

15. TRIVALVARIA (Miquel) Miquel, Ann. Mus. Bot. Lugduno-Batavi 2: 19. 1865.

海岛木属 hai dao mu shu

Li Bingtao (李秉滔 Li Ping-tao); Michael G. Gilbert

Guatteria sect. *Trivalvaria* Miquel, Fl. Ned. Ind., Eerste Bijv. 381. 1861.

Shrubs or small trees, indument of simple hairs, sometimes absent. Inflorescences extra-axillary or sometimes leaf-opposed, sometimes fasciculate on woody axes; flowers solitary or paired. Flowers polygamous or bisexual. Flower buds very broadly ovoid to cylindrical. Sepals 3, small, imbricate, free or united at base. Petals 6, in 2 whorls, unequal, each whorl minutely imbricate or valvate, outer petals spreading, inner petals larger, spreading or connivent and concave. Male flowers: torus conical, broadly conical-ovoid, or cylindrical; stamens many; connective apex shieldlike to tongue-shaped, minutely pubescent or glabrous. “Female” flowers: stamens few; carpels many, densely hairy; ovule 1, basal. Styles absent; stigmas \pm globose. Bisexual flowers: torus cylindrical; stamens and carpels many. Fruit apocarpous; monocarps 2 to > 20 , shortly stipitate, ellipsoid to oblong or ovoid, thin walled, glabrous or pubescent. Seeds solitary, ellipsoid to oblong, smooth, shiny, with circumferential, longitudinal groove.

Four species: Bangladesh, China, India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam; one species in China.

Trivalvaria has not been recognized for China in previous Flora accounts, but see Heusden (Nordic J. Bot. 17: 169–180. 1997).

1. *Trivalvaria costata* (J. D. Hooker & Thomson) I. M. Turner, Kew Bull. 64: 577. 2009.

海岛木 hai dao mu

Guatteria costata J. D. Hooker & Thomson, Fl. Ind. 1: 143. 1855; *Ellipeia costata* (J. D. Hooker & Thomson) King; *Polyalthia costata* (J. D. Hooker & Thomson) J. D. Hooker & Thomson; *P. nemoralis* Aug. Candolle; *P. oligogyna* Merrill & Chun.

Shrubs or small trees, to 5 m tall. Branches densely to very sparsely pubescent when young, glabrescent. Petiole 2–10 mm, densely pubescent to glabrous; leaf blade obovate to elliptic to (ovate-)oblong, 6–25 \times 2–9 cm, membranous to thinly leathery, abaxially sparsely to densely pubescent, adaxially glabrous or rarely pubescent, base cuneate to \pm rounded, apex acuminate to caudate, sometimes rounded, midvein adaxially impressed, lateral veins adaxially faint to indistinct. Inflorescences extra-axillary or sometimes \pm leaf-opposed, rarely from old branches, often on woody axis with scars of previous flowers, 1- or 2-flowered; bracts 1 or 2, triangular to ovate, 1.5–3(–5) mm. Flowers polygamous (male and bisexual). Pedicel 2–5(–8) mm, pubescent. Buds 2.5–5(–8) mm. Sepals triangular to very broadly ovate, 2–3.5 \times 1.5–4 mm, outside densely pubescent, apex acuminate to rounded. Petals white to dirty pale yellow, minutely imbricate, (ob)lanceolate, narrowly ovate to broadly triangular, 2–8(–12) \times 1–4.5 mm, spreading outside pubescent, inside glabrous; inner petals obovate to lanceolate, 4–12 \times 1–4 mm, apex rounded to bluntly acute. Male flowers: torus conical; stamens many, 1.3–2.6 mm; connective apex shieldlike, sometimes tongue-shaped on outer stamens, glabrous or densely puberulent. Bisexual flowers: torus cylindrical; stamens many; carpels 2–10, densely hairy; stigma pubescent. Fruiting pedicel 3–5(–8) mm; monocarp stipes 1–6 mm; monocarps to 5, sometimes glaucous, ripening red, ellipsoid to oblong, 10–28 \times 5–11 mm, sparsely pubescent, verruculose, with circumferential longitudinal groove.

Hainan [India (Andaman Islands), Laos, Malaysia, Myanmar,

Thailand, Vietnam].

The Chinese material of *Trivalvaria costata* was included within *Polyalthia nemoralis* (as the synonym *P. oligogyna*) in FRPS (30(2): 87. 1979). “*Polyalthia dubia*” (Kurz, Rep. Veg. Andaman Isl. 29. 1870) belongs here but is a nomen nudum and was therefore not validly published (*Vienna Code*, Art. 32.1(d)); as a result, “*P. dubia* var. *glabriuscula*” (Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 43(2): 53. 1874) was also not validly published (Art. 43.1). *Popowia kurzii* King (J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 61(2): 96. 1892) was also applied to this species, but that name was nomenclaturally superfluous (and is therefore illegitimate: Art. 52.1), because the earlier name *Guatteria macrophylla* Blume was cited as a synonym in the protologue.

