

## 29. GYMNEMA R. Brown, Prodr. 461. 1810.

匙羹藤属 *chi geng teng shu*

*Bidaria* Endlicher.

Lianas. Cymes often racemelike, sessile or short pedunculate, often 2 at a node. Flowers small. Calyx with basal glands. Corolla campanulate; lobes ca. as long as tube, twisted to right or subvalvate, interior of tube with 5 longitudinal ridges, sometimes produced into fleshy appendages and/or with lines of hairs along each side. Corona lobes otherwise absent. Filaments connate into a tube; anthers erect, apical appendages membranous; pollinia 2 per pollinarium, oblong, erect. Stigma head hemispherical, obtusely conical or clavate and beaked, exceeding anthers. Follicles solitary or paired and widely divergent, ovoid to strongly beaked, often broad at base.

About 25 species: tropical or subtropical Asia, S Africa, and Oceania; seven species in China.

- 1a. Corolla glabrous ..... 1. *G. sylvestre*
- 1b. Corolla hairy, usually prominently so.
  - 2a. Leaf blade 1–2 cm, basal veins 5; retinaculum longer than pollinia; fruit 3–3.5 cm ..... 3. *G. longiretinaculatum*
  - 2b. Leaf blade over 3.5 cm, basal veins absent; retinaculum half as long as pollinia; fruit 4.5–12.5 cm.
    - 3a. Base of leaf blade cuneate ..... 6. *G. foetidum*
    - 3b. Base of leaf blade rounded to cordate.
      - 4a. Petiole 0.2–0.4 cm ..... 2. *G. hainanense*
      - 4b. Petiole 1–4 cm.
        - 5a. Leaf blade abaxially tomentose; corolla tube appendages exerted from corolla tube; follicles apparently mostly paired, strongly beaked, clearly asymmetrically swollen near base ..... 5. *G. yunnanense*
        - 5b. Leaf blade abaxially pubescent to glabrous; corona lobes and stigma head included within corolla tube; follicles mostly solitary, weakly beaked, only slightly swollen and subsymmetrical at base.
          - 6a. Corolla lobes densely pubescent inside; fruit 4.5–5.5 cm ..... 4. *G. latifolium*
          - 6b. Corolla lobes glabrous; fruit 8–12 cm ..... 7. *G. inodorum*

**1. *Gymnema sylvestre*** (Retzius) Schultes in Roemer & Schultes, Syst. Veg. 6: 57. 1820.

*Apocynum alterniflorum* Loureiro; *Gymnema affine* Decaisne; *G. alterniflorum* (Loureiro) Merrill; *G. formosanum* Warburg; *G. sylvestre* var. *chinensis* Benth.

匙羹藤 *chi geng teng*

*Periploca sylvestris* Retzius, Observ. Bot. 2: 15. 1781;

Stems to 8 m, sparsely lenticellate; young branchlets pubescent, glabrescent. Petiole 3–12 mm; leaf blade obovate to ovate, 3–8.5 × 1.5–5.5 cm, thick papery, adaxially pubescent to glabrous except for groove of midvein, abaxially tomentose to glabrous except for veins; lateral veins 4 or 5 pairs, convergent. Cymes much shorter than leaves, pubescent; peduncle 2–5 mm, rachis with close-spaced spiral of pedicel scars. Sepals ovate, ciliate. Corolla greenish white; lobes ovate, glabrous; appendages exerted. Stigma head exerted. Follicles mostly solitary, broadly lanceolate in outline, 5–9 × ca. 2 cm, glabrous, beak acuminate. Seeds ovate, ca. 8 × 4 mm; coma silky white, ca. 3.5 cm. Fl. Apr–Nov, fr. Sep–Dec.  $2n = 22$ .

*Bidaria hainanensis* (Tsiang) P. T. Li.

Lianas to 3 m, pubescent. Petiole 2–3.5 mm; leaf blade oblong or oblong-elliptic, 3.5–8.5 × 1.5–3.5 cm, membranous or thin papery, adaxially glabrous except for midvein, base rounded to shallowly cordate, apex acute, mucronate; lateral veins 4 or 5 pairs. Cymes ca. 1.5 × 1.5 cm, 20–30-flowered; peduncle 3–7 mm. Pedicel ca. 5 mm. Sepals ovate, ciliate. Corolla campanulate; lobes oblong, ca. 1 × 0.5 mm; tube nearly as long as lobes; appendages absent, hair bands included. Anthers reaching base of stigma head; pollinia oblong, retinaculum half as long as pollinia. Ovaries glabrous. Stigma head capitate. Fl. Aug.

• Dense forests. Hainan.

Open woods, bushland; 100–1000 m. Fujian, Guangxi, Hainan, Taiwan, Yunnan, Zhejiang [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Sri Lanka, Vietnam; Africa].

All parts are used for the treatment of rheumatism, blood-vessel inflammation, hemorrhoids, and snake bites.

**3. *Gymnema longiretinaculatum*** Tsiang, Sunyatsenia 6: 136. 1941.

会东藤 *hui dong teng*

*Bidaria longiretinaculata* (Tsiang) P. T. Li.

**2. *Gymnema hainanense*** Tsiang, Acta Phytotax. Sin. 10: 37. 1965.

Lianas to 1 m, hispid. Petiole 3–5 mm; leaf blade ovate, 1–2 × 0.8–1.8 cm, base cordate, apex acute; basal veins

海南匙羹藤 *hai nan chi geng teng*

5, prominent. Cymes 1.5–2.3 cm, (1–)3–5-flowered; peduncle 1–1.3 cm. Pedicel ca. 5 mm. Sepals ovate, hispid. Corolla white; tube ca. 3 mm; lobes oblong, ca. 2 mm, apex rounded or retuse; appendages absent, hair bands included. Gynostegium terete, reaching corolla throat; anthers as high as stigma head; pollinia oblong, retinaculum linear-oblong, longer than pollinia. Stigma head discoid, apex depressed. Follicles fusiform, ca. 3.5 × 1.3 cm, obtuse at both ends, glabrous. Fl. Jul–Sep.

- Bushland; 1000–2400 m. Guizhou, Sichuan, Yunnan.

**4. *Gymnema latifolium*** Wallich ex Wight, Contr. Bot. India 45. 1834.

宽叶匙羹藤 kuan ye chi geng teng

*Bidaria latifolia* (Wallich ex Wight) P. T. Li.

Lianas to 6 m. Branches lenticellate; branchlets pubescent. Petiole 1.5–4 cm, densely pubescent; leaf blade 8–13 × 5–8 cm, pubescent, more densely so abaxially, base rounded, apex acute; lateral veins 6 or 7 pairs. Cymes often paired at nodes, umbel-like, with condensed branched rachis, pubescent, many flowered; peduncle 1–1.5 cm. Pedicel 3–8 mm. Sepals ovate, puberulent. Corolla yellowish, campanulate, glabrous outside; tube with 5 prominent longitudinal ridges with lines of hairs along each side; lobes ovate, ca. 1.2 × 1.2 mm, densely pubescent adaxially, shorter than corolla tube. Gynostegium cylindrical; membranous anther appendages shorter than stigma head; pollinia oblong. Stigma head conical, apex 2-cleft. Follicles lanceolate in outline, beaked, 4.5–5.5 × 1.5–2 cm, densely pubescent. Seeds oblong-ovate, ca. 1.1 cm × 5 mm, margin membranous; coma ca. 3 cm. Fl. Apr–Nov, fr. Aug–Dec.

Mixed woods; 500–1000 m. Guangdong, Guangxi, S Yunnan [India, Myanmar, Thailand, Vietnam].  
of stiff hairs with or without appendages at apex, included; lobes oblong, ca. 2 × 1.5 mm. Stigma head dome-shaped, included. Follicles cylindrical, ca. 8 × 1.5 cm. Seeds ovate, ca. 1.4 cm × 6 mm, flat; coma ca. 3 cm. Fl. Mar–Apr, fr. Jun–Oct.

- Open montane woods, dense forests. Yunnan.

**7. *Gymnema inodorum*** (Loureiro) Decaisne in A. de Candolle, Prodr. 8: 551. 1844.

广东匙羹藤 guang dong chi geng teng

*Cynanchum inodorum* Loureiro, Fl. Cochinch. 1: 166. 1790; *Bidaria inodora* (Loureiro) Decaisne; *B. tingens* (Roxburgh ex Sprengel) Decaisne; *Gymnema tingens* Roxburgh ex Sprengel.

Lianas to 10 m. Stems glabrous; young branchlets pale gray, lenticellate, puberulent. Petiole 2–6 cm; leaf blade membranous, ovate-oblong to ovate or broadly ovate, 4–13 × 2–9 cm, glabrous or thin puberulent along veins, base rounded to shallowly cordate, apex acuminate to caudate; lateral veins 4–6 pairs. Inflorescences eventually racemelike with sessile umbel-like cymes arranged in spiral, up to 4 cm; peduncle 1–2 cm. Pedicel 1–1.5 cm. Sepals oblong, 2–3 × 1.4 mm, shorter than corolla tube, puberulent, ciliate. Corolla yellow, 6–7 mm, minutely puberulent outside; tube cylindrical, glabrous except

**5. *Gymnema yunnanense*** Tsiang, Sunyatsenia 6: 131. 1941.

云南匙羹藤 yun nan chi geng teng

*Bidaria yunnanensis* (Tsiang) P. T. Li.

Lianas to 7 m, minutely tomentose throughout. Petiole 1–1.5 cm; leaf blade ovate to ovate-elliptic, rarely obovate, 6–13 × 2.5–6 cm, glabrescent except for veins, base rounded, apex acuminate; lateral veins 5 or 6 pairs. Sepals ovate-oblong, as long as corolla tube, hirsute. Corolla yellowish green to white-green; lobes ovate, ciliate; appendages exerted from corolla tube, hair bands well developed. Anther appendages retuse, shorter than stigma head; pollinia oblong, erect. Stigma head globose, exerted. Follicles ovoid-lanceolate in outline, conspicuously beaked with asymmetrically swollen base, 6–6.5 × 2–3 cm, densely minutely tomentose. Seeds ovate-oblong, 1.3–1.5 cm × 6 mm, margin membranous; coma ca. 2.5 cm. Fl. Mar–Jun, fr. Jun–Dec.

- Mixed woods; 1000–2000 m. SW Guangxi, S Yunnan.

**6. *Gymnema foetidum*** Tsiang, Sunyatsenia 6: 133. 1941.

华宁藤 hua ning teng

*Bidaria foetida* (Tsiang) P. T. Li; *B. foetida* var. *mairei* (Tsiang) P. T. Li; *Gymnema foetidum* var. *mairei* Tsiang.

Lianas to 5 m. Branchlets lenticellate. Petiole 5–10 mm, puberulent; leaf blade elliptic to elliptic-oblong, 4–9.5 × 1.5–4 cm, glabrous or puberulent, base cuneate, apex acute or short acuminate; lateral veins 5 or 6 pairs. Cymes up to as long as petiole, 5–8-flowered. Sepals oblong, ca. 3 × 1.5 mm, puberulent, basal glands 5 or 6 or absent. Corolla yellow-white; tube as long as calyx, interior with longitudinal bands for longitudinal bands of stiff hairs alternating with lobes; lobes oblong, 3–4 × 1.6–1.8 mm, apex rounded, glabrous except for ciliate margin. Pollinia oblong. Stigma head dome-shaped, exerted from corolla tube. Follicles lanceolate in outline, up to 16 × 3 cm, wall thick and slightly fibrous, glabrous. Seeds ca. 1.5 × 1 cm; coma ca. 4 cm. Fl. May–Jul, fr. Jun–Dec.

Bushland, open woods; 200–1000 m. Guangdong, Guangxi, Guizhou, Hainan, Yunnan [India, Nepal, Philippines, Sikkim, Thailand, Vietnam].

All parts are used medicinally for infantile paralysis and pulmonary tuberculosis.

