

33. ANDROGRAPHIS Wallich ex Nees in Wallich, Pl. Asiat. Rar. 3: 77, 116. 1832.

穿心莲属 *chuan xin lian shu*

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Haplanthoides H. W. Li; *Haplanthus* Nees.

Herbs or subshrubs, with cystoliths. Leaf blade margin entire. Inflorescences terminal or axillary, panicles, racemes, or sometimes spikes or dense clusters; bracts present; bracteoles small [or absent]. Calyx deeply 5-lobed; lobes narrow, equal or subequal. Corolla tubular to funnelliform at base; limb 2-lipped; lower lip 3-lobed; upper lip entire or 2-lobed; lobes ascending cochlear in bud. Stamens 2, exerted from or included in corolla tube; filaments sometimes pubescent; anthers 2-theous; thecae parallel, equal or subequal, base mucous and conspicuously pubescent. Capsule linear-oblong or ellipsoid, compressed perpendicular to septum, [6–]12–20-seeded; retinacula present. Seeds subglobose, ± blocky, or ± compressed, surfaces smooth or ornamented, lacking trichomes.

About 20 species: tropical and subtropical Asia; two species (one introduced) in China.

- 1a. Leaf blade lanceolate to oblong-lanceolate; corolla deeply and prominently 2-lipped, lips divergent (i.e., upper lip ± perpendicular or oblique to tube and lower lip); stamens exerted from corolla tube 1. *A. paniculata*
1b. Leaf blade ovate; corolla shallowly and inconspicuously 2-lipped, lips not divergent (i.e., lips ± parallel to one another); stamens included in corolla tube 2. *A. laxiflora*

1. *Andrographis paniculata* (N. L. Burman) Wallich ex Nees in Wallich, Pl. Asiat. Rar. 3: 116. 1832.

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Justicia paniculata N. L. Burman, Fl. Indica, 9. 1768.

Herbs to 50 cm tall, annual, much branched. Stems 4-angled, glabrous. Petiole 0.3–1 cm; leaf blade ovate-lanceolate, lanceolate, or narrowly elliptic, 1.5–7 × 1–2.5 cm, both surfaces glabrous, abaxially pale green, adaxially green, secondary veins 3–5 on each side of midvein, base attenuate and decurrent onto petiole, margin entire, apex acute to shortly acuminate. Inflorescences terminal, leafy panicles of secund racemes; rachis glabrous to sparsely pubescent; bracts triangular to subulate, 1–1.5 mm; bracteoles linear to subulate, 1–1.5 mm. Pedicel 2–9 mm, sparsely pubescent with gland-tipped and non-glandular trichomes (gland-tipped pubescent). Calyx 2.5–3 mm, outside glabrous or gland-tipped pubescent, lobes subulate. Corolla white, 0.9–1.5 cm, outside gland-tipped pubescent; tube basally funnelliform for 4–8 mm; lower lip with purple dots, 5–7 mm, erect, lobes ca. 3 mm; upper lip 5–7 mm, reflexed, 2-lobed, lobes ca. 1 mm. Stamens exerted from corolla tube. Style 6–10 mm, sparsely pilose toward base. Capsule ellipsoid-compressed, 1.5–2 × 0.3–0.4 cm, glabrous or sparsely pubescent with gland-tipped trichomes, ca. 12-seeded. Seeds ca. 2 × 1.5 mm, rugose. Fl. and fr. throughout year. $2n = 50$.

Cultivated or naturalized in Anhui, Fujian, Guangdong, Guangxi, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, Yunnan, and Zhejiang [native to India and Sri Lanka; cultivated or naturalized in Cambodia, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam, and Caribbean].

This species is used medicinally.

2. *Andrographis laxiflora* (Blume) Lindau in Engler & Prantl, Nat. Pflanzenfam. 4(3b): 323. 1895.

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Justicia laxiflora Blume, Bijdr. 789. 1826; *Andrographis glomeruliflora* Bremekamp; *A. laxiflora* var. *glomeruliflora*

(Bremekamp) H. Zhu; *A. monglunensis* Hung T. Chang & H. Zhu; *A. tenera* (Nees) Kuntze; *A. tenuiflora* T. Anderson, nom. illeg. superfl.; *Haplanthoides yunnanensis* H. W. Li; *Haplanthus tener* Nees.

Herbs to 50 cm tall, isophyllous or anisophyllous. Stems erect or procumbent, 4-angled, glabrous or pubescent. Petiole 3–10 mm; leaf blade ovate, 1.5–9 × 1.5–3(–5.5) cm, both surfaces glabrous, secondary veins 5 or 6 pairs on each side of midvein, base slightly attenuate and decurrent onto petiole, margin entire, apex acuminate to shortly acuminate. Inflorescences axillary or terminal, racemes or panicles of racemes, these sometimes reduced and flowers appearing as clusters in leaf axils or at ends of long peduncles; rachis glabrous or pubescent (trichomes non-gland-tipped or gland-tipped); bracts linear, subulate, or lanceolate, 1–3 mm, glabrous or pubescent; bracteoles subulate, glabrous or pubescent. Pedicel 0.5–2 mm, glabrous or pubescent. Calyx 2–4 mm, outside glabrous or pubescent, lobes subulate. Corolla white with purplish or pinkish coloration on lips, 0.8–1.2 cm, outside pubescent with gland-tipped trichomes; tube 6–9 mm, base curved, dorsally ± gibbous; lower lip 1.5–4 mm, lobes 0.5–2 mm; upper lip 1.5–4 mm, erect (± parallel to lower lip), entire to 2-lobed. Stamens included in corolla tube. Capsule linear-cylindric, 10–20 × ca. 2 mm, glabrous or pubescent with gland-tipped trichomes, 16–20-seeded. Seeds ca. 1 × 0.7 mm, rugose. Fl. Aug–Nov, fr. Nov–Mar.

Thickets, bamboo forests; 200–1500 m. Guangxi, Guizhou, Hainan, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

Specimens misidentified as *Gymnostachyum sanguinolentum* (Vahl) T. Anderson (C. Y. Wu, Index Fl. Yunnan. 2: 1676. 1984; C. C. Hu, FRPS 70: 75. 2002) belong here.

Variation is evident in the pubescence of rachises, pedicels, bracts, bracteoles, and calyces among plants of *Andrographis laxiflora*. These structures may be glabrous, have non-glandular trichomes only, have gland-tipped trichomes only, or have a mixture of gland-tipped and non-glandular trichomes. Capsule may be glabrous or pubescent with gland-

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tipped trichomes only. Plants with gland-tipped trichomes on the calyces and capsules have been treated as *A. laxiflora* var. *glomeruliflora* (C. C. Hu, FRPS 70: 205. 2002). Because varying degrees of pubescence are evident on calyces and capsules among specimens from within and outside of China, and because these same differences are not taxonomically recognized for plants of *A. paniculata* that show the very same variations, var. *glomeruliflora* is not recognized here (in keeping with B. Hansen, Nordie J. Bot. 5: 353–356. 1985, who did not recognize it as distinct).

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