

**5. GARDNERIA** Wallich in Roxburgh, Fl. Ind. 1: 400. 1820.

蓬莱葛属 peng lai ge shu

Li Ping-tao; Michael G. Gilbert<sup>1</sup>

*Pseudogardneria* Raciborski.

Shrubs scandent, mostly climbing or creeping. Branchlets terete, sometimes with 4 faint ridges. Leaves opposite, petiolate, connected by interpetiolar stipular rims; leaf blade margin entire. Flowers axillary, solitary, paired, or in few-flowered cymes sometimes grouped into a thyse; bracteoles small, narrowly triangular. Flowers 4- or 5-merous. Calyx small, deeply lobed; lobes imbricate, connate, inside with colleters at base. Corolla rotate to subcampanulate; tube thin, fleshy; lobes thin to thick, fleshy, valvate in bud. Stamens exerted; filaments very short, flat; anthers 2- or 4-locular, connate or free, introrse, base 2-parted. Ovary small, 2-locular; ovules 1–4 per locule. Style mostly long, slender; stigma capitate or 2-cleft. Berry red, globose, 1- or more seeded. Seeds ellipsoid to orbicular, concave on hilar side, convex on other side; seed coat thin; embryo tiny, almost cylindrical; endosperm thick, horny.

Five species: Bhutan, India, Indonesia, Japan, Korea, Malaysia, Nepal, Sri Lanka, Thailand; five species in China.

- 1a. Flowers 4-merous.
  - 2a. Flowers in pedunculate cymes or thyrses; anthers connate ..... 4. *G. ovata*
  - 2b. Flowers solitary or paired, sometimes in lax cymes; anthers free ..... 5. *G. angustifolia*
- 1b. Flowers 5-merous.
  - 3a. Flowers in pedunculate cymes ..... 1. *G. multiflora*
  - 3b. Flowers solitary or paired.
    - 4a. Anthers free ..... 2. *G. nutans*
    - 4b. Anthers connate ..... 3. *G. lanceolata*

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<sup>1</sup> Missouri Botanical Garden, c/o Department of Botany, The Natural History Museum, Cromwell Rd., London SW7 5BD, United Kingdom

**1. *Gardneria multiflora*** Makino, Bot. Mag. (Tokyo) 15: 103. 1901.

蓬菜葛 peng lai ge

*Gardneria chinensis* Nakai; *G. hongkongensis* Hayata; *G. nutans* Siebold & Zuccarini f. *multiflora* (Makino) Matsuda; *G. shimadai* Hayata; *Marlea cavaleriei* H. Léveillé; *Paederia bodinieri* H. Léveillé; *Pseudogardneria multiflora* (Makino) Pampanini; *Rhamnus pasteurii* H. Léveillé; *Sabia esquirolii* H. Léveillé.

Lianas or scandent shrubs, to 8 m, glabrous. Branchlets terete, with prominent leaf scars. Petiole 1–1.5 cm; leaf blade elliptic to narrowly elliptic, sometimes ovate to very narrowly elliptic, 5–15 × 2–6 cm, papery to thin leathery, base obtuse to rounded, apex acuminate; lateral veins 6–10 per side. Cymes 3-branched, 2–4 cm, many flowered; bracteoles 2 per flower. Flowers 5-merous. Pedicel 5–10 mm. Sepals suborbicular, 1–1.5 mm in diam., ciliate. Corolla yellow to yellow-white, tube short; lobes narrowly to very narrowly elliptic, 5–6 × 1–1.5 mm, thick, fleshy, spreading. Stamens inserted near base of corolla tube; filaments short; anthers oblong, ca. 2.5 mm, 4-locular, loosely connivent. Ovules 1 per locule. Berry 6–8 mm in diam., blackish when ripe. Seeds black, orbicular. Fl. Mar–Jul.

Dense forests, scrub; 300–2100 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan].

Medicinal.

**2. *Gardneria nutans*** Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4: 165. 1846.

线叶蓬菜葛 xian ye peng lai ge

*Gardneria insularis* Nakai; *G. linifolia* C. Y. Wu & S. Y. Pao; *G. liukiensis* Hatusima; *Pseudogardneria nutans* (Siebold & Zuccarini) Raciborski.

Lianas or scandent shrubs to 4 m, glabrous except for calyx and corolla. Branchlets terete. Petiole ca. 5 mm; leaf blade oblong, narrowly oblong, or almost linear, 4–12 × 1–3 cm, flat on both surfaces or abaxially slightly elevated, base obtuse to rounded, apex acuminate; lateral veins 8–10 per side. Flowers axillary, solitary or paired, 5-merous, usually pendulous. Pedicel 1.5–2 cm, 2-bracteolate near base. Sepals broadly ovate, ca. 1 × 1.5 mm, ciliate. Corolla yellow-white or white; tube ca. 1 mm, inside pubescent; lobes narrowly elliptic, ca. 8 × 3 mm. Stamens inserted at base of corolla tube; anthers oblong, ca. 5 mm, 4-locular. Style short; stigma exserted, apex shallowly 2-cleft. Ovules 1 per locule. Berry ca. 7 mm in diam., 1-seeded. Fl. Apr–Jul.

Dense forests, woodlands on limestone; 500–2000 m. Anhui, Guangxi, Guizhou, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea].

Medicinal.

The description is based on specimens from the Chinese mainland. This species was incorrectly called *Gardneria angustifolia* in vol. 61 of Fl. Reipubl. Popularis Sin. (1992). Material from Japan

and Korea, including the type of *G. nutans*, as well as specimens recently reported from Taiwan (Yang & Peng, Bot. Bull. Acad. Sinica 35: 223–227. 1994) apparently differ from mainland Chinese material by having only 3–6 pairs of lateral veins and pedicels only 7–9 mm. The status of the mainland Chinese material needs further investigation and may be better separated as *G. linifolia*.

**3. *Gardneria lanceolata*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 1: 563. 1913.

柳叶蓬菜葛 liu ye peng lai ge

Shrubs scandent, to 4 m, glabrous. Branchlets terete. Petiole 5–10 mm; leaf blade narrowly oblong, 5–12 × 2–4 cm, base obtuse, apex acuminate; lateral veins 7–9 per side. Flowers axillary, solitary, 5-merous. Pedicel 1.5–2 cm, 2-bracteolate at middle to near base; bractlets narrowly triangular, ca. 1 cm. Sepals broadly ovate ca. 1 × 1.5 mm, ciliate. Corolla white, ca. 1 cm, tube ca. 3 mm; lobes narrowly elliptic, ca. 8 mm, glabrous. Stamens inserted at base of corolla tube; filaments very short, flat; anthers narrowly oblong, ca. 7 mm, 4-locular, connate, base 2-cleft, apex obtuse. Ovary globose, ca. 1.2 mm; ovules 1 per locule. Style 4–5 mm; stigma apex obtuse. Berry ca. 1 cm in diam., 1-seeded. Fl. Jul.

\* Forests, scrub; 1000–3000 m. Anhui, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Yunnan, Zhejiang.

**4. *Gardneria ovata*** Wallich in Roxburgh, Fl. Ind. 1: 400. 1820.

卵叶蓬菜葛 luan ye peng lai ge

*Gardneria wallichii* Wight ex Wallich.

Shrubs scandent, to 5 m, glabrous except for corolla lobes. Branches gray-brown, terete. Petiole 1–1.5 cm; leaf blade ovate, narrowly ovate, or elliptic, 8–16 × 3–8 cm, thin leathery, base broadly cuneate and sometimes decurrent, apex obtuse to acute; lateral veins 6–8 per side. Flowers in 3–7-flowered pedunculate cymes, sometimes grouped along axillary branches into conical thyrses; peduncle 2–4 cm. Flowers 4-merous. Pedicel 0.5–2 cm, 2-bracteolate. Sepals orbicular, 1.5–2 mm in diam., ciliate. Corolla yellow to orange, waxy, tube 1–1.5 mm; lobes narrowly ovate, 4–5 mm, thick, fleshy, inside papillose-pubescent. Stamens inserted at base of corolla tube; anthers narrowly oblong, ca. 4 mm, 2-locular, connate. Ovary globose 1–1.5 mm in diam.; ovules 1 per locule. Style and stigma ca. 2 mm; stigma usually 2-parted. Berry 7–8 mm in diam., 1- or 2-seeded. Seeds dull gray, orbicular, ca. 5 mm in diam., smooth. Fl. Mar–Jun.

Forest edges, among limestone rocks; 600–2000 m. Guangxi, Xizang, S Yunnan [NE and SE India, Indonesia, Malaysia, Sri Lanka, Thailand].

**5. *Gardneria angustifolia*** Wallich in Roxburgh, Fl. Ind. 2: 318. 1824.

狭叶蓬菜葛 xia ye peng lai ge

*Gardneria distincta* P. T. Li; *G. glabra* R. Brown ex D. Don; *Pseudogardneria angustifolia* (Wallich) Raciborski.

Shrubs scandent, to 4 m, glabrous except for corolla. Branches terete. Petiole 3–5 mm; leaf blade oblong to elliptic,

3–7 × 1–2 cm, papery, base obtuse, apex acuminate; midrib slightly elevated on both surfaces; lateral veins 7 or 8 per side. Flowers solitary or in dichasial cymes to 6-flowered and ca. 3 cm; peduncle 5–10 mm. Flowers 4-merous. Pedicel 5–10 mm, 2-bracteolate. Sepals ovate to triangular, ca. 1 × 1 mm. Corolla subcampanulate, outside glabrous, inside pubescent, tube 2–3 mm; lobes ovate to triangular, 3–4 × ca. 2.5 mm. Stamens inserted at base of corolla tube; filaments very short; anthers distinct, oblong, ca. 5 mm, introrse, 2-locular. Pistil ca. 3 mm. Ovules 1 per locule. Style terete; stigma apex 2-cleft. Berry globose, ca. 7 mm in diam., 1- or 2-seeded.

Forests. Yunnan [Bhutan, India, Nepal].

The type of *Gardneria angustifolia* in the Wallich herbarium at Kew has 4-merous flowers and is indistinct from *G. distincta*. Material treated as *G. angustifolia* in vol. 61 of Fl. Reipubl. Popularis Sin. (1992) is *G. nutans*.

