

32. GYMNOSTACHYUM Nees in Wallich, Pl. Asiat. Rar. 3: 76, 106. 1832.

裸柱草属 *luo zhu cao shu*

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Cryptophragmium Nees; *Sarcanthera* Rafinesque.

Herbs, perennial [or shrubs], with cystoliths. Leaves cauline or subradical, opposite; leaf blade margin usually entire. Inflorescences axillary or terminal, spikes, racemes, or panicles, often secund; bracts and bracteoles shorter than calyx. Calyx 5-lobed nearly to base; lobes subequal. Corolla tube longer than limb, basal portion narrowly cylindric, ± expanded distally into a throat; limb 2-lipped, lower lip 3-lobed, upper lip emarginate to 2-lobed; lobes ascending cochlear in bud. Stamens 2, included in or slightly exerted from corolla tube; anther thecae 2, equal or subequal in size, parallel, one or both mucronate at base; staminodes absent. Ovary with 3 to many ovules per locule; stigma 2-lobed, lobes compressed. Capsule without a stipe, linear, 4-angled, many seeded; retinacula present. Seeds compressed, covered with hygroscopic trichomes.

About 30 species: tropical Asia; three species (two endemic) in China.

- 1a. Stems very short; leaves in a basal rosette 1. *G. subrosulatum*
- 1b. Stems elongate; leaves cauline.
 - 2a. Inflorescences axillary 2. *G. listeri*
 - 2b. Inflorescences terminal 3. *G. sinense*

1. *Gymnostachyum subrosulatum* H. S. Lo, Acta Phytotax. Sin. 17(4): 86. 1979.

矮裸柱草 *ai luo zhu cao*

Gymnostachyum kwangsiense H. S. Lo.

Herbs 20–40 cm tall. Stems short, hirsute. Leaves in a basal rosette; petiole 2–9(–14) cm; leaf blade suborbicular to broadly ovate, 5–16 × 3.5–11 cm, papery, abaxially subglabrous but midvein and secondary veins hirsute, adaxially slightly scabrous, secondary veins 7–9 on each side of midvein, base slightly cordate to rounded, margin entire or slightly sinuate, apex rounded to acute. Thyrses 10–35 cm, with 1–4 flowers per cyme; peduncle 8–19 cm; bracts subulate, ca. 2.5 mm, pilose, apex acute; bracteoles similar to bracts. Calyx 2.5–3 mm; lobes subulate, pilose. Corolla ca. 1.5 cm; lower lip patent, 3-lobed, lobes oblong-ovate and ca. 3 × 2 mm; upper lip triangular, ca. 5 mm, erect, 2-dentate. Stamens exerted; filaments 7–8 mm; anther thecae linear, parallel. Ovary 2-locular, with 4 ovules per locule; style 1.3–1.9 cm. Capsule linear, 1.3–1.6 cm, 8-seeded. Seeds ovate in outline, ca. 1 × 0.8 mm. Fl. Apr–May, fr. Jun–Sep.

• Limestone hills; 200–600 m. Guangxi.

2. *Gymnostachyum listeri* Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 69: 171. 1900.

云南裸柱草 *yun nan luo zhu cao*

Cryptophragmium tonkinense Benoist; *Parajusticia petelotii* Benoist.

Herbs to 50 cm tall, caulescent, isophyllous. Stems branched, 4-angled, pubescent. Leaves cauline; petiole 5–12 mm, pubescent; leaf blade elliptic to obovate-elliptic, (4.5–)6–13(–17) × 2.1–5.5 cm, abaxially white pubescent, adaxially glabrous except for trichomes along midvein, secondary veins 11–14 on each side of midvein and abaxially prominently curved, tertiary veins inconspicuous, base asymmetric or symmetric and

± decurrent onto petiole, margin entire or obscurely sinuate, apex acute to acuminate. Spikes 2–6 cm, secund; peduncle 0.5–1.5 cm; rachis pubescent and gland-tipped pilose; bracts linear, ca. 3 × 0.3 mm, pubescent; bracteoles linear-triangular, ca. 1.5 × 0.5 mm, pubescent. Calyx 0.1–1.1 cm; lobes linear, 8–10 × ca. 0.5 mm, outside pubescent, inside glabrous, margin gland-tipped pilose. Corolla purple, 1.6–2 cm, pubescent; tube basally cylindric and ca. 2.5 cm wide for ca. 8 mm, throat abruptly bending and widening to 5 mm; lower lip 4–5 mm, 3-lobed, lobes oblong and ca. 3 × 1.5 mm; upper lip 3–4 mm, 2-lobed, lobes broadly ovate and ca. 2 × 2 mm. Staminal filaments ca. 4 mm, glabrous; anther thecae oblong, ca. 5 × 1 mm, pilose, spurred at base. Ovary ca. 3 × 1 mm, glabrous; style ca. 1.5 cm, villous. Capsule not seen. Fl. Apr–May.

Limestone hills; 200–600 m. Guangxi, Yunnan [Bangladesh, Vietnam].

3. *Gymnostachyum sinense* (H. S. Lo) H. Chu, Bull. Bot. Res., Harbin 11(1): 48. 1991.

华裸柱草 *hua luo zhu cao*

Andrographis sinensis H. S. Lo, Bull. Bot. Res., Harbin 1(4): 103. 1981.

Herbs to 1 m tall. Stems purplish black, terete, glabrous; young shoots 4-angled, pubescent at nodes. Petiole 2–4 mm; leaf blade ovate to broadly ovate, 1.5–4 × 1–1.8 cm, thickly paper, both surfaces glabrous, secondary veins ca. 6 on each side of midvein, base cuneate, margin entire or subentire, apex acute to sometimes caudate. Spikes terminal, few flowered; peduncle ca. 1 cm, subglabrous; bracts linear to linear-lanceolate, 1.5–2 mm; bracteoles similar to bracts. Calyx ca. 7 mm, glabrous; lobes lanceolate-linear, apex acuminate. Corolla white, ca. 1 cm; lower lip ca. 4 mm, 3-lobed, lobes ovate and ca. 0.5 × 0.5 mm; upper lip subtriangular, ca. 3.5 mm, 2-lobed. Staminal filaments ca. 2.5 mm, glabrous; anther thecae linear, ca. 3 mm, spurred at base. Ovary ellipsoid, ca. 3 mm, glabrous, ovules 5 or 6 per locule; style ca. 7 mm. Capsule narrowly cylindric, 1–

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1.5 cm, glabrous. Seeds subglobose, ca. 1×1 mm, pubescent.
Fl. Aug.

- Limestone hills. Guangxi.

Fl. China 19: 472–473. 2011.