

## 22. **CARDIANDRA** Siebold & Zuccarini, Fl. Jap. 1: 119. 1839.

草绣球属 *cao xiu qiu shu*

Wei Zhaofen (卫兆芬 *Wei Chao-fen*); Bruce Bartholomew

Subshrubs or shrubs, rhizomatous. Stems simple. Leaves alternate or 4–8-fascicled, exstipulate; leaf blade simple. Inflorescence often terminal, a thyrse or corymbose cyme. Sterile flowers few, large; sepals 2 or 3, free or sometimes basally slightly connate, petaloid. Fertile flowers numerous, small. Calyx tube adnate to ovary, forming a hypanthium; teeth small, valvate in bud. Petals (4 or)5, imbricate in bud. Stamens very numerous, multiseriate; filaments filiform; anthers obcordate, 2-loculed, dehiscing longitudinally, apex truncate; connective broadly obtriangular. Ovary subinferior, incompletely 2- or 3-loculed. Styles 2–4; stigmas small, subcapitate. Fruit a capsule, subinferior, dehiscing apically, apex with persistent calyx teeth and styles. Seeds numerous, small, compressed, winged at both ends; seed coat reticulate; embryo small, surrounded by fleshy endosperm.

About four species: mainly in subtropical E Asia; two species (one endemic) in China.

- 1a. Leaves sparsely scattered along stem, alternate ..... 1. *C. moellendorffii*
- 1b. Leaves borne distally on stem, usually 4–8-fascicled ..... 2. *C. formosana*

**1. *Cardiandra moellendorffii*** (Hance) Migo, J. Jap. Bot. 18: 419. 1942.

草绣球 *cao xiu qiu*

Subshrubs 0.3–1 m tall. Stems brownish when dry, slightly striate. Leaves sparsely scattered along stem, alternate, sessile or petiolate; petiole 1–3(–7) cm; leaf blade elliptic to obovate-oblong, 6–22 × 3–10 cm, papery, abaxially sparsely pubescent to subglabrous, adaxially sparsely strigillose, secondary veins 7–9 on both sides of midvein, abaxially slightly prominent, base cuneate to narrowly so, margin roughly dentate-serrate, apex acuminate to shortly so. Inflorescence terminal, a corymbose cyme; bracts and bracteoles narrowly lanceolate to linear, persistent. Sterile flowers with sepals 2 or 3, white or pinkish, broadly ovate to suborbicular, 0.5–1.5 cm, base subtruncate. Fertile flowers with calyx tube cupular, 1.5–2 mm; teeth broadly ovate, apex rounded to obtuse. Petals pinkish or white, broadly elliptic to suborbicular, 2.5–3 mm. Stamens 15–25, slightly shorter than petals. Styles 3, ca. 1 mm in fruit. Capsule subglobose, 3–3.5 × 2.5–3 mm. Seeds brown, oblong to ellipsoid, 1–1.4 mm; wings opaque or translucent, darker to lighter than color of seed body. Fl. Jul–Aug, fr. Sep–Oct.

Dense to sparse forests in valleys or on mountain slopes; 700–1500 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Zhejiang [Japan (Ryukyu Islands)].

- 1a. Seed wings opaque, darker than or similar to color of seed body 1a. var. *moellendorffii*
- 1b. Seed wings translucent, lighter than color of seed body ..... 1b. var. *laxiflora*

**1a. *Cardiandra moellendorffii* var. *moellendorffii***

草绣球(原变种) *cao xiu qiu (yuan bian zhong)*

*Hydrangea moellendorffii* Hance, J. Bot. 12: 177. 1874;  
*Cardiandra alternifolia* Siebold & Zuccarini subsp.

*moellendorffii* (Hance) H. Hara & H. Ohba; *C. alternifolia* var. *moellendorffii* (Hance) Engler; *C. sinensis* Hemsley.

Seed wings opaque, darker than or similar to color of seed body. Fl. Jul–Aug, fr. Sep–Oct.

Dense to sparse forests in valleys or on mountain slopes; 700–1500 m. Anhui, Fujian, Jiangxi, Zhejiang [Japan (Ryukyu Islands)].

**1b. *Cardiandra moellendorffii* var. *laxiflora*** (H. L. Li) C. F. Wei, Acta Bot. Austro Sin. 10: 8. 1995.

疏花草绣球 *shu hua xiu qiu*

*Cardiandra laxiflora* H. L. Li, J. Arnold Arbor. 26: 61. 1945.

Seed wings translucent, lighter than color of seed body. Fl. Jul.

• 700–1000 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan.

Ohba (J. Jap. Bot. 60: 8. 1985) considered this variety to be synonymous with var. *moellendorffii*, which he recognized as *Cardiandra alternifolia* subsp. *moellendorffii*.

**2. *Cardiandra formosana*** Hayata, Bot. Mag. (Tokyo) 20: 54. 1906.

台湾草绣球 *tai wan cao xiu qiu*

*Cardiandra alternifolia* Siebold & Zuccarini subsp. *moellendorffii* (Hance) H. Hara & H. Ohba var. *binata* F. Maekawa; *C. densifolia* C. F. Wei.

Subshrubs 30–70 cm tall. Stems sparsely pubescent or glabrous. Leaves borne distally on stem, usually 4–8-fascicled; petiole (0.5–)2–5 cm; leaf blade elliptic, narrowly so, or oblong-obovate, (5–)10–15 × (2–)3–6 cm, thinly papery, both surfaces sparsely pubescent, glabrescent, secondary veins 6–11 on both sides of midvein, slender, flat on both surfaces, base narrowly cuneate, margin shortly serrate, apex shortly caudate-acuminate. Inflorescence usually terminal, a corymbose cyme; peduncle elongate. Sterile flowers with sepals 2, ovate, unequal, larger one 1.5–2.5 cm, smaller one ca. 1/2 as large. Fertile flowers with calyx tube cupular, ca. 1 mm; teeth ovate, ca. 0.7 mm. Petals 4 or 5, ovate to

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broadly so, ca. 3 mm. Stamens 15–19, slightly unequal, subequaling petals. Styles 2 or 3, 1–1.3 mm in fruit. Capsule ovoid, ca.  $3 \times 2.5$  mm. Seeds brown, broadly oblong, broadly ovoid, or broadly obovoid, 0.5–0.7 mm; wings yellowish white, translucent, conspicuously lighter than color of seed body, 0.2–0.3 mm. Fl. Aug–Sep, fr. Oct.

- Forests in shade; medium altitudes. Taiwan, Zhejiang.

