

## TETRAMELACEAE

四数木科 si shu mu ke

Wang Yinzheng (王印政)<sup>1</sup>; Nicholas J. Turland<sup>2</sup>

Trees deciduous [or evergreen], large, often buttressed, with soft wood, dioecious. Leaves alternate, long-petiolate; leaf blade simple, pubescent [or glabrous], lepidote, palmately 3–5-veined, margin entire or dentate. Inflorescences long, pendent spikes clustered at stem apices, male ones mostly branched, female ones usually simple [or axillary, solitary, simple spikes]. Bracts deciduous. Male flowers: calyx lobes 4–8, equal or unequal; petals absent [or 6–8, erect, greenish, narrowly triangular]; stamens 4–8, antesealous; filaments elongate, somewhat flattened subulate; anthers basifixed, introrse or extrorse, incurved in bud, relatively short and ovoid, or if larger and ± oblong then conspicuously recurved; sterile ovary present or sometimes absent. Female flowers: calyx lobes 4–8, free or connate below ovary; petals and staminodes absent; ovary inferior, 1-loculed, with 4–8 parietal placentas; ovules numerous; styles 4–8, antesealous, short, stout, with large, capitate or obliquely oblong-decurrent stigmas. Fruit a capsule, dehiscing apically between persistent styles [or shedding exocarp and dehiscing longitudinally]. Seeds numerous, ovoid or fusiform, tiny.

Two genera and two species: from India and Nepal through tropical SE Asia to Australia and the Solomon Islands; one species in China.

The other genus, *Octomeles* Miquel, comprises the single species *O. sumatrana* Miquel (*O. moluccana* Teijsmann & Binnendijk ex Hasskarl), which occurs in Indonesia, Malaysia (Sabah), New Guinea, the Philippines, and the Solomon Islands. It is a large tree like *Tetrameles*, but differs in the features enclosed in square brackets in the above description, as well as in having (5 or)6–8-merous flowers (vs. 4(or 5)-merous flowers in *Tetrameles*).

In the past, *Octomeles* and *Tetrameles* have been included together with *Datisca* Linnaeus to comprise the Datisceae. However, that group would be paraphyletic unless Begoniaceae were included. Therefore, two families are recognized here: Datisceae, comprising *Datisca* only, and Tetramelaceae, comprising the other two genera. Zhang et al. (Molec. Phylogen. Evol. 39: 305–322. 2006) placed Tetramelaceae as sister to Datisceae + Begoniaceae, although the latter clade had less than 50% support. The same authors placed Tetramelaceae + Datisceae + Begoniaceae as sister to Cucurbitaceae.

*Datisca* comprises two species: *D. glomerata* (C. Presl) Baillon, from W North America, and *D. cannabina* Linnaeus (including *D. nepalensis* D. Don). *Datisca cannabina* is a large, perennial, dioecious herb with pinnate leaves, and is distributed from the E Mediterranean (Crete) to the Himalayas, including countries adjoining W China from Kazakhstan to Nepal. It grows in moist places, often by streams in forests, and might yet be found in SW Xinjiang or SW Xizang.

Li Yanhui. 1999. Tetramelaceae. In: Ku Tsuechih, ed., Fl. Reipubl. Popularis Sin. 52(1): 123–125.

### 1. TETRAMELES R. Brown in Denham & Clapperton, Narr. Travels Africa, 230. 1826.

四数木属 si shu mu shu

*Anictoclea* Nimmo.

Trees deciduous, buttressed. Male flowers 4- or 5-conglomerate on spikes; calyx deeply 4(or 5)-lobed, tube very short, cupular; petals absent; stamens 4(or 5); filaments longer than calyx lobes, incurved with extrorse anthers in bud, erect with introrse anthers at anthesis; sterile ovary discoid-subcruciate, rarely absent. Female flowers solitary or 2–4-conglomerate on spikes; calyx tube long, slightly quadrangular, cupular in distal part, lobes 4(or 5), triangular; ovary with 4(or 5) parietal placentas; styles 4(or 5). Capsule dehiscing apically between persistent styles. Seeds ovoid.

One species: Bangladesh, Bhutan, Cambodia, China, India (including Andaman Islands), Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Sri Lanka, Thailand, Vietnam; Australia (Queensland).

1. *Tetrameles nudiflora* R. Brown in Bennett et al., Pl. Jav. Rar. 79. 1838.

四数木 si shu mu

*Anictoclea grahamiana* Nimmo; *Tetrameles grahamiana* (Nimmo) Wight; *T. grahamiana* var. *ceylanica* A. Candolle; *T. rufinervis* Miquel.

Trees 25–45 m tall; buttresses 2–4.5 m tall, sometimes to 6 m tall; bark gray, muricate. Petiole terete, 3–7(–20) cm; leaf blade cordate, cordate-ovate, or suborbicular, 10–26 × 9–20 cm,

abaxially sparsely pubescent along veins, adaxially glabrescent, palmately 3–5-veined, margin serrate, slightly 2- or 3-lobed when young, apex acute or acuminate. Male spikes 10–20 cm; peduncles yellowish pubescent; bracts spatulate, ca. 1 mm. Female spikes 8–20 cm; peduncle pubescent. Male flowers: pedicel ca. 1 mm or very short; calyx 1.5–2 mm, lobes oblong, 3-veined, margin entire or 1- or 2-dentate, apex obtuse; filaments terete, 1–3 mm; anthers subglobose, ca. 0.5 mm. Female flowers: pedicel absent or very short (less than 1 mm); calyx slightly 4-angled, puberulous, tube fusiform, 2.5–3.5 mm, 2.5–3 mm in diam. at middle, densely brown glandular punctate out-

<sup>1</sup> Institute of Botany, Chinese Academy of Sciences, 20 Nanxincun, Xiangshan, Beijing 100093, People's Republic of China.

<sup>2</sup> Missouri Botanical Garden, P.O. Box 299, Saint Louis, Missouri 63166–0299, U.S.A.

side, lobes triangular, 0.5–1 mm, 3-veined, apex acute; styles 1–2.5 mm; stigmas erect or reflexed, obovate. Capsule brown-yellow at maturity, globose-urceolate, 4–5 mm, 8–10-veined outside, sparsely brown glandular punctate. Seeds slightly compressed, less than 0.5 mm. Fl. Mar–Apr, fr. May.

Rain forests in valleys, slopes of limestone mountains; 500–700 m. S Yunnan (Jinghong, Jinping, Mengla) [Bangladesh, Bhutan, Cambodia, India (including Andaman Islands), Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Sri Lanka, Thailand, Vietnam; Australia (Queensland)].