

5. PERIPLOCA Linnaeus, Sp. Pl. 1: 211. 1753.

杠柳属 gang liu shu

Shrubs scandent, glabrous except for flowers. Leaves with numerous lateral veins and a well-defined intramarginal vein. Cymes terminal and extra-axillary, lax. Calyx glands 5. Corolla rotate; tube short; lobes obtuse, usually hairy inside, overlapping to right. Corona inserted at base of corolla; lobes 3-fid, central segment threadlike, inflexed; lateral segments short, broad, flaplike. Filaments short, distinct; anthers dorsally hairy, connivent, adnate to stigma head; apical appendages incurved; pollen tetrads in masses, attached to a common retinaculum. Style short; stigma head convex. Follicles paired, somewhat divergent, sometimes adhering at tips.

About 10 species: temperate Asia, southern Europe, tropical Africa; five species in China (but see also Browicz's monograph of the genus [Arboretum Kurnickie 11: 1–104. 1966], which recognized in China only two species, one with three subspecies).

- 1a. Leaves membranous; corolla lobes reflexed, purple with a prominent, elongated, raised, pale patch along center; corona lobes glabrous 1. *P. sepium*
- 1b. Leaves leathery or nearly so; corolla lobes erect, uniformly purple or yellow green; corona lobes puberulent to pilose.
 - 2a. Corolla lobes 11–13 mm 2. *P. tsangii*
 - 2b. Corolla lobes up to 4 mm.
 - 3a. Leaves narrowly lanceolate, 4–14 mm wide, 5.5–8.5 times as long as wide; corolla yellow-green, lobes sometimes glabrous 3. *P. forrestii*
 - 3b. Leaves oblanceolate to oblong-lanceolate, (7–)9–19(–25) mm wide, 2.5–4.5 times as long as wide; corolla purple, lobes always pubescent or pilose.
 - 4a. Cymes ca. 2 cm, to 10-flowered 4. *P. calophylla*
 - 4b. Cymes ca. 3.5 cm, to 20- (or more)-flowered 5. *P. floribunda*

1. *Periploca sepium* Bunge, Enum. Pl. China Bor. 43. 1833 (1831).

杠柳 gang liu

Shrubs deciduous, to 4 m. Petiole to 5 mm; leaf blade ovate-oblong, 5–9 × 1.5–2.5 cm, membranous, base cuneate, apex attenuate; lateral veins 20–25 pairs. Cymes on lateral branchlets, often paired, few flowered. Pedicel ca. 2 cm. Sepals triangular-ovate, ca. 3 × 2 mm. Corolla mostly purple, ca. 1.5 cm in diam.; tube ca. 3 mm; lobes oblong-lanceolate, ca. 8 × 4 mm, strongly reflexed, abaxially glabrous, adaxially pilose near margin, with prominent, elongated, raised, pale patch along center. Corona lobes glabrous. Follicles cylindrical, 7–12 cm × ca. 5 mm, pair often connected at tip. Seeds oblong, ca. 7 × 1 mm; coma ca. 3 cm. Fl. May–Jun, fr. Jun–Jul. $2n = 22^*$.

• Plains, forest edges, slopes. Throughout China except Guangdong, Guangxi, Hainan, and Taiwan.

The root and stem bark are used as medicine for the treatment of rheumatoid arthritis and traumatic injury.

2. *Periploca tsangii* D. Fang & H. Z. Ling, Guihaia 14: 122. 1994.

大花杠柳 da hua gang liu

Shrubs scandent, to 4 m, glabrous except for flowers. Petiole 1–2 mm; leaf blade narrow lanceolate, rarely linear. Thickets, sparse montane woods; below 2000 m. Guangxi, Guizhou, Qinghai, Sichuan, Xizang, Yunnan [India, Kashmir, Myanmar, Nepal].

Used in Guangxi as medicine for traumatic injury and rheumatic arthralgia.

2–6 × 0.3–1.2 mm, base cuneate, apex acuminate; lateral veins numerous, subparallel. Cymes axillary, rarely terminal, shorter than leaves, 1–6-flowered. Flowers ca. 2.7 cm in diam. Pedicel 4–11 mm. Sepals ovate to orbicular, ca. 1 × 0.8 mm. Corolla reddish violet, rotate, glabrous outside; tube ca. 1 mm; lobes linear-lanceolate, 1.1–1.3 cm × 1.5–2 cm, puberulent along midrib on inside. Corona lobes puberulent, 5–6 mm. Stigma head obscurely 2-lobed.

• Guangxi (Banling).

3. *Periploca forrestii* Schlechter, Notes Roy. Bot. Gard. Edinburgh 8: 15. 1913.

黑龙骨 hei long gu

Periploca calophylla (Wight) Falconer subsp. *forrestii* (Schlechter) Browicz.

Shrubs scandent, to 10 m, much branched. Petiole 1–2 mm; leaf blade lanceolate, 3.5–7.5 cm × 5–10 mm, leathery, base cuneate; lateral veins numerous, subparallel. Cymes axillary, shorter than leaves, few flowered. Flowers ca. 5 mm in diam. Sepals ovate to suborbicular. Corolla yellow-green; tube short; lobes oblong, ca. 2.5 mm, erect, not thickened at center. Corona lobes puberulent, slightly shorter than corolla tube, lateral lobes subacute. Anthers dilated at base, connective puberulent. Stigma head apex subconical. Follicles cylindrical, ca. 11 cm × 5 mm. Seeds oblong, flat; coma ca. 3 cm. Fl. Mar–Apr, fr. Jul–Sep.

Browicz [Arboretum Kurnickie 11: 1–104. 1966] treated this and the two following species as subspecies of *Periploca calophylla*.

4. *Periploca calophylla* (Wight) Falconer, Proc. Linn. Soc. London 1: 115. 1841.

青蛇藤 qing she teng

Shrubs scandent, to 10 m. Branchlets pale gray, pendent, lenticellate. Petiole 1–2 mm; leaf blade elliptic-lanceolate to oblong-elliptic, 4.5–6 × 1.5–2.2 cm, adaxially lustrous green, abaxially paler, leathery; lateral veins numerous, subparallel. Cymes axillary, to 10-flowered, sessile or short pedunculate, shorter than leaves. Sepals ovate, ca. 1.5 × 1 mm, ciliate. Corolla purple, ca. 8 mm in diam., glabrous outside, pilose inside; tube short; lobes oblong, not thickened at center. Corona lobes pilose. Anthers ovate, dorsally barbed; retinaculum adherent to stigma head. Ovaries glabrous. Follicles cylindric, ca. 12 cm × 5 mm, free at tip. Seeds oblong, ca. 1.5 × 0.3 cm; coma 3–4 cm.

Thickets, mixed woods along valleys; below 2100 m. Guangxi, Guizhou, Hubei, Hunan, Sichuan, Xizang, Yunnan [Bhutan, India, Kashmir, Nepal, Sikkim, Vietnam].

- 1a. Leaf blade elliptic-lanceolate to oblong-elliptic, apex acuminate 4a. var. *calophylla*
- 1b. Leaf blade usually oblanceolate, apex mucronate 4b. var. *mucronata*

4a. *Periploca calophylla* var. *calophylla*

青蛇藤(原变种) qing she teng (yuan bian zhong)
Streptocaulon calophyllum Wight, Contr. Bot. India 65. 1834.

Leaf blade elliptic-lanceolate to oblong-elliptic, apex acuminate. Fl. Apr-May, fr. Aug-Sep.

Thickets, mixed woods along valleys; below 1000 m. Guangxi, Guizhou, Hubei, Hunan, Sichuan, Xizang, Yunnan [Bhutan, India, Kashmir, Nepal, Sikkim, Vietnam].

The stem is used as medicine for lumbago, traumatic injury, and against snake bites.

4b. *Periploca calophylla* var. *mucronata* P. T. Li, Acta Phytotax. Sin. 23: 467. 1985.

凸尖叶青蛇藤 tu jian ye qing she teng

Leaf blade usually oblanceolate, to 4 × 1.8 cm, apex with a prominent mucro 2.5 mm.

- Bushland; 1700–2100 m. Xizang (Medog).

5. *Periploca floribunda* Tsiang, Sunyatsenia 2: 180. 1934.

多花青蛇藤 duo hua qing she teng

Periploca calophylla (Wight) Falconer subsp. *floribunda* (Tsiang) Browicz.

Shrubs scandent, to 5 m. Young branches tawny, longitudinally striate, terete, glabrous. Petiole ca. 3 mm; leaf blade oblong-lanceolate to oblong-elliptic, 4.7–5.5 × 1–1.6 cm, somewhat leathery; lateral veins subparallel, numerous. Cymes extra-axillary, trichotomous, 3–5 cm, to 20- (or more) -flowered. Sepals ovate, ca. 1.5 × 1 mm. Corolla purple; tube ca. 1.5 mm; lobes oblong, ca. 4 × 2 mm, glabrous outside, tomentose inside. Corona lobes densely pilose, outer teeth

scalelike, very small. Filaments free, villous on back of connective; stigma head conical. Fl. Sep.

Montane forests; 1800 m. Yunnan [Vietnam].

