

## CARLEMANNIACEAE

香茜科 xiang qian ke

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Perennial herbs, shrubs, or subshrubs, often somewhat fleshy; stems with interpetiolar line. Leaves opposite, petiolate, simple, stipulate, ± asymmetric, dentate or crenate-serrate. Flowers bisexual, slightly zygomorphic, in terminal or axillary cymes or corymbs, sometimes heterostylous. Calyx tube adnate to ovary, 4- or 5-lobed; lobes ± unequal. Corolla 4- or 5-lobed; lobes imbricate or induplicate-valvate. Stamens 2, inserted at middle of corolla tube; filaments short; anthers linear-oblong, opening laterally by slits, connivent around style. Disk well developed, conical or cylindrical. Ovary inferior, 2-loculed, each locule with ovules many (30–100) in axile to basal placentation. Fruit a 2-loculed, dry or fleshy capsule, 2- or 5-valvate; calyx lobes persistent. Seeds many (30–100), ovoid, smooth, with endosperm ± fleshy.

Two genera and five species: tropical Asia; two genera and three species in China.

Although previously treated in FRPS within the Rubiaceae, the Carlemanniaceae is treated separately here (see APG, Ann. Missouri Bot. Gard. 85: 531–553. 1998; M. Thiv in Kubitzki, Fam. Gen. Vasc. Pl. 7: 57–59. 2004). It has also been included by various authors in the Caprifoliaceae.

Herein, the term “calyx tube” refers to the ovary plus the tubular free portion of the calyx limb, but not including the calyx lobes when these are present.

Lo Hsienshui. 1999. *Carlemannia* and *Silvianthus*. In: Lo Hsienshui, ed., Fl. Reipubl. Popularis Sin. 71(1): 175–179.

- 1a. Herbs; leaves distinctly crenate-serrate; flowers 4-merous, arranged in loose corymbose inflorescences; calyx lobes imbricate; fruit a 2-valved dry capsule ..... 1. *Carlemannia*  
1b. Shrubs; leaves often slightly irregular and shallowly dentate; flowers 4- or 5-merous, congested in dense subglobose inflorescence; calyx lobes induplicate-valvate; fruit a 5-valved fleshy capsule ..... 2. *Silvianthus*

### 1. CARLEMANNIA Bentham, Hooker's J. Bot. Kew Gard. Misc. 5: 308. 1853.

香茜属 xiang qian shu

Herbs perennial. Leaf margin crenate-serrate. Inflorescence corymbose, lax, terminal, long pedunculate. Flowers 4-merous, minute. Calyx tube subglobose; lobes spreading, small. Corolla narrowly funnelform; lobes imbricate. Anthers linear-oblong; pollen grains 5- or 6-colpate. Ovary with placentas ascending from inner base of each locule; style prolonged; stigma clavate or fusiform, 2-lobed. Fruit a 2-valved dry capsule.

Three species: China, E Himalaya, NE India, Indonesia (Sumatra), Myanmar, N Thailand, Vietnam; one species in China.

**1. *Carlemannia tetragona*** J. D. Hooker, Fl. Brit. India 3: 85. 1880.

香茜 xiang qian

*Carlemannia henryi* H. Léveillé.

Plants 0.5–1.5 m tall, fragrant when dry. Stems often with lower part prostrate and rooting at nodes; young branches quadrangular, sulcate, pubescent or subglabrous; old branches terete, glabrous. Petiole 2–4 cm or slightly longer, puberulent; leaf blade elliptic or ovate, often inequilateral, 3–10(–15) × 2–5(–8) cm, drying thinly papery or membranous, lateral veins 4–

7 pairs, slender, both surfaces sparsely pilose, base shortly decurrent, margin distinctly serrate, apex often caudate. Cymes corymbose, 2–4 cm, pubescent; peduncles and branches slender; bracts linear, 2–2.5 mm, apex obtuse. Pedicel 1–2.5 mm. Calyx lobes linear, 1–2 mm. Corolla white except yellow speckled in throat, shorter than 1 cm, outside pilose, inside villous. Capsule broadly pyramidal, 3.5–4.5 mm in diam., wider than long, base truncate, apex contracted, stellate-dehiscent into 4 valves; valves with linear persistent calyx lobes. Seeds reticular striate. Fl. Jun–Sep, fr. Oct–Dec.

Dense forests especially in moist ravines; 600–1500 m. Xizang, Yunnan [NE India, Indonesia (Sumatra), Myanmar, N Thailand].

### 2. SILVIANTHUS J. D. Hooker, Hooker's Icon. Pl. 11: 36. 1868.

蜘蛛花属 zhi zhu hua shu

*Quiducia* Gagnepain.

Shrubs or subshrubs; stems hollow. Leaf margin shallowly dentate. Inflorescence a cyme, usually axillary, many flowered, dense, compact, headlike, shortly pedunculate or sessile. Flowers heterostylous. Corolla broadly funnelform, (4 or)5-lobed; lobes

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induplicate-valvate. Anthers dorsifixed near base, oblong; pollen grains 3-colpate. Disk ridged. Ovary with placentas at middle of septum; style prolonged; stigma oblong-fusiform. Fruit a 5-valved, slightly fleshy capsule. Seeds ovoid-oblong, slightly curved; testa spongy, longitudinally striate.

Two species: China, NE India, Laos, Myanmar, N Thailand, N Vietnam; two species in China.

- 1a. Calyx lobes relatively large, oblong to spatulate; corolla white; leaf blade drying membranous ..... 1. *S. bracteatus*  
 1b. Calyx lobes relatively smaller, linear; corolla yellow or red; leaf blade drying papery ..... 2. *S. tonkinensis*

**1. *Silvianthus bracteatus*** J. D. Hooker, Hooker's Icon. Pl. 11: 36. 1868.

蜘蛛花 zhi zhu hua

Shrubs, 0.5–1 m tall. Stems brown, subterete, slightly stout, ca. 3 mm in diam., herbaceous, glabrous. Petiole 2–7 cm, slender, flattened, glabrous; leaf blade abaxially pale green, adaxially green, elliptic, 17–25 × 7.5–10.5 cm, drying membranous, midvein slender, prominent on both surfaces, lateral veins ca. 10 pairs, arcuate-ascending, distinct on both surfaces, both surfaces glabrous, base cuneate, decurrent to petiole, margin irregular, shallowly wavy-dentate, apex shortly acuminate. Cymes axillary or terminal, shortly pedunculate or sessile, glabrous or papillose-puberulent; bracts oblong, ca. 5 × 3 cm, apex obtuse. Pedicel ca. 2 mm, puberulent. Calyx tube obconical, 2–3 mm in length and width; lobes subequal, oblong to spatulate, 7–10 × (2.5–)3(–6) mm, apex acute. Corolla white, funnellform-campanulate, ca. 1.2 cm, throat slightly expanded; lobes suborbicular, valvate. Stamens included. Style long, included. Capsule pinkish, subglobose, 6–7 × 6–7 mm, subfleshy, dehiscent down from calyx lobes into 5 valves. Seeds many. Fl. spring, fr. autumn.

Forests; 700–900 m. Yunnan [NE India, Myanmar].

**2. *Silvianthus tonkinensis*** (Gagnepain) Ridsdale, Blumea 24: 42. 1978.

线萼蜘蛛花 xian e zhi zhu hua

*Quiducia tonkinensis* Gagnepain, Bull. Soc. Bot. France

95: 33. 1948; *Silvianthus bracteatus* J. D. Hooker subsp. *clerodendroides* (Airy Shaw) H. W. Li; *S. bracteatus* subsp. *tonkinensis* (Gagnepain) H. W. Li; *S. clerodendroides* Airy Shaw.

Subshrubs, 1–2(–4) m tall, glabrous. Stems terete. Petiole 1–4(–7) mm, rugose when dry; leaf blade elliptic, ovate-elliptic, or sometimes broadly elliptic, large, (10–)15–25(–30) × 5–20 cm, drying papery, lateral veins (9 or)10(–16) pairs, joining in an intramarginal vein, slightly prominent on both surfaces when dry, base usually broadly cuneate, rarely slightly obtuse, or slightly decurrent, margin often shallowly dentate-incised, apex acute to shortly acuminate. Cymes 1–4 cm in diam.; peduncles usually shorter than 1 cm, sometimes to 5 cm; bracts linear, 4–6 mm. Flowers heterostylous. Pedicel ca. 3 mm. Calyx tube obconical, 2–3 mm; lobes linear, 9–11 × 1–1.5 mm, longitudinally veined, often obtuse. Corolla usually yellow or pale red, occasionally purplish red (based on literature); tube 1.2–1.3 cm, throat slightly expanded, outside glabrous, inside with soft hairs; lobes orbicular, 5–6 mm, inside papillose. Stamens inserted near middle of corolla tube; anthers ca. 4.5 mm. Style ca. 1.1 cm. Capsule purple at maturity, obconical, 6–9 mm in diam. Seeds black, 3–3.5 mm, white aciculate striate-rugose. Fl. Mar–Jul, fr. Oct–Dec.

Forests in valleys, streamsides in evergreen hillside forests; 900–1500 m. Yunnan [Laos, N Thailand, N Vietnam].

This species was confused with *Silvianthus bracteatus* by some authors.