

## 72. PRISMATOMERIS Thwaites, Hooker's J. Bot. Kew Gard. Misc. 8: 268. 1856.

南山花属 nan shan hua shu

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Shrubs or small trees, unarmed; branches usually longitudinally ridged on each side and surrounded at base by persistent leafless stipules, with bark often yellowed and hardened. Raphides present. Leaves opposite, decussate on ascending branches and distichous on horizontal branches, without domatia; stipules persistent at least on younger nodes, interpetiolar, bilobed, often becoming hardened with age. Inflorescences terminal on principal branches, or terminal on axillary short shoots and apparently axillary, umbelliform to fasciculate and several flowered or reduced to 1 flower, sessile to pedunculate, bracteate with bracts usually reduced. Flowers pedicellate or sessile, bisexual, usually distylous [occasionally fused by their ovaries]. Calyx limb truncate or 4 or 5 (or 6)-lobed, with lobes infrequently unequal with 1 larger than others. Corolla white, salverform, inside glabrous; lobes (4 or)5(or 6), valvate in bud. Stamens (4 or)5(or 6), inserted at or above middle of corolla tube, included in long-styled flowers or partially exerted in short-styled flowers; filaments short; anthers dorsifixed. Ovary 2-celled, ovules 1(or 2) in each cell, on axile placentas attached near or above middle of septum; stigma 2-lobed, exerted in long-styled flowers, included in short-styled flowers. Infructescences occasionally displaced to pseudoaxillary by subsequent branch growth. Fruit simple [or infrequently multiple], purple-black to blue-black, drupaceous, fleshy, subglobose or globose, with calyx limb persistent; pyrenes 1 or 2, 1-celled, subglobose when solitary to plano-convex when paired, thin-walled, with membranous preformed germination slits; seeds medium-sized, subglobose to plano-convex, on ventral face with deeply concave hilum; testa membranous; endosperm corneous; embryo small, with hypocotyl; radicle hypogynous.

Fifteen species: Bangladesh, Borneo, Cambodia, China, India (including Andaman Islands), Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Thailand, Vietnam; one variable species in China.

This genus was revised in a broad treatment by Johansson (Opera Bot. 94: 1–62. 1987), who reported that the flowers are strongly fragrant. This genus was also treated for China almost simultaneously and apparently independently by Ruan (Acta Phytotax. Sin. 26: 443–449. 1988), whose conclusions differed markedly from those of Johansson.

Two species have been recognized in China, *Prismatomeris tetrandra* and *P. connata*, with two subspecies recognized for *P. connata* (Y. Z. Ruan in FRPS 71(2): 178–179. 1999); *P. tetrandra* subsp. *multiflora* included only plants from Yunnan, while plants of the rest of China were treated in *P. connata*, with plants from the mainland in subsp. *connata* and plants from Hainan in subsp. *hainanensis*. However, wide and continuous morphological variation was documented by Johansson (loc. cit.) and Puff et al. (Rubiaceae of Thailand, 118. 2005) within *P. tetrandra* in adjacent countries, both across the region and in local populations; and Johansson (in herb.) recognized one species and no infraspecific taxa in China. *Prismatomeris connata* was distinguished originally by its connate rather than separate stigmas; however, this character was later said by Y. Z. Ruan to vary within this species. Its subspecies were distinguished by the degree of lobing of the calyx limbs and the shape and degree of swelling of the stigmas, but as there appears on the specimens studied to be continuous variation in these characters and some plants from the mainland match the characters given for the Hainan subspecies these plants are not separated here.

**1. *Prismatomeris tetrandra* (Roxburgh) K. Schumann** in Engler & Prantl, Nat. Pflanzenfam. 4(4): 138. 1891.

四蕊三角瓣花 si rui san jiao ban hua

*Coffea tetrandra* Roxburgh, Fl. Ind. 2: 193. 1824; *Octotropis terminalis* C. B. Clarke; *Prismatomeris connata* Y. Z. Ruan; *P. connata* subsp. *hainanensis* Y. Z. Ruan; *P. multiflora* Ridley; *P. tetrandra* subsp. *multiflora* (Ridley) Y. Z. Ruan.

Shrubs or small trees, to 8 m tall; branches quadrangular to subterete, glabrous. Petiole 4–15 mm, glabrous; leaf blade drying leathery to stiffly papery and rather shiny, lanceolate, elliptic, elliptic-oblong, ovate, obovate, or oblong-lanceolate, 4–18 × 2–6 cm, glabrous, base cuneate to acute, apex acuminate or acute to obtuse; secondary veins 5–9 pairs; stipules with sheath portion 0.2–1 mm, truncate, persistent or deciduous by fragmentation, bilobed, lobes linear to narrowly triangular, 0.1–0.5 mm, caducous. Peduncles 1–16 and fascicled or umbellate, 5–35 mm, simple or bearing an umbellate group of pedicels, at base with stipuliform bracts; pedicels when present 5–15 mm. Flowers pedunculate or pedicellate. Calyx glabrous or sparsely glandular-puberulent; hypanthium portion hemispherical, 1.5–2 mm; limb 1–2 mm, truncate or 4- or 5-denticulate. Corolla

white or pale purple, salverform, glabrous outside; tube 14–20 mm; lobes 4 or 5, lanceolate, 7–10 mm, abaxially (i.e., dorsally) ridged at least in bud, acute to obtuse. Drupes subglobose, 8–12 mm in diam., glabrous, smooth. Fl. May–Sep, fr. Sep–Dec.

Forests, thickets; 300–2400 m. Fujian, Guangdong, Guangxi, Hainan, S Yunnan [Cambodia, India, Thailand, Vietnam].

Johansson (Opera Bot. 94: 29. 1987) recognized two subspecies, *Prismatomeris tetrandra* subsp. *tetrandra* and *P. tetrandra* subsp. *malyana* (Ridley) J. T. Johansson; he reported only subsp. *tetrandra* from China. However, Puff et al. (Rubiaceae of Thailand, 118. 2005) noted that further observation shows that even these taxa cannot be completely separated either morphologically or geographically. Y. Z. Ruan (in FRPS 71(2): 178. 1999) included the Chinese plants in *P. tetrandra* subsp. *multiflora*, which Johansson synonymized with subsp. *tetrandra*. Ruan (loc. cit.) reported that the flowers of *P. connata* are occasionally unisexual; this was not further documented there and has not been reported by others nor confirmed with specimens. Ruan (loc. cit.: 179) also described the calyx lobes as ca. 3 mm, which has not been reported by other authors nor seen on the rather ample materials studied.

This species was newly reported from India by Ayappan and Parthasarathy (J. Econ. Taxon. Bot. 29: 802–804. 2005), and its distribution in Cambodia and Vietnam is here reported based on specimens at P annotated by Johansson after the publication of his article.

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