

46. LOXOSTIGMA C. B. Clarke in A. & C. de Candolle, Monogr. Phan. 5: 59. 1883.

紫花苣苔属 *zi hua ju tai shu*

Herbs, perennial, epiphytic, epipetric, or terrestrial, rhizomatous. Stems simple or branched. Leaves few, spread along stem, rarely crowded near apex, opposite, unequal or subequal, rarely equal in a pair; leaf blade glabrous to pubescent or strigose, base cuneate to subcordate. Inflorescences lax, often dichotomously branched, axillary, 1- to many-flowered cymes; bracts 2, opposite. Calyx actinomorphic, 5-sect from base or near base; segments equal. Corolla white, yellowish, purple, or pinkish, often spotted within, zygomorphic, inside glabrous to subglabrous; tube broadly tubular, gibbous abaxially, 2–4 × longer than limb, 1–2 cm in diam.; limb 2-lipped; adaxial lip 2-lobed; at least slightly shorter than abaxial lip; abaxial lip 3-lobed, lobes equal or central lobe longer, apex rounded to obtuse. Stamens 4, adnate to corolla tube near base or near middle, included; anthers basifixed, coherent in pairs at apex, thecae subparallel, confluent or not at apex, dehiscing longitudinally; connective not projecting; staminode 1 or absent, adnate to adaxial side of corolla tube. Disc ringlike. Ovary oblong to linear, 1-loculed; placentas 2, parietal, projecting inward, 2-cleft. Stigmas 2, equal, oblong to suborbicular, undivided. Capsule straight in relation to pedicel, narrowly oblong to linear, much longer than calyx, dehiscing loculicidally to base; valves 2, straight, not twisted. Seeds (when known) with 1 hairlike appendage at each end.

Seven species: Bhutan, China, India, Myanmar, Nepal, Sikkim, N Vietnam; all seven species in China.

1a. Leaf blade drying papery or thick papery; bract margin entire.

2a. Leaf blade drying thick papery, villous to hirsute, margin serrate; peduncle to 7.5 cm, densely villous and glandular pubescent; calyx segments 7–9 mm, margin shallowly dentate 3. *L. mekongense*

2b. Leaf blade drying papery, glabrous, except veins abaxially sparsely puberulent, margin entire to indistinctly denticulate or repand; peduncle 6–16 cm, sparsely puberulent; calyx segments 4.5–7 mm, margin entire.

3a. Leaf blade elliptic or nearly so; peduncle 6–13.5 cm; corolla white outside, purple inside, outside pubescent 4. *L. glabrifolium*

3b. Leaf blade ovate to ovate-oblong; peduncle 14–16 cm; corolla purple, outside sparsely puberulent 5. *L. brevipetiolatum*

1b. Leaf blade drying herbaceous; bract margin entire to denticulate or serrate.

4a. Cymes branched 1–5 ×, 2–18-flowered; bracts broadly ovate to narrowly lanceolate, 3–10 × 1–8 mm, margin denticulate to repand or irregularly dentate; style glabrous.

5a. Corolla yellowish, purplish to brownish spotted inside, 3–4.2 cm; capsule 6.5–10 cm; bracts 3–6 × 1–2.5 mm 1. *L. griffithii*

5b. Corolla white to lavender, purple spotted inside, 4.2–4.8 cm; capsule 5–6 cm; bracts 5–10 × 1.6–8 mm 6. *L. fimbrisepalum*

4b. Cymes unbranched to branched 3 ×, 1–7-flowered; bracts linear to ovate-lanceolate, 1–4 × 0.5–1.5 mm, margin entire or serrulate; style densely puberulent to pubescent or glandular pubescent.

6b. Ovary densely puberulent; leaf blade 2–16 × 1–7.5 cm; bracts linear, 1–2 × ca. 0.5 mm; bract and calyx margin entire; pedicel 0.8–1.7 cm 2. *L. cavaleriei*

6a. Ovary glabrous; leaf blade 4.5–9.5 × 1.5–4 cm; bracts ovate-lanceolate, to 4 × 1.5 mm; bract and calyx margin serrulate; pedicel ca. 0.6 cm 7. *L. musetorum*

1. *Loxostigma griffithii* (Wight) C. B. Clarke in A. & C. de Candolle, Monogr. Phan. 5: 60. 1883.

紫花苣苔 *zi hua ju tai*

Didymocarpus griffithii Wight, Ill. Ind. Bot. 2: 182.

1850; *Dichrotrichum griffithii* (Wight) C. B. Clarke.

Stems to 1 m, pubescent, glabrescent, branched. Leaves opposite, spread along stem, unequal to subequal in a pair; petiole 0.5–5 cm, puberulent; leaf blade elliptic to

ovate or obovate, often oblique, 4–19 × 1.8–10.5 cm, adaxially sparsely appressed pubescent, abaxially sparsely puberulent to glabrescent, puberulent along veins, base oblique, cuneate to subcordate, margin serrate to crenate-serrulate, apex acuminate to acute. Cymes branched 1–5 ×, 2–10-flowered; peduncle 2–13 cm, puberulent; bracts ovate to narrowly lanceolate, 3–6 × 1–2.5 mm, margin irregularly dentate. Pedicel 0.8–2 cm. Calyx 5-sect from near base; segments equal,

narrowly lanceolate to broadly ovate or oblanceolate, 5–9 × 1.5–7 mm, margin denticulate to entire. Corolla yellowish, purplish to brownish spotted inside, 3–4.2 cm, outside sparsely glandular puberulent to pubescent, inside puberulent; tube 2.8–3 × 1.6–2 cm; adaxial lip lobes semiorbicular, 5–6 × ca. 5 mm; abaxial lip lobes oblong to ovate, 4–10 × 5–8 mm. Adaxial stamens ca. 1.4 cm, abaxial ones ca. 1.8 cm, glabrous; staminode ca. 1.5 mm. Pistil 1.9–3.1 cm, glabrous. Style 7–12 mm. Capsule 6.5–10 cm. Seed appendages 1–2 mm. Fl. Sep–Dec, fr. Nov–Mar.

On trees or rocks in forests; 600–2600 m. Guangxi, Guizhou, SW Sichuan, Xizang (Medog Xian), SW and SE Yunnan [Bhutan, NE India, Myanmar, Nepal, N Vietnam].

2. *Loxostigma cavaleriei* (H. Léveillé & Vaniot) B. L. Burtt, Notes Roy. Bot. Gard. Edinburgh 22: 310. 1958.

滇黔紫花苣苔 dian qian zi hua ju tai

Didissandra cavaleriei H. Léveillé & Vaniot in H. Léveillé, Compt. Rend. Assoc. Franç. Avancem. Sci. 34: 425. 1906; *Briggsia cavaleriei* (H. Léveillé & Vaniot) Craib; *Didymocarpus cavaleriei* (H. Léveillé & Vaniot) H. Léveillé (1906), not *D. cavaleriei* H. Léveillé (1911).

Stems 7–30 cm, pubescent to puberulent, usually simple. Leaves opposite, spread along stem or crowded near apex, unequal to subequal in a pair; petiole 0.5–3(–4.2) cm, densely pubescent to puberulent; leaf blade narrowly elliptic to narrowly ovate or narrowly obovate, 2–16 × 1–7.5 cm, adaxially sparsely appressed puberulent, abaxially very sparsely puberulent, denser along veins, base oblique, cuneate to subcordate, margin serrate to crenulate, apex acuminate to acute. Cymes unbranched to branched 3 ×, 1–7-flowered; peduncle 1.3–6 cm, glandular puberulent; bracts linear, 1–2 × ca. 0.5 mm, margin entire. Pedicel 0.8–1.7 cm. Calyx 5-sect from base to near base; segments equal, lanceolate to ovate, 5–6 × 1–2 mm, margin entire. Corolla pink to white, inside sometimes red, purple, or brown spotted, 3.5–4 cm, outside pubescent, inside subglabrous; tube 2.5–3 × 1.4–1.7 cm; adaxial lip lobes semiorbicular, ca. 4.5 mm; abaxial lip lobes obovate, 1–1.1 cm × 5–6 mm. Adaxial stamens ca. 1 cm, abaxial ones ca. 1.5 cm, glabrous; staminode ca. 3.5 mm. Pistil 1.2–2.5 cm, densely puberulent. Style ca. 5 mm. Capsule 3.8–6 cm. Seed appendages 0.4–1 mm. Fl. Jul–Sep, fr. Oct–Nov.

• On tree trunks in forests; 600–1600 m. Guangxi (Napo Xian, Rongshui Xian), S Guizhou, Yunnan (Xichou Xian).

According to Burtt & Lauener (Notes Roy. Bot. Gard. Edinburgh 38: 469. 1980), another possible synonym is *Lysionotus cavaleriei* H. Léveillé (1909), not H. Léveillé (1911). Unfortunately, its type has not been found (Burtt, pers. comm.).

3. *Loxostigma mekongense* (Franchet) B. L. Burtt, Notes Roy. Bot. Gard. Edinburgh 22: 310. 1958.

澜沧紫花苣苔 lan cang zi hua ju tai

Roettlera mekongensis Franchet, Bull. Mus. Hist. Nat. (Paris) 5: 252. 1899; *Loxostigma forrestii* J. Anthony. Stems to 60 cm, densely villous, usually simple. Leaves opposite, spread along stem, unequal in a pair; petiole 0.8–2.5 cm, villous; leaf blade ovate to broadly ovate, 4–15 × 2–7 cm, villous to hirsute, base oblique, broadly cuneate to cordate, margin serrate, apex acuminate to acute. Cymes branched 2–4 ×, 5–12-flowered; peduncle to 7.5 cm, densely villous and glandular pubescent; bracts ovate to narrowly oblong, 4–6 × 1.3–2 mm, margin entire. Pedicel 0.8–2 cm. Calyx 5-sect from base; segments equal, lanceolate, 7–9 × ca. 2 mm, margin shallowly dentate. Corolla white, flushed purple, 3.5–4 cm, outside glandular puberulent, inside glabrous; tube 1.8–2.8 × 1.4–1.7 cm; adaxial lip lobes semiorbicular, 2–5 × 2–4 mm; abaxial lip lobes oblong, 3–4 × ca. 4 mm. Adaxial stamens ca. 1.5 cm, abaxial ones ca. 1 cm, glabrous. Pistil 2–3 cm; ovary glabrescent. Style ca. 1 cm, pubescent to densely pubescent. Immature capsule to 5.5 cm. Fl. Jul, Oct, fr. Oct.

• Rocks or cliffs in valleys; ca. 2100 m. NW Yunnan.

4. *Loxostigma glabrifolium* D. Fang & K. Y. Pan ex W. T. Wang & K. Y. Pan, Bull. Bot. Res., Harbin 2(2): 140. 1982.

光萼紫花苣苔 guang e zi hua ju tai

Stems 10–22 cm, sparsely puberulent, glabrescent, simple, several borne from a node of rhizome. Leaves opposite, spread along stem, unequal to subequal in a pair; petiole 0.5–3 cm, sparsely pubescent; leaf blade elliptic or nearly so, 7–24.5 × 3–10.5 cm, glabrous, abaxially sparsely puberulent along veins, base oblique, cuneate to slightly rounded, margin entire to indistinctly denticulate, apex acuminate. Cymes branched 2–5 ×, 3–10-flowered; peduncle 6–13.5 cm, sparsely puberulent; bracts lanceolate to oblong, 2–5 × 0.6–1.5 mm, margin entire. Pedicel 0.5–2.5 cm. Calyx 5-sect from near base; segments equal, lanceolate to triangular, 5–7 × 1–2 mm, margin entire. Corolla white, inside purple, 2.5–4 cm, outside pubescent, inside glabrous; tube 2.2–3.5 × 1.3–1.7 cm; adaxial lip lobes semiorbicular, 5–6 × 5–6 mm; abaxial lip ca. 7 mm, lobes semiorbicular, 5–6 × 7–10 mm. Adaxial stamens ca. 8 mm, abaxial ones ca. 1 cm, glabrous; staminode ca. 0.5 mm. Pistil 2–2.1 cm; ovary densely puberulent to glandular pubescent. Style ca. 1.2 mm, minutely pilose to densely glandular pubescent. Capsule 7.5–8 cm. Seed appendages 0.4–0.5 mm. Fl. Oct.

• Trees, limestone cliffs; ca. 1200 m. SW Guangxi (Napo Xian), Guizhou (Zhenfeng Xian), SE Yunnan (Hekou Xian).

5. *Loxostigma brevipetiolatum* W. T. Wang & K. Y. Pan, Bull. Bot. Res., Harbin 2(2): 142. 1982.

短柄紫花苣苔 *duan bing zi hua ju tai*

Stems ca. 45 cm, sparsely puberulent, subglabrescent, sometimes branched. Leaves opposite, spread along stem, subequal in a pair; petiole 0.5–2.5 cm, sparsely puberulent; leaf blade ovate to ovate-oblong, 9–17 × 4–7.2 cm, glabrous, abaxially sparsely puberulent along veins, base oblique, rounded to cuneate, margin repand, apex acuminate. Cymes branched 2–5 ×, ca. 10-flowered; peduncle 14–16 cm, sparsely puberulent; bracts lanceolate to ovate, 3–4 × 1.5–1.8 mm, margin entire. Pedicel 1.6–2 cm. Calyx 5-sect from near base; segments equal, lanceolate, 4.5–6 × ca. 2 mm, margin entire. Corolla purple, ca. 3.3 cm, outside sparsely puberulent, inside glabrous; tube 1.8–2 × 1–1.7 cm; adaxial lip lobes semiorbicular, 4–5 × ca. 5 mm; abaxial lip ca. 1.5 cm, central lobe broadly ovate, ca. 8 × 10 mm, lateral ones ovate, 6–7 × ca. 8 mm. Adaxial stamens ca. 1 cm, abaxial ones ca. 1.3 cm, glabrous; staminode ca. 2 mm. Pistil ca. 1.6 cm; ovary densely puberulent. Style ca. 1 cm, sparsely puberulent. Fruit unknown. Fl. Nov.

- Mixed forest; 1200–1500 m. Guangxi (Bose Xian), SE Yunnan.

6. *Loxostigma fimbrisepalum* K. Y. Pan in W. T. Wang & K. Y. Pan, *Bull. Bot. Res.*, Harbin 2(2): 143. 1982.

齿萼紫花苣苔 *chi e zi hua ju tai*

Stems 60–100 cm, sparsely puberulent, glabrescent, usually simple. Leaves opposite, spread along stem, unequal to subequal in a pair; petiole 0.5–4 cm, sparsely pubescent; leaf blade ovate to broadly elliptic, 8–19 × 3.2–8 cm, adaxially sparsely appressed puberulent, abaxially glabrous to sparsely appressed puberulent, base oblique, cuneate to slightly rounded, margin repand to serrulate, apex acuminate. Cymes branched 2–5 ×, 5–18-flowered; peduncle 5–18 cm, sparsely puberulent, glabrescent; bracts ovate to broadly ovate, 5–10 × 1.6–8 mm, margin denticulate to repand. Pedicel 1–2 cm. Calyx 5-sect from near base; segments equal, ovate to broadly triangular, 6–8 × 3–5 mm, margin denticulate to entire. Corolla white to lavender, purple spotted inside, 4.2–4.8 cm, outside sparsely pubescent, inside glabrous; tube 3–3.5 × 1.5–2 cm; adaxial lip ca. 6 mm, lobes semiorbicular, 4–5 × 4–5 mm; abaxial lip 1–1.2 cm, lobes semiorbicular, 4–5 × 6–7 mm. Adaxial stamens ca. 1.7 cm, abaxial ones ca. 2.5 cm, glabrous; staminode ca. 2 mm. Pistil 2.2–2.5 cm, glabrous. Style 1.1–1.3 cm. Capsule 5–6 cm. Seed appendages 1.1–1.2 mm. Fl. Sep–Nov.

- Rock crevices, on limestone, or epiphytic in forests; 900–1600 m. Guangxi (Bose Xian), SE Yunnan.

7. *Loxostigma musetorum* H. W. Li, *Bull. Bot. Res.*, Harbin 3(2): 3. 1983.

蕉林紫花苣苔 *jiao lin zi hua ju tai*

Stems 20–30 cm, densely puberulent, simple. Leaves opposite, spread along stem, unequal to subequal in a pair; petiole 0.5–2 cm, densely puberulent; leaf blade narrowly ovate to ovate, 4.5–9.5 × 1.5–4 cm, adaxially pubescent, abaxially glabrescent except puberulent veins, base oblique, cuneate to rounded, margin serrate, apex acuminate. Cymes unbranched to branched 2 ×, 1–4-flowered; peduncle to 4.5 cm, densely puberulent; bracts ovate-lanceolate, to 4 × 1.5 mm, margin serrulate. Pedicel ca. 0.6 cm. Calyx 5-sect from near base; segments equal, ovate-lanceolate, ca. 7 × 4 mm, margin serrulate. Corolla white, purple spotted inside, ca. 3 cm, outside densely glandular puberulent, inside glabrous; tube ca. 2 × 1.2 cm. Adaxial stamens ca. 9 mm, abaxial ones ca. 1 cm, glabrous; staminode ca. 3 mm. Pistil ca. 1.5 cm; ovary glabrous. Style 6–7 mm, puberulent to pubescent. Fruit unknown. Fl. Oct.

- *Musa* thickets; ca. 1300 m. SE Yunnan (Maguan Xian).

