

6. **TREMACRON** Craib, Notes Roy. Bot. Gard. Edinburgh 10: 217. 1918.

短檐苣苔属 duan yan ju tai shu

Herbs, perennial, epipetric or terrestrial, rhizomatous, stemless. Leaves many, basal; leaf blade villous to puberulent, base attenuate to cordate. Inflorescences sometimes umbel-like, lax, axillary, 1- to many-flowered cymes; bracts 2, opposite. Calyx actinomorphic, 5-sect from base; segments equal. Corolla yellow to red or white, zygomorphic, inside usually glabrous; tube subcampanulate to funnelform-tubular, not swollen, 5–6 × longer than limb, 3–7 mm in diam.; limb 2-lipped; adaxial lip emarginate to nearly entire, extremely short, extending only slightly beyond mouth; abaxial lip 3-lobed, central lobe longer than laterals, apex rounded. Stamens 4, adnate to corolla near base, all or only abaxial ones exserted; anthers basifixed, free, thecae parallel, divergent at base, confluent at apex, dehiscent longitudinally; connective not projecting; staminode 1, rarely absent, adnate to adaxial side of corolla tube. Disc ringlike. Ovary narrowly oblong, 1-loculed; placentas 2, parietal, projecting inward, 2-cleft. Stigmas 2, equal, oblate, undivided, rarely 2-lipped. Capsule straight in relation to pedicel, oblong lanceolate to narrowly oblong, much longer than calyx, dehiscent loculicidally to base; valves 2, straight, not twisted. Seeds unappendaged.

• Seven species: endemic to China.

- 1a. Corolla red; leaf blade length 3–5 × width ..... 7. *T. rubrum*
- 1b. Corolla yellow to orange or white; leaf blade length usually less than 2 × width, rarely length to 3 × width.
  - 2a. Cymes 1–3-flowered; peduncle puberulent or puberulent and villous, without glandular hairs, 3–8.5 cm.
    - 3a. Petiole to 7 cm; leaf blade adaxially white puberulent, base cordate; pedicel ca. 1 cm; corolla white, abaxial lip purplish, 0.6–0.8 cm, tube subcampanulate, urceolate; pistil ca. 4 mm ..... 5. *T. begoniifolium*
    - 3b. Petiole to 2 cm; leaf blade adaxially white villous, base broadly cuneate; pedicel 2–2.5 cm; corolla orange, ca. 1.2 cm, tube funnelform-tubular; pistil 8.5–10 mm ..... 6. *T. aurantiacum*
  - 2b. Cymes 3–15-flowered; peduncle villous and glandular puberulent and sometimes pubescent, 4–20 cm.
    - 4a. Leaf blade 3–12(–17) × 2–4(–6) cm, margin serrate or double serrate to deeply crenate-serrate, adaxially white appressed puberulent and sparsely rust-brown villous ..... 1. *T. forrestii*
    - 4b. Leaf blade 1–6 × 1–4 cm, margin crenate to serrate or dentate, adaxially densely white to gray villous, puberulent, or sericeous and pubescent, without rust-brown hairs.
      - 5a. Leaf blade adaxially densely white villous; peduncle 8–11 cm; bracts puberulent ..... 2. *T. urceolatum*
      - 5b. Leaf blade adaxially densely sericeous and pubescent or white puberulent; peduncle 7–20 cm; bracts villous.
        - 6a. Petiole to 1(–2.5) cm; leaf blade adaxially densely sericeous and pubescent, abaxially pubescent, veins densely long villous; corolla white to greenish white; pistil pubescent to glabrescent ..... 3. *T. mairei*
        - 6b. Petiole to 4 cm; leaf blade appressed white puberulent on both surfaces; corolla yellow; pistil glabrous ..... 4. *T. obliquifolium*

1. **Tremacron forrestii** Craib, Notes Roy. Bot. Gard. Edinburgh 10: 217. 1918.

短檐苣苔 duan yan ju tai

Petiole to 3(–6) cm, densely rust-brown villous; leaf blade narrowly elliptic to ovate or obovate, 3–12(–17) × 2–4(–6) cm, adaxially densely white appressed pubescent and sparsely rust-brown villous, abaxially white rust-brown pubescent, rust-brown villous along veins, base cuneate to attenuate, margin serrate or double serrate to deeply crenate-serrate, apex obtuse to

acute. Cymes 4–15-flowered; peduncle 4–20 cm, sparsely brownish villous and glandular puberulent or pubescent; bracts (2–)5–6(–10) × 1–1.7(–4) mm, pubescent. Pedicel 1–2.8 cm. Calyx segments narrowly triangular or narrowly to broadly lanceolate, 2–4 mm, outside sparsely pubescent and villous. Corolla pale yellow to greenish yellow, (5–)8–11 mm; tube subcampanulate, sometimes urceolate, 6–9 × 4–6 mm; adaxial lip ca. 1 mm; abaxial lip lobes semiorbicular, central lobe ca. 2 × 2–3 mm, lateral lobes ca. 1.2 × 2–3 mm. Stamens exserted, 8–11 mm; staminode 1, ca. 2

mm. Pistil 1–1.7 cm, glabrous; ovary 3.5–8 mm. Capsule 2.8–3.8 cm. Fl. Jun–Sep, fr. Aug–Sep.

• Rocks in forests; 2600–4300 m. SW Sichuan, C and NW Yunnan.

**2. *Tremacron urceolatum*** K. Y. Pan, Acta Phytotax. Sin. 26: 429. 1988.

木里短檐苣苔 *mu li duan yan ju tai*

Petiole to 2 cm, densely pale brown villous; leaf blade broadly ovate, 3–5 × 2.5–4 cm, adaxially densely white villous, abaxially sparsely puberulent, pale brown villous along veins, base cuneate, margin crenate to serrate, apex rounded to obtuse. Cymes ca. 7-flowered; peduncle 8–11 cm, pale brown villous and glandular puberulent; bracts 2–3 × ca. 0.3 mm, puberulent. Pedicel 1.5–3 cm. Calyx segments oblong lanceolate, ca. 2.5 mm, outside puberulent. Corolla yellow, ca. 1 cm; tube subcampanulate, ca. 8 × 6–7 mm; adaxial lip ca. 0.3 mm; abaxial lip lobes rounded, central lobe ca. 2 × 2 mm, lateral ones ca. 1 × 2 mm. Stamens exerted, 7–10 mm; staminode 1, ca. 0.8 mm. Pistil ca. 7 mm, glabrous; ovary ca. 5.5 mm. Fruit and seeds unknown. Fl. Jul.

• *Pinus yunnanensis* forests; ca. 2600 m. Sichuan (Muli Xian).

**3. *Tremacron mairei*** Craib, Notes Roy. Bot. Gard. Edinburgh 10: 218. 1918.

东川短檐苣苔 *dong chuan duan yan ju tai*

*Oreocharis mairei* H. Léveillé.

Petiole to 1(–2.5) cm, densely brown villous; leaf blade lanceolate-ovate to broadly ovate, 1–4.5 × 1–2.5 cm, adaxially densely sericeous and pubescent, abaxially pubescent, densely long villous along veins, base cuneate to rounded, margin dentate or crenate-serrate, apex acute to rounded. Cymes 3–10-flowered; peduncle 7–18 cm, sparsely villous and glandular pubescent; bracts 2.5–4 × 1–1.5 mm, villous. Pedicel 0.7–2.3 cm. Calyx segments narrowly lanceolate to narrowly triangular, 2.5–4 mm, outside villous. Corolla white to greenish white, 1–1.2 cm; tube subcampanulate, sometimes urceolate, 8–9 × 4.5–6 mm; adaxial lip 0.5–1 mm; abaxial lip ca. 3 mm, lobes rounded, central lobe 1–1.5 mm, lateral ones 0.4–1 mm. Abaxial 2 or all stamens exerted, 0.7–1.3 cm; staminode 1, 1–2 mm. Pistil ca. 1.4 cm, pubescent to glabrescent; ovary 4–7 mm. Capsule 2–3 cm. Fl. Jul–Aug, fr. Sep.

• Rocks; 1800–2600 m. Yunnan (Dongchuan Xian).

**4. *Tremacron obliquifolium*** K. Y. Pan, Acta Phytotax. Sin. 26: 429. 1988.

狭叶短檐苣苔 *xia ye duan yan ju tai*

Petiole to 4 cm, brownish villous; leaf blade ovate to narrowly ovate, 2–6 × 1.5–3.5 cm, white to gray appressed puberulent, base oblique, broadly cuneate to cuneate, margin crenate to serrate, rarely dentate, apex obtuse to acute. Cymes 6–9-flowered; peduncle 13–20 cm, pale brown villous and glandular puberulent; bracts 2–5 × ca. 1 mm, villous. Pedicel 1–1.5 cm. Calyx segments linear, 2.5–3 mm, outside puberulent. Corolla

yellow, 8–9 mm; tube subcampanulate, 6–8 × 3–5 mm; adaxial lip 0.5–1 mm; abaxial lip lobes semiorbicular, ca. 1 mm. Abaxial stamens exerted, ca. 1.1 cm, adaxial ones equalling corolla, ca. 6 mm; staminode 1, ca. 0.3 mm. Pistil ca. 6 mm, glabrous; ovary ca. 4 mm. Capsule 2–2.5 cm. Fl. Jul–Aug.

• Rocks; 1500–1800 m. SW Sichuan (Muli Xian, Yanyuan Xian).

**5. *Tremacron begoniifolium*** H. W. Li, Bull. Bot. Res., Harbin 3(2): 12. 1983.

景东短檐苣苔 *jing dong duan yan ju tai*

Petiole to 7 cm, densely white puberulent; leaf blade broadly ovate to orbicular, 1.3–3.5 × 1–3 cm, densely white puberulent, base cordate, margin coarsely crenate to crenate-serrate, apex rounded. Cymes 1–3-flowered; peduncle 3–8.5 cm, densely white puberulent; bracts 2–4 × 0.5–1 mm, sparsely pubescent to pilose. Pedicel ca. 1 cm. Calyx segments linear-lanceolate to ovate-oblong, 2–3.5 mm, outside sparsely pubescent to pilose. Corolla white, purplish on abaxial lip, 6–8 mm; tube subcampanulate, urceolate, ca. 5 × 4 mm; adaxial lip ca. 1 mm; abaxial lip ca. 2 mm, lobes ovate-elliptic. Stamens exerted, 6–7.5 mm; staminode 1, ca. 1 mm. Pistil ca. 5.5 mm, glabrous; ovary ca. 4 mm. Capsule ca. 2.5 cm. Fl. Sep, fr. Nov.

• Rocks in evergreen broad-leaved forests; 2100–2800 m. Yunnan (Jingdong Xian).

**6. *Tremacron aurantiacum*** K. Y. Pan, Acta Phytotax. Sin. 26: 431. 1988.

橙黄短檐苣苔 *cheng huang duan yan ju tai*

Petiole to 2 cm, brown villous; leaf blade ovate to sub-orbicular, 3–4 × 2–3 cm, adaxially white villous, abaxially densely puberulent, densely pale brown villous along veins, base broadly cuneate, margin shallowly crenate to crenate-serrate, apex obtuse to rounded. Cymes 1–3-flowered; peduncle 3–5 cm, puberulent and sparsely villous; bracts ca. 1.5 mm, brown villous. Pedicel 2–2.5 cm. Calyx segments narrowly oblong, ca. 2 mm, outside sparsely villous. Corolla orange-yellow, ca. 1.2 cm; tube funnelform-tubular, ca. 9 × 4 mm; adaxial lip ca. 1 mm; abaxial lip lobes rounded, ca. 3 mm. Stamens exerted, abaxial ca. 1.3 cm, adaxial ca. 1.6 cm; staminode apparently absent. Pistil 1–1.5 cm, glabrous; ovary 8.5–10 mm. Fruit unknown. Fl. Aug.

• Rocky slopes; ca. 1000 m. S Sichuan (Mabian Xian, Pingshan Xian).

**7. *Tremacron rubrum*** Handel-Mazzetti, Symb. Sin. 7: 877. 1936.

红短檐苣苔 *hong duan yan ju tai*

Petiole to 4 cm, yellow-brown villous; leaf blade elliptic-lanceolate, 3–15 × 1–3(–5) cm, sericeous-strigose, abaxially pale yellow villous along veins, base narrowly cuneate, margin shallowly crenate-serrate, apex acute to obtuse. Cymes 5–15-flowered; peduncle 7–13 cm, pubescent and glandular pubescent, rust-brown villous; bracts 4–5 × ca. 1 mm, pubescent.

Flora of China 18: 261–263. 1998.

Pedicel 0.5–3 cm. Calyx segments lanceolate, 3–4 mm, outside densely pubescent. Corolla red, 7–10 mm; tube funnelform-tubular, 4–6 × 3–5 mm; adaxial lip ca. 1 mm; abaxial lip ca. 1.5 mm, central lobe ovate-triangular, lateral lobes semiorbicular, apex rounded. Stamens exserted, 1–1.5 cm; staminode 1. Pistil 7–12 mm, sparsely glandular pubescent; ovary 5–9 mm. Immature capsule ca. 3.2 cm. Fl. Sep–Oct.

• Yunnan (Dayao Xian).

The above description is adapted from the protologue and photographs of type specimens.

