairs, becoming glabrous; outer bark smooth, dark brown. LEAF laminas (10–)14–19(–27) cm long, (4–)5–8(–9) cm wide, length: width ratio 2.4–3.3(–3.6), papyraceous to subcoriaceous, elliptic to ovate, glabrous adaxially, sparsely hairy abaxially; primary vein slightly impressed adaxially, prominent abaxially, hairy adaxially and abaxially; secondary veins (9–)11–14(–15) pairs per leaf, glabrous and prominent adaxially, sparsely pubescent and prominent abaxially, intersecondary veins inconspicuous; base acute or obtuse, apex acute or (shortly) acuminate; petioles (5.5–)7–10(–13.5) mm

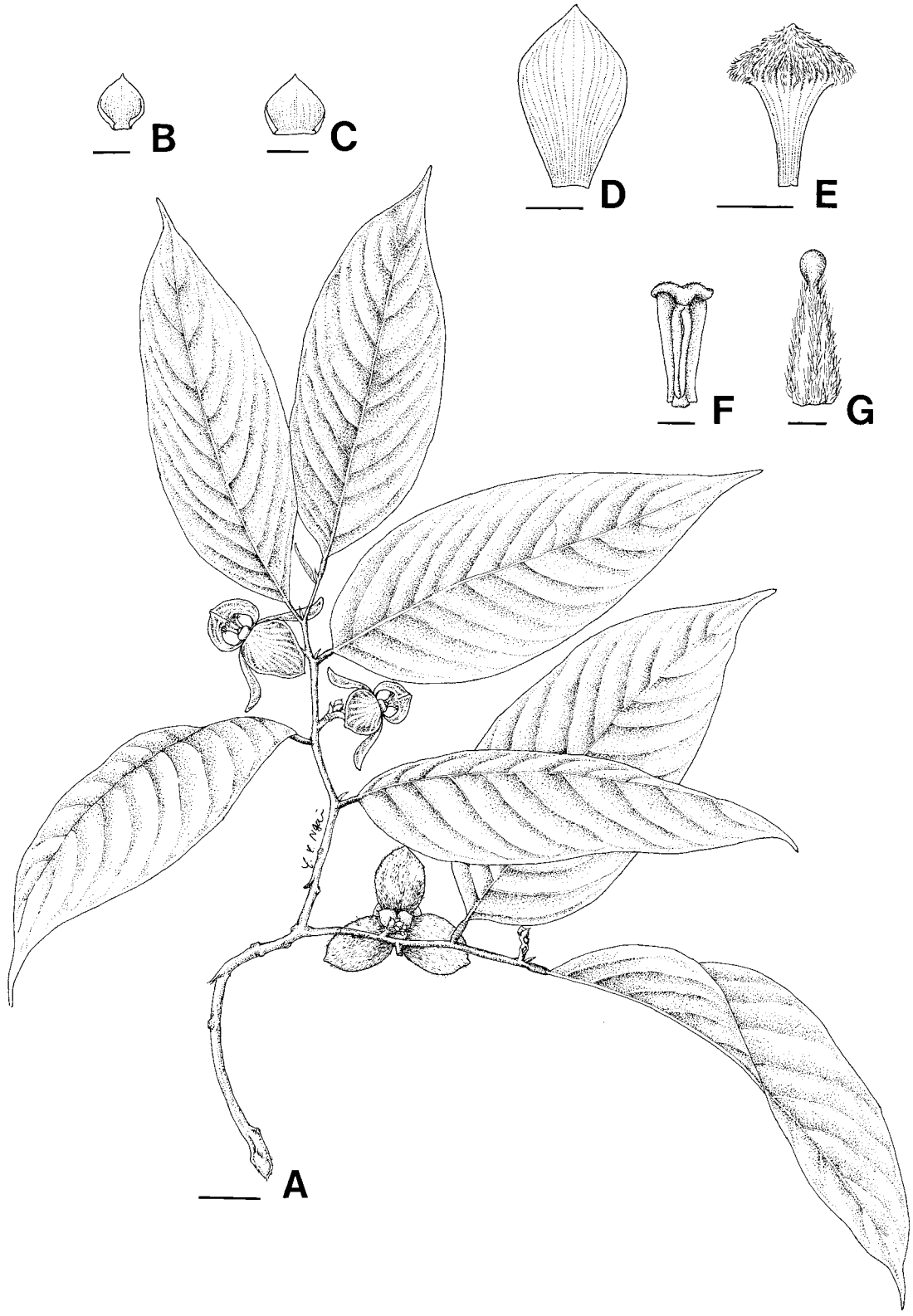

Figure 3. ***Mitrephora vittata*** **sp. nov.** A, flowering branch. B, median bract. C, sepal. D, outer petal. E, inner petal (adaxial surface). F, stamen (abaxial surface). G, carpel. (A–G, *C. E. Carr 26689* [SING]). Scale bars: A = 2.5 cm, B = 1.5 mm, C = 2.5 mm, D,E = 1 cm, F,G = 0.5 mm. Drawing by Ngai Yuen Yi.

Figures 4, 5. ***Mitrephora vittata*** **sp. nov.** (*J. H. Beaman 9753*). Fig. 4. Early female phase, with yellow stigmatic heads and yellow-white inner petals. Fig. 5. Late female phase, with dark stigmatic heads and deeper yellow inner petals. Photos © John Beaman.

long, (1.4–)2–2.5 mm in diameter, shallowly grooved on upper surface, with sparse brown short hairs particularly when young. INFLORESCENCES cymose, opposite leaves, becoming extra-axillary, with short pale brown hairs, main rachis not scorpioid or woody at maturity, 2–3-flowered, single flower open at any time. FLOWER pedicel (7–)9–11.5(–16) mm long, 1.1–1.9 mm in diameter, not fleshy, with brown hairs; basal bract 2.1–3.0 mm long, 2.0–2.9 mm wide, ovate, caducous; median bract 2.2–3.7 mm long, 2.3–3.8(–5.6) mm wide, ovate, persistent; sepals 3, valvate, 3–4.5 mm long, 3.5–4.5 mm wide, ovate, outer surface covered with short, brown hairs, inner surface glabrous or sparsely puberulous; petals 6, valvate, free, in 2 whorls; outer petals (18–)20.5–28(–31.5) mm long, (11–)12–15(–17.5) mm wide, yellow with maroon stripes, obovate to oblanceolate, apex obtuse, base not clawed, outer surface with short brown hairs, inner surface sparsely hairy; inner petals 15.5–20.5 mm long, (7.5–)9–13 mm wide, cream with maroon stripes, rhombic, clawed, outer surface hairy, inner surface woolly distally, margins connivent distally, forming a dome with 3 basal apertures between adjacent petals; stamens numerous (>170), (1.3–)1.6–1.8 mm long, 0.6–0.9 mm wide, glabrous, connective apically discoid over thecae, thecae not septate, extrorse; pollen in tetrahedral tetrads, exine verrucate; carpels 28–32, free, 2.2–2.6 mm long, 0.6–0.8 mm wide, pubescent, style absent, stigma narrowly obconical, ovules 13–16, biseriate, lateral. FRUITS and SEEDS *n.v.*

Habitat and distribution

Understorey of dense dipterocarp forests in valleys and near streams on sandstone, serpentine or limestone formations at 800–1220 m altitude; Sabah (Kota Belud, Keningau, Ranau, Labuk Sugut and Tawau districts) and Sarawak (Gunung Mulu National Park) (Fig. 2).

Paratypes

[Sarawak, Gunung Mulu National Park], gorge on SE side of G. Api, 4°05′N, 114°53′E, *J. A. R. Anderson S 24033* (K, L, SING); Sabah, Kota Belud District, S of Sayap on NW side of Mt. Kinabalu, *c.* 30 km SE of Kota Belud, 6°11′N, 116°34′E, *J. H. Beaman 9753* (K, L, NY); [Sabah], Mt. Kinabalu, eastern shoulder, 6°5′N, 116°36–40′E, *W. L. Chew, E. J. H. Corner* & *A. Stainton 274* (SING); [Sabah], Tawao [Tawau] District, Elphinstone Province, near Tawau, *A. D. E. Elmer 21092* (A, BM, BO, BRI, C, GH, IBSC L [×2], MO, NY, UC); [Sabah], Kinabalu, Dahombang [Tahubang] river, *G. D. Haviland 1301* (K); Sabah, Ranau District, Mt. Trusmadi, 5°37′N, 116°30′E, *H. P. Nooteboom 1385* (B [×2], L [×2]).

Mitrephora vittata is most closely related to the Philippine species *M. reflexa* Merr. (Merrill, 1906): both species possess large flowers and leaves of similar size, although *M. reflexa* typically has elliptic-ovate, coriaceous leaves, and densely pubescent inflorescence rachides, flower pedicels and bracts (pers. obs.). *Mitrephora vittata* also differs from *M. reflexa* because its

petals are distinctly marked with parallel longitudinal maroon stripes (Figs 4, 5) that are even apparent on dried herbarium material; this character is reflected in the specific epithet adopted (*vittatus* [Latin] = longitudinally striped).

Among the Bornean species of *Mitrephora*, confusion is possible between *M. vittata* and *M. clemensiorum* or *M. korthalsiana*, since all three species bear large flowers. *Mitrephora vittata* is a smaller tree, however, with papyraceous to subcoriaceous leaves, shorter floral pedicels, and petals that are yellow with red or maroon longitudinal stripes. Herbarium specimens referable to *M. vittata* have previously been determined as *M. maingayi* (Stapf, 1894) and *M. humilis* (Ridley, 1913; Merrill, 1921). Both the latter species differ from *M. vittata*, however, in possessing thicker, coriaceous leaves with fewer secondary veins, longer floral pedicels, and undulating outer petals in older ('male' phase) flowers.

Although we have not been able to examine fruiting material that is unequivocally referable to *M. vittata*, we have studied an incomplete collection with fruits from the Sarawak–Kalimantan border (1°35′N, 114°34′E) that possibly represents this species (*J. A. R. Anderson & Ilias bin Paie S 28689*, A!). This specimen has a few oblong monocarps, *c.* 2–3 × 1.5 cm, that are sparsely hairy and become dark brown when dry; the monocarps have been separated, however, and the stipes are damaged.

Mitrephora woodii A. D. Weerasooriya & R. M. K. Saunders, **sp. nov.**
(Fig. 6)

Type

[Malaysia]. British North Borneo [Sabah]: Kinabatangan District, $\frac{1}{4}$ mile E of Bumbulud summit, Gomantong Caves Hill, 21.vii.1954, *G. H. S. Wood SAN A4613* (holotype: L!; isotypes: A!, KEP, MEL, SING!).

Species *M. heyneanae* (Hook. f. & Thomson.) Thwaites similis, sed petalis externis florum minoribus et monocarpiis sessilibus differt.

Small trees, up to 15 m, dbh 24-50 cm; young branches densely covered with short brown appressed hairs, becoming glabrous; outer bark smooth with whitish lenticels, inner bark brownish yellow. LEAF laminas (6–)7–13(–15.5) cm long, (2.5–)3–5(–6) cm wide, length: width ratio (1.8–)2.2–3.2(–4.2), papyraceous to subcoriaceous, elliptic to ovate, glabrous and glossy adaxially, sparsely hairy and not glossy abaxially; primary vein slightly impressed adaxially, prominent abaxially, sparsely hairy adaxially and abaxially; secondary veins (5–)7–9(–10) pairs per leaf, glabrous and inconspicuous adaxially, prominent and sparsely pubescent abaxially intersecondary veins conspicuous; base obtuse or slightly oblique, apex acute or acuminate, margin entire; petioles 3.5–8.5 mm long, 1–1.5(–2) mm in diameter, shallowly grooved on upper surface, with isolated brown short hairs. INFLORESCENCES cymose, opposite leaves, becoming extra-axillary, densely covered with short brown appressed hairs, main rachis not scorpioid or woody at maturity, 2–3 flowers per inflorescence, single flower open at any time. FLOWER pedicel 2–3.5 mm long, 0.6–1.2 mm in diameter, not fleshy, densely covered with brown hairs; basal bract 1.0–1.2 mm long, *c.* 1.5 mm wide, ovate, caducous; median bract *c.* 1 mm long, *c.* 1 mm wide, ovate, persistent; sepals 3, valvate, 1.4–2.5 mm long, 1.9–2.5 mm wide, ovate, outer surface densely covered with short brown appressed hairs, inner surface glabrous; petals 6, reduplicate-valvate, free, in 2 whorls; outer petals 6–10(–11.5) mm long, 3.5–5(–6) mm wide, yellow, obovate, apex obtuse, base not clawed, outer surface sparsely pubescent with short brown appressed hairs, inner surface glabrous; inner petals 5.5–7 mm long, 2.5–3 mm wide, yellow, rhombic, clawed, outer surface sparsely pubescent with short brown appressed hairs, inner surface woolly distally, margins connivent distally, forming a dome with 3 basal apertures between adjacent petals; stamens numerous (>120), 0.6–0.7 mm long, 0.4–0.5 mm wide, glabrous, connective apically discoid over thecae, thecae not septate, extrorse; pollen in tetrahedral tetrads, exine verrucate; carpels 18–21, free, 1.3–1.5 mm long, 0.3–0.5 mm wide, pubescent, style absent, stigma narrowly obconical, ovules 3–5, biseriate, lateral. FRUITS apocarpous; fruiting pedicel woody, *c.* 5 mm long, *c.* 2 mm in diameter, sparsely hairy, monocarps 9–13 per fruit, 9.5–10.5 mm long, 8–9.5 mm in diameter, sessile, obovoid, closely packed, without basal fusion, becoming black when dry, with simple hairs. SEEDS 3–4 per monocarp, 7.5–10 mm long, 6.5–7.5 mm wide, ovoid, brown, attached laterally, compressed and orientated horizontally filling the monocarp completely in 2 rows, raphe a straight, shallow groove, hilum narrowly elliptic.

Habitat and distribution

Damp primary forests usually on limestone or basalt formations at 80–220 m altitude; endemic to Sabah (Kinabatangan, Lamang and Tawau Districts) (Fig. 2).

Paratypes

[Sabah], Lamag District, Sopiloring Hill, Kinabatangan, *J. Ampuria 35268* (L); Sabah, Kota Kinabatangan, Hs. Gomantong, top of Gomantong cave, *J. Bousi et al. SAN 119873* (K, KEP); [Sabah], Tawao [Tawau] District, Elphinstone Province, near Tawau, *A. D. E. Elmer 20647* (A, BM, BO, BRI, C, GH, IBSC L [× 2], MO, NY, UC); Sabah, Lamang District, Bintang

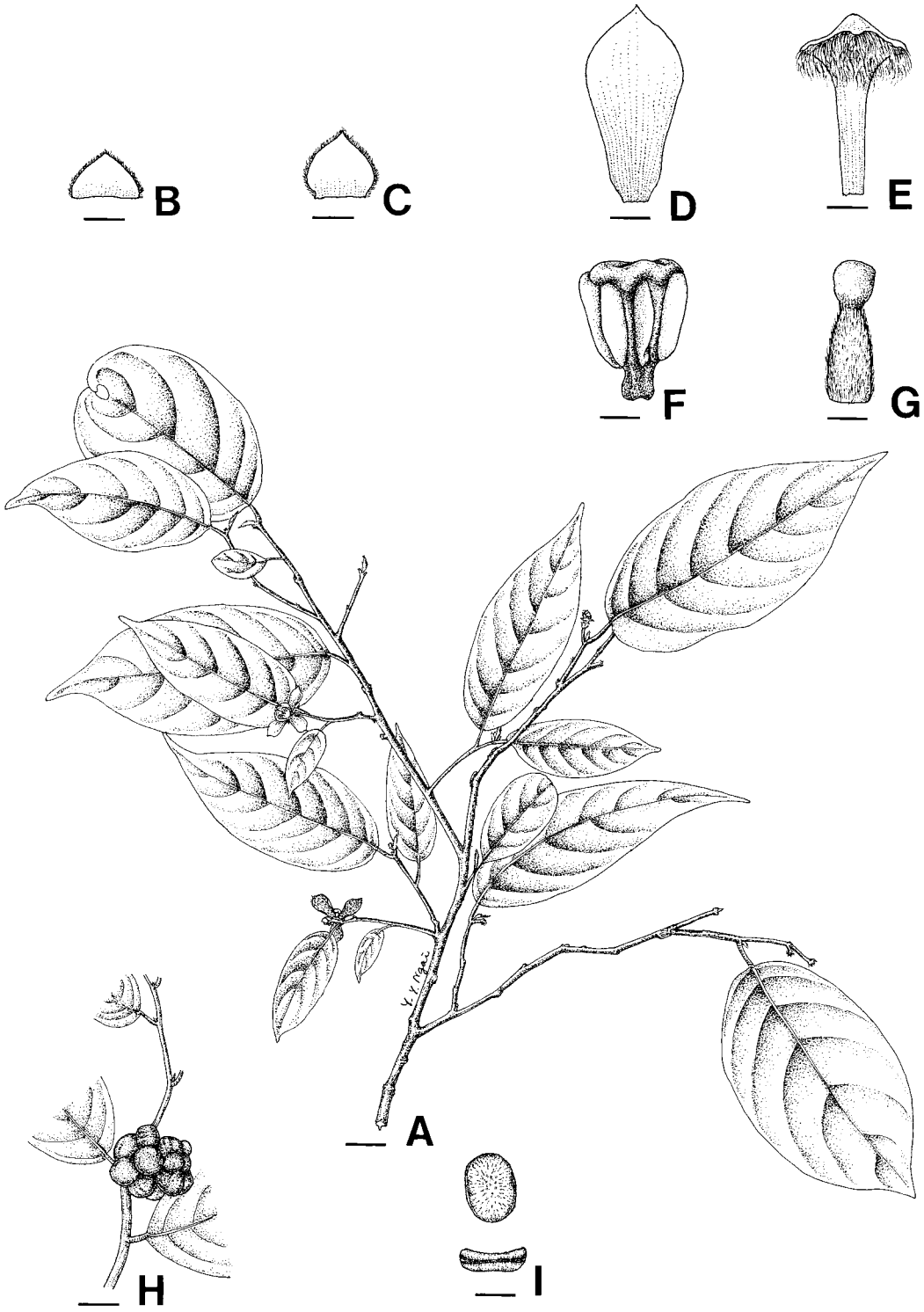

Figure 6. ***Mitrephora woodii*** **sp. nov.** A, flowering branch. B, median bract. C, sepal. D, outer petal. E, inner petal (adaxial surface). F, stamen (abaxial surface). G, carpel. H, fruit. I, seeds. (A, *G. H. S. Wood SAN A4640* [L]; B–I, *G. H. S. Wood SAN A4613* [L]). Scale bars: A = 1 cm, B,C = 1.5 mm, D = 2.5 mm, E = 1 mm, F,G = 0.5 mm, H = 1 cm, F = 0.5 cm. Drawing by Ngai Yuen Yi.

Mas logging area, Karamuak, *L. Madani SAN 81189* (L); [Sabah], Sandakan District, Bukit Senilakan, 3 miles SW of Telupid, *W. Meijer 53225* (L); [Sabah], Kinabatangan District, Bumbulud summit, Gomantong Caves Hill, *G. H. S. Wood SAN A4640* (A, L, SING).

Mitrephora woodii is very distinct from other species in Borneo because of its glossy, glabrous, lanceolate leaves, very short floral and fruiting pedicels, and small yellowish flowers. Although taxonomic confusion with other species is unlikely if adequate material is available for study, confusion is possible with immature fruiting material of *M. clemensiorum*: at maturity, the latter species normally has large monocarps (18–33.5 × 11–20.5 mm) although they are smaller and resemble *M. woodii* monocarps when immature. *Mitrephora clemensiorum*, however, typically has larger, oblong leaves, longer inflorescences and longer pedicels.

Mitrephora woodii most closely resembles *M. heyneana* (Hook. f. & Thomson) Thwaites from India and Sri Lanka, although *M. heyneana* possesses larger flowers (outer petals 8–14 × 3–6 mm) and short fruit stipes (1.5–2.5 mm long) (Huber, 1985; Mitra, 1993).

The species is named after Geoffrey H. S. Wood (1927–57), who collected the type specimen.

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