

42. HETEROSTEMMA Wight & Arnott in Wight, Contr. Bot. India 42. 1834.

醉魂藤属 *zui hun teng shu*

Lianas, sometimes rooting adventitiously, old stems sometimes developing prominent corky wings. Leaves opposite, long petiolate, usually 3–5-veined at base, sometimes strictly pinnately veined. Inflorescences umbel-like or producing a succession of cymules and eventually racemelike, sessile or pedunculate. Calyx glands 5. Corolla rotate to broadly campanulate [urceolate to globose]; lobes twisted to left or valvate. Corona lobes 5, stellate spreading or suberect, fleshy, adaxially often tuberculate, keeled or appendaged, apex entire, dentate, or lobed. Filaments connate into a tube, anther appendages short and obtuse; pollinia 2 per pollinarium, erect or subhorizontal, margin of inner angle raised and translucent. Stigma head dilated. Follicles linear or cylindrical, usually paired, narrowly divergent to strongly reflexed, smooth. Seeds with coma.

About 30 species: China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Australia; nine species in China.

The occurrence of *Heterostemma villosum* Costantin in China has not been confirmed. Material so named seems better regarded as a hairy form of *H. esquirolii*.

- 1a. Peduncle up to 3 mm, sometimes obsolete.
 - 2a. Stems pilose all around; leaves conspicuously uniformly pubescent, almost pilose 3. *H. menghaiense*
 - 2b. Stems with 2 lines of hairs, sometimes glabrescent; leaves minutely appressed pubescent.
 - 3a. Internodes glabrescent; inflorescences umbel-like; corolla 6–8 mm in diam. 4. *H. wallichii*
 - 3b. Internodes with 2 lines of persistent pilose hairs; inflorescences becoming racemelike; corolla 8–14(–22) mm in diam.
 - 4a. Leaf blade membranous to thin papery, base cuneate; pedicels 1.5–3 cm, very slender and threadlike; follicles narrowly divergent 2. *H. esquirolii*
 - 4b. Leaf blade leathery, base rounded to truncate; pedicels 0.8–1.8(–3) cm, not threadlike; follicles widely divergent 6. *H. oblongifolium*
- 1b. Peduncle 5–55 mm.
 - 5a. Inflorescences with 2 or more umbel-like cymules spaced along zigzag rachis; outer corona lobes linear, fleshy, gynostegium narrowed above these; corolla chocolate brown 9. *H. sinicum*
 - 5b. Inflorescences with a single cymule, rarely a second in unusually robust material, sometimes elongated and branched; corona lobes lanceolate to circular, flattened, gynostegium rounded to almost flat, not narrowed above outer corona lobes; corolla yellow, orange, or green, sometimes with spots.
 - 6a. Corona lobes longer than corolla limb and projecting beyond sinus between corolla lobes 5. *H. siamicum*
 - 6b. Corona lobes shorter than corolla limb.
 - 7a. Leaves with basal veins all winged abaxially; peduncle 1.5–3 cm; follicles narrowly divergent 1. *H. brownii*
 - 7b. Leaves with basal veins rounded to flattened abaxially; peduncle 0.5–1.5(–2.5) cm; follicles (where known) widely divergent.
 - 8a. Leaf blade (7–)10–19 cm; corolla lobes 8–12 × 4.5–6 mm, yellow with darker (?brown) spots; corona raised in center but without basal tubercles 7. *H. grandiflorum*
 - 8b. Leaf blade 3–8 cm; corolla lobes ca. 5 × 3.5 mm, uniformly colored, lobes revolute; corona lobes each with a basal tubercle 8. *H. tsoongii*

1. *Heterostemma brownii* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30: 199. 1911.

台湾醉魂藤 *tai wan zui hun teng*

Lianas. Stems slender, to 5 m, glabrous, pubescent along 2 lines when young. Petiole 2–5 cm, flat, pubescent; leaf blade broadly ovate to oblong-ovate, 7–15 × 5–8 cm, papery, puberulent when young but soon glabrescent, base rounded to broadly cuneate, rarely subcordate, apex acuminate; basal veins 3–5, winged when young, lateral veins 3 or 4 pairs. Inflorescences umbel-like becoming racemelike, 2–6 cm, 10–20-flowered; peduncle 1.5–4.5 cm, puberulent. Pedicel (0.3–)

2. *Heterostemma esquirolii* (H. Léveillé) Tsiang, Sunyatsenia 3: 189. 1936.

贵州醉魂藤 *gui zhou zui hun teng*

Pentasacme esquirolii H. Léveillé, Fl. Kouy-Tchéou 14. 1914/15; *Heterostemma gracile* Kerr.

1–1.5 cm. Sepals ovate, ca. 1.5 mm. Corolla yellow, rotate to shallowly bowl-shaped, ca. 1 cm in diam.; tube 4–5 mm; lobes ovate-triangular, as long as tube. Corona lobes ligulate-oblong, base attenuate, apex obtuse, as long as corona tube. Anther appendages rounded; pollinia oblong, erect. Follicles narrowly divergent, linear-lanceolate, 10–15 cm × 5–10 mm, longitudinally striped. Seeds broadly ovate, ca. 1.5 × 1 cm; coma ca. 3 cm. Fl. Apr-Sep, fr. Jun-Dec.

• Open woods, moist forests; 500–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, Yunnan.

The roots are used as medicine for malaria.

Lianas to 3 m. Branches and branchlets slender, internodes with 2 conspicuous lines of erect pilose hairs. Petiole 1.3–2.3(–5) cm, pubescent; leaf blade ovate or elliptic-ovate, (4–)6.5–10(–12) × 2–6.5 cm, membranous, glabrous or thin villous, base cuneate, sometimes minutely cordate, apex acuminate; lateral veins 3 or 4 pairs; midrib winged abaxially.

Inflorescences usually sessile, umbel-like, up to 10–17-flowered. Pedicel 1.5–3(–4) cm, threadlike. Sepals ovate, ca. 1.5 × 1 mm, puberulent, ciliate; glands minutely toothed. Corolla yellow or green, rotate, ca. 1.2 cm in diam.; lobes broadly triangular, 3.5–7 × 2–3.5, glabrous. Corona lobes oblong-ovate, ca. 1 mm, apex rounded to almost acute, flat on corolla. Follicles linear-lanceolate, ca. 6 cm × 5 mm. Fl. Jul-Sep, fr. Sep-Dec.

Open woods. Guangxi, Guizhou, Yunnan [Thailand].

3. *Heterostemma menghaiense* (H. Zhu & H. Wang) M. G. Gilbert & P. T. Li in M. G. Gilbert, W. D. Stevens, & P. T. Li, *Novon* 5: 9. 1995.

勐海醉魂藤 meng hai zui hun teng

Heterostemma villosum Costantin var. *menghaiense* H. Zhu & H. Wang.

Lianas. Internodes yellow pilose, hairs retrorse, especially near nodes. Petiole to 2.8 cm, densely pilose; leaf blade ovate, ca. 8 × 6.5 cm, densely yellow pubescent to pilose, base truncate to shallowly cordate, apex acuminate; basal veins 5, lateral veins 3 or 4 pairs. Inflorescences sessile, umbel-like, few flowered; all parts up to sepals densely pubescent, almost tomentose. Pedicel to 2.3 cm. Sepals oblong-triangular, ca. 2.4 × 1.7 mm, apex rounded. Corolla yellow with purple dots, rotate, ca. 2 cm in diam.; densely puberulent outside, glabrous inside, smooth; limb ca. 1 cm in diam.; lobes ovate-triangular, ca. 6.5 × 6 mm, apex subacuminate. Corona raised in center; lobes oblong-ovate, ca. 2.5 × 1.4 mm, without any dorsal appendages, outer margin rounded, inner tooth rounded, largely concealing gynostegium. Fruit not seen. Fl. Jun.

• In thickets near streams; 1000–2000 m. Yunnan.

4. *Heterostemma wallichii* Wight, *Contr. Bot. India* 42. 1834.

云南醉魂藤 yun nan zui hun teng

Lianas to 3 m. Branches pubescent along 2 lines, longitudinally striate, sometimes glabrescent. Petiole 1–5 cm, flattened, puberulent; leaf blade ovate or elliptic, 5–17 × 3–10 cm, glabrous or puberulent when young, base rounded, apex acuminate or obtuse; basal veins 3, lateral veins 3 or 4 pairs. Inflorescences shorter than leaves, few flowered; peduncle 0–7(–10) mm. Pedicel 5–10 mm. Corolla yellow-green, 6–8 mm in diam. Corona lobes obcordate to orbicular, exceeding gynostegium. Stigma head centrally depressed. Fl. Jul-Sep.

Open woods, often climbing trees; 800–2100 m. S Yunnan [India, Nepal].

5. *Heterostemma siamicum* Craib, *Bull. Misc. Inform. Kew* acute; basal veins 3, lateral veins 3 or 4 pairs, flattened adaxially, elevated abaxially. Inflorescences forked, 6–9 cm; peduncle 0.9–2.5(–3) cm. Pedicel 1–1.5(–4) cm, puberulent. Sepals ovate, margin membranous, ciliate. Corolla rotate, puberulent outside, glabrous inside; lobes ovate, ca. 4 × 3.5 mm. Corona lobes ligulate, ca. 3 mm, spreading horizontally and flat on corolla. Follicles linear-lanceolate, 10–12 cm × 7–10 mm, ± reflexed. Seeds broadly ovate, ca. 2 × 1.2 cm; coma

1911: 418. 1911.

心叶醉魂藤 xin ye zui hun teng

Lianas to 4 m. Branches pubescent along 2 lines, glabrescent. Petiole 3–8 cm; leaf blade oblong to ovate, 4–15 × 1.5–10 cm, papery, glabrous, base cordate or shallowly so, apex acute; basal veins 5, lateral veins 3 or 4 pairs. Inflorescences extra-axillary; peduncle (0.5–)1.5–2 cm; rachis simple, producing a spiral succession of umbel-like cymes, eventually racemelike. Pedicel 1.5–2 cm. Sepals broadly lanceolate, puberulent, ciliate. Corolla yellowish, rotate; lobes ovate, ca. 3.5 × 2.5 mm, puberulent, minutely tomentose inside. Corona lobes stellate spreading, lanceolate, ca. 2 mm, with a thick appendage on ventral surface. Follicles oblong-lanceolate, 15–17 cm × 7–10 mm, glabrous. Seeds ovate-oblong, ca. 1.5 cm × 5 mm, margin membranous; coma ca. 1.3 cm. Fl. Jun-Aug, fr. Aug-Oct.

Open woods; 1000 m. Guangxi, S Yunnan [Thailand, Vietnam].

6. *Heterostemma oblongifolium* Costantin in Lecomte, *Fl. Indo-Chine* 4: 120. 1912.

催乳藤 cui ru teng

Lianas to 3 m, internodes with 2 lines of hairs. Petiole 1.2–3(–4.5) cm; leaf blade oblong to rarely ovate-oblong, 7.5–14(–17.5) × (2.8–)3.5–5.4(–7) cm, thin leathery, base rounded, apex acute; lateral veins 5–7 pairs. Inflorescences umbel-like; peduncle 1–2 mm, 4 or 5 flowers open at 1 time. Pedicel (0.8–)1.2–2.2(–3.5) cm. Sepals oblong. Corolla greenish outside, yellowish or orange inside, rotate or shallowly bowl-shaped, 1–1.5 cm in diam., divided ca. halfway; lobes triangular-ovate, 4–7(–9) × 2.2–3.2(–6) mm. Corona lobes horizontally stellate spreading, oblong-oblong to circular, 0.8–1.5 × 0.7–1.4 mm, apex rounded or acute, basal tubercle ± absent. Follicles linear-lanceolate in outline, 12–13.5 × 0.9–1 cm, diverging at ± 180° or more. Seeds linear-oblong, ca. 2 cm × 3 mm; coma ca. 3 cm. Fl. Aug-Oct, fr. Sep-Dec.

Mixed woods, thickets; 100–200 m. Guangdong, Guangxi, Hainan, Yunnan [Laos, Vietnam].

A decoction of the plant is used to induce lactation in women.

7. *Heterostemma grandiflorum* Costantin in Lecomte, *Fl. Indo-Chine* 4: 122. 1912.

大花醉魂藤 da hua zui hun teng

Lianas to 5 m. Stems and branchlets longitudinally striate; internodes usually pubescent along 2 lines, sometimes glabrous. Petiole (2–)2.5–6.5 cm, flattened; leaf blade ovate or ovate-oblong, (7–)10–19 × (3.5–)5–10.5 cm, papery, glabrous, base rounded, sometimes truncate, apex obtuse or ca. 2.5 cm. Fl. Jul-Sep, fr. Oct-Dec.

Open woodland, thickets. Guangdong, Guangxi, Hainan, Sichuan, Yunnan [Vietnam].

8. *Heterostemma tsoongii* Tsiang, *Sunyatsenia* 3: 192. 1936.

广西醉魂藤 guang xi zui hun teng

Heterostemma renchangii Tsiang.

Lianas to 4 m. Young branches pubescent, glabrescent. Petiole 1.5–3 cm, with an adaxial group of glands; leaf blade broadly ovate to ovate-oblong, 3–8 × 1.5–6 cm, papery to subleathery, glabrous, base rounded to cordate, apex acute or acuminate; basal veins 3–5, lateral veins 2 or 3 pairs, often sunken adaxially. Inflorescences umbel-like, shorter than leaves; peduncle 1–9 mm, puberulent. Pedicel 2–8 mm, rusty pubescent. Sepals ovate, ca. 2 × 1.5 mm, pubescent. Corolla yellowish green, puberulent; tube 2.5–3 mm, ca. 4 mm in diam.; lobes ovate-triangular, revolute, ca. 3 × 2.5–3 mm. Corona lobes drying blackish, oblong, thin with distinct basal tubercle, lying flat on corolla. Follicles lanceolate, ca. 11 cm × 4 mm, glabrous. Seeds oblong, ca. 1.3 cm × 4 mm; coma 1.5–2 cm. Fl. Jun-Aug, fr. Sep-Nov.

• Open woodland, thickets; 300–1000 m. Fujian, Guangxi, Hainan.

9. *Heterostemma sinicum* Tsiang, Sunyatsenia 3: 190. 1936.

海南醉魂藤 hai nan zui hun teng

Lianas woody, to 5 m, glabrous throughout. Branchlets grayish, thick, hollow, lenticellate. Petiole 2–3 cm; leaf blade ovate-oblong to oblong, 11–19 × 4.5–11 cm, thin papery, base rounded to truncate, apex acute; lateral veins 4 or 5 pairs, flattened. Inflorescences 8–13 cm; peduncle ca. 5.5 cm; rachis zigzag with 2 or more separated cymules; cymules with 2–5 flowers open, eventually racemelike. Pedicel 3–8 mm. Sepals triangular, ca. 1 × 1 mm; glands 10. Corolla brownish purple; tube ca. 1 mm long; lobes rotate, ovate-oblong, ca. 3 × 2 mm, longitudinally veined, mealy inside. Corona stellate spreading, apparently dark brown; lobes oblong-ligulate, ca. 1 mm, posterior angle obtuse. Gynostegium yellow tipped, constricted below apex. Anthers square, appendages rounded; pollinia circular to almost square. Stigma head subdepressed, obtuse. Fl. Jun.

• Mixed woods. ?Guangdong, Hainan.

