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REVISION OF THE SOUTHEAST ASIAN GENUS MELASTOMA (MELASTOMATACEAE)

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SUMMARY

The monophyletic genus *Melastoma* (Melastomataceae) is centred in Southeast Asia, but extends to India, South China, Japan, northern Australia, and Oceania. It comprises 22 species, two subspecies, and three varieties. Two new species, *Melastoma sabahense* and *M. minahassae*, and a new variety, *M. sanguineum* var. *ranauensis*, are described; two species are reduced to subspecies and variety, respectively, and the genus *Otanthera* is transferred to *Melastoma*. In many species, especially *M. malabathricum*, morphological characters vary locally, which resulted in the taxonomic recognition of numerous geographically restricted entities here considered synonyms. Most species of *Melastoma* are pioneers with a high dispersal capacity. This may have resulted in small, relatively isolated populations in which unique character combinations were stabilised locally.

Key words: *Melastoma*, *Otanthera*, revision, Southeast Asia.

INTRODUCTION

Melastomataceae is a family of about 5000 species in 156 genera (Renner, 1993; Clausing & Renner, in press) belonging to the Myrtales (Conti et al., 1996, 1998). The family is pantropically distributed, with few species occurring in the subtropics and temperate regions (North America: *Rhexia* L.). Traditionally, the family is divided into several tribes (Renner, 1993, gives an overview), but molecular analyses show that several of these tribes are unnatural (Clausing & Renner, in press). The Melastomeae, however, appear to be monophyletic and may be the only pantropical tribe of Melastomataceae (Clausing & Renner, in press). As circumscribed on the basis of morphological characters, Melastomeae include c. 850 species in 30 neo- and 17 paleotropical genera (Renner, 1993). Synapomorphies of the tribe are cochleate seeds and ovaries crowned by bristles (Renner, 1993; Meyer, 1999). Melastomeae stamens typically have basal-ventral connective prolongations that serve as a hinge between the pollen sacs and the filament (Fig. 6d, 7b). Such hinges between pollen sacs and filament are called pedoconnectives (Jacques-Félix, 1953) and may increase the flexibility of anther positioning during anthesis, facilitate the bees' hold on the androecium during pollination (which is exclusively by pollen-collecting bees), and standardise bee position to ensure stigma contact (Gross, 1993). Pedoconnectives are absent in several genera (e.g., *Dionycha* Naudin, *Nerophila* Naudin, *Osbeckia* L.), and glabrous ovaries occur in *Dinophora* Benth. and some neotropical Melastomeae.

Melastoma L. is the type genus of the Melastomataceae. It occurs throughout Southeast Asia and extends to India, South China, Japan, northern Australia, and Oceania.

The plants are shrubs or small trees of disturbed sites in rain forests and savannas. They can be very common, especially along roads. The last partial revision (for Indonesia) of *Melastoma* dates back more than 50 years (Bakhuizen van den Brink Jr., 1943) and the last complete revision dates back over 100 years (Cogniaux, 1891). A revision of the c. 170 names published in the genus was therefore much needed. The genus *Otanthera* Blume, traditionally placed close to but kept separate from *Melastoma* because of its indehiscent fleshy fruits, isomorphic stamens, and different inflorescences (Hansen, 1977; Renner, 1993), was included in this revision.

About 900 specimens of *Melastoma* and *Otanthera* were examined, representing the entire distributional range and morphological variability. As a result, *Otanthera* is here moved into *Melastoma* for the following reasons:

1) The fruits of *Melastoma* are very variable and include fruits of the type found in *Otanthera*. Thus, *M. dodecandrum* and *M. orientale* have fleshy indehiscent fruits (= berries), while most other species have fleshy dehiscent fruits or rarely dry capsules (*M. pellegrinianum*).
2) As in *Otanthera*, the stamen dimorphismus is not fixed in all species of *Melastoma*. For example, most individuals of *M. orientale* have dimorphic stamens, but some have isomorphic stamens (pers. obs. at Koh Chang, Thailand).
3) Lax inflorescences are found in *Melastoma*, too, and *Otanthera montana* possesses compact cymes similar to the inflorescences of most *Melastoma* species.
4) Molecular data and multivariate analyses of morphological characters (Meyer, 1999) place *Otanthera* within *Melastoma*, which would make the latter paraphyletic if *Otanthera* is kept separate.

The revision resulted in the recognition of 22 species, two subspecies, and three varieties. The subspecies category is used when individuals show ± stable character combinations and a wide distribution, varieties are used for local, less stable character combinations. Most important for species delimitation are the leaf and hypanthium indumentum. Due to the almost independent variation of most vegetative and flower characters, character combinations and quantitative characters have to be used for species delimitation. Most species of *Melastoma* are pioneers (Richards, 1969; Swaine & Whitmore, 1988; Gross, 1993) and have bird-dispersed fruits (Richards, 1952), which may result in the frequent formation of small and isolated populations in which founder effects lead to a fixation of subsets of morphological characters, resulting in polymorphic species.

MELASTOMEAE

Annual or perennial herbs, shrubs, or small trees, erect or procumbent, young branches quadrangular, older ones terete. *Leaves* simple, opposite, the lamina bristly or seldom glabrous, the margin entire, crenate, or serrate. *Inflorescences* terminal cymes, rarely panicles, or flowers solitary. *Flowers* 4- or 5-merous, rarely to 8-merous, the bracts often large and conspicuous, usually deciduous. *Hypanthium* campanulate, urceolate, or ovoid, covered with hairs, bristles, scales, or complex emergences, seldom glabrous; sepals triangular to linear, sometimes reduced, glabrous or covered with hairs or bristles; intersepalar and sepalar emergences often present, stellate or penicillate emergences

or large bristles. *Petals* obovate, ciliate at least at the apical margin, white, red, or violet to purple, seldom yellow. *Stamens* 8 or 10 (rarely staminodial), di- or isomorphic; anthers opening with a terminal pore, often beaked and/or curved; connective often prolonged below the anthers ('pedoconnective'), straight or ventrally curved, normally with 2 basal, yellow appendages, occasionally with a short dorsal spur. *Ovary* 4- or 5-locular, shorter or as long as the hypanthium, seldom longer, free or adnate to the hypanthium to varying degree, roof normally bristly or hairy at least along the septs, seldom glabrous; placentation axillary, ovules anatropous. *Fruit* a dry capsule, or fleshy capsules or berries, the indumentum as on the hypanthium; seeds small, numerous, cochleate.

In the field, Melastomeae can be identified by the cochleate seeds and the hairy ovaries. Only the genera *Melastoma* and *Osbeckia* are native to Asia, Australia, and Oceania, but several African or American species of Melastomeae were introduced as cultivated plants and subsequently escaped cultivation. A key to these genera is provided below. For identification of *Osbeckia* consult Hansen (1977).

KEY TO THE SOUTHEAST ASIAN GENERA OF MELASTOMEAE

1a. Fruits fleshy 2
b. Fruits dry capsules 3
2a. Hypanthium glabrous except for bristles or penicillate emergences arranged in rings ..... ***Tristemma mauritianum*** J.F. Gmelin
b. Hypanthium covered with bristles, scales or emergences (not arranged in rings) ..... **Melastoma**
3a. Flowers > 5 cm in diameter, dark purple ..... ***Tibouchina urvilleana*** Cogn.
b. Flowers smaller, not dark purple 4
4a. Stamens isomorphic ..... ***Osbeckia*** L.
b. Stamens dimorphic 5
5a. Creeping shrub or suffrutescent herb, hypanthium covered with stellate emergences ..... ***Dissotis rotundifolia*** (Sm.) Triana
b. Erect shrub, hypanthium covered with simple scales ..... **Melastoma pellegrinianum**

MELASTOMA

Melastoma L., Sp. Pl. 1 (1753) 389. — Type species: *Melastoma malabathricum* L.
Lachnopodium Blume, Flora 14 (1831) 477. — Type species: *Lachnopodium rubro-limbatum* Blume.
Otanthera Blume, Flora 14 (1831) 488. — Type species: *Otanthera moluccana* Blume.

Erect or procumbent shrubs or small trees up to 6 m high. *Leaves* lanceolate to ovate, the base acute, rounded or cordate, the apex typically acute or acuminate, the lamina almost glabrous, strigose or subvillous to villous, the margin entire, 3-, 5-, 7- or 9-nerved (the marginal nerves often inconspicuous), the secondary nerves parallel to each other; petiolate. *Inflorescences* terminal or in distal leaf axils, cymose, rarely flowers solitary or in panicles. *Flowers* normally 5-merous (often varying in one individual from 5–8-merous), diplostemonous, the bracts ovate, sometimes large and con-

spicuous, deciduous or persistent. *Hypanthium* campanulate, moderately to densely covered with scales, bristles or complex emergences; sepals triangular to lanceolate, ciliate along the margin, deciduous. *Petals* obovate, ciliate at least along the apical margin. *Stamens* dimorphic, connective of the episepalous stamens longer than of the epipetalous stamens and ventrally curved; or stamens isomorphic, connective of all stamens slightly prolonged below the anthers; anthers opening by a single pore, often beaked, connectives with a ventral, bilobed appendage or with 2 ventral appendages, those of smaller stamens (if stamens unequal) curved upwards. *Ovary* adnate to the hypanthium by 10 septs for about half its length, 5-locular and apically bristly. *Fruit* a campanulate dry capsule, opening apically, or a fleshy capsule, splitting irregularly transversally or longitudinally, or an indehiscent berry. *Seeds* minute (< 1 mm), cochleate, and embedded in the pulp, testa tuberculate.

Chromosome numbers — Known for few species only and range from × = 8, 10, 12 to × = 28 (Xiong, 1991; Almeda, 1997). Possible base numbers for *Melastoma* might be × = 9 to × = 12 (Almeda, 1997), dysploidy and polyploidy are known from several genera of Melastomeae, including *Melastoma* (Almeda, 1997). Problems arise from the very small size of melastome chromosomes – which makes them difficult to count – and the large number of synonyms that hampers the assignation of older chromosome counts to presently accepted species.

Uses — Secondary plant compounds include mainly tannins and ellagitannins (Hegnauer, 1990; Yoshida et al., 1992a, b, 1994). They are hydrolysable di- and trimers and have bactericidal or antiviral (Sakagami et al., 1991) activity. For these reasons chewed leaves or concoctions of roots are used occasionally by indigenous tribes for medicinal purposes (cuts, internal bleedings, gastritis). Other uses of *Melastoma* include wood for burning or fruits for dyeing. Its name comes from the fleshy placentas of most species that are dark blue to black and stain the mouth when eaten (melas: black, Greek; stomos: mouth, Greek).

Note — Immature fruits of *Melastoma* species look like the fleshy capsular fruits most *Melastoma* species have. Because most herbarium specimens do not have mature fruits, it can be difficult to determine the correct fruit type which is important in species with dry capsules or with indehiscent berries.

KEY TO THE SPECIES

1a. Hypanthium with penicillate or stellate emergences (Fig. 1; if simple hairs, then mature fruit a soft berry) 2
b. Hypanthium with simple scales, bristles, or hairs 9

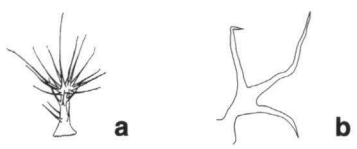


Fig. 1. Complex hypanthium emergences of Melastomeae. a. Stellate emergence of *Osbeckia stellata* Ham. ex Ker Gawl., similar to those of *M. beccarianum* Cogn. and *M. saigonense* (Kuntze) Merr.; b. penicillate emergence of *M. orientale* Guillaumin (a: Hansen (1977); b: original). — The drawings are not to scale.

2a. Hypanthium with stellate emergences 3
b. Hypanthium with penicillate emergences (if simple hairs, then mature fruit a soft berry) 4
3a. Leaves strigose. — Borneo ..... **1. M. beccarianum**
b. Leaves (and entire plant) lanuginose. — Indochina and Thailand ..... **16. M. saigonense**
4a. Leaves and stems pilose, mature fruit a dehiscent fleshy capsule, campanulate. — Philippines ..... **21. M. toppingii**
b. Leaves and stems strigose or glabrous; mature fruit an indehiscent blue berry (Fig. 2b), globose 5

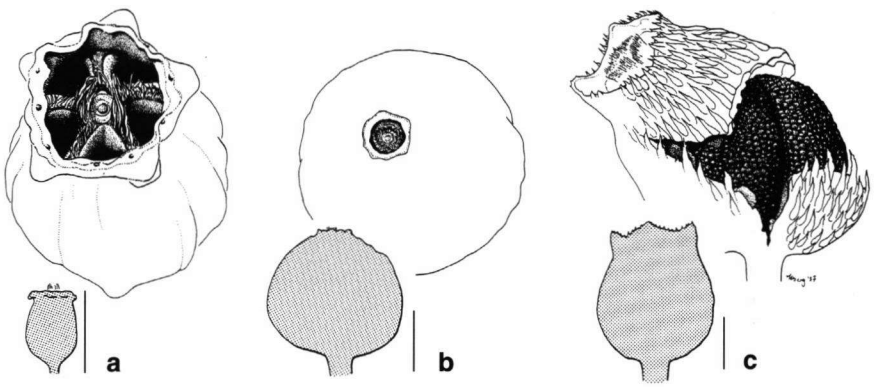


Fig. 2. Fruit types of *Melastoma*. a. Dry, apically dehiscing capsule of *M. pellegrinianum* (H. Boissieu) K. Meyer; b. indehiscent berry of *M. orientale* Guillaumin; c. fleshy, transversally dehiscing capsule of *M. malabathricum* L. (Original A. Berg). — Scale bar = c. 1 cm.

5a. Creeping shrub, often rooting at the nodes ..... **5. M. dodecandrum**
b. Erect shrub, not rooting at the nodes 6
6a. Connectives of stamens elongated ..... **12. M. orientale**
b. Connectives of stamens not elongated 7
7a. Bracts enclosing the hypanthium for c. 1/2 its length ..... **10. M. montanum**
b. Bracts not enclosing the hypanthium 8
8a. Inflorescence a loose cyme with branches ≥ 1 cm long; leaves sparsely strigose to glabrous ..... **9. M. moluccanum**
b. Inflorescence a dense cyme with branches < 1 cm long; leaves densely strigose ..... **4. M. cyanoides**
9a. Fruit an apically dehiscent dry capsule (Fig. 2a); inflorescence a many-flowered loose cyme with branches ≥ 1 cm long ..... **13. M. pellegrinianum**
b. Fruit a longitudinally or transversely dehiscent fleshy capsule (Fig. 2c); inflorescence a few-flowered cyme, or flowers solitary 10
10a. Hypanthium scales or bristles not imbricate (surface of hypanthium visible) 11
b. Hypanthium scales or bristles imbricate (surface of hypanthium invisible) . 12
11a. Hypanthium covered with spreading bristles; leaves ≤ 3 cm long. — Bonin Islands ..... **20. M. tetramerum**

b. Hypanthium covered with spreading or appressed scales; leaves usually > 5 cm long ..... **17. M. sanguineum**
12a. Hypanthium covered with spreading scales or bristles 13
b. Hypanthium with appressed scales 18
13a. Leaves beneath tomentose 14
b. Leaves beneath strigose or pilose, but not tomentose 15
14a. Leaf lamina bullate (Fig. 3c); anthers obtuse. — Philippines .. **2. M. bensonii**
b. Leaf lamina not bullate; anthers beaked ..... **8. M. minahassae**

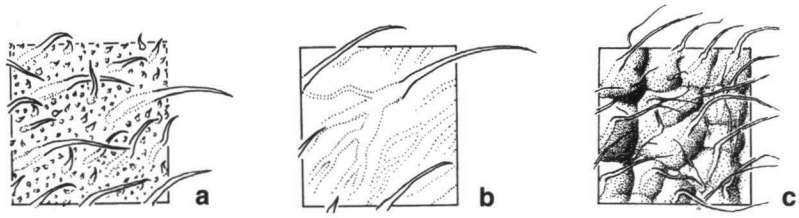


Fig. 3. Leaf surfaces of *Melastoma*. a. Few large and many small bristles of *M. perakense* Ridl.; b. bristles with branched bases of *M. crinitum* Naudin; c. bullate surface of *M. bensonii* Merr. (Original A. Berg). — Scale bar = c. 1.5 mm.

15a. Branches, petioles, and hypanthium covered with long spreading bristles .. 16
b. Hypanthium covered with spreading scales; branches and petiole covered with short, appressed or spreading scales 17
16a. Bases of bristles on lower leaf surface unbranched; leaves elliptic to lanceolate, strigose to nearly glabrous ..... **17. M. sanguineum**
b. Bases of bristles on lower leaf surface branched (Fig. 3b); leaves elliptic to ovate, pilose ..... **3. M. crinitum**
17a. Branches with appressed scales; hypanthium scales long, golden .....
..... **15. M. sabahense**
b. Branches with spreading bristles and scales; hypanthium scales short, brown
..... **22. M. velutinosum**
18a. Leaf surface bullate (Fig. 3c) ..... **19. M. setigerum**
b. Leaf surface not bullate 19
19a. Upper leaf surface with few long and many very short bristles (Fig. 3a). — Peninsular Malaysia ..... **14. M. perakense**
b. Upper leaf surface with only one type of bristles (if more than one type then not Peninsular Malaysia) 20
20a. Flowers enclosed in large, pilose bracts > 1 cm long 21
b. Bracts not enclosing the flowers (if enclosing the flower, then bracts glabrous or strigose) 22
21a. Leaves lanceolate, olive-brown; hypanthium bristles brownish. — Peninsular Malaysia and Borneo ..... **11. M. muticum**
b. Leaves ovate, green-olive; hypanthium bristles golden. — Indochina .....
..... **18. M. septemnervium**
22a. Inflorescences on old wood, overtopped by subterminal shoots .....
..... **6. M. imbricatum**
b. Inflorescences on young shoots ..... **7. M. malabathricum**

1. **Melastoma beccarianum** Cogn. — Map 1

Melastoma beccarianum Cogn. in DC., Monogr. Phan. 7 (1891) 356. — Type: *Beccari s.n.* (BR n.v.), Brunei, Borneo.

Shrub or small tree up to 6 m high; young branches quadrangular, covered with appressed brown scales and bristles, bark brown; old branches terete, glabrescent. *Leaves* lanceolate, 3.2–13 by 0.6–2.3 cm; base acute to cuneate, apex acute to acuminate; lamina strigose above and strigose to subvillous below; nerves 5, lower surface covered with appressed to semi-erect scales and bristles; petiole 3–18 mm long. *Inflorescence* a terminal or apical axillary cyme of 1–3(–5) flowers. *Flowers* 5-merous; bracts ovate-acuminate, 5–9 by 5–8 mm, strigose on the outside, glabrous inside. *Hypanthium* campanulate, 7–14 by 6–13 mm, densely covered with golden-red, erect, stellate emergences, their stalk c. 5 mm long, their bristles c. 5 mm long; sepals deciduous, lanceolate, 10–11 by 4–5 mm, both sides covered with bristles; intersepalar emergences the same as on the hypanthium. *Petals* violet, obovate, 27–30 by 21–24 mm. *Stamens* dimorphic; outer stamens: filaments yellow, 11–12 mm long, anthers c. 12 mm long, connective ventrally curved, c. 5–6 mm long, with two ventral, yellow appendages, c. 2 mm long; inner stamens: yellow, filaments 9–10 mm long, anthers 8–9 mm long, connective not prolonged, with two ventral spurs c. 1 mm long. *Ovary* c. 3/4 as long as the hypanthium, crowned by golden bristles. *Fruit* a campanulate, fleshy capsule, 8–16 by 8–15 mm, splitting longitudinally at maturity.

Distribution — Borneo: Brunei, Malaysia (NW Sabah, Sarawak).

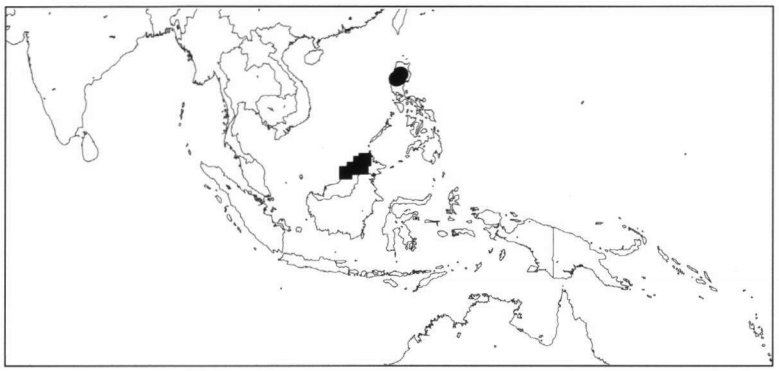
Habitat & Ecology — In open places, along rivers, or in forests, from sea level to 1500 m altitude.

Note — *Melastoma beccarianum* can easily be identified by its narrowly lanceolate leaves and the stellate hypanthium emergences. It is restricted to Borneo north-west of the Crocker Range. The hypanthium emergences are similar to those of the Indochinese *M. saigonense*, which might indicate a close relationship and allopatric speciation by the flooding of the Sunda Shelf during interglacials. Collections studied: 24.

2. **Melastoma bensonii** Merr. — Map 1

Melastoma bensonii Merr., Philipp. J. Sci., Bot. 5 (1910) 367. — Type: *Curran For. Bur. 18103* (K, P), Philippines, Luzon, Benguet, Mt Pulog, Jan. 1909 (K, P).

Shrub up to several metres tall; young branches quadrangular, densely covered with spreading brown bristles up to 2 mm long, bark grey-brown; old branches terete, glabrescent. *Leaves* ovate, 4–7.5 by 2–4 cm, base obtuse to attenuate, apex acute; lamina bullate (best seen on lower surface), above covered with thick-based straw-coloured bristles, beneath with semi-erect bristles mainly on the nerves; nerves 5 or 7, covered with appressed or spreading brown bristles; petiole 8–12(–18) mm long, covered with bristles as on the branches. *Inflorescence* a terminal cyme of 3–7 flowers. *Flowers* 5-merous; bracts deciduous, ovate to lanceolate, 4–5 by 2.5–3 mm, outside bristly, inside glabrous. *Hypanthium* campanulate, 7–8 by 5–6 mm, covered with spreading brown to golden bristles c. 2.5–3 mm long; sepals deciduous, narrowly triangular, c. 3 mm long, base c. 3 mm wide, outside covered with long bristles, inside glabrous; intersepalar emergences bristles larger than on the hypanthium. *Petals* violet, obovate,



Map 1. Distribution of *Melastoma beccarianum* Cogn. (■) and *M. bensonii* Merr. (●).

c. 12 by 9 mm, ciliate along the margin. *Stamens* dimorphic; outer stamens: filaments c. 3.5 mm long, connectives c. 2 mm long, straight, with a c. 1.5 mm long bilobed ventral appendage, anthers 3.5–4 mm long, not beaked; inner stamens: filaments c. 3 mm long, connectives c. 0.2 mm long, with 2 ventral appendages c. 0.5 mm long, anthers c. 3 mm long, not beaked. *Ovary* ovoid, c. 3/4 as long as the hypanthium, apically bristly; style c. 9 mm long, pink. *Fruit* a fleshy capsule.

Distribution — Philippines: Luzon.

Habitat & Ecology — In forests at 2100–2400 m altitude.

Note — This species is restricted to high mountains of the largest Philippine island, Luzon. It can be identified by its attenuate leaf bases, the slightly bullate laminas and the hairs that cover the entire plant. Like several other montane species of *Melastoma* it is dark brown or olive when dry. Collections studied: 6.

3. **Melastoma crinitum** Naudin — Map 2

Melastoma crinitum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 280. — Type: *Cuming 853* (BM, K, P), Philippines, Luzon, Albay, 1841.

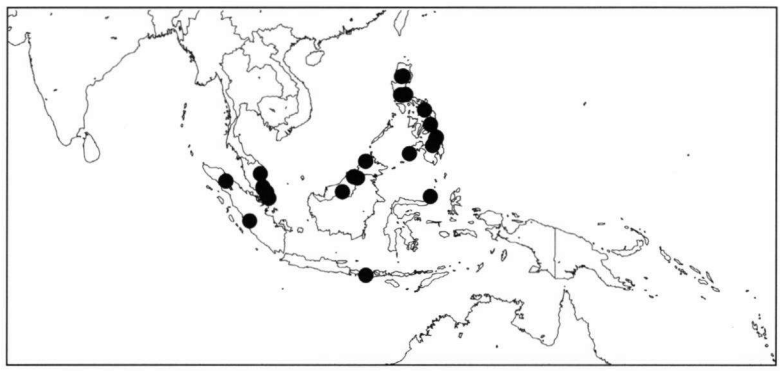
Melastoma penicillatum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 280. — Type: *Cuming 1747* (BM, K, P), Philippines, Leyte, 1841.

Melastoma barbeyanum Cogn. in DC., Monogr. Phan. 7 (1891) 347. — *Melastoma rufosetosum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 97. — Type: *Zollinger 3223* (L), Indonesia, Lombok, Nusa Tenggara Barat, Rindjarie, Java, 2100 m, 8 Aug. 1846.

Melastoma setosum Elmer, Leafl. Philipp. Bot. 8 (1915) 2758. — Type: *Elmer 14168* (C, K, L, MO, P), Philippines, Mindanao, Agusan, Cadabaran (Mt Urdaneta), Oct. 1912.

Melastoma molle Wall. ex Ridl., J. Malayan Branch Roy. Asiat. Soc. 1 (1922) 60. — Type: *Wallich 4046* (K), Singapore, 1822.

Shrub or small tree up to 5 m tall; young branches quadrangular, covered with erect bristles c. 2–3 mm long, bark grey-brown; old branches terete, glabrescent. *Leaves* elliptic or ovate, 10–21 by 4.5–9 cm, base acute to rounded, apex acuminate; lamina on both sides covered with spreading bristles or sometimes strigose, bristle bases branched; nerves 5 or 7, covered with long spreading bristles; petiole 8–35 mm long. *Inflorescences* dense terminal cymes of 3–11 flowers. *Flowers* 5-merous; bracts lanceolate, 5–12 by 2–4(–7) mm; outside covered with long bristles, inside glabrous.



Map 2. Distribution of *Melastoma crinitum* Naudin.

Hypanthium campanulate, 9–11 by 6–9 mm, covered with spreading bristles 4.5–7 mm long; sepals narrowly triangular, 8.5–10 by 2–4 mm, outside covered with bristles up to 5 mm, inside glabrous; intersepalar emergences not distinguishable from hypanthium bristles. *Petals* violet, obovate-cuneate, 16–20(–34) by 11–16(–30) mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 7–8 mm long, connectives 7–8 mm long, ventrally curved, with 2 ventral appendages c. 2 mm long, anthers 8–9(–10.5) mm long, violet; inner stamens: filaments 4.5–5.5 mm long, connectives not prolonged, with 2 ventral appendages c. 0.8 mm long, anthers 7–8(–9) mm long, yellow. *Ovary* shorter than the hypanthium, crowned by golden bristles. *Fruit* a campanulate fleshy capsule, 9–12 by 7–10 mm, rupturing irregularly longitudinally at maturity, exposing the solid, orange placenta.

Distribution — Malaysia, Indonesia, Philippines.

Habitat & Ecology — In primary and secondary forests or along river-banks at altitudes of up to 2400 m.

Note — The bristles on the leaf surfaces contain crystalliferous cells, which make it relatively easy to see that their bases are branched. *Melastoma crinitum* is similar to *M. sanguineum* – and has sometimes been synonymised with that species – but the two can clearly be separated by the branched bristle bases and the spreading bristles on the leaf surfaces. The leaves of *M. crinitum* are also larger than those of *M. sanguineum*. Collections studied: 32.

4. Melastoma cyanoides Sm. — Fig. 4, Map 3

Melastoma cyanoides Sm., Cycl. 23 (1819) n. 56–57. — *Otanthera cyanoides* (Sm.) Triana, Trans. Linn. Soc. London 28 (1871) 55. — Type: *Smith s.n.* (n.v.), Indonesia, Ambon.

Melastoma rubro-limbatum Link & Otto, Ic. Pl. Select. (1825) t. 41. — *Lachnopodium rubro-limbatum* Blume, Flora 14, 27 (1831) 477. — *Otanthera rubro-limbata* (Link & Otto) Triana, Trans. Linn. Soc. London 28 (1871) 56.

Osbeckia manillana DC., Prodr. 3 (1828) 142. — *Otanthera manillana* (DC.) Triana, Trans. Linn. Soc. London 28 (1871) 56. — Type: *Perrottet s.n.* (P), Philippines, Manila, Albay, 1819.

Otanthera bracteata Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 235. — *Lachnopodium bracteatum* (Korth.) Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 56. — Type: *Korthals s.n.* (L? n.v.), Indonesia, Sumatra, Singalong.

Otanthera crinita Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 354. — Type: *Cuming 928* (BM, K), Philippines, Luzon, Albay, 1841.

Osbeckia papuana Cogn. in DC., Monogr. Phan. 7 (1891) 332. — *Otanthera papuana* (Cogn.) C. Hansen, Ginkgoana 4 (1977) 122. — Type: *Beccari 4026* (P), New Guinea, 'Monta Arfak ad Hatam', 1800 m, July 1875.

Otanthera setulosa K. Schum. in K. Schum. & Lauterb., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 327. — Type: *Brown 131* (n.v.), Papua New Guinea, Astrolabe Range, July 1898.

Otanthera strigosa Merr., Philipp. J. Sci. 14 (1919) 433. — Type: *Ramos BS 33079* (L, P), Philippines, Luzon, Ilocos Norte, Bangui to Claveria, Aug. 1918.

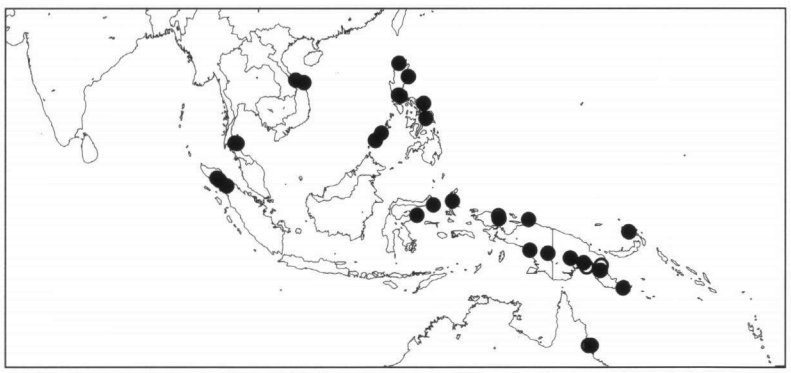
Osbeckia annamica Guillaumin, Fl. Gén. Indo-Chine 2, 7 (1921) 878. — *Otanthera annamica* (Guillaumin) C. Hansen, Ginkgoana 4 (1977) 122. — Type: *Eberhardt 2812* (P), Indochina, Vietnam, Thua Thien, 'haut cours de Bo giang'.

Otanthera adpressa Mansf., Nova Guinea 14 (1924) 199. — Lectotype: *Von Römer 562* (L), Indonesia, Irian Jaya, Lorentzfluss, 15 Oct. 1909.

Otanthera lamii Mansf., Nova Guinea 14 (1924) 199. — Lectotype: *Lam 1004*, 'in regio flumen Mamberamo, prope Prauwenbivak', Irian Jaya, Indonesia, 150 m, 1 Sept. 1920 (L).

Erect shrub 1–2 m high, seldom a small tree up to 4 m tall; young branches quadrangular, sparsely covered with small spreading bristles, bark brown-grey; old branches terete. *Leaves* ovate, elliptic or seldom lanceolate, 7–15 by 3–6(–8) cm, base rounded or acute, apex acuminate; lamina strigose on both sides, with longer bristles beneath; nerves 7 or 9, beneath sparsely covered with spreading bristles; petiole (5–)10–30 mm long. *Inflorescences* dense terminal cymes of few- to many flowers. *Flowers* 5-merous; bracts broadly ovate acuminate, 2.5–5.5 by 2–3 mm, outside bristly, inside glabrous, ± persistent. *Hypanthium* campanulate, 5.5–7 by 5.5–8.5 mm, covered with penicillate emergences 1.5–3(–4) mm long; sepals narrowly triangular, 2.5–5.5 by 0.8–2 mm, outside covered with bristles; intersepalar emergences penicillate, c. 2–4 mm long. *Petals* violet or seldom white, obovate, 7–8 by 5–6 mm, ciliate at the margin. *Stamens* isomorphic; filaments c. 3 mm long, connectives not prolonged, with 2 ventral appendages c. 0.5–0.8 mm long, anthers c. 3 mm long, yellow. *Ovary* shorter than the hypanthium, crowned by bristles; style sigmoid, 6–7 mm long. *Fruit* a globose-campanulate indehiscent dark blue berry 6–9 by 6–9 mm.

Distribution — Thailand (Nakhon Si Thammarat), Vietnam, Indonesia (Sumatra, Sulawesi, Moluccas, Irian Jaya), Philippines (Luzon, Palawan), Papua New Guinea, Australia (Queensland).



Map 3. Distribution of *Melastoma cyanoides* Sm.

Habitat & Ecology — In disturbed sites in forests or on stream banks; up to 1800 m altitude.

Note — *Melastoma cyanoides* can be recognised by its ovate to lanceolate leaves, persistent bracts and baccate fruits. It seems to be close to the other baccate-fruited species based on the shared fruit and hypanthium characters. Collections studied: 39.

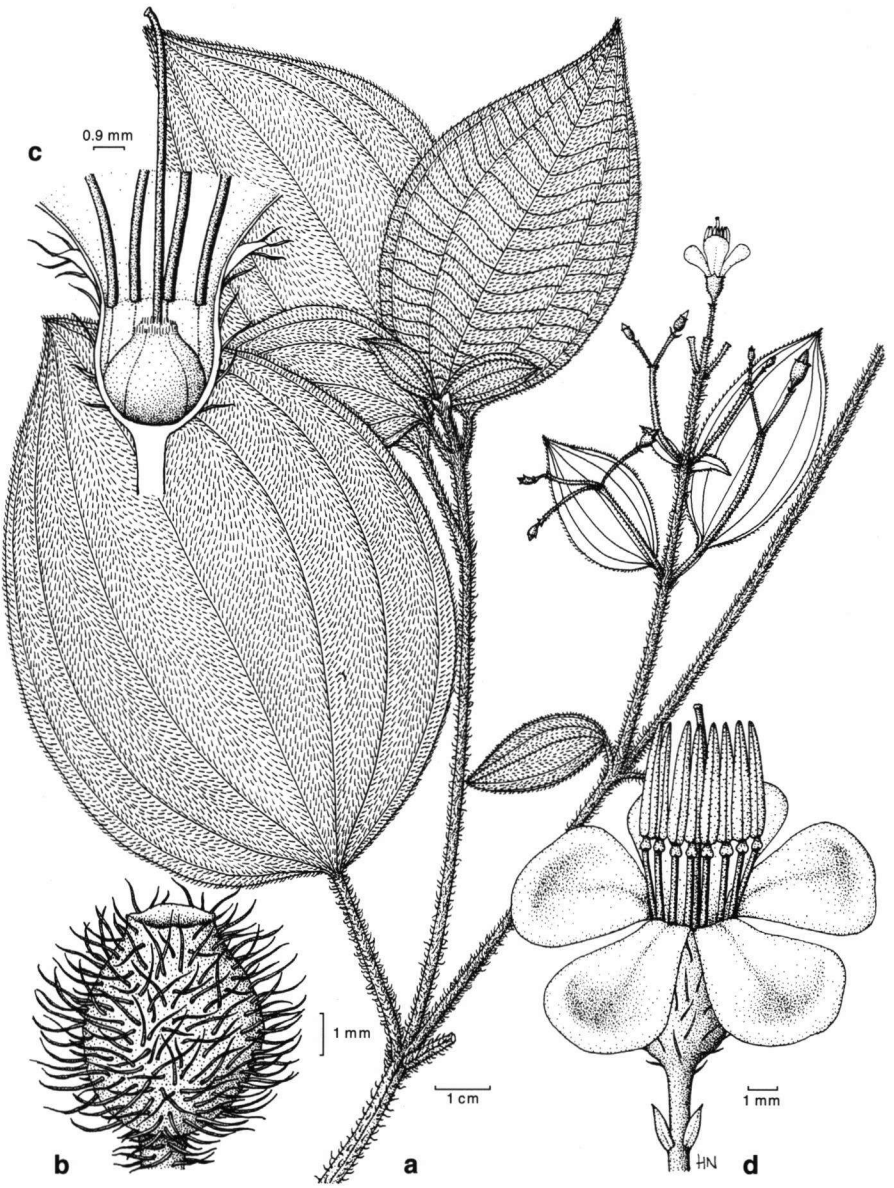


Fig. 4. *Melastoma cyanoides* Sm. a. Habit; b. fruit; c. longitudinal section through hypanthium; d. flower. (Original H. Nixon).

5. Melastoma dodecandrum Lour. — Map 4

Melastoma dodecandrum Lour., Fl. Cochinch. (1790) 274. — *Melastoma repens* Desr. in Lam., Encycl. 4 (1797) 54. — *Osbeckia heteranthera* Spreng., Syst. 2 (1825) 312. — *Osbeckia repens* Cogn. in DC., Prodr. 3 (1828) 142. — Type: *Herb. Jussieu s.n.* (n.v.).

Melastoma roseum Poir. in Lam., Encycl., Suppl. 3 (1814) 644. — Type: not designated.

Melastoma octandrum L. ex Sm. in Rees, Cycl. 23 (1819) n. 67. — Type: not designated.

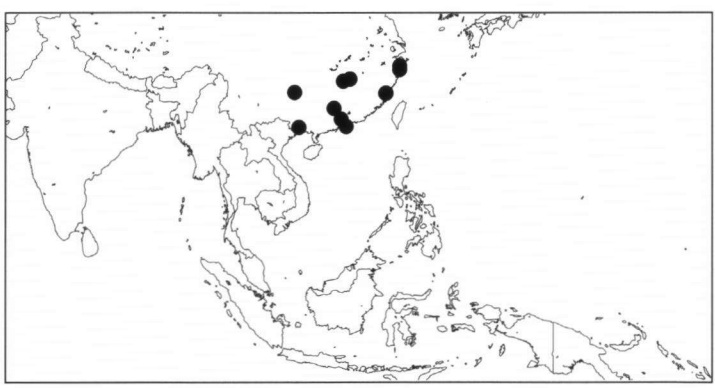
Melastoma trungii Pócs & Tiep, Ann. Hist. Nat. Mus. Natl. Hung. 57 (1965) 167. — Type: *Pócs 328* (n.v.), Vietnam, Nghe-an, Nghia-dan, inter opp. Vinh et pag. Quy-chau, 100 m, 28 Aug. 1963.

Creeping subshrub to 30 cm high; young branches quadrangular, sparsely covered with appressed brown bristles, especially on the edges, bark brown; older branches terete, glabrescent. *Leaves* elliptic to ovate, sometimes slightly obovate, 1–5 by 0.8–0.7 cm, base rounded, acute or attenuate, apex rounded to acute, lamina glabrous on both sides except some appressed strigose bristles along the upper leaf margin, margin entire; nerves 3 or 5, glabrous; petiole 2–10 mm long. *Inflorescence* 1 or 2 flowers in upper leaf axils. *Flowers* 5-merous; bracts triangular or lanceolate, 2–5 by 2–3 mm, glabrous. *Hypanthium* campanulate, 3–5 by 2–5 mm, glabrous or covered with appressed, penicillate emergences, c. 1 mm long, crowned by 1–3 bristles c. 1 mm long; sepals deciduous, triangular, 2–5 by 1–3 mm, glabrous; intersepalar emergences penicillate, c. 1 mm long, crowned by 1–3 bristles c. 1 mm long. *Petals* purple, obovate, 10–14 by 7–8 mm, ciliate along the margin. *Stamens* dimorphic; outer stamens: filaments 4–5 mm long, connectives c. 5 mm long, ventrally curved with two 1–2 mm long ventral lobes at the base, anthers c. 5 mm long; inner stamens: filaments 3–4 mm long, connective not prolonged but ventrally bilobed, lobes c. 0.8 mm long, anthers 4 mm long. *Ovary* adnate to the hypanthium for c. 2/3 of its length, crowned by bristles. *Fruit* a berry, 3–7 by 3–7 mm.

Distribution — N Vietnam (Phu Bo, Tonkin), S China (Guangxi, Guangdong, Guizhou, Jiangxi, Fujian), Hongkong.

Habitat & Ecology — In open, dry or wet grassland and scrub up to 800 m altitude.

Note — This is the only creeping species of *Melastoma*. In its fruit type and indumentum of leaves and branches it is close to the other baccate species. Collections studied: 37.



Map 4. Distribution of *Melastoma dodecandrum* Lour.

6. Melastoma imbricatum Wall. ex C.B. Clarke — Map 5

Melastoma imbricatum Wall. ex C.B. Clarke, Fl. Br. Ind. 2 (1879) 524. — Type: *Wallich 4047* (K), Malaysia, Penang, 1822.

Melastoma magnificum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 71. — Type: *Atje 228* (L), Indonesia, Sulawesi Tengah, Soela Islands, Soelabesi, Telj Batoepon.

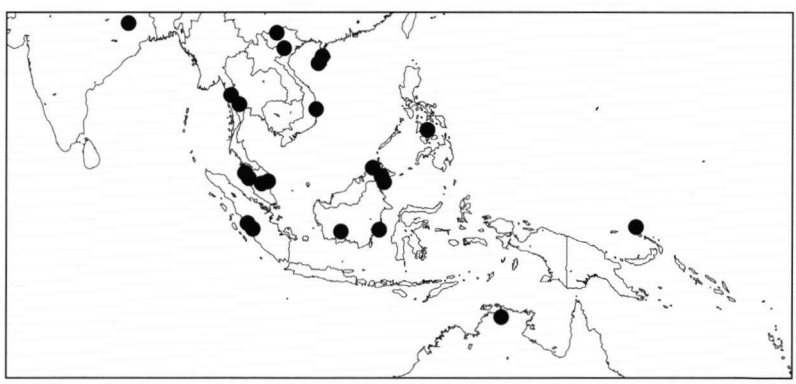
Melastoma imbricatum var. *laeve* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 72. — Type: *Iboet 40* (L), Indonesia, Mentawai Islands, P. Siberoet, Siberoet.

Shrub or small tree up to 3 m tall; young branches quadrangular, covered with appressed scales, bark brown-grey; older branches terete. *Leaves* elliptic to lanceolate, large for the genus, c. 13.5–19.5(–26) by 4.5–8(–10.5) cm, base rounded or acute, apex acuminate; lamina strigose on both sides; nerves 5 or 7, covered with appressed small scales; petiole 1.5–5.5 cm long. *Inflorescences* dense terminal cymes, overtopped by young branches. *Flowers* 5-merous; bracts deciduous, obovate, c. 9 by 6 mm, outside covered with appressed small scales, inside glabrous. *Hypanthium* campanulate, (6–)8–10 by (6–)7–9 mm, covered with short appressed golden scales; sepals triangular, 4–5 by 2.5–3 mm (or lanceolate, c. 12 by 5 mm), outside covered with scales of the same type as on the hypanthium, inside glabrous; intersepalar emergences large scales, c. 2 mm long. *Petals* violet, cuneate, c. 13 by 10 mm, ciliate along the margin. *Stamens* dimorphic, outer stamens: filaments c. 6 mm long, connectives c. 6.5 mm long, ventrally curved, with 2 ventral appendages c. 1.5 mm long, anthers c. 8.5 mm long, violet; inner stamens: filaments c. 6 mm long, connectives not prolonged, with 2 ventral appendages c. 1 mm long, anthers c. 7 mm long, yellow. *Ovary* as long as the hypanthium, crowned by bristles. *Fruit* a fleshy capsule, (7–)9–11 by (7–)8–11 mm, rupturing irregularly transversally at maturity, exposing the dark soft pulp with orange seeds.

Distribution — India, Thailand, Vietnam, China (Hainan), Malaysia, Indonesia, Philippines (Negros), Papua New Guinea, Australia (Northern Territories).

Habitat & Ecology — Growing in naturally or anthropogenically disturbed forests or along river banks at altitudes of up to 2000 m.

Note — *Melastoma imbricatum* can be distinguished from *M. malabathricum* by its large leaves and the young shoots overtopping the inflorescence. Collections studied: 28.



Map 5. Distribution of *Melastoma imbricatum* Wall. ex C.B. Clarke.

7. Melastoma malabathricum L.

1a. Leaves strigose to slightly pilose below; branches covered with scales ..... **a.** subsp. **malabathricum**

b. Leaves pilose beneath; branches pilose ..... **b.** subsp. **normale**

a. subsp. **malabathricum** — Map 6

Melastoma malabathricum L., Sp. Pl. 1 (1753) 390. — Type: *Wight s.n.* (n.v.), India orientalis.

Melastoma affine D. Don, Mem. Wern. Nat. Hist. Soc. 4 (1823) 288. — Type: *Roxburgh s.n.* (n.v.), India orientalis.

Melastoma obvolutum Jack, Trans. Linn. Soc. London 14 (1823) 3. — *Melastoma malabathricum* var. *obvolutum* (Jack) Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 80. — Type: *Korthals s.n.* (n.v.), Indonesia, Sumatera Barat, Padang besie.

Melastoma denticulatum Labill., Sert. Austro-Caled. 2 (1824) 65, t. 64.

Melastoma asperum Blume, Bijdr. 17 (1826) 1076. — *Melastoma trachyphyllum* (Blume) Backer ex Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 85. — Type: *Blume s.n.* (K, P), Indonesia, Java.

Melastoma sylvaticum Blume, Bijdr. 17 (1826) 1077. — Type: *Blume s.n.* (K, L), Indonesia, Java.

Melastoma taitense DC., Prodr. 3 (1828) 144. — Type: *Gaudichaud s.n.* (P), Society Islands, Tahiti.

Melastoma polyanthum Blume, Flora 14 (1831) 481. — Type: *Blume s.n.* (K, P), Indonesia, Jawa Barat, Jakarta.

Melastoma polyanthum var. *pallens* Blume, Flora 14 (1831) 482. — Type: *Blume s.n.* (L), Indonesia, Jawa Barat, Bantam.

Melastoma polyanthum var. *riparium* Blume, Flora 14 (1831) 482. — Type: *Blume s.n.* (L), Indonesia, Jawa Barat, 'ad ripas fluminis circa Buitenzorg'.

Melastoma tidorense Blume, Flora 14 (1831) 482. — Type: *Reinwardt s.n.* (n.v.), Indonesia, Maluku, Tidore.

Melastoma royenii Blume, Flora 14 (1831) 483. — *Melastoma polyanthum* var. *royenii* (Blume) Miq. — Type: *Van Royen s.n.* (C), Sri Lanka.

Melastoma decemdentatum Kostel., Allg. Med.-Pharm. Fl. 4 (1835) 1511. — Type: not designated.

Melastoma jackianum Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 227. — Type: *Korthals s.n.* (n.v.), Indonesia, Sumatera Barat, Padang Highlands.

Melastoma punctatum Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 229. — Type: *Korthals s.n.* (n.v.), Indonesia, Jawa Barat, G. Boerangrang, 1100 m.

Melastoma pusillum Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 54. — Type: *Korthals s.n.* (K, P), Indonesia, Borneo, Pulau Lampé.

Melastoma tondanense Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 54. — Type: *Reinwardt s.n.* (K, P), Indonesia, Sulawesi Utara, Celebes: prope Tondano, Oct. 1821.

Melastoma vitiense Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 275. — Type: *Le Guillou s.n.* (P), Balaou, Fiji Islands.

Melastoma ceramense Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 276. — Type: *Jaquinot s.n.* (P), Indonesia, Maluku, Ceram, Warou.

Melastoma mariannum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 276. — *Melastoma malabathricum* var. *mariannum* (Naudin) Fosberg & Sachet, Smithsonian Contr. Bot. 45 (1980) 15. — Type: *Hombron s.n.* (P), Marianne Islands, Guham-Archipel.

Melastoma anoplanthum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 277. — Type: *Gaudichaud s.n.* (P), Malaysia, Pulau Penang, March 1837.

Melastoma hombronianum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 278. — Type: *Hombron s.n.* (P), Philippines, Zamboango del Sur, 'Sanboangon Point sudest de la presqu'ile sudest de Mindanao'.

Melastoma paleaceum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 279. — Type: *Gaudichaud 111* (P), Vietnam, Quang Nam-Da Nang, Tourane, Jan. 1837.

Melastoma pelagicum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 279. — Type: *Hombron s.n.* (P), Solomon Islands, Isle Ysabel.

Melastoma articulatum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 285. — Type: *Hooker s.n.* (n.v.), India orientalis.

Melastoma heterostegium Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 286. — Type: *Callery s.n.* (P), Philippines, Albay, Pangasinan, 1840.

Melastoma homostegium Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 286. — Type: *Cuming 927* (BM, K, P), Philippines, Luzon, Rizal, Manila, 1841.

Melastoma fasciculare Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 288. — Type: *Gaudichaud 294* (P), Philippines, Luzon, Rizal, Manila, Nov. 1836.

Melastoma baumianum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 289. — Type: *Baume s.n.* (K, P), Philippines, Luzon, Rizal, Great lake at Manila, Aug. 1832.

Melastoma longiflorum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 290. — Type: *Gaudichaud 108* (P), Vietnam, Tourane, Jan. 1837.

Melastoma novae-hollandiae Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 290. — Type: *Verreaux 571* (P), Australia, Queensland, Neu-Holland, Moreton Bay, Dec. 1845.

Melastoma sechellarum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 290. — Type: *Pervillé s.n.* (K, P), Seychelles, 1841.

Melastoma ellipticum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 291. — Type: *Leschenault s.n.* (P), Sri Lanka.

Melastoma brachyodon Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 292. — Type: *Zollinger 5* (P), Indonesia, Java, May 1842.

Melastoma oliganthum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 292. — Type: *Gaudichaud 78 ter* (P), Singapore, Feb. 1837.

Melastoma longifolium Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 293. — Type: *Guillou s.n.* (P), Singapore, July 1839.

Melastoma triflorum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 293. — Type: *Maie s.n.* (P), India, Goa.

Melastoma trachycaulon Miq., Fl. Ind. Bat., Suppl. 1 (1860) 316. — Type: *H.B. 826* (U), Indonesia, Sumatera Barat, Padang, Pulau Pisang.

Melastoma pusillum var. *longifolium* Cogn. in DC., Monogr. Phan. 7 (1891) 354. — *Melastoma borneense* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 84. — Type: *De Vriese 168* (L), Indonesia, Borneo, 1860.

Melastoma francavillanum Cogn. in DC., Monogr. Phan. 7 (1891) 358. — Type: *Zollinger 2175* (P), Indonesia, Java, Mt Waliran, 2000 m, 28 Aug. 1844.

Melastoma fuscum Merr., Philipp. Gov. Lab. Bur. Bull. 17 (1904) 39. — Type: *Barnes FB 340* (BM, K), Philippines, Bataan, Luzon, Lamao River, Feb. 1904.

Melastoma parvifolium Merr., Philipp. Gov. Lab. Bur. Bull. 29 (1905) 32. — Type: *Elmer 5836* (P), Philippines, Luzon, Baguio, Benguet Province, March 1904.

Melastoma lanaense Merr., Philipp. J. Sci., Bot. 3 (1908) 153. — Type: *Clemens 836* (n.v.), Philippines, Mindanao, Lanao del Sur, Camp Keithley, Lake Lanao, Nov. 1906.

Melastoma intermedium Dunn, J. Linn. Soc., Bot., London 38 (1908) 360. — Type: *Dunn 2706* (P), China, Fukien, Yenping Mts, 1500 m.

Melastoma membranaceum Merr., Philipp. J. Sci., Bot. 3 (1909) 423. — Type: *Fénix BS 3798* (K), Philippines, Cagayan, Batanes Islands, June 1907.

Melastoma warrineri C.B. Rob., Philipp. J. Sci., Bot. 6 (1911) 352. — Type: *Robinson BS 9370* (K), Philippines, Luzon, Quezon, Infanta, 900 m, Aug. 1909.

Melastoma congesta Elmer, Leafl. Philipp. Bot. 4 (1911) 1194. — Type: *Elmer 12402* (BM, K, L), Philippines, Capiz, Sibuyan, Magallanes (Mt Giting-Giting), May 1910.

Melastoma scabrum Ridl., J. Straits Branch Roy. Asiat. Soc. 79 (1918) 66. — Type: *Anonymous 150113* (K), Malaysia, Kedah, Langkawi, Burau, Selaya Tupok, April 1911.

Melastoma holmani Elmer, Leafl. Philipp. Bot. 8 (1919) 3089. — Type: *Elmer 18479* (n.v.), Philippines, Luzon, Laguna, Los Baños (Mt Maquiling), June-July 1917.

Melastoma vulcanicum Ridl., J. Malayan Branch Roy. Asiat. Soc. 1 (1923) 60. — Type: *Ridley s.n.* (K), Indonesia, Sumatera Utara, Bigkeerk (?), Berastagi, Sibayak Volcano.

Melastoma polyanthum var. *pulleana* Mansf., Bot. Jahrb. Syst. 60 (1924) 109. — Type: *Pulle 554* (L n.v.), Papua New Guinea, Perameles Mts, 1000 m.

Melastoma subgrande Hochr., Candollea 2 (1925) 486. — Type: *Hochreutiner 3387* (n.v.), Samoa, lac Lanunea, Île d'Upolu, 500 m, 25 March 1905.

Melastoma roemeri Mansf., Bot. Jahrb. Syst. 60 (1926) 107. — Lectotype: *Von Römer 1123* (L), Papua New Guinea, Madang, Hellwig-Gebirge, 1000–1500 m, Nov. 1909.

Melastoma imbricatum var. *longipes* Craib, Fl. Siam. 1 (1931) 679. — Type: *Put 224* (K), Thailand, Chantaburi, Baw Re, 22 July 1926.

Melastoma malabathricum var. *grandiflorum* Craib, Fl. Siam. 1 (1931) 681. — Type: *Kerr 15235* (BK, BM), Thailand, Phattalung, Khao Sung, 900 m, 10 April 1928.

Melastoma pinatubense Elmer, Leafl. Philipp. Bot. 9 (1934) 3204. — Type: *Elmer 22233* (BM, C, K, L, P, SING), Philippines, Luzon, Pampanga, Camp Stotsenburg (Mt Pinatubo), May 1927.

Melastoma stenophyllum Merr., Mich. Acad. Sci. Arts Letters 24 (1938) 83. — Type: *Rahmat 7000* (n.v.), Indonesia, Sumatra, near Hoeta Bagasan, 7 Sept. 1934 to 4 Feb. 1935.

Melastoma polyanthum var. *linearifolium* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 69. — Type: not designated.

Melastoma polyanthum var. *mollissimum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 70. — Type: *Toxopeus 217* (L), Maluku, Boeroe, Nal' Besi, 950 m, 14 June 1921.

Melastoma suave Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 74. — Type: *Teijsmann s.n.* (L), Indonesia, Jawa Barat, Bogor, July 1867.

Melastoma malabathricum var. *javanum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 82. — Type: *Elbert 192* (L), Indonesia, Jawa Timur, Res. Madioen, Lawoe, 1400 m, 14 Sept. 1912.

Melastoma sylvaticum var. *permultiflorum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 84. — Type: *Lörzing s.n.* (L), Indonesia, Sumatera Utara, 'Karo hoogvlakten aan de Sibayak', 1450 m, 25 May 1921.

Melastoma trachyphyllum var. *ochraceum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 87. — Type: *Lörzing 5995* (L, P), Indonesia, Sumatra, Sibaulangit, SE of G. Sibajak, 1700–2000 m, 28 Aug. 1918.

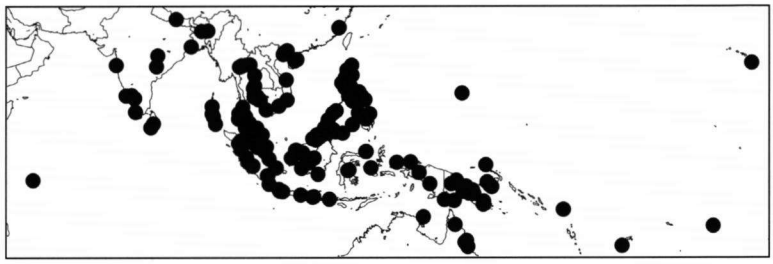
Melastoma caesium Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 88. — Type: *Elbert 4187* (L), Indonesia, Nusa Tenggara Barat, Sumbawa, north side of Batu-Lanteh Mts, 1700 m, 20 Jan. 1910.

Melastoma bünnemeyeri Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 91. — Type: *Bünnemeijer 881* (L), Indonesia, Sumatera Barat, Talakmau, 1900 m, 27 May 1917.

Melastoma robustum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 92. — Type: *Bünnemeijer 6585* (L), Indonesia, Riau, Lingga Archipelago, P. Lingga, G. Walker, 300 m, 12 July 1919.

Melastoma patulisetum Ohwi, Bot. Mag. Tokyo 57 (1943) 1. — Type: *Kanehira & Hatusima 13180* (n.v.), Indonesia, Irian Jaya, Ware, 60 miles south of Manokwari, 500 m, 26 March 1940.

Shrub 1.5–3 m high or small tree up to 5 m tall; young branches quadrangular, covered with appressed or slightly spreading scales, bark grey or brown; old branches terete, glabrescent. *Leaves* elliptic to lanceolate, 6–15 by 2–6.5 cm, occasionally narrowly lanceolate to oblong, 4–6 by 0.6–1.5 cm, base rounded to acute, apex acuminate; lamina strigose above, beneath strigose to slightly pilose; nerves 5 or 7, beneath covered with appressed to spreading scales; petiole 7–20 mm long. *Inflorescences* terminal cymes of 3–12 flowers. *Flowers* 5-merous, seldom 6-, 7-, or 8-merous, often varying in a single plant; bracts deciduous, lanceolate or ovate, acuminate, varying from small and inconspicuous (2.3 by 2 mm) to large and enclosing the buds (16 by 14 mm), out-



Map 6. Distribution of *Melastoma malabathricum* L. subsp. *malabathricum*.

side covered with small appressed scales at least along the midrib, inside glabrous. *Hypanthium* campanulate, varying from 5–11 by 5–10 mm, covered with appressed or slightly spreading, (0.8–)1.2–2.5(–3.4) mm long, golden to red scales; sepals lanceolate, (3.2–)4.5–7(–10.5) by (1.9–)2.5–3.5(–6.2) mm, outside covered with appressed scales at least along the midrib, inside glabrous or hairy at the apex; intersepalar emergences subulate, (1–)1.5–3.5(–5.5) mm long. *Petals* violet, seldom white (especially in the Pacific Islands), obovate, 15–35 by 10–22 mm, ciliate at the apical margin. *Stamens* dimorphic (seldom isomorphic); outer stamens: filaments 6–12 mm long, connectives 9.7–17 mm long, with a ventral bilobed, yellow appendage 0.9–3.3 mm long, anthers 6.5–13.1 mm long, slightly sigmoid, violet; inner stamens: filaments 5.5–9.5 mm long, connective not prolonged or seldom up to 2 mm long, with 2 ventral appendages c. 0.6–2 mm long, yellow, anthers 5.5–10.5 mm long, ± straight, yellow. *Ovary* shorter than the hypanthium, crowned by golden bristles; style 23–32 mm long, sigmoid. *Fruit* a fleshy capsule, 6.5–10(–11.5) by (5–)6–9(–10.5) mm, rupturing irregularly transversally at maturity, exposing the soft, dark blue pulp with the orange seeds.

Distribution — Indian Ocean (Mauritius, Seychelles), S and SE Asia, S China, Taiwan, S Pacific Ocean (Micronesia, Melanesia, Polynesia), Australia.

Habitat & Ecology — In disturbed places (roadsides, river banks, secondary forests), on fallow land, or on grasslands from sea level to up to 2900 m altitude.

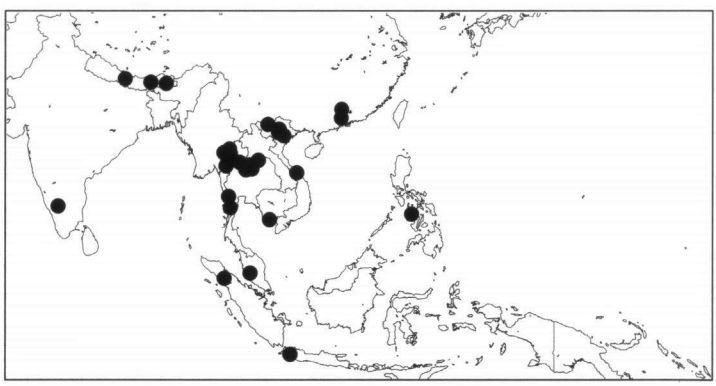
Notes — 1. *Melastoma malabathricum* is the most widespread and morphologically most variable species of the genus, resulting in the description of many species. After examining numerous specimens from the entire distributional range, I found intermediate forms 'connecting' the types of the named entities. Their characters combine nearly independently within the geographical range of *M. malabathricum* which makes it impossible to describe subspecies or varieties based on more than one or two collections. An exception is subsp. *normale*, which is more pilose than subsp. *malabathricum* and grows in the northern part of the distribution area. Intermediate forms in branch indumentum and specimens from the Malay Archipelago preclude treatment of subsp. *normale* as a separate species.

2. The great variability of *M. malabathricum* may be connected with its preferred habitat. The plants grow in disturbed places that today are more common in Asia and Oceania than undisturbed ones. It is possible that the species expanded its natural area synanthropically resulting in the isolation of small populations and the subsequent stabilisation of morphological characters of the (self-compatible) founder individual. Collections studied: 338.

b. subsp. **normale** (D. Don) K. Meyer, *comb. & stat. nov.* — Map 7

Melastoma normale D. Don, Prodr. Fl. Nep. (1825) 220. — Type: *Hamilton s.n.* (n.v.), Nepal.
Melastoma wallichii DC., Prodr. 3 (1828) 146. — Type: *Wallich 4039* (BM, K, P), prope Sikkim, India, 600 m.
Melastoma houtteanum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 291. — Type: *Van Houtte s.n.* (P), locality unknown (Burma?).
Melastoma microphyllum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 293. — Type: *Anonymous s.n.* (P), Inde ou Oceanie.
Melastoma velutinum Seem., Fl. Vit. (1865–1873) 90. — Type: *Armstrong 354* (n.v.), New Guinea, Port Essington.
Melastoma clarkeanum Cogn., Monogr. Phan. 7 (1891) 346. — Type: *Helfer 2241* (K, P), Burma, Tenasserim, 1000 m, 1837.
Melastoma osbeckioides Guillaumin, Not. Syst. 2 (1912) 305. — Type: *Thorel s.n.* (P), Cochinchine.
Melastoma eberhardtii Guillaumin, Fl. Gén. Indo-Chine 2, 7 (1921) 889. — Type: *Eberhardt 2804* (P), Indochine, Chua-Thieu, haud cours du Bo-giang.
Melastoma klossi Baker f., J. Nat. Hist. Soc. Siam 4 (1921) 132.
Melastoma normale var. *divergens* Craib, Fl. Siam. 1 (1931) 682. — Type: *Kerr 5540* (BK, BM, K), Thailand, Chiang Mai, Muang Kawng, Chiengdao, 1400 m, 1 June 1921.
Melastoma pubescens Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 87. — Type: *Anonymous (Herb. Hasskarl) s.n.* (L), locality unknown.

Shrub 1.5–2.5 m high or small tree up to 4 m high; young branches quadrangular, covered with spreading or erect scales and bristles, bark brown; old branches terete, glabrescent. *Leaves* lanceolate, 6–12(–20) by 3–6(–8) cm, base rounded or acute, apex acuminate; lamina above strigose to pilose, beneath pilose; nerves 5 of 7, beneath covered with long spreading bristles or scales; petiole 7–25 mm long. *Inflorescences* terminal cymes. *Flowers* 5-merous; bracts lanceolate, 6–10 by 2–4 mm, outside hairy, inside glabrous. *Hypanthium* campanulate, 6–9 by 6–8 mm, covered with long appressed golden scales; sepals triangular-lanceolate, 6.5–8 by 3–4 mm, outside covered with appressed scales, inside glabrous; intersepalar emergences simple, c. 2 mm long. *Petals* violet, obovate-cuneate, 22–27 by 17–20 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments c. 8 mm long, connectives c. 5.5 mm long, ventrally curved, with 2 ventral appendages c. 1.5 mm long, anthers c. 7.5 mm long, violet; of inner stamens: filaments 7–8 mm long, connectives not prolonged, ventrally with 2



Map 7. Distribution of *Melastoma malabathricum* L. subsp. *normale* (D. Don) K. Meyer.

appendages c. 1 mm long, anthers c. 6.5 mm long, yellow. *Ovary* slightly shorter than the hypanthium, crowned by bristles. *Fruit* a fleshy capsule, opening irregularly transversally at maturity, 7–10 by 7–10 mm, exposing the soft dark pulp with orange seeds.

Distribution — Nepal, Bhutan, India (Karnataka, Sikkim), Thailand (N, NE), Laos, Vietnam, China, Malaysia (Perak), Indonesia (Sumatra, Java), Philippines (Capiz), New Caledonia.

Habitat & Ecology — In disturbed evergreen, deciduous or coniferous forests, in savannas on sandstone plateaux, or on rocks at altitudes from 300–1900 m.

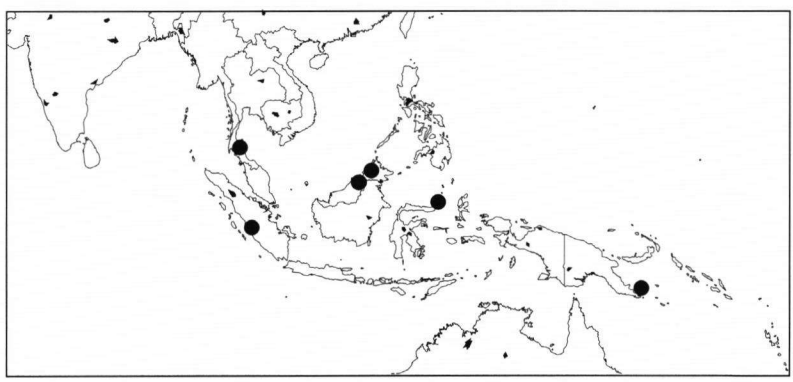
Note — *Melastoma malabathricum* subsp. *normale* is a more northern taxon than its relatives, being mainly distributed from the edges of the Himalaya across northern Thailand to S China. Here it is the most common taxon of *Melastoma*. In tropical regions it is restricted to high mountains. The plants can be identified by their pilose leaves and brown scales on the branches. Collections studied: 39.

8. **Melastoma minahassae** Koord. ex K. Meyer, *spec. nov.* — Map 8

Frutex brunneus a *M. bensonii* Merr. foliis ovato-lanceolatis haud reticulatis antherae rostratae, a *M. velutinosum* Ridl. setae calycis, et a *M. muticum* Merr. setae longioribus foliis distincta. — Holotypus: *Koorders 17872* (K), Indonesia, Sulawesi Utara, Minahassa, Menado, 1500 m, 19 Jan. 1895.

Melastoma sumatranum var. *lanatum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 93. — Type: *Bünnemeijer 9468* (L), Indonesia, Sumatra, West Kust, G. Koerintji, Sumatera Barat, 2020 m, 15 April 1920.

Shrub 1–2 m tall; young branches subquadrangular, covered with scales c. 2 mm long; old branches terete. *Leaves* ovate or lanceolate, 5–10 by 2.5–4.5 cm, base rounded to acute, apex acute to acuminate, lamina tomentose on both sides, nerves 5 or 7, covered with spreading slender scales up to 3 mm long, sometimes with a wine-red tinge; petiole 7–12 mm long. *Inflorescences* terminal cymes of 3–7 flowers. *Flowers* 5-merous; bracts deciduous, not seen. *Hypanthium* campanulate, c. 11 by 11 mm, covered with brown, sometimes reddish tinged bristles c. 5 mm long; sepals triangular, c. 9 by 5 mm, outside bristly, inside glabrous except at the apex; intersepalar emergences



Map 8. Distribution of *Melastoma minahassae* Koord. ex K. Meyer.

c. 3 mm long. *Petals* violet, obovate-cuneate, c. 40 by 35 mm, ciliate along the margin. *Stamens* dimorphic; outer stamens: filaments 9–10 mm long, connective ventrally curved, c. 6–7 mm long, with a ventral bilobed appendage c. 2 mm long, anthers 8–9 mm long; inner stamens: filaments 8–9 mm long, connective not prolonged, with 2 ventral appendages c. 1.3 mm long, anthers c. 7 mm long. *Ovary* as long as the hypanthium, apically bristly. *Fruit* a fleshy capsule, rupturing irregularly longitudinally at maturity.

Distribution — Thailand (Nakhon Si Thammarat), Malaysia (Sarawak), Indonesia (Sumatra, Sulawesi), Papua New Guinea.

Habitat & Ecology — In montane forest or scrub at 1500–2600 m altitude.

Note — This species is one of several found only on high mountains. Unlike *M. perakense* or *M. bensonii* it is not endemic to a small area. The present disjunctions may be the result of glacial/interglacial climatic changes, if during colder glacials vegetation zones retracted to lower altitudes, connecting habitats now restricted to montane zones. The plants are very attractive because of their brown colour and their large flowers. Collections studied: 7.

9. **Melastoma moluccanum** Blume — Map 9

Melastoma moluccanum Blume, Bijdr. 17 (1826) 1078. — *Otanthera moluccana* (Blume) Blume, Flora 14 (1831) 489. — Type: *Blume s.n.* (C, K), Indonesia, Maluku, Ambon.

Otanthera celebica Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 56. — Type: *Forsten s.n.* (n.v.), Indonesia, Maluku, Celebes.

Otanthera gracilis Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 353. — Type: *Labillardière s.n.* (P), Indonesia, Maluku, Ambon.

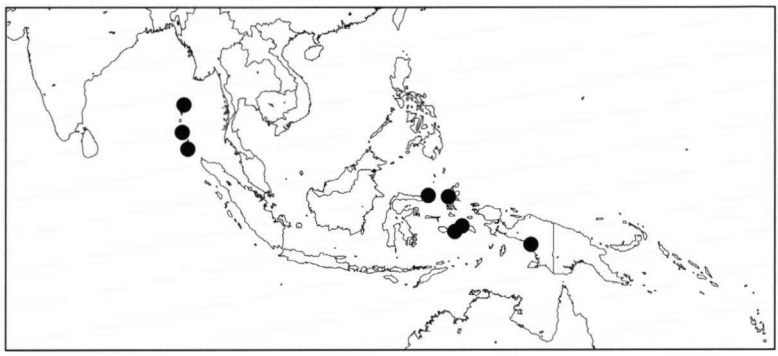
Otanthera nicobarensis Teijsm. & Blume, Nat. Tijdschr. Ned. Indië 25 (1863) 427. — Lectotype: *Didrichsen 3678* (C), India, Nicobar Islands, Little Nicobar, Galathea-Expeditionen, 1845–1847.

Otanthera novoguinensis Baker f., Trans. Linn. Soc. London, Bot. 9 (1916) 50. — Type: *C.B. Kloss s.n.* (BM, L), Indonesia, Irian Jaya, Camps I to III, Setakwa River, 700 ft, 22 Nov. 1912.

Otanthera parviflora Merr., Philipp. J. Sci., Bot. 12 (1917) 355. — Type: *Merrill 8082* (K), Philippines, Zamboanga, Sax River Mts back of San Ramon, 800–1100 m, 28 Nov. 1911.

Otanthera subrostrata Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 106. Type: *Kornassi 955* (L), Indonesia, Maluku, Kwaos, Seram, 0 m.

Small shrub 1.5–2(–3) m tall; young branches quadrangular, sparsely covered with spreading bristles, bark grey; older branches terete, glabrescent. *Leaves* lanceolate-elliptic, 6–13 by 2.5–4.5 cm, base rounded, apex acuminate; lamina above strigose to appressed-pilose, dark brown when dry, beneath sparsely strigose to glabrous, pale green when dry; nerves 5, beneath sparsely appressed-pilose; petiole 5–12 mm long, indument as on the young branches. *Inflorescences* many-flowered loose terminal cymes. *Flowers* 5-merous; bracts lanceolate-ovate acuminate, c. 5 by 3 mm, glabrous but ciliate at the margins, deciduous. *Hypanthium* campanulate, 3–4 by 3–4 mm, covered with appressed, golden simple bristles or penicillate emergences, c. 1 mm long, or nearly glabrous; sepals narrowly triangular, c. 3 by 1.6 mm, outside covered as the hypanthium; intersepalar emergences penicillate, c. 1 mm long, golden. *Petals* violet, obovate, 9–10 by 7.5–8 mm, ciliate at the apex. *Stamens* isomorphic, but anthers unequal in length; filaments c. 3 mm long, connectives prolonged for c. 0.7 mm, with 2 ventral upward curved appendages 0.3–0.7 mm long, outer anthers 2.8–3 mm long,



Map 9. Distribution of *Melastoma moluccanum* Blume.

inner anthers 1.9–2.1 mm long, shortly beaked, yellow. *Ovary* shorter than the hypanthium, crowned by bristles; style c. 7 mm long, sigmoid. *Fruit* an indehiscent blue berry.

Distribution — India (Andaman and Nicobar Islands), Indonesia (Sulawesi, Moluccas, Irian Jaya).

Habitat & Ecology — In disturbed places in rain forests.

Note — *Melastoma moluccanum* can be identified by its lax inflorescence with small flowers. The distribution shows a distinct disjunction between the Andaman Sea and the Banda/Molucca Sea. The reason for this is unknown, and plants from both areas are not morphologically distinct. Collections studied: 13.

10. Melastoma montanum (Lauterb.) K. Meyer, *comb. nov.* — Map 10

Otanthera montana Lauterb., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 327. — Type: *Schlechter 14069* (n.v.), Papua New Guinea, Kaiser-Wilhelmsland, Bismarck-Geb., 1200 m, Jan. 1902.
Otanthera macrochiton Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 105. — Type: *Janowsky 617* (L), Indonesia, Irian Jaya, Bonggo, Armoppa, Jan. 1914.

Shrub 0.5–3 m tall; young branches quadrangular, sparsely covered with c. 1.5 mm long spreading dark bristles, bark brown or grey; old branches terete, glabrescent. *Leaves* lanceolate-elliptic, 9–14 by 3.5–5.5 cm, base acute, apex acuminate; lamina strigose above, beneath sparsely strigose to nearly glabrous, lighter coloured than above; nerves 7, covered with short appressed or spreading bristles; petiole 10–20 (–30) mm long. *Inflorescences* dense terminal cymes enclosed by leaves. *Flowers* 5-merous; bracts broadly ovate, enclosing half of the hypanthium, 7–9 by 8–10 mm, acuminate, outside sparsely bristly, inside glabrous. *Hypanthium* campanulate, 6.5–7.5 by 5–6 mm, densely covered with long spreading, red to dark violet penicillate emergences 3–3.5 mm long; sepals narrowly triangular, c. 3.5–4 by 1.3–1.6 mm, covered with long bristles; intersepalar emergences 2–3 mm long. *Petals* red-violet (or white), obovate, 6–8 by 5–6 mm, ciliate at the margin. *Stamens* isomorphic but anthers unequal in length; filaments c. 3 mm long, connectives prolonged for c. 0.2 mm, with 2 ventral appendages c. 0.5 mm long, outer anthers c. 3 mm long, inner anthers c. 2.5 mm long, shortly beaked, yellow. *Ovary* nearly as long as the hypanthium, crowned by golden bristles; style 6–7 mm long. *Fruit* an indehiscent dark blue berry.

Distribution — New Guinea.

Habitat & Ecology — In forests and on stream banks at up to 1000 m altitude.

Note — This species is the only *Melastoma* species endemic to New Guinea. In morphology, it is closest to *M. cyanoides* but it is clearly distinct from that species by the large bracts enclosing about half of the hypanthium. Collections studied: 9.

11. **Melastoma muticum** Ridl. — Map 10

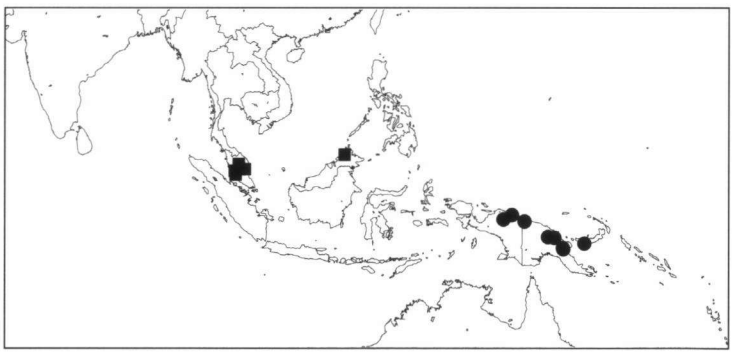
Melastoma muticum Ridl., J. Straits Branch Roy. Asiat. Soc. 6 (1912) 4. — Type: *Ridley s.n.* (K), Malaysia, Selangor, Hulu Semangkok, Aug. 1909.

Shrub or small tree up to 3 m tall; young branches subquandrangular, covered with appressed bristles and scales, bark brown; older branches terete, glabrescent. *Leaves* elliptic to lanceolate, 8.5–13 by 3–5 cm, base acute, apex acuminate; lamina strigose above, often dark brown, beneath subvillous and lighter in colour; nerves 5 or 7, covered with spreading slender scales and bristles; petiole 7–21 mm long, covered with long spreading bristles. *Inflorescences* terminal few-flowered cymes. *Flowers* 5-merous; bracts ovate to lanceolate, 15–22 by 10–15 mm, enclosing the hypanthium, the outside covered with short appressed hairs, the inside glabrous. *Hypanthium* campanulate, 12–15 by 9–10 mm, covered with appressed brown or straw-coloured bristles 5–6 mm long; sepals lanceolate, 10–12 by 3.5–5 mm, along the dorsal nerve covered with hairs, along the margins glabrous; intersepalar emergences 3–4 mm long. *Petals* violet, obovate-cuneate, 19–20 by 11–12 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments c. 5.5 mm long, connectives c. 5 mm long with a ventral bilobed appendage c. 2 mm long, anthers c. 7.5 mm long; inner stamens: filaments c. 5 mm long, connectives not prolonged, with 2 ventral appendages c. 1 mm long, anthers 5–6 mm long. *Ovary* slightly shorter than the hypanthium, crowned by golden bristles. *Fruit* a fleshy capsule, 10–14 by 10–11 mm, rupturing irregularly longitudinally at maturity.

Distribution — Peninsular Malaysia and Borneo (Sabah).

Habitat & Ecology — In montane forests or scrubs at 800–1700 m altitude.

Note — This species is similar to *M. perakense* but differs by its smaller leaves and the leaf surfaces having only one type of bristle. Collections studied: 10.



Map 10. Distribution of *Melastoma montanum* (Lauterb.) K. Meyer (●) and *M. muticum* Ridl. (■).

12. **Melastoma orientale** Guillaumin — Map 11

Melastoma orientale Guillaumin, Fl. Gén. Indo-Chine 2, 7 (1921) 888. — Type: *Pierre s.n.* (K), Vietnam, Bois du Song bé.

Otanthera confusa Craib, Kew Bull. (1930) 172. — Type: *Kerr 16763* (BK), Thailand, Ranong, Khao Patwa Chondong, 12 km north of Kapoe, 800 m, 20 Jan. 1929.

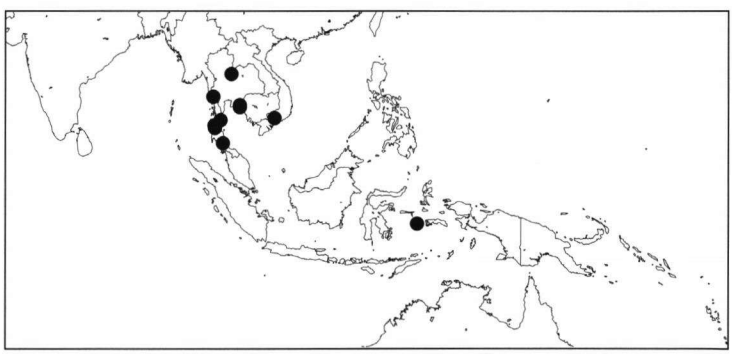
Shrub up to 2(–5) m tall; young branches quadrangular, covered with appressed red to brown bristles, bark green-grey; old branches terete, glabrescent. *Leaves* elliptic to lanceolate, 4.3–11.1 by 1–4 cm, base rounded to acute, apex acute to acuminate, lamina strigose on both sides; nerves 3 or 5, covered with bristles; petiole 3–15 mm long. *Inflorescence* terminal or apical axillary cymes of 3–6 flowers. *Flowers* 5-merous; bracts lanceolate to triangular, 2–7 by 1–3 mm, outside strigose, glabrous inside. *Hypanthium* campanulate, 3–5 by 3–5 mm, covered with spreading bristles up to 2 mm long, or with penicillate emergences, c. 1 mm long, crowned by c. 1 mm long bristles; sepals narrowly triangular, 2–5 by 1–2 mm, on the inside glabrous, on the outside covered with 2 mm long bristles; intersepalar emergences stellate, c. 2 mm long with c. 2 mm long bristles at the apex. *Petals* bright purple, obovate, 6–9 by 6–8 mm, ciliate at the apex. *Stamens* normally dimorphic; outer stamens: filaments 2–4 mm long, connectives 2–3 mm long and ventrally curved, or 1–2 mm long and straight, with two 1–1.4 mm long ventral lobes at the base, anthers 2–4 mm long, red to violet; inner stamens: filaments 2–4 mm long, connective prolonged for 0–1 mm, ventrally short bilobed, anthers 2–4 mm long; if stamens isomorphic then connective c. 1.5 mm and straight, with two 1–1.2 mm long ventral lobes, anthers c. 3.5 mm long. *Ovary* 2/3 as long as the hypanthium, crowned by golden bristles; style 6–7 mm long. *Fruit* a globose berry, 4–7 by 4–7 mm, dark blue when mature.

Distribution — Thailand, Laos, Vietnam, Indonesia (Buru).

Habitat & Ecology — In open or disturbed places in forests or along streams, at up to 1000 m altitude.

Uses — Decoction of leaves used for ablutions after delivery (*Vidal 4028*).

Notes — In most herbarium specimens the fruits are immature and look like fleshy capsules, not like berries. *Melastoma orientale* is morphologically similar to *M. cyanoides* from which it can be distinguished by the (normally) dimorphic stamens and the restriction to continental Asia. Collections studied: 56.



Map 11. Distribution of *Melastoma orientale* Guillaumin.

13. Melastoma pellegrinianum (H. Boissieu) K. Meyer, *comb. nov.* — Map 12

Dissotis pellegriniana H. Boissieu, Bull. Soc. Bot. France 59 (1912) 330. — Type: *Pierre s.n.* (K), Vietnam, Bien-Hoa, Bao-Chang.

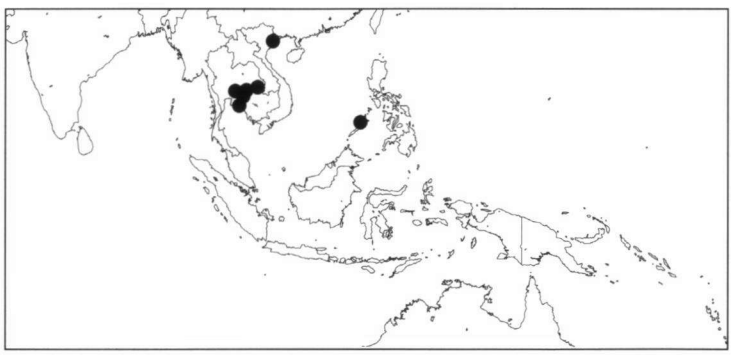
Melastoma acutisepalum Geddes, Kew Bull. (1930) 313. — Type: *Kerr 9244* (BK, K), Thailand, Koh Chang, Klong Kloi, 50 m, 29 Sept. 1924.

Small shrub 1–2 m tall; young branches quadrangular, covered with small appressed bristles, bark brown; old branches terete. *Leaves* narrowly lanceolate, 8.5–10 by 1.5–3(–5) cm, base acute, apex acuminate; lamina above strigose, beneath covered with appressed soft hairs; nerves 7, beneath covered with appressed bristles; petiole 8–15 mm. *Inflorescences* multiflowered (> 15 flowers), lax, terminal cymes. *Flowers* 5-merous; bracts deciduous, triangular, c. 3 by 2 mm. *Hypanthium* campanulate, 6–7 by 3.5–5 mm, sparsely covered with appressed short bristles; sepals triangular, 8–9 by 2.5–3 mm, outside sparsely appressed bristly, inside glabrous; intersepalar emergences large scales c. 1 mm long. *Petals* bright violet, obovate, 12–14 by 7–9 mm. *Stamens* dimorphic; outer stamens: filaments 9–10 mm long, connectives ventrally curved, 7.5–10 mm long, with 2 ventral appendages c. 1.5 mm long, anthers 7–8.5 mm long, violet; inner stamens: filaments 7–9 mm long, connectives straight, c. 1.5 mm long, with 2 ventral appendages c. 0.8 mm long, anthers 6.5–7.5 mm long, sigmoid, yellow. *Ovary* as long as the hypanthium, crowned by bristles; style sigmoid, 22–27 mm long. *Fruit* a dry capsule, 8–9 by 5–6 mm, opening apically loculicidally, releasing the seeds.

Distribution — C and SE Thailand; N Vietnam, Philippines (Culion).

Habitat & Ecology — In forests and/or along streams and waterfalls at 50–600 m altitude.

Note — This is the only *Melastoma* species with dry capsular fruits. This resulted in its placement in the African genus *Dissotis*, which is characterised by similar capsules. The great plasticity of fruits in *Melastoma*, the vegetative characters (especially the hypanthium indumentum), and its distribution in Asia rather than Africa require a transfer to *Melastoma*, which is further supported by molecular data. Non-fruiting plants can be identified by the lax, many-flowered inflorescence. Collections studied: 9.



Map 12. Distribution of *Melastoma pellegrinianum* (H. Boissieu) K. Meyer.

14. Melastoma perakense Ridl. — Map 13

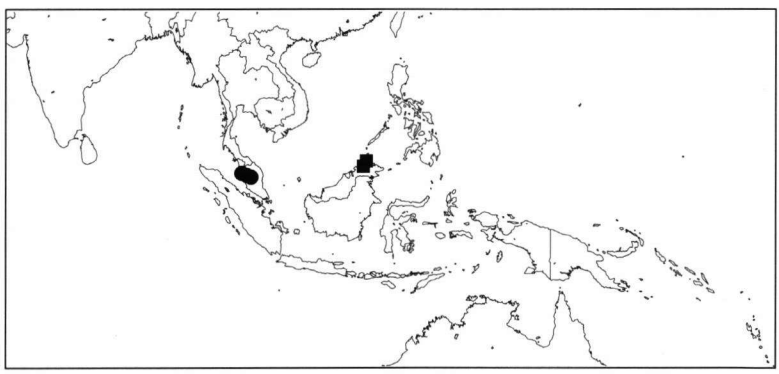
Melastoma perakense Ridl., Fl. Mal. Penins. 1 (1922) 764. — *Melastoma malabathricum* var. *perakensis* King, J. Asiat. Soc. Bengal 69, 2 (1900) 7. — Lectotype, here designated: *King's Collector 2173* (K, L), Malaysia, Perak, Larut, 1100 m, Aug. 1881.

Shrub or small tree up to 5 m high; young branches quadrangular, covered with spreading brown bristles, bark dark brown; older branches terete, glabrescent. *Leaves* elliptic, large, c. 11–18.5 by 4–7.5 cm, base rounded or acute, apex acuminate, lamina strigose above, with intermixed lepidote scales, dark brown, beneath subvillous, lighter brown to olive; nerves 7, beneath covered with spreading long brown scales; petioles 10–40 mm. *Inflorescences* terminal dense few-flowered cymes. *Flowers* 5-merous, bracts lanceolate, c. 11 by 3–4 mm, or ovate, 17–22 by 8–12 mm, the outside covered with short straw-coloured bristles. *Hypanthium* campanulate, 11–14 by 9–12 mm, covered with long appressed golden to straw-coloured bristles; sepals lanceolate, 13–16 by 6–8 mm, the outside covered with appressed golden hairs, glabrous at the margin, the inside hairy except at the base; intersepalar emergences 3–4 mm long. *Petals* violet, obovate-cuneate, 30–34 by 14–26 mm, ciliate along the apical margin. *Stamens* dimorphic; outer stamens: filaments c. 7 mm long, connectives 7–8 mm long, ventrally curved, with a bilobed ventral appendage c. 1.5 mm long, anthers 8.5–10.5 mm long, violet; inner stamens: filaments 5.5–6 mm long, connectives not prolonged, with 2 ventral appendages c. 1 mm long, anthers 7–8.5 mm long, yellow. *Ovary* shorter than the hypanthium, apically crowned by golden bristles. *Fruit* a fleshy capsule, 11–14 by 10–13 mm, rupturing irregularly longitudinally at maturity.

Distribution — Malaysia (Pahang, Perak).

Habitat & Ecology — In disturbed places in montane forests at 1100–1400 m altitude.

Note — King (1900), who first described this species as a variety of *M. malabathricum*, cited several syntypes, one of which I chose as lectotype. *Melastoma perakense* is one of several species endemic to small montane areas. It can be identified by its large leaves with a dark brown surface with small and large bristles, and its long, appressed bristles on the hypanthium. Collections studied: 6.



Map 13. Distribution of *Melastoma perakense* Ridl. (●) and *M. sabahense* K. Meyer (■).

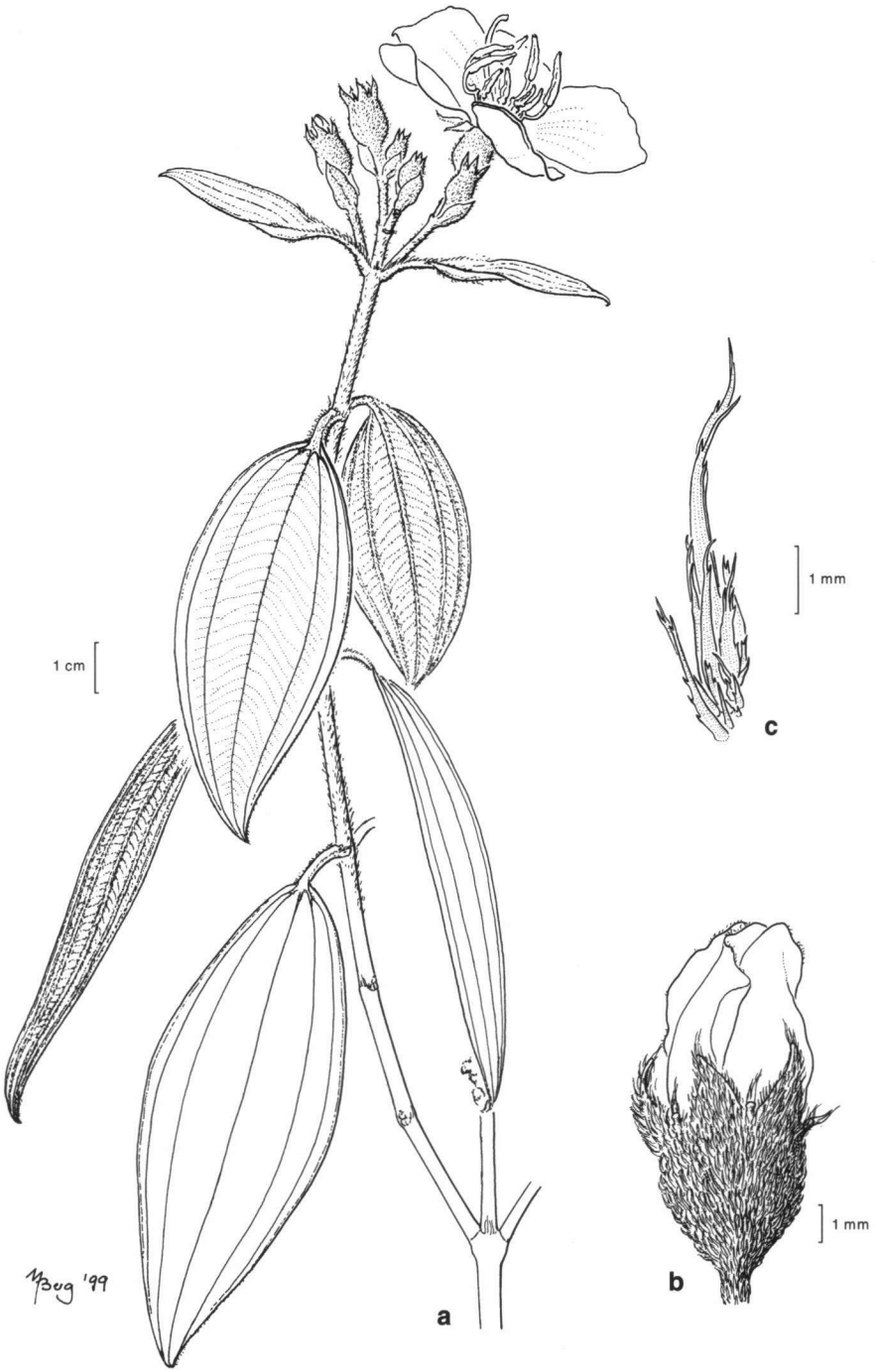


Fig. 5. *Melastoma sabahense* K. Meyer. a. Habit; b. hypanthium; c. intersepalar emergence. (Original A. Berg).

15. Melastoma sabahense K. Meyer, *spec. nov.* — Fig. 5, Map 13

Frutex erectus foliis lanceolatis septemnervia a *M. velutinosum* Ridl. squamis nerviis calycisque aureis distincta. — Holotypus: *Wong Kinabalu 93-51* (SAN), Malaysia, Sabah, Mt Kinabalu, near Timpohon, 4500 ft, 6 June 1993.

Shrub or tree up to 20 m high; young branches subquadrangular, covered with appressed slender scales, bark brown; old branches terete, glabrescent. *Leaves* lanceolate, 7.5–14.5 by 2.2–5.5 cm, base rounded to acute, apex acuminate, lamina strigose above, below with short, semi-erect bristles; nerves 7, beneath covered with long, golden appressed scales; petiole 15–20 mm long, covered with appressed and slightly spreading scales. *Inflorescence* a terminal cyme of 6–10 flowers. *Flowers* 5-merous, bracts deciduous, lanceolate, 9–12 by 4–6 mm, covered with appressed scales or short bristles. *Hypanthium* campanulate, 8–12 by 8–10 mm, densely covered with c. 4 mm long, golden, slightly spreading scales; sepals triangular, 8–12 by 3–4.5 mm, the outside covered with the same bristles as on the hypanthium, the inside glabrous; intersepalar emergences 2–3 mm long with c. 2 mm long golden bristles at the apex. *Petals* pink to blue-lilac, obovate, 33–37 by 27–30 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 7–8 mm long, connectives 10–11 mm long, ventrally curved and with 2 ventral appendages 1.7–2 mm long, anthers 10–12 mm long, violet; inner stamens: filaments 7–8 mm long, connectives not prolonged, with 2 basal-ventrally appendages c. 0.8 mm long, anthers 9–10 mm long, yellow. *Ovary* as long as the hypanthium, apically crowned by long golden bristles; style 21–28 mm long, sigmoid. *Fruit* a campanulate fleshy capsule, 10–12 by 10–12 mm, rupturing irregularly longitudinally at maturity.

Distribution — Malaysia: Sabah.

Habitat & Ecology — In primary and secondary forests on mountains at 1350–1800 m altitude.

Note — This species can be identified by its golden hypanthium bristles and the golden scales on the leaf nerves. It is known only from Gunung Alab and Mt Kinabalu, both in the Malaysian state of Sabah. Collections studied: 8.

16. Melastoma saigonense (Kuntze) Merr. — Fig. 6, Map 14

Melastoma saigonense (Kuntze) Merr., J. Arnold Arbor. 29 (1948) 212. — *Osbeckia saigonensis* Kuntze, Revis. Gen. Pl. 1 (1891) 247. — Type: *Kuntze 3962* (K), Vietnam, Saigon, 3 March 1875.

Melastoma villosum Sims non Aubl., Bot. Mag. 54 (1824) t. 2630. — *Pleroma villosum* DC., Prodr. 3 (1828) 152. — *Alosemia villosa* Raf., Sylva Tellur. (1838) 96. — *Dissotis villosa* Triana, Trans. Linn. Soc. London 28 (1871) 57.

Shrub up to 3 m high; young branches subterete to subquadrangular, covered with flexuose or spreading brown bristles, bark brown to grey; old branches terete, glabrescent. *Leaves* ovate to elliptic, sometimes lanceolate, 2.3–7.6 by 0.9–3.9 cm, base rounded to obtuse, seldom slightly cordate, apex acute, lamina subvillous above, subvillous to villous beneath; nerves 5 or 7, beneath densely covered with semi-erect to erect bristles; petiole 7–12 mm long. *Inflorescence* a terminal or apical axillary cyme of 1–3 flowers. *Flowers* 5-merous; bracts ovate-acuminate, 3–5 by 2–3 mm, on both

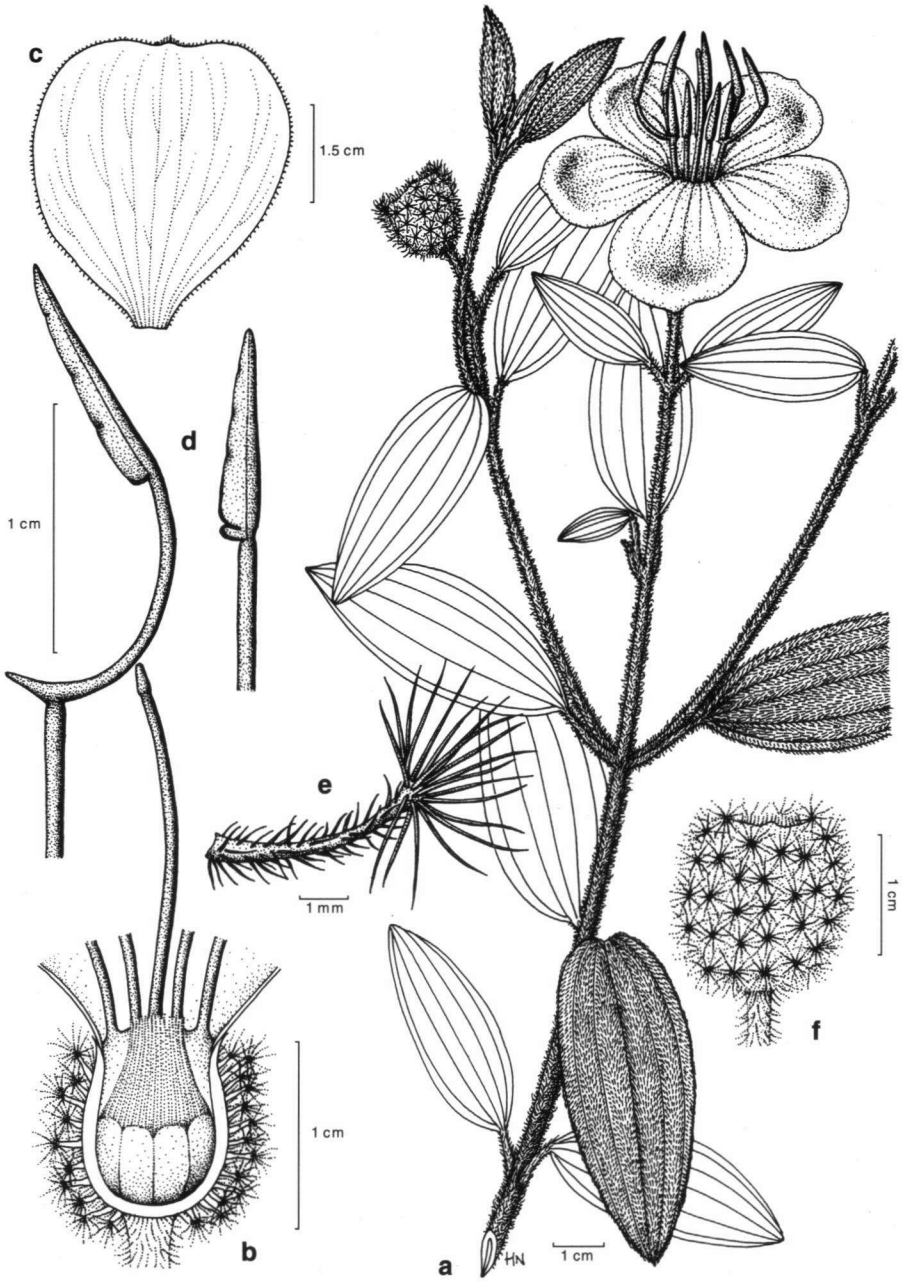
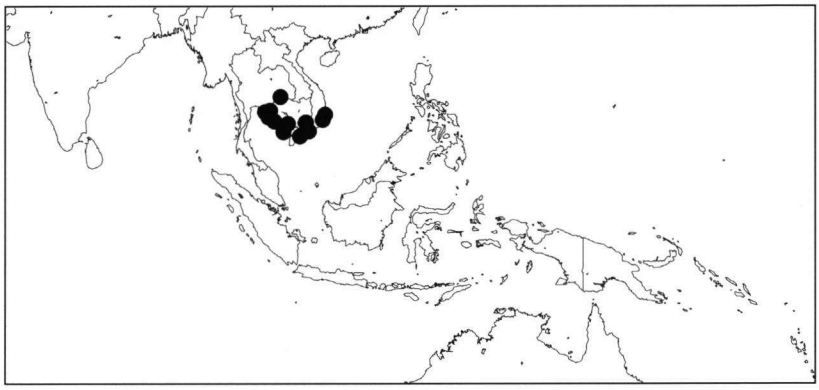


Fig. 6. *Melastoma saigonense* (Kuntze) Merr. a. Habit; b. longitudinal section through hypanthium; c. petal; d. larger outer and smaller inner stamen; e. stellate intersepalar emergence; f. fruit. (Original H. Nixon).



Map 14. Distribution of *Melastoma saigonense* (Kuntze) Merr.

sides covered with brown bristles. *Hypanthium* campanulate, 5–15 by 5–14 mm, densely covered with golden-red, erect, stellate emergences, their stalk 3–5 mm long, their bristles c. 3 mm long; sepals triangular, 6–9 by 3–4 mm, on the outside covered with 1–2 mm long bristles, inside glabrous; intersepalar emergences the same as on the hypanthium. *Petals* bright purple, obovate, c. 25 by 22 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 8–14 mm long, yellow, connectives 10–13 mm long, ventrally curved, with 2 ventral appendages at the base 2–3 mm long, anthers 11–13 mm long, pink; inner stamens: filaments 9–12 mm long, yellow, connective not prolonged, with 2 ventral appendages 1.2–2 mm long, anthers 9–10 mm long dorsally curved, yellow. *Ovary* ovoid, half as long as the hypanthium, crowned by golden bristles; style 15–20 mm long. *Fruit* a campanulate, fleshy capsule, 8–12 by 8–13 mm, rupturing irregularly longitudinal at maturity.

Distribution — SE and E Thailand, Laos, Cambodia, and S Vietnam.

Habitat & Ecology — On dry or swampy ground in open places, light forests, scrubs or grasslands, from sea level to 600 m altitude.

Uses — The fruits are edible, as are all *Melastoma* fruits. The young leaves and roots are used medicinally (in an unspecified way; *Nui Noc 261*).

Note — This species can easily be identified by its stellate hypanthium emergences and the villous, ovate to elliptic leaves. It seems to be close to *M. beccarianum*. Collections studied: 81.

17. **Melastoma sanguineum** Sims

1a. Petioles covered by long 2–9 mm long bristles ..... **a.** var. **sanguineum**
b. Petioles covered by appressed or spreading scales or glabrous, hypanthium surface visible 2
2a. Hypanthium sparsely covered by spreading scales c. 1.1–3 by 0.7–1 mm .... **b.** var. **ranauense**
b. Hypanthium sparsely covered by appressed 0.8–2.2 mm long scales, or glabrous ..... **c.** var. **laevifolium**

a. var. **sanguineum** — Fig. 7, Map 15

Melastoma sanguineum Sims, Bot. Mag. 48 (1821) t. 2241.
Melastoma erectum Jack, Trans. Linn. Soc. London 14 (1823) 5. — Type: not designated.
Melastoma decemfidum Roxb. ex Jack, Trans. Linn. Soc. London 14 (1823) 6. — *Melastoma muricatum* Hunter ex Ridl., J. Straits Branch Roy. Asiat. Soc. 53 (1909) 91. — Type: *Wallich 4042* (K), Malaysia, Penang.
Melastoma macrocarpum D. Don, Mem. Wern. Nat. Hist. Soc. 4 (1823) 289. — Type: Bot. Mag. (1801) t. 529.
Melastoma dodecandrum Roxb., Fl. India 2 (1832) 405. — Type: not designated.
Melastoma porphyreum Zipp. ex Blume, Flora 14 (1831) 487. — Type: *Blume s.n.* (K, L), Indonesia, Moluccas.
Melastoma pulcherrimum Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 231. — Type: *Korthals s.n.* (K, L), Indonesia, Borneo.
Melastoma boryanum Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 232. — Type: *Korthals s.n.* (K, L), Indonesia, Borneo.
Melastoma nitidum Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 7 (1844) 234. — Type: *Korthals s.n.* (K), Indonesia, Borneo, G. Sakoembang.
Melastoma zollingeri Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 277. — Type: *Zollinger 2495* (n.v.), Indonesia, Java.
Melastoma gaudichaudianum Naudin, Ann. Sci. Nat. Bot., sér. 3, 13 (1850) 278. — Type: *Gaudichaud 110* (P), Vietnam, Tourane, Jan. 1837.
Melastoma esquirolii H. Lév., Feddes Repert. Spec. Nov. Regni Veg. 8 (1910) 61. — Syntypes: *Léveillé s.n.* (P), China, Yunnan, Long-Ky, 700 m, 22 March; *Esquirol 873* (P), China, Kouy-Tchéou, Montagnes Hoang-Tsao-Pa, June 1906; *Esquirol 1538* (P), China, Kouy-Tchéou, Montagnes Hoang-Tsao-Pa, 1909.
Melastoma schizocarpum Ridl., J. Straits Branch Roy. Asiat. Soc. 59 (1911) 104. — Type: *Ridley 15095* (K), Malaysia, Perlis, Ginting Kaleok, March 1910.
Melastoma chevalieri Guillaumin, Bull. Soc. Bot. France 68 (1921) 3. — Type: *Chevalier 40395* (P), Vietnam, Langbian, Massif du Langbian, Dran, 1200 m, 29 April 1919.
Melastoma horridum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 63. — Type: *Bünnemeijer 11596* (L), Indonesia, Celebes, G. Bonthain, 1350 m.
Melastoma bancanum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 74. — Type: *Bünnemeijer 1906* (L), Indonesia, Sumatera Selatan, Bangka, Teroe, P. Pinang, 80 m, 14 Nov. 1917.
Melastoma balinense Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 75. — Type: *Sarip 409* (L), Indonesia, Bali, G. Batoe kase, 1650 m, 14 Oct. 1918.
Melastoma vile Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 88. — Type: *Bünnemeijer 11765* (L), Indonesia, Celebes, 1200 m.
Melastoma koordersii Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 94. — Type: *Koorders 19865* (L), Indonesia, Jawa Timur, Idjen Plateau, 1200 m.
Melastoma elbertii Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 96. — Type: *Elbert 984* (L), Indonesia, Nusa Tenggara Barat, Lombok, Rindjani Gebirge, N Seite; unterhalb Tengengeah, 1350 m, 3 May 1909.
Melastoma curvisepalum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 101. — Type: *Elbert 859* (L), Indonesia, Nusa Tenggara Barat, Lombok, Sartjang, Rindjani-Vulkangebirge, N-Seite, 900 m, 2 May 1909.
Melastoma curvisepalum var. *crinitum* Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 102. — Type: *Elbert 858* (L), Indonesia, Nusa Tenggara Barat, Lombok, Sadjang, G. Rindjani, 300–500 m.
Melastoma dendrisetosum C. Chen, J. S. China Agric. Coll. 4 (1983) 35. — Type: *Hainan Expedition 89* (n.v.), China, Hainan: Lehui.
Melastoma sanguineum var. *latisepalum* C. Chen, J. S. China Agric. Coll. 4 (1983) 36. — Type: *Chun s.n.* (n.v.), China, Hainan: Dongfang.

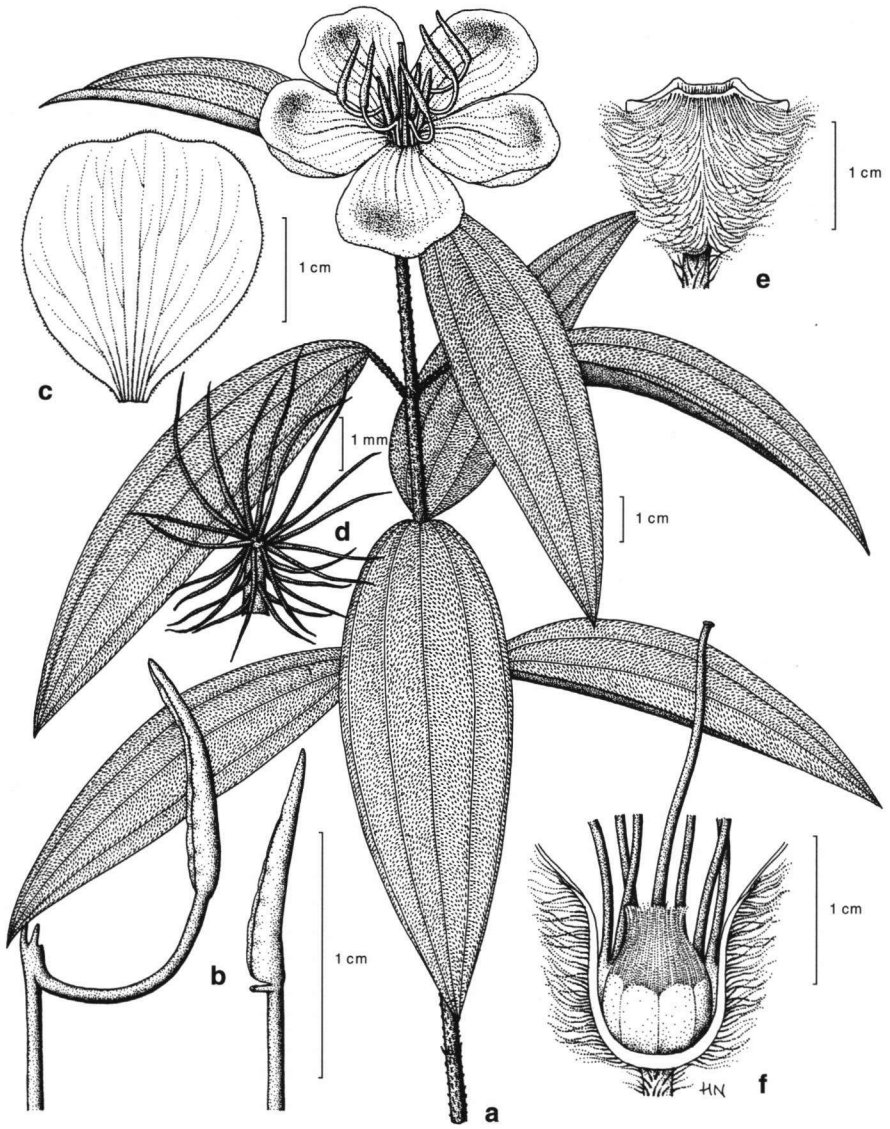
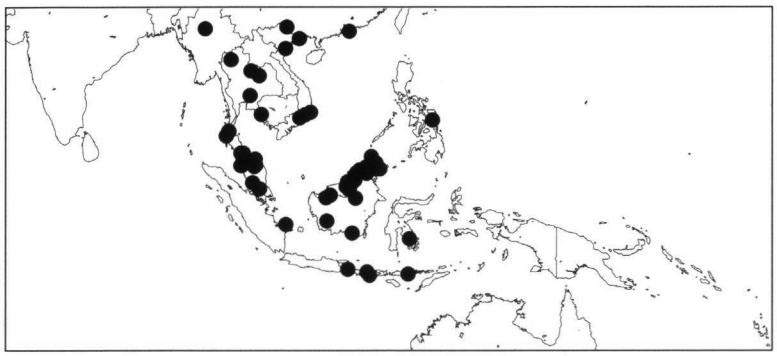


Fig. 7. *Melastoma sanguineum* Sims var. *sanguineum*. a. Habit; b. larger outer and smaller inner stamen; c. petal; d. intersepalar emergence; e. fruit; f. longitudinal section through hypanthium. (Original H. Nixon).

Shrub or small tree up to 10 m high; young branches quadrangular, covered with appressed or spreading, red to brown scales or bristles; bark brown or grey. *Leaves* lanceolate or elliptic, seldom ovate, 2.8–17.4 by 1–5.8 cm, base rounded or acute, apex acute or acuminate; lamina glabrous or strigose, or seldom subvillous underneath, pale green or tinged red beneath; nerves 5 or 7, the marginal nerves inconspicuous, covered with appressed or semi-erect scales or bristles, seldom glabrous, nerves often



Map 15. Distribution of *Melastoma sanguineum* Sims var. *sanguineum* Sims.

red; petiole 3–41 mm long, covered with erect or flexuose red bristles, 5–9 mm long. *Inflorescences* terminal cymes of 3–5 flowers, or flowers solitary. *Flowers* 5-merous, occasionally 6- or 7-merous. Bracts ovate to lanceolate, 4–12 by 2–10 mm, the outside covered with bristles, the inside glabrous. *Hypanthium* 7–15 by 5–14 mm; covered with spreading, reddish bristles, 2–9 mm long, bristles deflecting with age; sepals deciduous, lanceolate or triangular, 5–17 by 1–5 mm, the outside covered with bristles, the inside glabrous or covered at the tip with appressed bristles; intersepalar emergences 4–5 mm long, crowned by 4–5 mm long bristles. *Petals* violet, cuneate-obovate, 33–46 by 22–32 mm, at the apical margin ciliate. *Stamens* dimorphic; outer stamens: filaments 8–12 mm long, yellow, connectives 10–16 mm long, ventrally curved with 2 yellow, ventral lobes 1–3 mm long, anthers 12–18 mm long, slightly ventrally curved, violet; inner stamens: filaments 5–8 mm long, yellow, connective not prolonged, basal with 2 ventral appendages 1–2 mm long, anthers 8–14 mm long, ± straight, yellow. *Ovary* nearly as long as the hypanthium, crowned by golden bristles. Style c. 37 mm long, ± straight. *Fruits* campanulate, fleshy capsules, 8–19 by 8–18 mm, rupturing irregularly longitudinally at maturity, exposing the solid, yellow pulp with orange seeds. *Seeds* minute, cochleate.

Distribution — Burma, Thailand, Cambodia, Vietnam, S China, Malaysia, Sumatra, Java, Borneo, Sulawesi, Lesser Sunda Islands, Philippines (Leyte).

Habitat & Ecology — In disturbed forests, along streams and roads, in open places and savannas at elevations of up to 2300 m.

Note — *Melastoma sanguineum* var. *sanguineum* is a widespread variety with considerable morphological variation especially in the size of the hypanthium emergences, but its vegetative characters are remarkably invariant. Collections studied: 87.

b. var. **laevifolium** (Merr.) K. Meyer, *comb. & stat. nov.* — Map 16

Melastoma laevifolium Merr., J. Straits Branch Roy. Asiat. Soc. 86 (1922) 337. — Type: *Ramos BS 1132* (K), Malaysia, Sabah, Sandakan and vicinity, Dec. 1920.

Melastoma decipiens Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 85. — Type: *Sarip 51* (L), Indonesia, Bali, G. Kelatakan, 585 m.

Shrub up to 2 m high; young branches quadrangular, covered with appressed, red to brown scales; bark dark brown. *Leaves* lanceolate, 9–11.5 by 1.5–3 cm, base acute,

apex acute or acuminate; surfaces glabrous or strigose; nerves 5 or 7, sparsely covered with small appressed scales; petiole 5–25 mm long, covered with small appressed scales. *Inflorescences* terminal cymes of 3–5 flowers. *Flowers* 5-merous; bracts deciduous, not seen. *Hypanthium* 13–15 by 8–12 mm; sparsely covered with small appressed scales 0.8–2.2 mm long, hypanthium surface visible; sepals deciduous, lanceolate, 15–22 by 3–7 mm; intersepalar emergences subulate, 4–5 mm long. *Petals* violet, not seen. *Stamens* not seen. *Ovary* nearly as long as the hypanthium, crowned by golden bristles. Style c. 37 mm long. *Fruits* campanulate, fleshy capsules, 13–17 by 9–15mm.

Distribution — Borneo, Lesser Sunda Islands.

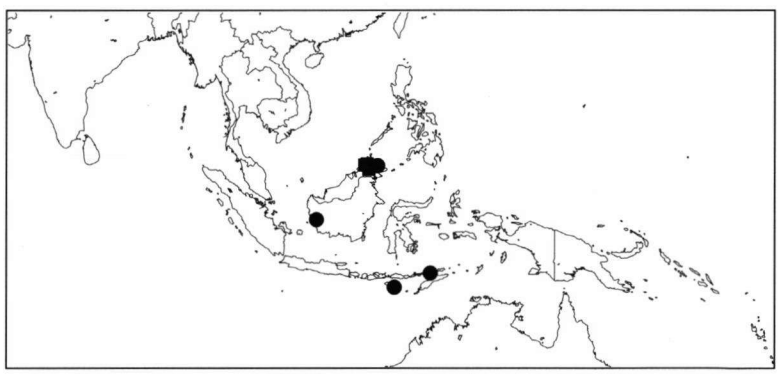
Habitat & Ecology — In disturbed or secondary lowland rain forests.

Note — This variety differs from var. *sanguineum* by its very small appressed scales. The examination of many specimens reveals continuous variation in bristle length and width between the type variant and the specimens cited. Collections studied: 7.

c. var. **ranauense** K. Meyer, *var. nov.* — Map 16

> *Melastoma sanguineum* var. *ranauensis* a var. *sanguineum* hypanthii squamae brevae sparse patentibus distinguenda. — Holotypus: *Amin SAN 116344* (SAN), Malaysia, Sabah, Ranau Distr., Bayan.

Shrub or small tree up to 3 m high; young branches quadrangular, covered with appressed, red to brown scales; bark grey or brown; older branches terete, glabrescent. *Leaves* lanceolate, 5.5–11.5 by 2–3 cm, base and apex acute; lamina strigose; nerves 5, sparsely covered with appressed scales; petiole 5–20 mm long, covered with small appressed scales. *Inflorescences* terminal few-flowered cymes or flowers solitary. *Flowers* 5-merous; bracts deciduous, not seen. *Hypanthium* sparsely covered with short spreading scales 1.1–3 by 0.7–1 mm, hypanthium surface visible; sepals deciduous, lanceolate, 15–22 by 3–7 mm; intersepalar emergences subulate, 4–5 mm long. *Petals* violet, not seen. *Stamens* not seen. *Ovary* slightly longer than the hypanthium, crowned by golden bristles. *Fruits* campanulate, fleshy capsules, 11–15 by 10–12 mm.



Map 16. Distribution of *Melastoma sanguineum* Sims var. *laevifolium* (Merr.) K. Meyer (●) and var. *ranauensis* K. Meyer (■).

Distribution — Malaysia: Sabah, in the vicinity of Ranau.

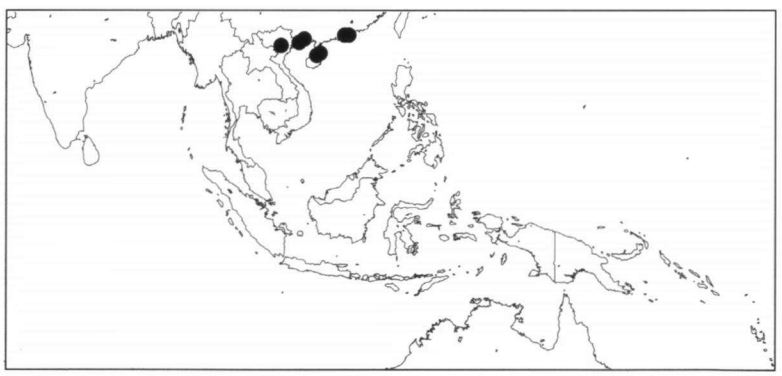
Habitat & Ecology — Except of the annotation "habitat: hillside" nothing is known about the ecology of this variety.

Note — This variety is known only from some collections around Ranau near the Mount Kinabalu National Park, Sabah, Malaysia. It is easily recognised by its spreading hypanthium scales, whereas the leaves are similar to those of the type variety. Collections studied: 4.

18. **Melastoma septemnervium** Lour. — Map 17

Melastoma septemnervium Lour., Fl. Cochinch. 1 (1790) t. 273.
Melastoma candidum D. Don, Mem. Wern. Nat. Hist. Soc. 4 (1823) 288. — Type: not designated.
Melastoma calycinum Benth., Lond. J. Bot. 1 (1842) 485. — Type: not designated.
Melastoma nobotan Blume, Mus. Bot. Lugd.-Bat. 1 (1849) 54. — Type: *Blume s.n.* (n.v.), Indonesia, Sulawesi Utara, Tondano, Nobotan, Tondano.
Melastoma candidum var. *alessandrense* S. Kobay., J. Jap. Bot., 59 (1984) 66. — Type: *Ono MAK 196063* (n.v.), Japan, The Volcano Isl., Kita-Iwojima (San Alessandro Isl.), Shibusawa, 200 m, 28 June 1981.
Melastoma malabathricum auct. non L.: Sims, Bot. Mag. 15 (1801) t. 529.

Shrub up to 2 m tall; young branches quadrangular, more or less densely covered with appressed brown scales; bark brown to grey and darkening with age. *Leaves* elliptic to ovate, 4.2–10.3 by 2–6 cm, base obtuse or rounded, often slightly cordate, apex acute or acuminate, lamina strigose or subvillous above, subvillous to villous underneath, olive-green; nerves 7, but marginal nerves sometimes inconspicuous, covered with slender scales or bristles; petiole 5–18 mm long. *Inflorescences* terminal or distal axillary, few-flowered cymes. *Flowers* 5-merous; bracts ovate-acuminate, 10–21 by 5–13 mm, on both sides densely covered with appressed hairs. *Hypanthium* campanulate, 6–13 by 6–9 mm, densely covered with appressed golden bristles or scales up to 5 mm long; sepals deciduous, lanceolate, 8–11 by 3–6 mm, hairy on both sides; intersepalar emergences lanceolate to triangular, 3–5 mm long, covered with golden bristles. *Petals* bright purple to violet, obovate, 27–32 by 19–25 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 7–11 mm long, yellow, connectives violet, 7–9 mm long, ventrally curved with 2 ventral yellow appendages 2–3 mm long, anthers



Map 17. Distribution of *Melastoma septemnervium* Lour.

9–12 mm long, violet; shorter inner stamens yellow, anthers 8–9 mm long, filament 7–8 mm long, connective not prolonged but with 2 ventral spurs 1–2 mm long. *Ovary* ovoid, c. 2/3 as long as hypanthium; style 18–20 mm long. *Fruit* a campanulate fleshy capsule, 8–12 by 7–10 mm, rupturing irregularly at maturity, exposing the black pulp and yellow seeds.

Distribution — N Vietnam, S China, Taiwan. Naturalised on Hawaii.

Habitat & Ecology — In light forests, clearings, and grass lands, or on rocky slopes, from sea level to 1500 m altitude.

Uses — None recorded, but fruits edible.

Note — *Melastoma septemnervium* can be identified by its short, golden hypanthium bristles, the large bracts, and the ovate, subvillous to villous leaves with often cordate bases. Collections studied: 13.

19. **Melastoma setigerum** Blume — Map 18

Melastoma setigerum Blume, Bijdr. 17 (1826) 1077. — *Melastoma setigerum* var. *typica* Backer, Manuscr. Fl. Java, Melast. (1941) 7. — Type: *Blume s.n.* (K, L, P), Indonesia, Java.

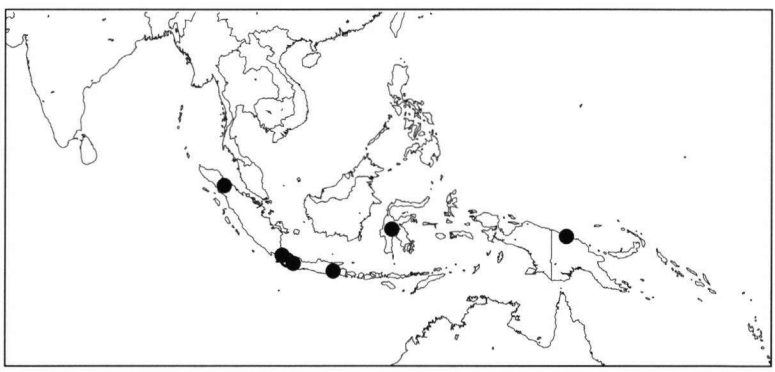
Melastoma setigerum var. *angusto-bracteatum* Blume, Flora 14 (1831) 486. — Type: *Blume s.n.* (n.v.), Indonesia.

Melastoma setigerum var. *lato-bracteatum* Blume, Flora 14 (1831) 486. — Type: *Kuhl & Van Hasselt s.n.* (n.v.), Indonesia, Java, Telaga Warna.

Melastoma molkenboerii Miq., Fl. Ind. Bat. 1, 1 (1860) 513, t. 8, f. B. — *Melastoma setigerum* var. *molkenboerii* (Miq.) Backer, Manuscr. Fl. Java, Melast. (1941) 7. — Type: *Junghuhn s.n.* (K), Indonesia, Java, G. Tjerimai, 1000 m.

Melastoma harmsianum Lauterb., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 328. — Type: *Schlechter 14396* (K, P; N. Guin.), Papua New Guinea, Torricelli-Gebirge, 500 m, April 1902.

Shrub; young branches quadrangular, covered with small appressed brown scales, bark brown; old branches terete. *Leaves* elliptic to lanceolate, 6–15 by 2–6.5 cm, base acute to rounded, apex acute to acuminate; lamina bullate, above dark brown, covered with thick-based appressed bristles, beneath olive-brown, covered with small bristles; nerves 5, covered with small appressed brown scales; petiole 10–15 mm long. *Inflorescences* terminal 3–9-flowered cymes. *Flowers* 5-merous; bracts deciduous, lanceolate to ovate, 8–12 by 4–6 mm, covered with small appressed scales and bristles. *Hypan-*



Map 18. Distribution of *Melastoma setigerum* Blume.

thium campanulate, 5–10 by 7–8 mm, covered with appressed brown scales; sepals deciduous, triangular, 6–9 by 3–5 mm, outside covered with appressed brown scales, inside with appressed hairs; intersepalar emergences 2–3 mm long. *Petals* violet, obovate, c. 11 by 9 mm (11–21 by 5–15 mm fide Bakhuizen van den Brink jr., 1943), ciliate along the margin. *Stamens* dimorphic; outer stamens: filaments 5–7 mm long, connectives 6–8 mm long, with a 0.5–1.5 mm long ventral appendage ending in 2 lobes, anthers 7–9 mm long, slightly S-shaped, violet; inner stamens: filaments 6 mm long, connectives not prolonged, ventrally with 2 minute appendages, anthers 5–6.5 mm long, yellow. *Ovary* as long as the hypanthium, crowned by bristles. *Fruit* a fleshy capsule, 7–11 by 8–10 mm.

Distribution — Indonesia (Sumatra, Java, Sulawesi), Papua New Guinea.

Habitat & Ecology — At altitudes from 500–2000 m.

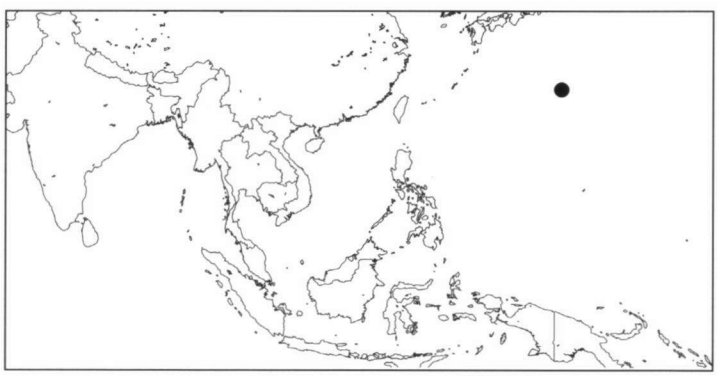
Note — This species differs from other *Melastoma* species by the dark brown colour of most collections, its reticulate leaves and the small brown scales on the branches. The reticulate leaves connects it with the Philippine *M. bensonii*, but the indument is more similar to *M. malabathricum*. Collections studied: 10.

20. Melastoma tetramerum Hayata — Map 19

Melastoma tetramerum Hayata, Ic. Pl. Formos. 3 (1913) 120. — Type: *Hattori s.n.* (n.v.), Chichijima-Hatsunejima, Bonin Islands, Japan, July 1905.

Melastoma tetramerum var. *pentapetalum* Toyoda, J. Jap. Bot. 58 (1983) 95. — *Melastoma pentapetalum* (Toyoda) T. Yamaz. & Toyoda, J. Jap. Bot. 62 (1987) 118. — Type: *Toyoda s.n.* (n.v.), Chibusayama, Hahazima, Ogasawara, Bonin Islands, Japan, 400 m, 15 July 1969.

Shrub; young branches quadrangular, covered with appressed to spreading brown bristles, bark brown; old branches terete; internodes short (< 5 mm). *Leaves* elliptic, small, 1.9–2.6 by 0.7–0.9 cm, base rounded, apex acute; lamina strigose on both sides; nerves 5, covered with short appressed bristles; petiole 4–7 mm long. *Inflorescence* a terminal cyme of 2 or 3 flowers or flowers solitary. *Flowers* 5-merous; bracts not seen. *Hypanthium* campanulate, 8–9 by 7–8 mm, covered with spreading, thick-based bristles or penicillate emergences intermixed with much smaller spreading bristles, surface of hypanthium visible; sepals deciduous, triangular, c. 7 by 3 mm, on the out-



Map 19. Distribution of *Melastoma tetramerum* Hayata.

side covered with 1–2 mm long bristles, inside glabrous; intersepalar emergences penicillate, c. 2 mm long. *Petals* purple, obovate to cuneate, 18–20 by 15–19 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 7–8 mm long, connective c. 10 mm long, ventrally curved, with a ventral bilobed appendage c. 3 mm long, anthers c. 8 mm long; inner stamens: filaments 6–7 mm long, connective c. 0.5 mm long, with 2 ventral appendages c. 1 mm long, anthers c. 4 mm long, straight. *Ovary* shorter than the hypanthium, crowned by golden bristles. Style c. 16 mm long. *Fruits* not seen, presumably fleshy capsules.

Distribution — Japan: Bonin Islands.

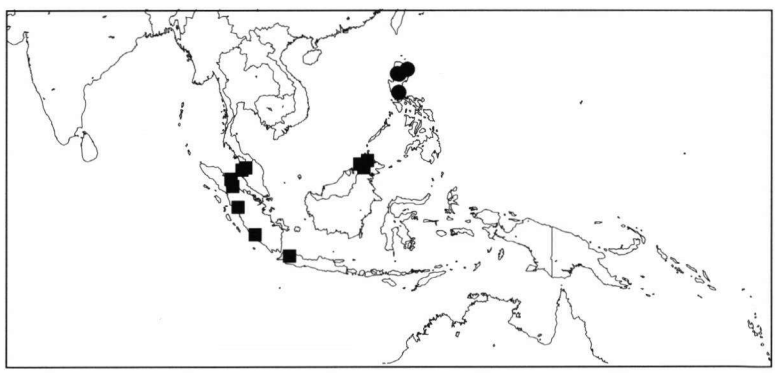
Habitat & Ecology — At altitudes from 100–450 m.

Note — The combination of small hypanthium bristles with much larger, sometimes penicillate emergences was only found in the two cited collections of *M. tetramerum* from the Bonin Islands and consistently distinguish this species from its congeners. Collections studied: 2.

21. Melastoma toppingii Merr. — Map 20

Melastoma toppingii Merr., Philipp. Gov. Lab. Bur. Bull. 17 (1904) 38. — Type: *Le Roy Topping 17* (n.v.), Philippines, Luzon, Province of Benguet, Baguio, Jan. 1903.

Shrub; young branches quadrangular, covered with spreading or flexuose brown bristles, bark brown; old branches terete. *Leaves* lanceolate or ovate, 3.7–9.1 by 1.4–3.1 cm, base rounded, apex acute; lamina strigose to subvillous above, subvillous underneath; margin entire or minutely crenate; nerves 5 or 7, densely covered with semi-erect bristles; petiole 4–7 mm long. *Inflorescence* a terminal cyme of 2 or 3 flowers and solitary flowers in the topmost leaf axils. *Flowers* 5-merous; bracts lanceolate, 4–6 by 2 mm, covered with red or golden bristles. *Hypanthium* campanulate, 6–8 by 5–6 mm, covered with erect, red, penicillate emergences, 1 mm long, crowned by 1–2 mm long, straw-coloured bristles; lobes deciduous, triangular, 5–7 by 1 mm, inside glabrous, on the outside and the margin covered with 1–2 mm long bristles; intersepalar emergences stellate, their stalk 1–2 mm long, crowned by 1–2 mm long bristles. *Petals* purple, obovate to cuneate, 18–20 by 15–19 mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments 6–7 mm long, connective prolonged for c. 1 mm, ventrally



Map 20. Distribution of *Melastoma toppingii* Merr. (●) and *M. velutinosum* Ridl. (■).

bilobed at the base, lobes c. 0.5 mm long, anthers 6–7 mm long, straight or slightly S-shaped; inner stamens: filaments c. 6 mm long, connective prolonged for c. 0.5 mm, ventrally bilobed at the base, lobes c. 0.5 mm long, anthers c. 6 mm long, straight. *Ovary* as long as hypanthium, crowned by golden bristles. Style 17 mm long. *Fruit* a campanulate, fleshy capsule, 7–9 by 6–8 mm.

Distribution — Philippines: Luzon.

Note — No ecological information of this species is given on any of the herbarium labels. Collections studied: 6.

22. **Melastoma velutinosum** Ridl. — Map 20

Melastoma velutinosum Ridl., Kew Bull. (1925) 81. — Type: *Brooks 7176* (K), Indonesia. Sumatera Selatan, Bencoolen, Lubok Tandai, 420 m, May 1922.

Melastoma sumatranum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 93. — Type: *Posthumus 826* (L), Indonesia, Sumatra, Djambi, Sei Karing, 180 m.

Melastoma aureum Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 97. — Type: *Bünnemeijer 3026* (L), Indonesia, Sumatra, west coast, Bt. Tinggi, Mangani, afd. I Koto, 1150 m, 15 June 1918.

Shrub or small tree up to 3(–10) m high; young branches subquadrangular, densely covered with erect or spreading bright brown bristles, bark brown; old branches terete, bark flaking off. *Leaves* elliptic to ovate, 7–14 by 4–6.5 cm, base acute to rounded, apex acuminate; lamina on both sides velvet, olive; nerves 7, beneath covered with spreading light brown bristles; petiole 8–33 mm long, covered as the branches. *Inflorescences* terminal cymes of 3–5 flowers. *Flowers* 5-merous; bracts ovate, small, 4–5 by 2–3 mm, outside hairy, inside glabrous. *Hypanthium* campanulate, 7–10 by 7–9 mm, densely covered with long brown erect to spreading bristles 2.5–3.5 mm long; sepals narrowly lanceolate, 7–9 by 2.5–4 mm, both sides hairy; intersepalar emergences long bristles c. 4 mm long. *Petals* violet, obovate, 8–10(–17) by 6–7(–8) mm, ciliate at the apex. *Stamens* dimorphic; outer stamens: filaments c. 4.5 mm long, connectives c. 3 mm long, ventrally curved, with 2 ventral appendages c. 1 mm long, anthers 5.5–6.5 mm, violet; inner stamens: filaments c. 4 mm long, connectives not prolonged, with 2 ventral appendages c. 0.5 mm long, anthers 4–5 mm long, yellow. *Ovary* shorter than the hypanthium, crowned by brown-golden bristles. *Fruit* a campanulate, fleshy capsule, 9–13 by 8–10 mm, mode of dehiscence unknown.

Distribution — Indonesia (Java, Sumatra), Malaysia (Perak, Sabah, Sarawak).

Habitat & Ecology — In primary forests in disturbed places or in secondary forests at altitudes below 1000 m.

Note — *Melastoma velutinosum* can easily be recognised by its velvet leaves, brown bristles on the branches and the relatively small flowers. Collections studied: 16.

NOMINA NUDA, EXCLUDENDA ET INCERTIAE

The Kew Index records 835 names for *Melastoma*. Most of them are already synonymised or transferred to other genera. The following lists contain those names that do not belong in *Melastoma* but are listed as valid names in the Kew Index.

Most of the species within the nomina excludenda I excluded on the basis of descriptions because I was not able to find a type. In this respect they also could be listed in the species dubiae, but I am sure they are not *Melastoma*.

Too little information was available for many of the species dubiae to decide on their status. Also listed here are species known from single collections only that I could not synonymise. Because of the high variability of some *Melastoma* species I am reluctant to accept them as species.

Nomina nuda

Melastoma adpressum Wall., Numer. List (1831) 4081.
Melastoma banksii R. Cunn. ex Triana, Trans. Linn. Soc. London 28 (1871) 59.
Melastoma barbatum Wall., Numer. List (1831) 4082.
Melastoma erythrophylla Wall., Numer. List (1831) 4085.
Melastoma globuliferum Walp., Rep. 2 (1843) 133.
Melastoma macrocarpum Hook. ex Triana, Trans. Linn. Soc. London 28 (1871) 59.
Melastoma melobractum, label on collection *Conn 1494* (L).
Melastoma mindanaense Merr., label on collection *Ramos BS 38481* (K, L, P).
Melastoma molkenboerii Miq. var. *cognauxii* Koord.
Melastoma palawanense Merr., label on collection *Merrill 7214* (K).
Melastoma rhodocarpum Wall., Numer. List (1831) 4045.
Melastoma tetragonum Merr., label on collection *Ramos BS 38915* (K, L, P, PNH).
Otanthera ramosii Merr., label on collection *Ramos BS 42299* (C).

Nomina excludenda

Melastoma cavaleriei H. Lév. & Vaniot, Feddes Repert. Spec. Nov. Regni Veg. 3 (1906) 21 = *Phyllagathis cavaleriei* (H. Lév. & Vaniot) Guillaumin?

Melastoma cereaceum Pickering ex A. Gray, Bot. U.S. Expl. Exped. 1: 581.
An *Astronia* sp.?

Melastoma cordifolium Roxb., Fl. Ind. ed. 2 (1832) 406.
Possibly a member of tribe Dissochaeteae.

Melastoma crinitum Roxb., Fl. Ind. ed. 2 (1832) 402 = *Osbeckia stellata* Buch.-Ham. ex Ker Gawl.

Melastoma curvum Roxb., Fl. Ind. ed. 2 (1832) 405.
Possibly a member of tribe Dissochaeteae.

Melastoma ferruginatum DC., Prodr. 3 (1828) 181.
A neotropical plant.

Melastoma geniculatum Roxb., Fl. Ind. ed. 2 (1832) 403 = *Osbeckia* sp.

Melastoma griffithianum J.W. Mast., Calcutta J. Nat. Hist. 7 (1846) 323 = *Osbeckia stellata* Buch.-Ham. ex Ker Gawl?

Melastoma grossularium Crantz, Inst. Rei Herb. 2 (1766) 175.
A neotropical plant.

Melastoma jenkinsii J.W. Mast., Calcutta J. Nat. Hist. 7 (1846) 323 = *Osbeckia* sp.

Melastoma mairei H. Lév., Feddes Repert. Spec. Nov. Regni Veg. 11 (1912) 300 = *Osbeckia stellata* Buch.-Ham. ex Ker Gawl.

Melastoma micans Gilli, Ann. Naturhis. Mus. Wien 83 (1980) 448 = *Tibouchina urvilleana* Cogn. — Type: *Gilli 45* (W n.v.), Papua New Guinea, Missionsstation Kameliki (südlich von Goroka), 1700 m, 9 Jan. 1974.

Melastoma napalense Lodd., Bot. Cab. 2 (1817) t. 107 = *Osbeckia nepalensis* Hook.

Melastoma osbeckioides Hunter ex Ridl., J. Straits Branch Roy. Asiat. Soc. 53 (1909) 92 = *Dissochaeta punctulata* Hook.f. ex Triana.

Melastoma petiolatum Mill., Garden. Dict. ed. 8 (1768) = *M. petiolare* Wall.? = *Diplectria viminalis* (Jack) Kuntze?

Melastoma pubibundum Blume, Cat. Gewassen Buitenzorg (1823) = *Creochiton pubibunda* Blume.

Melastoma pulchellum Roxb., Fl. Ind. ed. 2 (1832) 403 = *Osbeckia stellata* Buch.-Ham. ex Ker Gawl.

Melastoma tamonea Blanco, Fl. Filip. ed. 1 (1837) 367.
Excluded due to 6-merous, tubular flowers, no Melastomataceae.

Melastoma tomentosum Hunter ex Ridl., J. Straits Branch Roy. Asiat. Soc. 53 (1909) 93 = *Dissochaeta annulata* Hook.f. ex Triana.

Melastoma vagans Roxb., Fl. Ind. ed. 2 (1832) 404 = *Oxyspora vagans* Roxb.

Melastoma verrucosum Blume, Cat. Gewassen Buitenzorg (1823) 71 = *Osbeckia nepalensis* Hook.?

Otanthera fordii Hance, J. Bot. 14 (1881) 47 = *Bredia fordii* Hance. — Type: *Ford 21099* (BM), Hongkong, in montosis/in collibus ad orientem vallis Wong nei chung, July 1879.

Species dubiae

Melastoma bauchei Guillaumin, Not. Syst. 2 (1912) 303. — Type: *Bauche 114* (P) Vietnam, Prov. de Tû, Vinh-ba-ha.
Maybe near to *M. sanguineum* Sims.

Melastoma celebicum Blume, Flora 14 (1831) 487. — *Melastoma polyanthum* var. *celebicum* (Blume) Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 70. — Type: *Reinwardt s.n.* (L n.v.), Indonesia, Celebes.
Judging from the description by Blume (1831) and Bakhuizen van den Brink Jr. (1943) this might be *M. lanuginosum*, which would then be a synonym of *M. celebicum*.

Melastoma culionense Merr., Philipp. J. Sci., Bot. 12 (1917) 353. — Type: *Escritor BS 21647* (PNH? n.v.), Philippines, Palawan, Culion, Halsey Harbor, 25 Aug. 1913.
Near to *M. sanguineum* var. *laevifolium* (Merr.) K. Meyer?

Melastoma furcatum Roxb., Fl. Ind. ed. 2 (1832) 405. — Type: not designated.
= *Melastoma moluccanum* Blume?

Melastoma godeffroyi Reinecke, Bot. Jahrb. Syst. 25 (1898) 661. — Type: *Reinecke 440* (WRSL? n.v.), Savaii, Centralgebiet, Samoa, Oct. 1894.
Possibly a synonym of *M. malabathricum* L.

Melastoma grandifolium O. Schwartz, Mitt. Staatsinst. Allg. Bot. Hamburg 7 (1931) 237. — Type: *Winkler 1024* (HBG? n.v.), Bukit Raja, W Borneo (Sarawak?, Malaysia), 1700 m, 22 May 1924.

This might be *M. imbricatum* Wall. ex C.B. Clarke.

Melastoma intermedium var. *squamatum* Y.R. Ling & X. Xiong, J. S. China Agric. Coll. 12 (1991) 8. — Type: *Chun 6827* (n.v.), Guangzhou, Guangdong.

Melastoma intermedium Dunn is a synonym of *M. malabathricum* L., but the description mentions ramified hypanthium scales that I have not found in *M. malabathricum*-collections.

Melastoma kudoi Sasaki, Trans. Nat. Hist. Soc. Taiwan 21 (1931) 113.

I have no more information about this species.

Melastoma lanuginosum Blume, Bijdr. 17 (1826) 1077. — Type: *Blume s.n.* (K), Indonesia, Java, Tjibiday.

The type collection is sterile, but it might be *M. malabathricum* subsp. *normale* (D. Don) K. Meyer.

Melastoma longisepalum Ridl., J. Fed. Malay States Mus. 6 (1915) 147. — Type: not designated.

Judging from the description given by Ridley this might be *M. malabathricum* L.

Melastoma nobotan Miq., Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 262

I have no more information about this species.

Melastoma ovalifolium Bakh.f., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91 (1943) 75. — Type: *Bünnemeijer 10476* (L), Indonesia, Sumatera Barat, G. Koerintji, 1800 m.

This might be *M. sanguineum* Sims, but the leaves are ovate and the hypanthium has spreading scales instead of bristles.

Melastoma subalbidum Merr., Philipp. J. Sci., Bot. 12 (1917) 354. — Type: *McGregor BS 19835* (K, P, PNH), Philippines, Ifugao, Mt Polis, Feb. 1913.

Possibly near to *M. moluccanum* Blume with its short appressed hypanthium scales and the loose inflorescence.

Melastoma suffruticosum Merr., Lingnan Sci. J. 14 (1935) 42. — Type: *Lau 247* (BM, P), China, Hainan, Ngai Distr., Naam Shan Leng, 12 July 1932.

Melastoma teysmanni Miq., Fl. Ind. Bat., Suppl. 1 (1860) 316. — Type: *Teijsmann s.n.* (U? n.v.), Kota Nopan, Sumatra, Indonesia.

Otanthera luzoniensis (Quisumb. & Merr.) C. Hansen, Ginkgoana 4 (1977) 122. — *Osbeckia luzoniensis* Quisumb. & Merr., Philipp. J. Sci. 37 (1928) 184. — Type: *Ramos BS 45719* (K), Philippines, Luzon, Tayabas, Mt Alzapan, June 1925.

The only collection of this species is without stamens, therefore it cannot be decided if this plant belongs to *Osbeckia* or *Otanthera* (= *Melastoma*). With its stellate hypanthium emergences and the strigose leaves it is similar to *M. beccarianum* Cogn., but the sparse branch indument and the type locality suggest a new species.

Otanthera macgregorii Merr., Philipp. J. Sci., Bot. 12 (1917) 356. — Type: *McGregor BS 14408* (PNH? n.v.), Philippines, Nueva Vizcaya, Imugan, 26 April 1912.

Merrill allied this species to *Otanthera celebica* Blume (= *M. moluccanum* Blume) which is most likely the correct name for this species.

Otanthera oligantha K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee (1901) 478. — Type: *Lauterbach 3173* (WRSL n.v.), Bismarck-Gebirge, Papua New Guinea, 300 m, 4 Nov. 1899 = *M. cyanoides* Sm.?

Otanthera queenslandica Domin, Biblioth. Bot. 22, 89 (1928) 1032. — Type: *Dietrich s.n.* (PRC n.v.), Australia, Queensland, 'Harveys Creek und am unteren Russell River'.

This might be *M. cyanoides* Sm., but the description of the bracts suggests *M. montanum* (Lauterb.) K. Meyer which is restricted to New Guinea.

Otanthera scaberrima (Hayata) Ohwi, J. Jap. Bot. 12 (1936) 386. — *Osbeckia scaberrima* Hayata, J. College Sci., Tokyo 30 (1911) 115. — Type: *Kawakami 1923* (TI n.v.), Mt Morrison, Taiwan.

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All maps are drawn by Online Map Creation http://www.aquarius.geomar.de/omc/ and Adobe Illustrator 6.0.

REFERENCES

Almeda, F. 1997. Chromosome numbers and their evolutionary significance in some neotropical and paleotropical Melastomataceae. BioLlania ed. Esp. 6: 167–190.

Bakhuizen van den Brink Jr., R.C. 1943. A contribution to the knowledge of the Melastomataceae occurring in the Malay Archipelago, especially in the Netherlands East Indies. Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 91: 1–391.

Clausing, G. & S.S. Renner. In press. Molecular phylogenetics of Melastomataceae (including Memecylaceae) implications for character evolution. Amer. J. Bot.

Cogniaux, C.A. 1891. Melastomaceae. Monogr. Phan. 7: 314–1183.

Conti, E., A. Litt & K.J. Sytsma. 1996. Circumscription of Myrtales and their relationship to other Rosids: Evidence from rbcL sequence data. Amer. J. Bot. 83: 221–233.

Conti, E., A. Litt, P.G. Wilson, S.A. Graham, B.G. Briggs & L.A.S. Johnson. 1998. Interfamilial relationships in Myrtales: Molecular phylogeny and patterns of morphological evolution. Syst. Bot. 22: 629–647.

Gross, C.L. 1993. The breeding system and pollinators of Melastoma affine (Melastomataceae); a pioneer shrub in tropical Australia. Biotropica 25: 468–474.

Hansen, C. 1977. The Asiatic species of Osbeckia. Ginkgoana 4: 1–150.

Hegnauer, R. 1990. Melastomataceae. In: R. Hegnauer (ed.), Chemotaxonomie der Pflanzen 9: 28–31. Birkhäuser, Basel.

Jacques-Félix, H. 1953. Sur quelques Mélastomaceae d'Afrique. Bull. Inst. Franç. Afrique Noire 15, 3: 972–1001.

King, G. 1900. Materials for a Flora of the Malay Peninsula. No. 11. Melastomataceae. J. Asiat. Soc. Bengal 69, pt. 2: 1–87.

Meyer, K. 1999. Phylogenie und Systematik der Gattung Melastoma (Melastomataceae) unter besonderer Berücksichtigung des M. malabathricum-Komplexes. Dissertation Univ. Mainz, Mainz.
Renner, S.S. 1993. Phylogeny and classification of the Melastomataceae and Memecylaceae. Nord. J. Bot. 13: 519–540.
Richards, P.W. 1952. The tropical rain forest: an ecological study. Cambridge University Press, Cambridge, UK.
Richards, P.W. 1969. Speciation in the tropical rain forest and the concept of the niche. Biol. J. Linn. Soc. 1: 149–153.
Sakagami, H., N. Nakahashima, T. Murakami, N. Yamamoto, T. Hatano, T. Yoshida & T. Okuda. 1991. 8th Symposium on the development and application of naturally occurring drug materials (Abstract paper): 57.
Swaine, M.D. & T.C. Whitmore. 1988. On the definition of ecological species groups in tropical rain forests. Vegetatio 75: 81–86.
Xiong, X. 1991. A preliminary study on the systematics of tribe Melastomateae (Melastomataceae) from South China. J. S. China Agric. Coll. 12: 1–31.
Yoshida, T., H. Arioka, T. Fujita, X.-M. Chen & T. Okuda. 1994. Monomeric and dimeric hydrolysable tannins from two melastomataceous species. Phytochemistry 37: 863–866.
Yoshida, T., F. Nakata, K. Hosotani, A. Nitta & T. Okuda. 1992a. Dimeric hydrolysable tannins from Melastoma malabathricum. Phytochemistry 31: 2829–2833.
Yoshida, T., F. Nakata, K. Hosotani, A. Nitta & T. Okuda. 1992b. Tannins and related polyphenols of melastomataceous plants. V. Three new complex tannins from Melastoma malabathricum. Chem. Pharm. Bull. 40: 1727–1732.

LIST OF COLLECTIONS

The numbers behind the collector numbers refer to the following taxa:

Melastoma

1 = *beccarianum*
2 = *bensonii*
3 = *crinitum*
4 = *cyanoides*
5 = *dodecandrum*
6 = *imbribatum*
7a = *malabathricum* subsp. *malabathricum*
7b = *malabathricum* subsp. *nomale*
8 = *minahassae*
9 = *moluccanum*
10 = *montanum*
11 = *muticum*
12 = *orientale*
13 = *pellegrinianum*
14 = *perakense*
15 = *sabahense*
16 = *saigonense*
17a = *sanguineum* var. *sanguineum*
17b = *sanguineum* var. *laevifolium*
17c = *sanguineum* var. *ranauense*
18 = *septemnervium*
19 = *setigerum*
20 = *tetramerum*
21 = *toppingii*
22 = *velutinosum*

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The accepted names are in roman type, the synonyms in *italics* and the new names in **bold**. The number after each name refers to the number of the accepted species in the treatment; (nud) = nomina nuda; (excl) = nomina excludenda; (dub) = species dubiae.

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ellipticum Naudin 7a
erectum Jack 17a
erythrophylla Wall. (nud)
esquirolii H. Lév. 17a
fasciculare Naudin 7a
ferruginatum DC. (excl)
francavillanum Cogn. 7a
furcatum Roxb. (dub)
fuscum Merr. 7a
gaudichaudianum Naudin 17a
geniculatum Roxb. (excl)
globuliferum Walp. (nud)
godeffroyi Reinecke (dub)
grandifolium O. Schwartz (dub)
griffithianum J.W. Mast. (excl)
grossularium Crantz (excl)
harmsianum Lauterb. 19
heterostegium Naudin 7a
holmani Elmer 7a
hombronianum Naudin 7a
homostegium Naudin 7a
horridum Bakh.f. 17a
houtteanum Naudin 7b
imbricatum Wall. ex C.B. Clarke 6
var. *laeve* Bakh.f. 6
var. *longipes* Craib 7a
intermedium Dunn 7a
var. *squamatum* Y.R. Ling & X. Xiong (dub)
jackianum Korth. 7a
jenkinsii J.W. Mast. (excl)
klossi Baker f. 7b
koordersii Bakh.f. 17a
kudoi Sasaki (dub)
laevifolium Merr. 17b
lanaense Merr. 7a
lanuginosum Blume (dub)
longiflorum Naudin 7a
longifolium Naudin 7a
longisepalum Ridl. (dub)
macrocarpum D. Don 17a
Hook. ex Triana (nud)
magnificum Bakh.f. 6
mairei H. Lév. (excl)
malabathricum L. 7
subsp. malabathricum 7a
subsp. **normale** (D. Don) K. Meyer 7b
var. *grandiflorum* Craib 7a
var. *javanum* Bakh.f. 7a
var. *mariannum* (Naudin) Fosberg & Sachet 7a
var. *obvolutum* Bakh.f. 7a
var. *perakensis* King 14

(Melastoma)
malabathricum auct. 18
mariannum Naudin 7a
melobractum (nud)
membranaceum Merr. 7a
micans Gilli (excl)
microphyllum Naudin 7b
minahassae Koord. ex K. Meyer 8
mindanaense Merr. (nud)
molkenboerii Miq. 19
var. *cognauxii* Koord. (nud)
molle Wall. ex Ridl. 3
moluccanum Blume 9
montanum (Lauterb.) K. Meyer 10
muricatum Hunter ex Ridl. 17a
muticum Ridl. 11
napalense Lodd. (excl)
nitidum Korth. 17a
nobotan Blume 18
nobotan Miq. (dub)
normale D. Don 7b
var. *divergens* Craib 7b
novae-hollandiae Naudin 7a
obvolutum Jack 7a
octandrum L. ex Sm. 5
oliganthum Naudin 7a
orientale Guillaumin 12
osbeckioides Guillaumin 7b
osbeckioides Hunter ex Ridl. (excl)
ovalifolium Bakh.f. (dub)
palawanense Merr. (nud)
paleaceum Naudin 7a
parvifolium Merr. 7a
patulisetum Ohwi 7a
pelagicum Naudin 7a
pellegrinianum (H. Boissieu) K. Meyer 13
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porphyreum Zipp. ex Blume 17a
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