

27. **FOSBERGIA** Tirvengadam & Sastre, *Biogeographica* (Paris) 73(2): 88. 1997.

大果茜属 da guo qian shu

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Trees or shrubs, unarmed; bark gray or reddish brown and scaly. Raphides absent. Leaves opposite but sometimes crowded at stem apices, often with domatia; stipules generally persistent, interpetiolar or shortly united around stem, triangular. Inflorescences terminal or displaced to pseudoaxillary, 2–7-flowered and cymose or reduced to 1 flower, pedunculate, bracteate. Flowers subsessile to pedicellate, apparently bisexual and monomorphic. Calyx limb shallowly 5-lobed. Corolla white, salverform, fleshy to leathery, inside variously pubescent; lobes 5, convolute in bud. Stamens 5, inserted in corolla throat, included; filaments short; anthers perhaps dorsifixed. Ovary 2-celled, ovules numerous in each cell on axile placentas; stigma fusiform to clavate, shallowly bilobed, partially exerted. Fruit baccate, thickly fleshy, globose to ellipsoid, smooth or infrequently ridged or tuberculate, color at maturity unknown, with calyx limb tardily deciduous; seeds numerous, medium-sized to large, broadly angled, ovoid, or compressed, embedded in pulp.

At least five species: China, Myanmar, Thailand, Vietnam; three species (one endemic) in China.

Tirvengadam and Sastre (loc. cit.: 87–94) implied without directly stating so that the flowers are hermaphroditic, and Puff et al. (*Rubiaceae* of Thailand, 62. 2005) reported this condition tentatively. The pollen is reportedly “simple, 3-porate”; the ovary wall contains “crystal sands present in small clusters in mesocarp”; and the testa cells have “tube-like trabecular thickenings, [with] inner wall irregularly thickened.”

- 1a. Stems strigillose at least when young; leaves elliptic to oblong-elliptic, lanceolate-oblong, or oblanceolate, 9.5–15 × 2–4.5 cm; stipules keeled or ornamented throughout their length, with a straight median keel or sometimes a ridge and/or line of pubescence in shape of an upside-down Y; calyx margins uniform, similar in texture to rest of limb; fruit ca. 11 × 9 cm 2. *F. shweliensis*
- 1b. Stems glabrous; leaves oblanceolate to obovate or broadly obovate, 10–24 × 3.5–12 cm; stipules smooth or keeled only in upper half, glabrous in lower half; calyx margins uniform to hyaline; fruit 4–6 × 4–5 cm.
- 2a. Leaves obovate to oblanceolate, with domatia in abaxial vein axils; flowers 3–5 in cymes, with developing fruit solitary; calyx limb with margins hyaline and lobes aristate 1. *F. petelotii*
- 2b. Leaves broadly obovate, without domatia; flowers solitary; calyx limb with margins uniform and lobes acute but tips not prolonged 3. *F. thailandica*

1. **Fosbergia petelotii** Merrill ex Tirvengadam & Sastre, *Biogeographica* (Paris) 73(2): 89. 1997.

中越大果茜 zhong yue da guo qian

Trees, 6–10 m tall; bark reddish brown; branches compressed to terete, glabrous. Petiole 5–10 mm, strigose; leaf blade drying papery, oblanceolate to obovate, 10–24 × 3.5–7 cm, adaxially glabrous, abaxially strigose at least on veins, base cuneate to acute, apex acuminate to long acuminate; secondary veins 8–11 pairs, in abaxial axils with pilosulous domatia; stipules triangular, 4–7 mm, glabrous, abaxially keeled in upper half, acute and aristate, arista 2–3 mm. Inflorescences 3–15-flowered, glabrous; peduncle 0.5–1 cm; bracts triangular to sub-orbicular, 1–3 mm; pedicels 8–15 mm. Calyx glabrous; ovary portion obovoid to ellipsoid, ca. 4 mm; limb 10–15 mm, lobed for ca. 1/2; lobes triangular to narrowly triangular, marginally hyaline, acute and aristate, arista 1–2 mm. Corolla white, outside apparently glabrous; tube 6–14 mm, inside glabrescent or sparsely hairy at base; lobes narrowly triangular, 13–17 mm. Stigmas ca. 3 mm. Berries solitary, globose to ovoid-globose, 4–6 × 4–5 cm, sparsely to rather densely tuberculate or perhaps smooth at least when young; seeds orbicular, laterally compressed, 6–8 × 5–6 × 2.5–3 mm, bony. Fl. Mar–Apr.

Evergreen forests on mountain slopes or in valleys; 1400–1900 m [as low as 1100–1200 m in Vietnam]. Yunnan (Jinping, Lüchun, Maguan) [Vietnam].

Zhang et al. (*Acta Phytotax. Sin.* 45: 90–93. 2007) noted that the Chinese plants differ from the Vietnamese plants in having leaf blades glabrous adaxially and hairy along the veins abaxially and corolla tubes 1–1.4 cm (vs. glabrous on both surfaces and corolla tube up to 6 mm in the Vietnamese plants).

2. **Fosbergia shweliensis** (J. Anthony) Tirvengadam & Sastre, *Biogeographica* (Paris) 73(2): 88. 1997.

瑞丽茜树 rui li qian shu

Randia shweliensis J. Anthony, *Notes Roy. Bot. Gard. Edinburgh* 18: 205. 1934; *Aidia shweliensis* (J. Anthony) W. C. Chen.

Trees, 8–20 m tall; branches angled to terete, strigillose becoming glabrescent. Petiole 5–10 mm, sparsely strigillose to glabrous; leaf blade drying papery, elliptic to oblong-elliptic, lanceolate-oblong, or oblanceolate, 9.5–15 × 2–4.5 cm, adaxially glabrous, abaxially sparsely strigillose or strigose along principal veins, base cuneate to acute and sometimes slightly inequilateral, apex shortly acuminate to acuminate; secondary veins 8–11 pairs, usually with pilosulous domatia in abaxial axils; stipules triangular to ovate, 5–10 mm, keeled or with ridges in upside-down-Y pattern, strigillose, slenderly acute, sometimes with 1 or 2 aristae 1–3 mm. Inflorescences 2–10-flowered, strigillose to strigose or glabrescent; peduncle 1–1.5 cm; bracts linear-lanceolate, 2–4 mm, aristate; pedicels 6–18 mm. Calyx glabrous; ovary portion obovoid to ellipsoid, 3–4

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mm; limb 8–13 mm, inside villosulous to tomentulose, lobed for ca. 1/3; lobes triangular to linear-lanceolate, acute and terminating in arista 1–2 mm. Corolla creamy white to pale green or pale yellow, outside glabrous; tube 20–25 mm, inside tomentose; lobes lanceolate, 15–26 mm, acuminate to subaristate, marginally hyaline. Fruiting peduncle to 3.5 m. Berry subglobose to ellipsoid, ca. 11 × 9 cm, smooth; seeds ovoid to oblong-angular, ca. 12 × 7 mm. Fl. May–Jun, fr. May.

• Open thickets or sparse moist primary broad-leaved forests in valleys; 1100–2200 m. W Yunnan.

Li et al. (*Acta Phytotax. Sin.* 44: 707–711. 2006) illustrated this species in their figure 1 and reported that the flower buds are formed nearly a year before the flowers open and that the fruit may take two years to mature. They also detailed errors in the localities of Chinese specimens given by Tirvengadam and Sastre in their protologue and excluded one of the specimens treated by them, *C. W. Wang 78281 (A)*, which they included instead in *Fosbergia thailandica*. Additionally, they reported that the Gaoligong Shan population of this species does not appear to be reproducing itself, although they stop short of considering this a species of conservation concern.

3. *Fosbergia thailandica* Tirvengadam & Sastre, *Biogeographica (Paris)* 73(2): 89. 1997.

泰國大果茜 tai guo da guo qian

Trees; bark thin, exfoliating in small pieces, grayish or brownish on older parts when dry; branches glabrous. Petiole to 2 cm, glabrous; leaf blade broadly obovate, 14–23 × 4–12 cm, both surfaces glabrous except abaxially strigose on principal veins, base acute to attenuate, apex acuminate to long acuminate; secondary veins 8–11 pairs, without domatia; stipules ovate, 5–10 mm, glabrous, smooth at base and keeled in upper part, obtuse to acute and aristate, arista ca. 2 mm. Flowers solitary. Calyx glabrous; ovary portion obovoid, ca. 1 cm; limb 3–5 mm, deeply lobed; lobes narrowly triangular. Corolla not seen. Fruiting peduncle ca. 2.5 cm. Immature berry globose, 4–5 cm in diam., glabrous, smooth.

Valleys, mixed woods, lower montane evergreen forests; 1500–1900 m. Yunnan (Jinghong) [N Thailand (Nan)].

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