

**CONSPLECTUS OF MYRISTICA (MYRISTICACEAE) IN AUSTRALIA,
WITH THE DESCRIPTION OF A NEW SPECIES FROM QUEENSLAND**

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SUMMARY

In Australia three species of *Myristica* are recognized: *M. muelleri* Warb., *M. insipida* R. Br. and one species, *M. ampliata* de Wilde, newly described here; the specimen *Lucas (& Wilson) 10*, possibly representing a fourth taxon, of unknown status, is discussed under *M. insipida*. Presented are a key to the species, an enumeration of species with notes, and a brief discussion of characters, relationships, and distribution.

The genus *Myristica* with some hundred species is widely distributed as mainly rain forest trees in the Old World tropics and ranges from S India to far into the Pacific. Its core is in the Malesian area, with several areas of species development, among which Papuasias is the most important one, with over 40 mainly local-endemic species.

Only three (or possibly four) much related species of small or medium trees are found in humid gallery forest of northern Australia and the rain forest of Queensland. All are of the group of species with leaves of the small (to medium) size-class, more or less distinctly papillose beneath, with the *Knema*-type of inflorescences, and smallish ± ellipsoid fruit with relatively thin pericarp, 1–2(–3) mm thick when dry, and with short rather slender fruit stalk, 1–3 mm long. Taxonomically, they are linked up with some of the more common small-leaved species of adjoining New Guinea and the Moluccas (see De Wilde, *Blumea* 35, 1990: 233–260*). I do not know whether *Myristica fragrans* Houtt., the nutmeg of commerce, is locally cultivated in Queensland.

The Australian species can be discriminated as follows:

KEY TO THE SPECIES

- 1a. Reticulate tertiary venation on lower leaf surface brown, contrasting and distinct. Tomentum of perianth with hairs c. 0.1(–0.2) mm long. Male flower pedicel nearly or about as long as the perianth; bracteole caducous. Anthers 5 or 6. Androphore more or less pubescent towards the base. Fruit (when dry) 2–3 cm long, with dark rusty tomentum with shaggy hairs 0.3–0.5(–0.8) mm long. Rain forest of NE Queensland 1. *M. muelleri*

*) Since then it appeared that two more species occur in the Aru Islands, which likely occur also in New Guinea; their correct names have not yet been established.

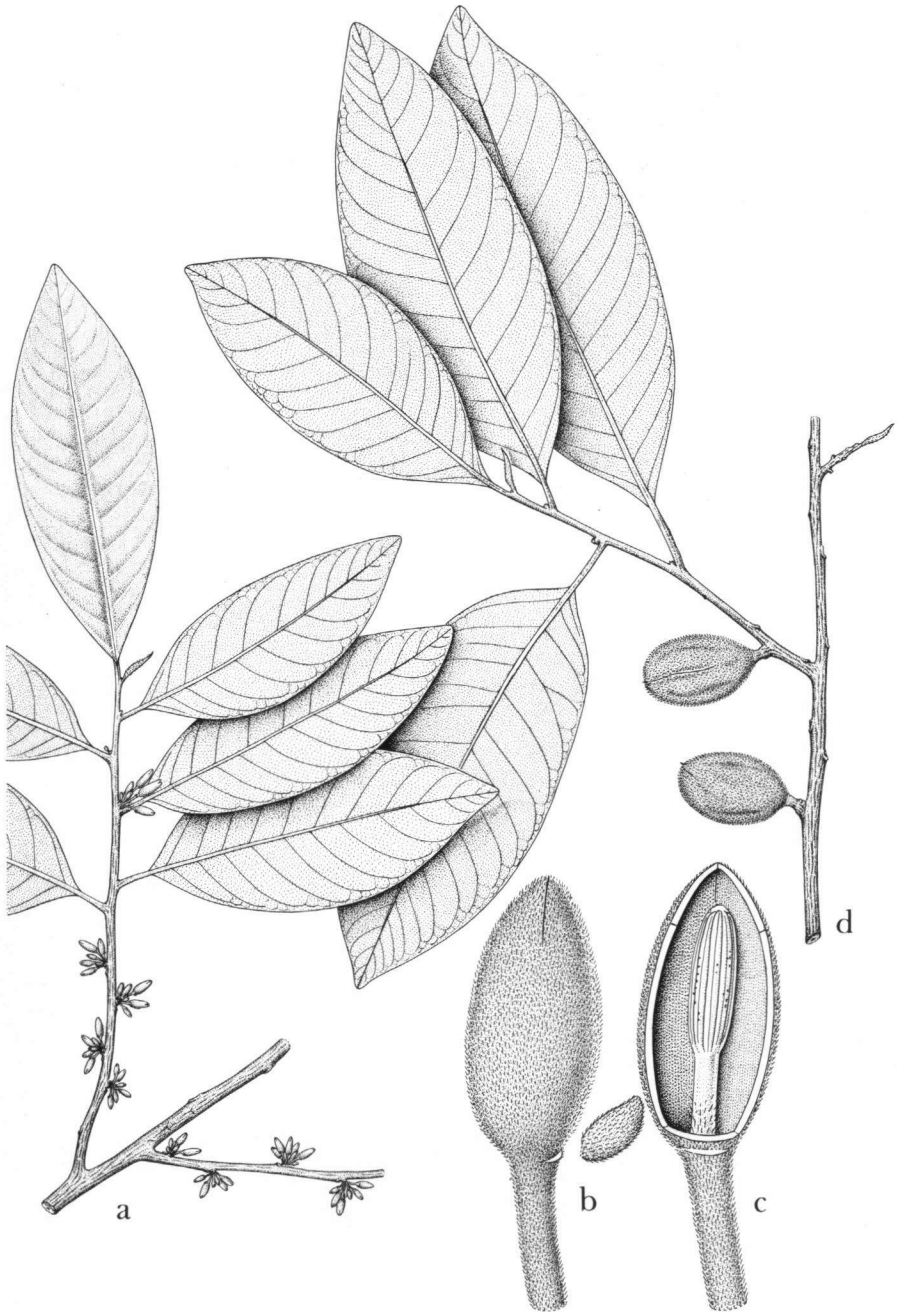


Fig. 1. *Myristica muelleri* Warb. a. Habit of branched leafy twig with male inflorescences, partly on the older wood, $\times 0.5$; b. mature male flower just before anthesis, bracteole caducous, $\times 6$; c. ditto, perianth lengthwise opened to show androecium, $\times 6$; d. twig with single-fruited infructescences, $\times 0.5$ (a-c: (Wringly & Telford) L.J.W. & J.G.T. 5693; d: Kanis 2136).

- b. Reticulate tertiary venation on lower leaf surface usually distinct but not much contrasting in colour. Tomentum of perianth with hairs 0.2–0.5 mm long. Male pedicel generally shorter than the perianth; the bracteole persistent or deciduous. Anthers 5–8. Androphore glabrous (outside Australia sometimes pubescent at base). Fruit c. 2.5–4 cm long, with a tomentum of rusty to pale (yellowish-) brown woolly hairs 0.3–1 mm long 2
- 2a. Leaves to 20 cm long, elliptic-oblong to oblong-lanceolate; index c. 2.5 or more. Fruit 2.5–3.5(–3.8) cm long with hairs (sometimes glabrescent but hairs remaining in the depressions formed with drying of the pericarp) 0.3–1 mm long. SE Moluccas (Tanimbar Is.), S New Guinea; N Australia in coastal monsoon forest, deciduous forest, gallery and gully forest (including *Lucas (& Wilson) 10*, see notes) 2. *M. insipida*
- b. Leaves 11–25 cm long, broad, elliptic or elliptic-oblong; index 2.5 or less. Fruit 3.5–4.2 cm long, with hairs 0.5–1 mm long. Lowland rain forest in Clump Point area, NE Queensland 3. *M. ampliata*

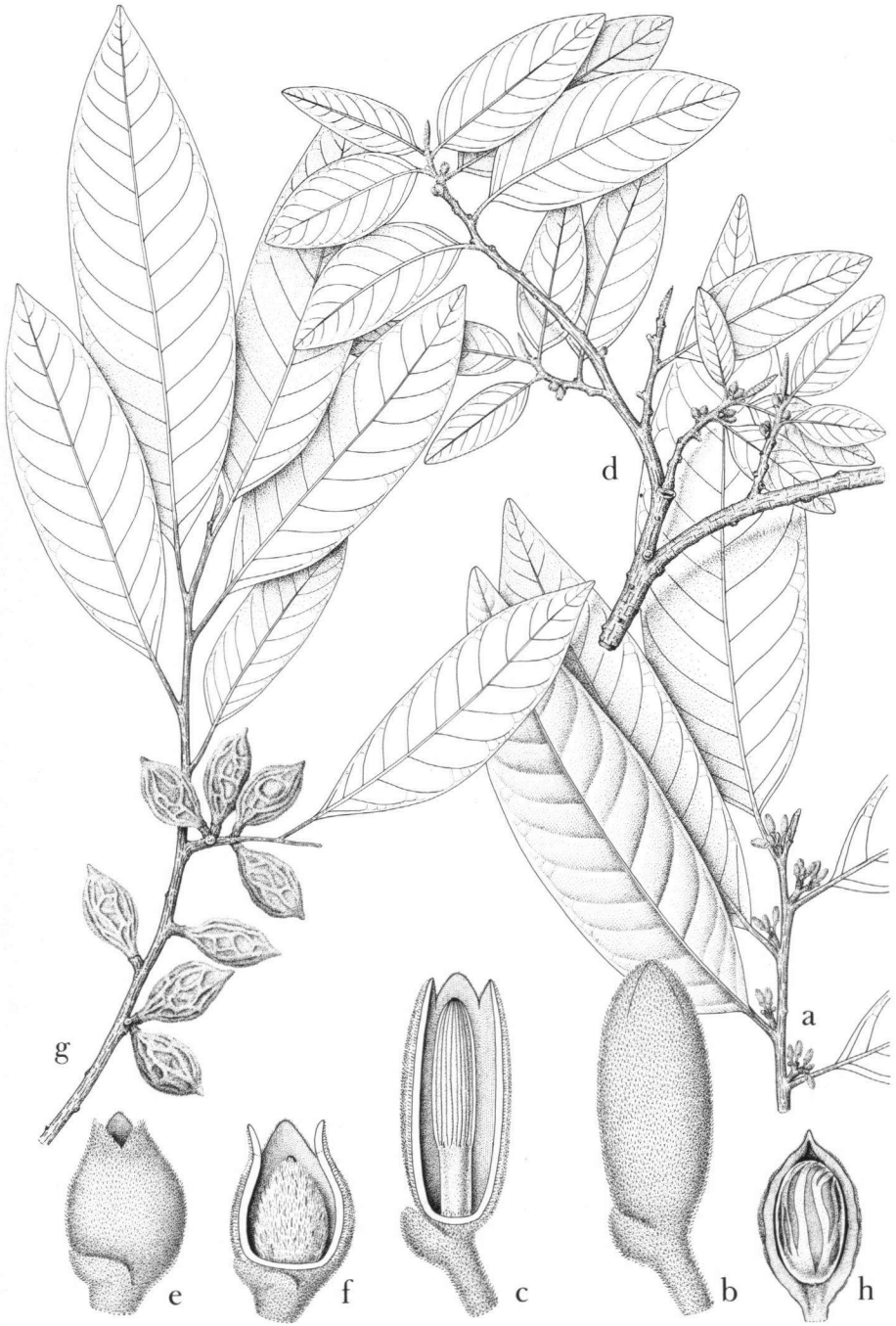
1. *Myristica muelleri* Warb. – Fig. 1.

Myristica muelleri Warb., Monog. Myrist. (1897) 502, t. 18 fig. 1–4 — Syntypes: *Dallachy s.n.* (in herb von Mueller) (B †; FI, NSW, W, n.v.; K, lecto), *Wilhelmi s.n.* (B †), both from Rockingham Bay, and *Warburg 19500* (B, †), from Cooktown.

This species was included by Sinclair (Gard. Bull. Sing. 23, 1968: 370) in *M. insipida*, but, following Warburg (l.c.), I regard it as a distinct species confined to NE Queensland. It is closely allied to the variable and complex *M. globosa* Warb. which is widely distributed in New Guinea, the Bismarck Archipelago, and the Solomon Islands. The more common form of *M. globosa*, including its type, differs from *M. muelleri* by generally (sub)globose fruit, 1.5–3 cm in diameter, with a thicker pericarp, according to the size of the fruit 3–5 mm thick, with a dull greyish-brown to rusty 'mealy' tomentum with hairs 0.1–0.3(–0.5) mm long; its fruit stalk is usually slender and longer, (3–)5–8 mm, as against (1–)2–3 mm long in *M. muelleri*. The variation of *M. globosa*, in the broad sense, however, includes specimens that closely approach *M. muelleri*, and the occurrence of this latter species in New Guinea, and especially in New Britain, where *M. globosa* seems to have its greatest diversity, can as yet not be excluded. On the other hand, the more common 'typical' form of *M. globosa* does not occur in Australia.

Noteworthy deviating specimens — *Stocker 1045* is a sterile collection from the Rocky River area, 13° 40' S, 143° 25' E, and agrees vegetatively completely with *M. muelleri*; the locality, however, is rather distant from the main area of this species, and rather falls within the area of *M. insipida*.

Boyland (& Gillieatt) 363 and *Smith 11858*, both from the Cook District, northern Queensland (Daintree and Coen respectively), have leaves rather equalling those of *M. insipida*, but the dark brown pubescent fruit is similar to that of *M. muelleri*. Moreover, the rather large leaves of *Boyland 363* are reminiscent of those of the related *M. ampliata* which has, however, broader leaves and larger fruit.



2. *Myristica insipida* R. Br. — Fig. 2.

Myristica insipida R. Br., Prod. Fl. Nov. Holl. ed. 1 (1810) 400; ed. 2 (1827) 256; Benth., Fl. Austr. 5 (1870) 281; Blake, Austr. J. Bot. 2, 1 (1954) 124; Sinclair, Gard. Bull. Sing. 23 (1968) 369 (excl. syn. *M. muelleri*, and excl. material from the Solomon Is.), fig. 61; de Wilde, Blumea 35 (1990) 245, fig. 1: 6; for more references see Sinclair, l.c. — *Myristica cimicifera* R. Br. var. *insipida* (R. Br.) Warb., Monog. Myrist. (1897) 501. — Syntypes: *Brown 25* (G, P, n.v.), Port Darwin, 3012 (E, n.v.; K, lecto), Carpentaria, 2312 (BM), Chasm Is., Northern Territory.

Myristica cimicifera Soland. ex R. Br., Fl. Nov. Holl. ed. 1 (1810) 400; ed. 2 (1827) 256; Warb., Monog. Myrist. (1897) 499, t. 18 fig. 1–6 (incl. var. *typica*). — Type: *Banks & Solander s.n.*, 1770 (K; BM, iso), from Endeavour River, Queensland.

Myristica cimicifera R. Br. var. *acutifolia* Warb., Mon. Myrist. (1897) 502 (= var. *kingii* Warb., msc., nom. nud. in sched.). — Type: *King s.n.* (BR, G, n.v.), Swan River, NW Coast, W Australia.

Myristica macgregorii Warb., Monog. Myrist. (1897) 479. — Type: *Macgregor 12* (B †; MEL, iso, n.v.), Papua New Guinea, Barawara, Milne Bay Prov.

Distributed in Northern Australia (northern West Australia, the Northern Territory and N Queensland), and in S New Guinea and SE Moluccas (Tanimbar Islands). The material from these three areas is somewhat different, as briefly discussed by me in Blumea 35 (1990) 245. The Australian material, which contains the type material of both *M. insipida* and *M. cimicifera*, seems to be characterized by a distinct (but not very contrasting) reticulation on the lower leaf surface, persistent bracteoles, and glabrous androphore, and generally by the fruit with a bright brown or rather pale (yellowish) brown tomentum with hairs to c. 1 mm long.

I have not seen the isotype specimen in MEL of the synonym *M. macgregorii* from SE Papua New Guinea. Warburg mentions that it is distinct by longer pedicelled male flowers with more anthers and with a hairy androphore, but I have accepted specimens from S New Guinea with a partly hairy androphore as belonging to our present species.

Lucas (& Wilson) 10, collected June 1988, is a female flowering specimen from the Northern Territory, from a very western locality near Darwin (12° 40' S, 131° 29' E), in moist jungle, and much resembles the majority of *M. insipida* from N Australia but markedly differs by its long (3–5 mm) pedicels of the female flowers, the sparse tomentum of the perianth, and also in its subtle differences in the leaves including a fainter venation. Most likely it represents a separate taxon, but more material should be seen to decide on this.

3. *Myristica ampliata* de Wilde, *spec. nov.* — Fig. 3.

Affinis *Myristica insipidae* differt autem foliis fructibusque maioribus; folia elliptico-oblonga, indice circa 2,5, 11–25 cm longa, 5–10,5 cm lata, basi rotundata vel breviter cuneata; fructus ellipsoideo-oblongus, 3,5–4 cm longus, pilis tomenti 0,5(–1) mm longis. — Typus: *L.S. Smith 4969* (L).

Fig. 2. *Myristica insipida* R. Br. a. Portion of leafy twig with male inflorescences, × 0.5; b. mature male flower showing persistent bracteole, × 6; c. ditto, opened, showing androecium, × 6; d. habit of flowering branch of female specimen, × 0.5; e, f. female flowers in anthesis, one flower opened, showing ovary (pistil), × 6; g. habit of branch with infructescences, each bearing one or two fruits, × 0.5; h. dry fruit opened to show arillate seed, × 1 (a–c: *Telford & Wringly 7825*; d–f: *Specht 666*; g, h: *Darbyshire 710*).

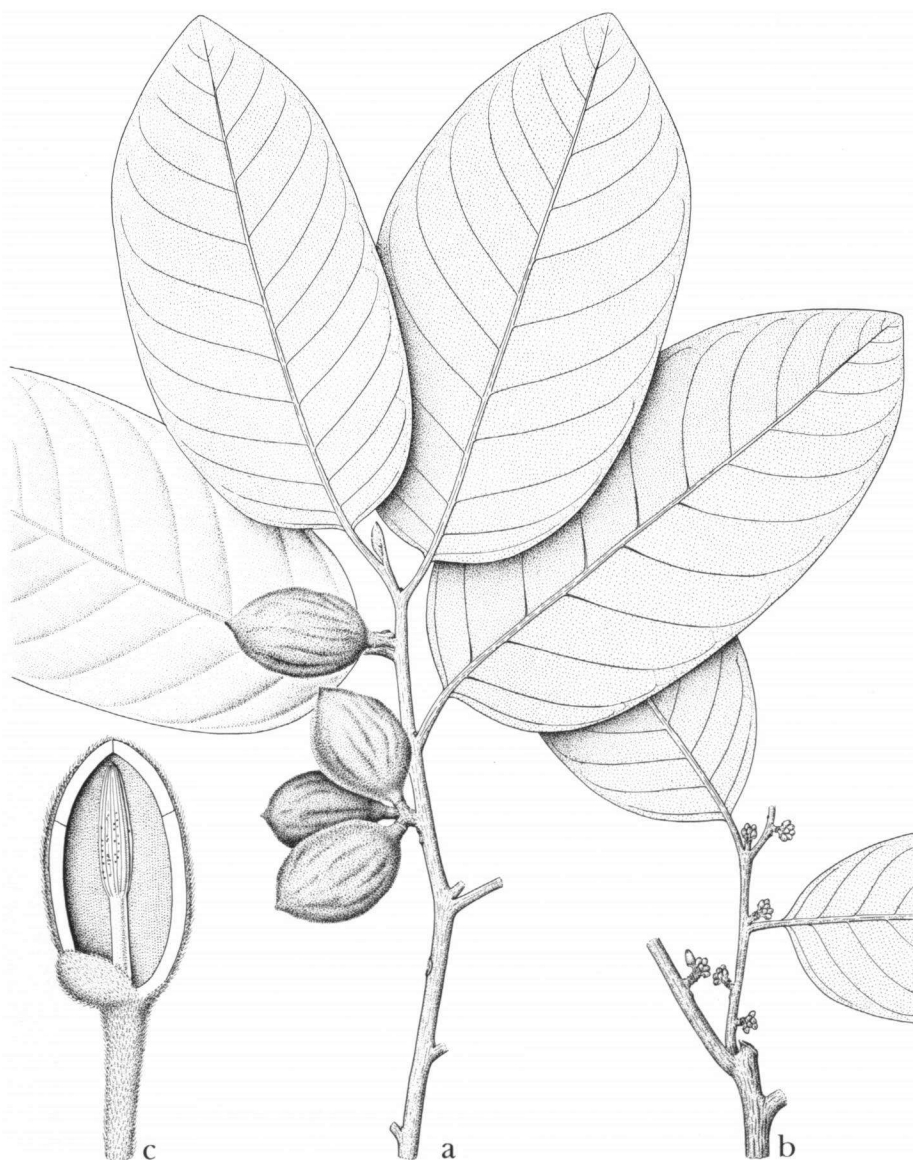


Fig. 3. *Myristica ampliata* de Wilde. a. Habit of leafy twig with infructescences, with mature fruit, $\times 0.5$; b. portion of twig with male inflorescences, $\times 0.5$; c. male flower with (sub)persistent bracteole, perianth opened lengthwise to show androecium, $\times 6$ (a: *L.S. Smith 4969*, type; b, c: *Thorne & Jones 20632*).

Tree 3–10 m. Twigs terete, towards the apex 1.5–2(–2.5) mm in diameter, striate, grey-brown or yellowish brown, glabrescent from grey-brown or brown tomentum with hairs 0.3–0.5 mm; bark of twigs lower down yellowish brown or grey-brown, coarsely striate, with a varying number of small lenticels, contrasting or not. *Leaves* in two rows; blades chartaceous, elliptic or elliptic-oblong, (8–)11–25 × 5–10.5 cm, base rounded or shortly attenuate, top narrowly or broadly rounded, or narrowed and with the very top obtuse or rounded; upper surface drying dull pale olivaceous, lower surface slightly paler, scatteredly papillose; midrib above flattish or slightly raised; nerves 7–12 pairs, sunken above, tertiary venation forming a coarse network, visible (but not contrasting in colour) at both surfaces, marginal arches not distinct; petiole 8–18 × 1.5–3 mm, glabrous, drying brown; terminal leaf bud rather slender, acute, 7–10 × 2–2.5 mm, densely bright brown or grey-brown pubescent with hairs 0.3–0.6 mm. *Inflorescences* situated in between and below the leaves, of the *Knema*-type, i.e. in male: sessile simple or forked short shoots up to 5 mm long, scar-covered, short-pubescent, terminally with a subumbel of 5–10 flowers (flower buds) of strongly varying size and age, bracts minute, caducous; female inflorescences similar as males, but shorter, 1–2 mm long, few-flowered. *Flowers* densely light brown pubescent with hairs c. 0.3 mm; bracteole deciduous. *Male flowers*: pedicel 3–4 mm, bracteole broadly rounded, c. 1.5 mm long, at apex of pedicel, deciduous; mature perianth in bud oblong-ellipsoid, top and base rounded, 5–6 × (2.5–)3 mm, valves 3, at sutures c. 0.3 mm thick, at anthesis splitting the perianth for c. 1/4 (to nearly 1/3), erect, not much out-curved; androecium slender, cylindrical, 4.5–5 × 0.8–1 mm, synandrium cylindrical, 2.5–3 × (0.8–)1 mm, anthers 5–7 (or 8), contiguous, sterile apex minute, c. 0.1 mm, or absent and with the anthers slightly projecting as minute lobes, androphore cylindrical, (1.5–)2 × 0.4–0.5 mm, glabrous. *Female flowers* not seen. *Fruit* 1 or 2 (or 3) per infructescence, subsessile, obovoid (to ellipsoid-)oblong, 3.8–4.2 × 2–2.2 cm, top narrowly rounded, c. 1 mm beaked, base somewhat narrowed, dry pericarp deeply wrinkled, 1–2 mm thick, with woolly medium-brown tomentum of hairs 0.5–1 mm, rather easily rubbed off; fruit stalk rather slender, 2–3 mm long; seed c. 2 cm long.

Distribution & Habitat – Locally in lowland rain forest in NE Queensland, Mission Beach area, near Clump Point; flowering in April and November, fruiting in August and November.

Specimens examined. AUSTRALIA. Queensland: *L. S. Smith* 4923, 4969; *Thorne & Jones* 20632; *Thorne & Tracey* 22496.

Notes – 1. Fieldnotes. Small tree; bark darkish coloured, flaky, exuding a red watery sap with a nutmeg odour. Flowers yellowish. Fruit red.

2. This new species appears as a giant form of *M. insipida*, with which it is obviously closely associated. Except for the flowers, which are identical with those of large-flowered Australian specimens of *M. insipida*, it differs by larger and broader leaves, with an index of 2.5 or less, and by conspicuously larger fruit. It grows locally in lowland rain forest in the Mission Beach area, Queensland, rather beside the area of distribution of *M. insipida*, a species mainly found in monsoon forest. I have

described *M. ampliata* as a distinct species besides *M. insipida* because the latter, with a fairly large distributional area already, is a rather variable and heterogeneous taxon, and the inclusion of the Mission Beach specimens would have rendered *M. insipida* into a hard to recognize entity; for instance, anyone would agree that the specimens of *M. insipida* from the Tanimbar Islands (Moluccas) cannot go under the same name as those here described as *M. ampliata*.

3. Under the resembling *M. muelleri* a deviating specimen, in habit somewhat approaching *M. ampliata*, is discussed.

4. Specimens of the present new species had not yet been collected in Sinclair's time, and hence are not incorporated in his monographic treatment of *Myristica* in Gard. Bull. Sing. 23 (1968).

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