

11. ECHINACANTHUS Nees in Wallich, Pl. Asiat. Rar. 3: 75, 90. 1832.

恋岩花属 *lian yan hua shu*

Hu Jiaqi (胡嘉琪 Hu Chia-chi), Deng Yunfei (邓云飞); Thomas F. Daniel

Shrubs or perennial herbs. Leaves opposite; leaf blade margin entire. Inflorescence axillary or terminal, branched cymes; bracts narrow to subleaflike; bracteoles inconspicuous or absent. Calyx often gland-tipped hairy, deeply 5-lobed; lobes equal or subequal. Corolla purple or yellow, funnel-shaped to campanulate; tube ventricose; limb 5-lobed; lobes subequal, contorted in bud. Stamens 4, didynamous; filaments connate at base into 2 pairs; anthers 2-theous; thecae parallel, hirsute, spurred at base. Ovary with 4–8 ovules per locule; stigma 2-lobed, one lobe reduced. Capsule linear-cylindric to linear-oblong, 8–16-seeded; retinacula present. Seeds subovate in outline, compressed, covered with hygroscopic trichomes.

Four species: Bhutan, China, India, Nepal, Vietnam; three species (two endemic) in China.

- 1a. Herbs to 20 cm tall 1. *E. longipes*
1b. Subshrubs or shrubs more than 50 cm tall.
2a. Corolla purple, 2–2.5 cm, outside glabrous; anther thecae each with 2 basal spurs 2. *E. longzhouensis*
2b. Corolla yellow, ca. 4 cm, outside pubescent; anther thecae each with 1 basal spur 3. *E. lofouensis*

1. *Echinacanthus longipes* H. S. Lo & D. Fang, Acta Bot. Yunnan. 7: 138. 1985.

长柄恋岩花 *chang bing lian yan hua*

Herbs 5–20 cm tall, perennial, caulescent or acaulescent. Petiole 1.8–4.5(–5.5) cm, densely hirsute; leaf blade oblong to lanceolate-oblong, rarely ovate or oblanceolate, 3–7(–11) × 1.5–3(–4) cm, papery, both surfaces densely covered with cystoliths, abaxially pilose or sometimes only hairy along veins, adaxially dark grayish brown when dry and subglabrous, midvein raised on both surfaces, secondary veins 5–7 on each side of midvein and raised on both surfaces, base oblique and rounded to broadly cuneate, margin entire or slightly crenulate, apex acuminate to obtuse. Cymes axillary, (1 or)2–4(or 5)-flowered; peduncle 2–10 cm, densely hirsute; bracts subleaflike, ovate to ovate-elliptic, 8–10 × 4–7 mm. Calyx lobes linear, 1–1.2 cm but to 1.7 cm in fruit, white pilose. Corolla purple, ca. 4 cm, straight, outside subglabrous; tube cylindric and ca. 2.5 mm wide for 1.3–1.5 cm then gradually widened to ca. 1 cm at mouth; lobes oblong, 6–8 × 5–6 mm. Staminal filaments 5–6 mm; anther thecae ovoid, ca. 3 mm, subequal, ciliate, each with 1 spur at base. Ovary densely pilose; style ca. 3.2 cm, pilose; stigma 2-lobed, with one lobe longer. Capsule cylindric, ca. 1.1 cm, densely pilose, 12–16-seeded. Seeds elliptic in outline, ca. 1.5 mm, margin white. Fl. Apr–Jun, fr. Aug–Sep.

Limestone hills in forests; 500–2000 m. Guangxi, Yunnan [Vietnam].

2. *Echinacanthus longzhouensis* H. S. Lo, Acta Bot. Yunnan. 7: 140. 1985.

龙州恋岩花 *long zhou lian yan hua*

Shrubs to 3 m tall. Older stems grayish brown, subterete, lenticellate and tuberculate; young stems 4-angled, pilose. Petiole 1–2(–3.5) cm, pubescent; leaf blade elliptic to ovate, 4.5–8.5 × 1.5–4.5 cm, leathery, both surfaces glabrous, secondary veins 6 or 7 on each side of midvein and slender, base broadly cuneate, margin entire, apex acute. Cymes axillary, 1–3-flowered; peduncle 1.5–3 cm, pubescent; bracts narrowly lanceolate,

10–15 × ca. 1 mm, pubescent. Calyx 1–1.2 cm, abaxially gland-tipped hirsute, adaxially hirsute; lobes linear, apex acuminate. Corolla purple, 2–2.5 cm, both surfaces glabrous; tube basally cylindric and ca. 1.5 mm wide for 5–8 mm then gradually widened to ca. 8 mm at mouth; lobes oblong, ca. 4 × 3 mm, apex retuse. Staminal filament longer pair ca. 1 cm and shorter pair ca. 0.6 cm, pilose; anther thecae with 2 spurs at base. Ovary pubescent; style ca. 1.4 cm, pubescent. Capsule linear-oblong, 1.3–1.4 cm, densely pubescent, usually 8-seeded. Seeds globose, ca. 3 × 3 mm. Fl. Aug.

• Limestone hills in forests; 300–400 m. Guangxi.

3. *Echinacanthus lofouensis* (H. Léveillé) J. R. I. Wood, Edinburgh J. Bot. 51: 186. 1994.

黄花恋岩花 *huang hua lian yan hua*

Strobilanthes lofouensis H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 99. 1913; *Echinacanthus flaviflorus* H. S. Lo & D. Fang.

Shrubs 1–3 m tall. Stems 4-angled, lenticellate, subglabrous. Petiole 0.5–2 cm, shortly hirsute; leaf blade ovate, lanceolate, or narrowly lanceolate, (2–)6–12 × (1–)1.5–3 cm, abaxially pubescent in vein axils, adaxially glabrous, midvein usually barbate, secondary veins 5 or 6 on each side of midvein, base broadly cuneate to subrounded, margin entire, apex acuminate. Cymes axillary, usually (1–)3-flowered; peduncle 1–2 cm, pubescent; bracts subleaflike, 1–1.5 × 0.5–1 cm, caducous. Calyx 1.2–1.4 cm but to 1.8 cm in fruit, both surfaces densely white pubescent; lobes linear, apex acuminate. Corolla yellow, ca. 4 cm, outside pubescent; tube basally ca. 3 mm wide for ca. 1 cm then expanding to mouth; lobes semicircular, ca. 5 mm. Staminal filaments 1–1.3 cm, densely villous; anther thecae ovoid, ca. 3 mm, each with 1 spur at base. Ovary densely villous; style pilose. Capsule linear-oblong, ca. 1.5 cm, densely pubescent, 8–12-seeded. Fl. May–Oct.

• Limestone hills in forests; 500–1000 m. Guangxi, Guizhou.

Fl. China 19: 433–434. 2011.