

NEW SPECIES OF DYSOXYLUM (MELIACEAE)

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SUMMARY

Six new species of *Dysoxylum* (Meliaceae) from the Flora Malesiana region are described and illustrated; two new combinations are made; one species formerly ascribed to *Aglaia* (*Amoora*) is assigned to *Dysoxylum*, a second to *Xylocarpus*, and a third to *Santiria* (Burseraceae).

With the impending publication of Meliaceae for Flora Malesiana, it is now necessary to describe a number of new species and deal with other matters associated with the Flora treatment in which full English descriptions will be found. They are not repeated here and the species are arranged alphabetically, not in the same order as in the Flora.

Dysoxylum acutangulum* Miq. subsp. *foveolatum* (Radlk.) Mabb., *comb. et stat. nov.

Dysoxylum foveolatum Radlk., Sitzb. Akad. Münch. Math. Phys. 9 (1879) 598. — Type: *Teijsmann 19579* (M holo; BO, K iso), Timor, Tanini.

Dysoxylum schultzei C.DC. in DC., Monog. Phan. 1 (1878) 502, '*schulzei*', syn. nov. — Type: *Schultz 573* (K holo), Australia, Northern Territory, Darwin.

The opposite-leaved *Dysoxylum* of NW Australia has generally been considered to be *D. oppositifolium* F. Muell., though that has smaller fruits and conspicuous venation in the dried leaflets, but it was named *D. schultzei* over a century ago. This plant, with narrow leaflets with domatia, is common in New Guinea and the Solomons and in Malasia westwards to southern Sumatra; there it has been known as *D. acutangulum*, but the type of that is from Bangka and is a plant with broad domatia-free leaflets. However, there are a few intermediate specimens in New Guinea and it seems most appropriate then for the southern populations to be treated as a geographical subspecies.

***Dysoxylum annae* Mabb., *spec. nov.* — Fig. 1**

A *Dysoxylum mollissimo* foliis parvioribus, paucijugatis, folioliis terminalibus vix evolutis, floribus pusillioribus, tubis staminalibus minus hirsutis differt. — Typus: *BW 1145* (*Koster*) (L holo; K, KEP, LAE iso), Indonesia, Irian Jaya, Ransiki, Oransbari, Numi-warum, 1 Oct. 1955 (first record).

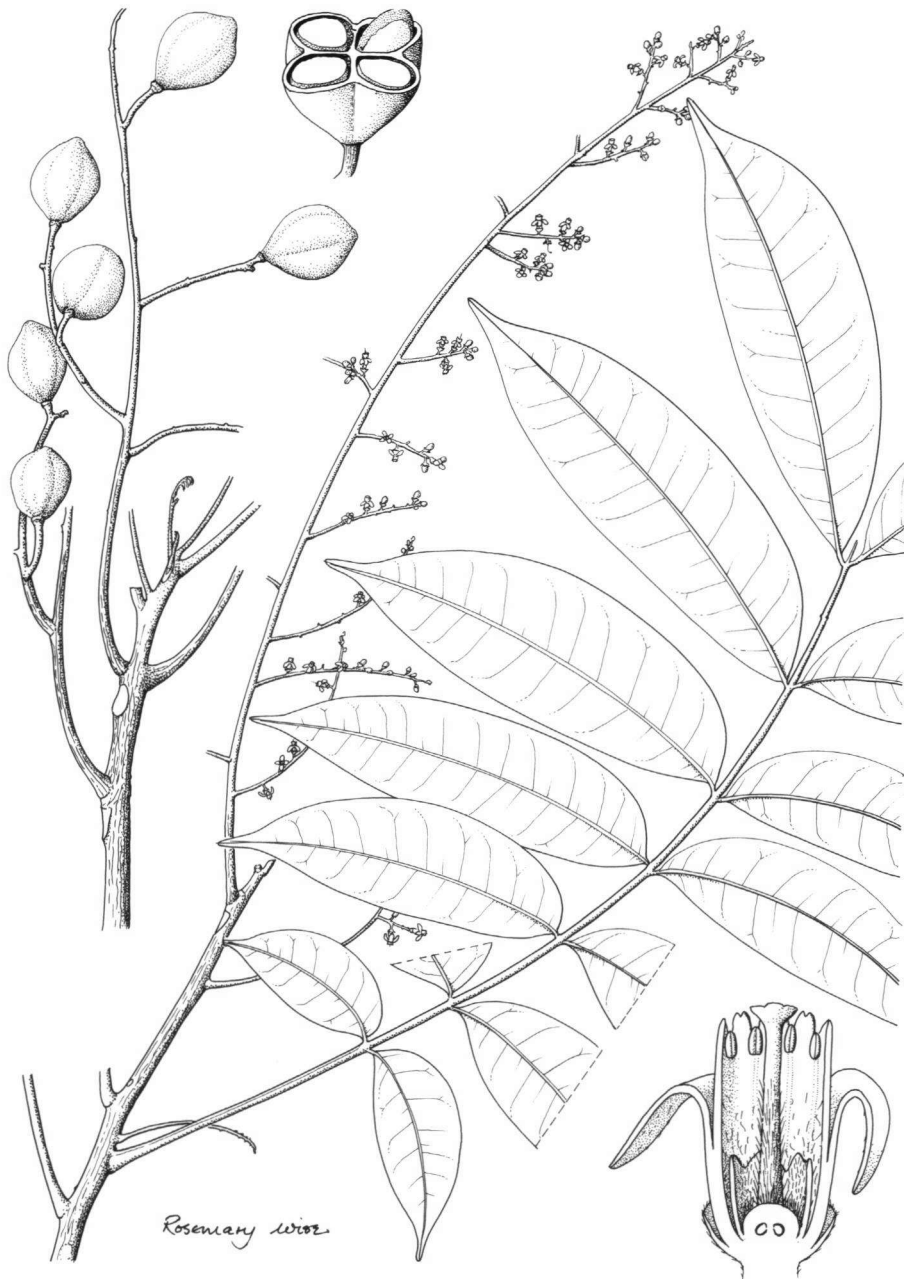


Fig. 1. *Dysoxylum annae* Mabb. Flowering shoot ($\times 0.5$) and half-flower ($\times 7$) (BW 1145, type); fruiting shoot ($\times 0.5$) and half-fruit ($\times 1$) (BW 1225).

The specific epithet commemorates Anne Sing, my assistant, who has done so much to make the Flora Malesiana account a reality.

Other material examined: Indonesia, Irian Jaya, Manokwari, Anggerwaki [?], *bb 33644* [Kostermans 496] (K, L), Oransbari, *BW 2692* (Schram) (L), Sidei, c. 5 m, *BW 5740* (Iwanggin) (L); Biak, Noumfoor Is., 5 m, *BW 1024* (Koster) (K, L, LAE); Ransiki, Meoswar, 5 m, *BW 1219* (Koster) (L, LAE), *1225* (K, L, LAE, SING), *1245* (K, L, LAE); *BW 3583* (Kalkman) (L, LAE).

***Dysoxylum boridianum* Mabb., *spec. nov.* — Fig. 2**

A *Dysoxylum sparsifloro* foliorum spica apicali longioribus, antheris 8, capsulis lenticellatis-pustulatis differt. — *Typus:* LAE 60103 (Foreman & Vinas) (L holo; K, LAE iso), Papua New Guinea, Central Dist., Port Moresby Subdist., above Boridi village, 1370 m, 28 Sep. 1973.

Other material examined: Papua New Guinea, Boridi village, 28 Sep. 1935 (first record), *Carr 13485* (BM, K, L, SING), *14270* (BM, CANB, L, SING), *14913* (BM, L).

***Dysoxylum carolinae* Mabb., *spec. nov.* — Fig. 3**

[‘*Dysoxylum sp.* (Sing. F.N. 32212 ...)’], Corner, *Seeds Dicots 1* (1976) 189.]

[*Dysoxylum sp. 1*, Mabb. in Ng, *Tree Fl. Malaya 4* (1989) 246.]

A *Dysoxylum acutangulo* costis intercostisve prominentibus, petalis brevioribus differt. — *Typus:* FD 49827 (Symington) (KEP holo), Malaysia, Pahang, Kemasul For. Res., 17 Nov. 1938.

The specific epithet commemorates Dr. Caroline Pannell, tropical botanist and formerly my research student working on a thesis on the ecology and taxonomy of *Aglaia*, which genus she has now successfully monographed.

Other material examined: Vietnam, Tonkin, Hoa-Binh, *Brillet 14* (P). — Indonesia, Sumatra, Palembang, Banjoecasin, nr Bajung, 15 m, *Dorst T-757* (BO); Jainbi Prov., Tigapuluh Mts, S of Bt. Hulusipin, 400 m, *Laumonier 5746* (FHO); Riaau, Sg. Akar, c. 50 m, *bb 28606* (van Steenis) (BO, L, SING). — Malaysia, Kedah, Bt. Enggang For. Res., c. 90 m, *KEP 81386 & 83659* (KEP); Perak, Parit For. Res., *FD 34264* (KEP); Selangor, Kepong, *FRI 16092* (K, KEP, SING); Negri Sembilan, Senawang For. Res., 15 Sept. 1920 (first record), *FD 540* (KEP); Pahang, Kemasul For. Res., *KEP 84766* (KEP), Rompin Iron Mine, Bt. Santong, c. 270 m, *FRI 3603* (KEP, L, SING), Cameron Highlands, Ringlet, c. 1100 m, *Henderson 23664* (K), Temerloh, K. Lompat, *Mabberley & Pannell 1989* (FHO, L), Raka Hill Res., *FD 27722* (KEP); Johore, Soga For. Res., *KEP 70177* (KEP); Sabah, Sandakan, mi 12, Lungmanis, *SAN 40680* (L), Lahad Datu, Sapang Sg., c. 60 m, *SAN 47101* (FHO). — Singapore, MacRitchie Reservoir, *SFN 32212* (A, K, L, LAE, SING), *SFN 34930* (B, K, L, LAE, SING), sine loc., *Corner & Herklots s.n.* (SING). — Brunei, Tutong, Rambai, Bt. Bahak, *Coodé 7113* (FHO, K).

***Dysoxylum crassum* Mabb., *spec. nov.* — Fig. 4**

A *Dysoxylum inopinato* pedicellis pseudopedicellisve brevissimis, calycibus petalisve pusillis differt. — *Typus:* S 22671 (Murthy & Ashton) (FHO holo; BO, K, KEP, L iso), Malaysia, Sarawak, Third Division, Dapoi, Long Nyalau, 700 m, 8 Apr. 1965.

The specific epithet refers to the chunky nature of the floral parts.



Fig. 2. *Dysoxylum boridianum* Mabb. Flowering shoot ($\times 0.5$) and half-flower ($\times 2$) (Carr 14913); fruiting shoot ($\times 0.5$) (Carr 14270).



Fig. 3. *Dysoxylum carolinae* Mabb. Inflorescence ($\times 0.5$) and half-flower ($\times 4$) (FD 49827, type); vegetative shoot ($\times 0.5$) (Mabberley & Pannell 1989); infructescence ($\times 0.5$) (Brillet 14); leaf abaxial surface ($\times 5$) (SAN 40680).



Rosemary Wisr.

Fig. 4. *Dysoxylum crassum* Mabb. Flowering shoot ($\times 0.5$) (S 32877); half-flower ($\times 4.5$) and young shoot ($\times 0.5$) (S 22671, type).

Other material examined: Malaysia, Sarawak, Kalabit Highlands, Bario, *Nooteboom & Chai 1663* (L), 2115 (B, KEP, L); Balleh, Ulu Mujong, 7 Apr. 1964 (first record), *S 19970 (Paie)* (A, BO, K, KEP, L); Lawas, Malingan Range, path to Merapok along Sg. Masia, *S 32877 (Paie)* (BO, FHO, K, KEP, L).

***Dysoxylum cyrtobotryum* Miq.**

Dysoxylum cyrtobotryum Miq., Fl. Ind. Bat. Suppl. 1 (1861) 196, 504. — Type: *Teijsmann s.n.* (L, holo), Indonesia, Sumatra, near Panti.

Amoora macrocarpa Merr., Philipp. Govt. Lab. Bur. Bull. 17 (1904) 24; Enum. Philipp. Flow. Pl. 2 (1923) 370, syn. nov. — Type: *Merrill 3731* (PNH† holo; NY, P), Philippines, Luzon, Bataan, Mt Mariveles, 1 Jan. 1904.

Amoora macrocarpa was unplaced in *Aglaia* Lour. (syn. *Amoora* Roxb.) by Pannell (Kew Bull. Add. Ser. 16, 1992, 352); the fruiting isotype specimens, which she did not see, fit the widespread *D. cyrtobotryum* as represented in the Philippines. It had been erroneously reduced to *D. turczaninowii* C.DC. by Merrill in Philipp. J. Sc., Suppl. 1 (1906) 72; see Merrill (l.c.).

Note — Of the species excluded from *Aglaia* but unplaced by Pannell (l.c.: 355), *A. zollingeri* C.DC. [Bull. Herb. Boiss. 2 (1904) 579, type: *Zollinger 2846*, Java (G holo, FHO photo)] is based on a scrappy specimen of *Xylocarpus rumphii* (Kostel.) Mabb. while *Amoora forbesii* S. Moore [J. Bot. Lond. 64, Suppl. (1926) 4, type: *Forbes 3043* (BM holo; L), Indonesia, Sumatra, Palembang, Mura Mengkullem, R. Rawas, c. 450 m, 1881/2] is referable to *Santiria* (Bursaceae). Dr. P.W. Leenhouts kindly confirmed this and assigns the plant to *S. apiculata* Benn.

***Dysoxylum magnificum* Mabb., spec. nov. — Fig. 5**

A Dysoxylum excelso surculis alliaceis velutinis-rubiginosis, petalis 5, capsulis sulcatis differt. — Typus: *S 24337 (Sibatak Luang)* (FHO holo; K, L, SING iso), Malaysia, Sarawak, First Division, 12th mile Penrissen Road, 31 Aug. 1966.

Other material examined: Indonesia, Sumatra, Palembang, Ulu Lematang [?], 28 Nov. 1916 (first record), *Lambach 1306* (L); Asahan, Bagasan, *Rahmat si Boeea s.n.* (SING). — Malaysia, Sarawak, First Division, Semengoh For. Res., *FD 13028 (Asah)* (K, SING), *Mabberley 1577* (FHO), *Pennington 7950* (FHO, KEP, L), *S 155* (KEP, KLU, SING), *S 219* (KEP, SING), *S 16421* (BO, K, L), *S 25993* (K, L, SING), *S 37761* (FHO), *S 37972* (K, L); Third Division, Kapit Dist., Belaga Subdist., Rajang River, c. 10 km below Belaga, *Jacobs 5226* (B, K, L), Bukit Raya, 2.5 hours upstream from Kapit, *Pennington 8014* (FHO, KEP, L).

***Dysoxylum mollissimum* Blume subsp. *molle* (Miq.) Mabb., comb. et stat. nov.**

Dysoxylum molle Miq., Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 11. — Type: *Zippelius s.n.* (U holo; L iso), Indonesia, SW Irian Jaya, 1828.

Dysoxylum muelleri Benth., Fl. Austr. 1 (1863) 381, syn. nov. — Type: *Hill s.n.* (K lecto, selected here; MEL isolecto), Australia, Queensland, Moreton Bay.

Of the sheets cited by Benthham for his *Dysoxylum muelleri*, that collected by Hill is annotated by Benthham and in good condition, with a duplicate in Australia. Although

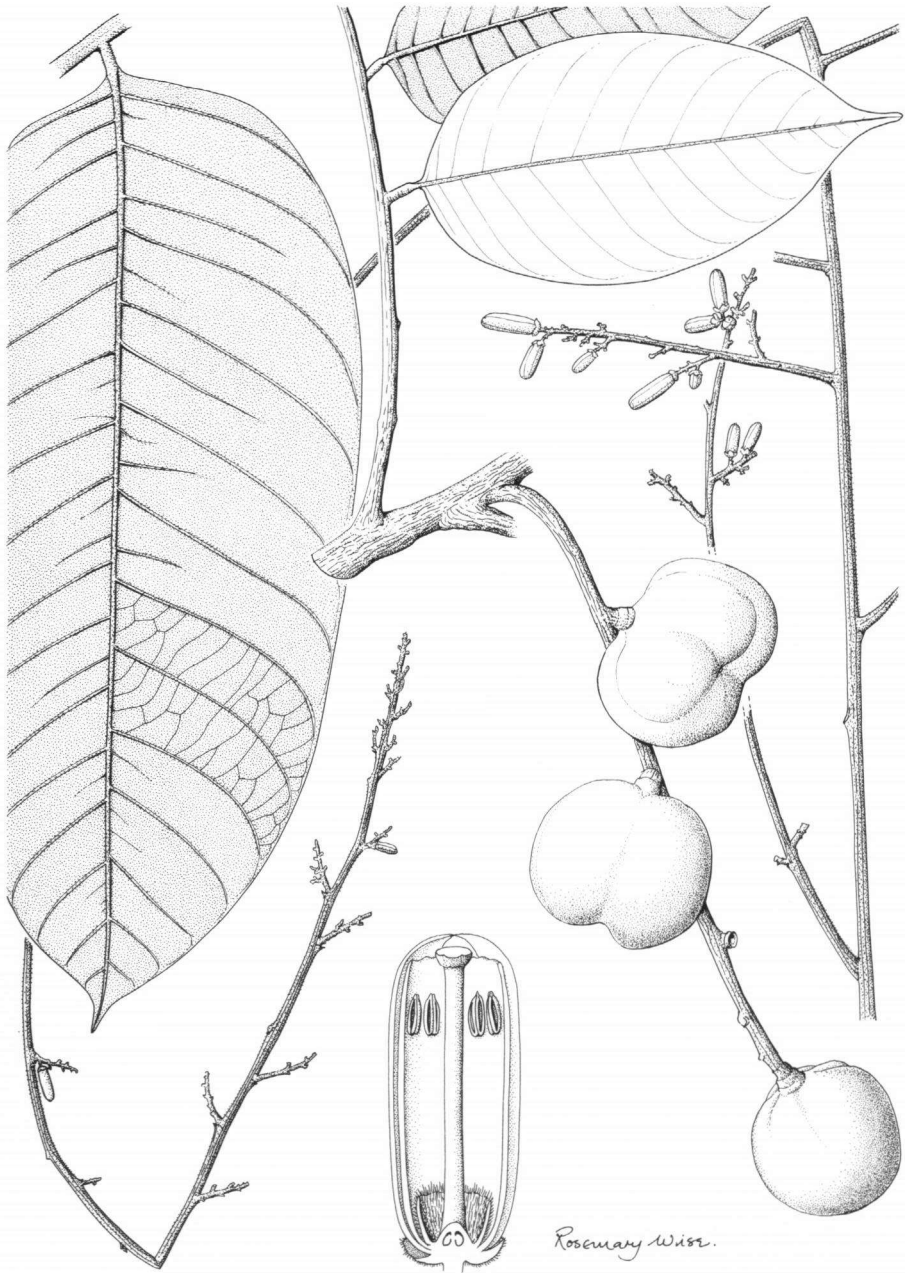


Fig. 5. *Dysoxylum magnificum* Mabb. Inflorescence ($\times 0.5$) and half-flower ($\times 2.5$) (S 24337, type); large leaflet ($\times 0.5$) (Pennington 7950); infructescence ($\times 0.5$) (Pennington 8014).



Fig. 6. *Dysoxylum sparsiflorum* Mabb. Flowering shoot ($\times 0.5$) and half-flower ($\times 2.5$) (Hoogland & Craven 10601, type); fruit ($\times 0.5$) (Aet [Lundquist] 494).

materials of this timber tree ('red bean') at the southern end of its range in Australia look at first sight rather different from those in northern Queensland, they are linked by a chain of intermediates. There is enormous variation in pubescence and in leaflet-size. The northern populations are indistinguishable from the widespread *D. molle* of New Guinea, the Solomons and, in the broad sense, way out into the Pacific. West of Wallace's Line, the tree is also very variable with both pubescence and leaflet-size variation similar to that in *D. molle*. However, fruiting materials are readily distinguished in the fruits being strongly lenticellate east of the Line and smooth to the west of it. It seems most appropriate, then, to consider these two as variable geographical subspecies pending further investigation, and to include them under the oldest name in the complex, *D. mollissimum*, the type of which was from Java; formerly specimens of it were some of the largest trees on the island, but they have not been seen in at least West Java since the 1860s.

***Dysoxylum sparsiflorum* Mabb., spec. nov. — Fig. 6**

A *Dysoxylum paucifloro* foliis 2- vel 3-jugatis, foliolis, pedicellis longissimis pseudopedicellis longissimis, attenuatis, calycibus minoribus, petalis 5, antheris 10 differt. — Typus: *Hoogland & Craven 10601* (L holo; K, LAE iso), Papua New Guinea, Sepik, Ambunti Subdist., along Yapa (Hunstein) River, c. 100 m, 20 July 1966.

Other material examined: Indonesia, Irian Jaya, south, Sg. Aedaea [?], near Oeta [?], 5 m, July 1941 (first record), *Aet [Lundquist] 494* (L). — Papua New Guinea, Sepik, Ambunti Subdist., near Wagu, c. 75 m, *Hoogland & Craven 10519* (K, L, LAE), along Yapa River, c. 150 m, *Hoogland & Craven 10715* (A, CANB, G, K, L, LAE).

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