
唇柱苣苔属 chun zhu ju tai shu

Babactes A. P. de Candolle ex Meisner; Ceratocysphys W. Y. Chun; Deltocheilos W. T. Wang.

Herbs, perennial or rarely annual, terrestrial or epipetric, often rhizomatous, stemless or with simple or branched stems. Leaves few to many, basal or along stem and opposite, seldom in whorls of 3 or alternate, unequal to equal in a pair; leaf blade puberulent to villous or velutinous, rarely glabrous, base cuneate to cordate, rarely attenuate. Inflorescences umbel-like, lax or dense, axillary, 1- to many-flowered cymes; bracts 2, opposite, rarely to 7 and whorled, 1, or absent. Calyx actinomorphic or slightly zygomorphic, 5- to 19-loculed; segments equal to subequal. Corolla purple to blue or white to yellow, pink or purple-red, rarely flesh colored, zygomorphic, inside puberulent, glandular puberulent, or glabrous; tube funnelform-tubular to campanulate or cylindrical, not swollen or gibbous abaxially, longer than limb, 0.2–2 cm in diam.; limb 2- to 4-lipped; adaxial lip 2-lobed, slightly to 2–5 x shorter than abaxial lip; abaxial lip 3- to 5-lobed, lobes equal or central lobe longer, apex rounded, rarely to obtuse. Stamens 2, adnate to abaxial side of corolla tube near or above middle, included; anthers dorsifixed, coherent, thecae divaricate, confluent at apex, dehiscing longitudinally; connective not projecting; staminodes (absent or 1–3), adnate to abaxial or adaxial and abaxial sides of corolla tube. Disc ringlike. Ovary linear, 1- to 7-loculed; placentas 2, parietales, projecting inward, seldom 2-2–3- to 5-loculed, abaxial locule sterile, or placenta 1, axile, projecting inward, 2-cleft. Stigma 1, abaxial, oblong to oblong, flabellate, obtrapeziform, or lamelliform, 2- to 3-lobed. Capsule straight, rarely oblique in relation to pedicel, linear to very narrowly ovoid, much surpassing calyx, dehiscing loculicidally to base, rarely only adaxial locule dehiscing; valves 2 or 4, straight, not twisted. Seeds unappendaged.

About 140 species: Bhutan, Borneo, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam; 99 species in China. CHIRITA is divided into two sections: *Gibbosaccus* C. B. Clarke (approximately 91 species in China and Vietnam; spp. 1–81 in China), *Chirita* sect. *Gibbosaccus* (about 39 species in Borneo, China, India, Laos, Myanmar, Nepal, Thailand, Vietnam; spp. 82–98 in China), and *Chirita* sect. *Microchirita* C. B. Clarke (about 18 species in Borneo, China, Indonesia, Malaysia, Thailand, Vietnam; sp. 99 in China). The last section consists of annuals (rarely perennials) with peduncles ± fused to the petiole and anthers fused only by projections on their connectives. The first two sections are usually perennials (rarely annuals) with peduncles free from petioles and anthers fused by their entire adaxial surfaces. Section *Gibbosaccus* has calyces 5- to 19-loculed from base or rarely 5- to 19-loculed and stigmas 0.5–3 mm wide, while sect. *Chirita* has 5- to 19-loculed calyces and stigmas 2.4–5.8 mm wide.

*Chirita umbrophila* C. Y. Wu ex H. W. Li (Bull. Bot. Res., Harbin 3(2): 38. 1983), which is known only from a fruiting specimen without persistent stigma, is impossible to determine whether it belongs in *Chirita*.

Observations of several cultivated species of *Chirita* show that the basal leaves may be ternate as well as opposite, and this may be true of others.

The margin of calyx lobes, which is of diagnostic significance in several species, varies from entire to denticulate on a single cultivated plant of *C. fimbrisepala*. Therefore, variation in these characters needs further study to determine their taxonomic value.

1a. Peduncle often fused with petiole; anthers fused by projections on connectives; plants annual 83. *C. hamosa*

1b. Peduncle never fused with petiole; anthers fused along entire adaxial surface (anthers unknown in some species); plants perennial, rarely annual.

2a. Calyx with a tube, 5- to 7-lobed, rarely 7- to 10-loculed from near base.

3a. Plants stemless, or stems prostrate and rooting at nodes.

4a. Calyx ca. 1.5 mm; corolla 0.9–1.5 cm .......................... 64. *C. hedyotidea*

4b. Calyx 7–35 mm; corolla 1.7–7 cm.

5a. Petiole to 1.5 cm wide; apical internodes of rhizome to 2.2 cm .......................... 36. *C. heterotricha*

5b. Petiole to 0.4 cm wide; apical internodes of rhizome inconspicuous, or plants not rhizomatous.

6a. Leaf blade lateral veins 4 or 5 on each side of midrib.

7a. Calyx tube 5–10 mm; ovary glabrous; leaf blade adaxially with hairs to 1.2 mm .......................... 83. *C. monantha*

7b. Calyx tube 1–3 mm; ovary glabrous; leaf blade adaxially with hairs to 1–3 mm .......................... 82. *C. briggsiodoides*

8a. Peduncle ca. 4 cm; calyx ca. 2.3 cm, 5- to 19-lobed, lobes equal; leaf blade adaxially with hairs 1–3 mm, apex acute to obtuse; style sparsely glandular puberulent; flowers always solitary 82. *C. briggsiodoides*

8b. Peduncle 3–8 cm; calyx 1.7 cm, 2-lobed, abaxial lip 4- to 5-lobed, abaxial lip entire; leaf blade adaxially with hairs 3–6.5 mm, apex obtuse to rounded; style glabrous; flowers solitary or sometimes paired .......................... 84. *C. dielsii*

6b. Leaf blade lateral veins 6–12 on each side of midrib.

9a. Calyx segments hollow and hornlike apically; petiole 4–5 cm; leaf blade base cuneate on 1 side,
broadly cuneate to rounded on other; lateral veins 7–12 on each side of midrib; peduncle 3–5 cm

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<th>86. C. corniculata</th>
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9b. Calyx segments not hollow and hornlike apically; petiole 1.8–40 cm; leaf blade base rounded to cordate or oblique, cuneate to cordate on 1 side, rounded to cordate on other; lateral veins 6–9 on each side of midrib; peduncle 3.5–25 cm.

| 10a. Calyx 0.9–1.5 cm, tube 1–7 mm; corolla 1.7–4.5 cm; bract 1 | 11a. Flowers always solitary; calyx lobes slightly unequal |
| 10b. Calyx 1.1–3 cm, tube 5–11 mm; corolla 4.4–7 cm; bracts 2 or rarely 1. |

12a. Petiole 1.8–17(–24) cm; peduncle rust-colored pubescent and villous; bracts narrowly ovate or oblong, 1–4 mm wide, rust-colored villous; corolla sparsely puberulent to sparsely pilose outside, tube narrowly funnelform; anthers densely puberulent; staminode 1

| 12b. Petiole 13–40 cm; peduncle sparsely pubescent; bracts ovate or elliptic to suborbicular, 1–10 mm wide, sparsely pubescent; corolla glabrous outside, tube tubular; anthers glabrous; staminodes 3 |

| 89. C. speciosa |

| 90. C. macrophylla |

3b. Plants stemmed, stems ± erect.

13a. Petiole to 1.5 cm wide; apical internodes of rhizome to 2.2 cm

| 36. C. heterotricha |

13b. Petiole to 0.4 cm wide; rhizome usually without conspicuous internodes, or plants not rhizomatous (rarely rhizomes unknown).

14a. At least upper 2 pairs of stem leaves crowded at stem apex.

15a. Stem leaves alternate, abaxially often purplish, especially along veins; stems rust-colored pilose

| 89. C. speciosa |

15b. Stem leaves opposite, abaxially green; stems white villous or glabrescent to glabrous.

16a. Flowers 1–10 in umbel-like fascicles in leaf axils, peduncle absent; bracts ca. 7, 6–15 mm; pedicel to 2.5 cm; calyx 1–1.4 cm, tube ca. 3 mm; anthers ca. 2 mm; ovary puberulent; stigma undivided

| 95. C. fasciculiflora |

16b. Flowers 1 or 2 per inflorescence, peduncle 1–6 cm; bracts 2, 0.5–1.7 mm; pedicel 3–5(–8.5) cm; calyx 2.4–3 cm, tube 13–19 mm; anthers ca. 4.5 mm; ovary glabrous; stigma 2-lobed

| 96. C. shuii |

14b. Stem leaves ± widely spaced.

17a. Bracts connate, forming a funnelform involucre

| 94. C. infundibuliformis |

17b. Bracts free.

18a. Stem leaves alternate

| 97. C. pycnantha |

18b. Stem leaves opposite.

19a. Bracts ovate-orbicular to subreniform, at least slightly wider than long; calyx 2-lipped, adaxial lip 4-lobed, abaxial lip entire

| 98. C. puerensis |

19b. Bracts lanceolate to ovate or obovate or elliptic to suborbicular, longer than wide; calyx 5-lobed, lobes equal or unequal, but not 2-lipped.

| 90. C. macrophylla |

20a. Petiole 13–40 cm; leaves basal and on stem

20b. Petiole 0.2–7 cm; leaves all on stem.

21a. Leaf blade abaxially densely yellow glandular; lateral veins 8–13 on each side of midrib; anthers ca. 1.5 mm

| 88. C. oblongifolia |

21b. Leaf blade eglandular; lateral veins 5–10 on each side of midrib; anthers 2–4 mm.

22a. Plants perennial; calyx 2.5–3.5 cm, tube 1–1.5 cm, lobes 1–2 cm; capsule often at under 90° to peduncle

| 91. C. urticifolia |

22b. Plants annual; calyx 0.6–1.8 cm, tube 0.3–1.2 cm, lobes 0.4–1 cm; capsule always erect.

23a. Leaf blade not purple spotted; calyx lobes not hornlike, not spreading outward at apex; petiole 0.2–4(–7) cm
23b. Leaf blade purple spotted abaxially; calyx lobes hornlike at apex, spreading; petiole 0.4–1.2 (–2.8) cm ................................................. 93. C. pumila

2b. Calyx without a tube, 5-sect from near base.

24a. Leaf blade margin shallowly to deeply pinnately lobed.

25a. Leaf blade margin deeply dentate or pinnately compound, lateral lobe margin deeply crenate or serrate to entire; lateral veins 3–10 on each side of midrib; pedicel spreading and appressed villous; calyx margin denticulate; stigma emarginate .......................... 58. C. pinnata

25b. Leaf blade margin simple, irregularly pinnately lobed or dentate to pinnately lobed basally or crenate; lateral veins 3–5 on each side of midrib; pedicel pubescent to pilose, sometimes glandular puberulent; calyx margin entire or 1- or 2-(or 3)-denticulate; stigma 2-lobed.

26a. Leaf blade margin irregularly pinnately lobed; cymes 1–4-flowered; bracts oblong or ovate to obovate, 1.5–8 (–10) mm wide; calyx segments 3–7 mm, margin 1- or 2-(or 3)-denticulate; ovary ca. 1.4 cm; capsule at ca. 90° to peduncle, ca. 3–4 cm ...................... 57. C. pinnatifida

26b. Leaf blade margin dentate to lobed basally or crenate; cymes 2–12-flowered; bracts lanceolate-linear, 0.6–1.2 mm wide; calyx segments 4–13 mm, margin entire; ovary 4–8 mm; capsule erect, 0.9–1.3 cm .................................. 41. C. juliae

24b. Leaf blade margin not lobed.

27a. Leaf blade glabrous, margin finely spiny denticulate, lanceolate-linear, seldom falcate.

28a. Cyme 2- or 3-flowered; bracts 3.0–3.5 cm; calyx 10–12 mm, segment apex attenuate; corolla 4.5–5 cm; staminodes 3 .......................... 65. C. wentsaii

28b. Cyme 5–9-flowered; bracts 0.2–1.2 cm; calyx 1.5–5 mm, segment apex acute; corolla 1.3–2 cm; staminodes 2.

29a. Bracts linear to lanceolate-linear, 9–12 mm; peduncle ca. 6 cm; pedicel 2–2.5 cm; calyx segments lanceolate-linear, 4–5 mm; corolla ca. 2 cm ........................................ 66. C. ophiopogoides

29b. Bracts narrowly triangular, 2–2.5 mm; peduncle ca. 20 cm; pedicel 0.15–0.6 cm; calyx segments triangular, ca. 1.5 mm; corolla ca. 1.3 cm ...................................... 67. C. spinulosa

27b. Leaf blade sparsely puberulent or strigose to densely pubescent, pilose, or villous, sometimes only along veins, margin entire to crenate, dentate, repand, serrate, undulate, denticulate, or rarely lobed, but not spiny denticulate; ovate, elliptic, reniform, narrowly elliptic, obovate, or oblong, seldom linear.

30a. Plants with a stem.

31a. Leaves alternate; anthers densely puberulent or woolly.

32a. Capsule erect, 3–3.6 cm; cymes 1- or 2-flowered; corolla glandular, puberulent, or glandular puberulent on yellow spot or on adaxial lip exceeding abaxial lip; ovary ca. 18 mm; stigma emarginate; leaf blade 1.5–8.5 cm, base oblique, cuneate to cordate, not peltate ........................................ 70. C. minutihamata

32b. Capsule at ca. 90° to peduncle, 1.5–2 cm; cymes 2–11-flowered; corolla glandular puberulent basally inside adaxial lip, abaxial lip exceeding adaxial lip; ovary 7–9 mm; stigma 2-lobed; leaf blade 3–15 cm, base oblique, rounded to cordate on 1 side, cuneate on other, often slightly peltate ......................................................... 71. C. cyrtocarpa

31b. Leaves opposite; anthers glabrous.

33a. Corolla glandular, puberulent, or glandular puberulent on yellow spot or on adaxial lip inside; petiole 0.5–11 cm; leaf blade 3–26 × 1.5–14 cm; cymes 2–28-flowered; peduncle 4.4–35 cm; bracts 0.9–25 mm; pedicel (0.3–)1.2–6 cm.

33b. Corolla glandular inside; petiole 0.2–3 cm; leaf blade 1–15 × 0.7–8.5 cm; cymes 1–5-flowered; peduncle 2.4–7 cm; bracts 2.6–7 mm; pedicel 0.7–1.8 cm.

34a. Ovary 2–2.3 cm; rhizome internodes inconspicuous; peduncle 20–35 cm ....... 10. C. flavimaculata

34b. Ovary ca. 1.2 cm; rhizome internodes to 2.2 cm toward apex; peduncle 4.4–21 cm 36. C. heterotricha

35a. Corolla white; leaf blade 1–6.6 × 0.9–3.5 cm, margin entire to repand or shallowly crenate; filaments glandular puberulent near apex; staminodes 2 .......................... 68. C. tibetica

35b. Corolla purple to blue with yellow throat; leaf blade 1–15 × 0.7–8.5 cm, margin dentate; filaments glabrous; staminode 1 .................................................. 69. C. forrestii

30b. Plants stemless.

36a. Calyx segment margin denticulate or serrate, at least once near apex.

37a. Leaves leathery.
38a. Cymes 7–11-flowered; peduncle ca. 12 cm; bracts 1.3–2 cm; corolla ca. 2.7 cm; leaf blade to 10 cm ................................................................. 46. *C. liboensis*

38b. Cymes 1–3-flowered; peduncle 5.5–8 cm; bracts 0.4–0.6 cm; corolla ca. 4.5 cm; leaf blade to 7 cm ................................................................. 48. *C. subrhomboidea*

37b. Leaves herbaceous or papery.

39a. Corolla tube cylindric, 2–5 mm in diam. at mouth; filaments 1.6–5.5 mm.
39b. Leaves herbaceous or papery.

40a. Bract 1; calyx ca. 2 mm; corolla ca. 1.2 cm; staminode 1; stigma not divided; petiole to 1 cm; leaf blade 1–2.2 × 0.5–0.9 cm, margin entire ........................ 63. *C. speluncae*

40b. Bracts 2; calyx 4–6 mm; corolla 2.2–3.4 cm; staminodes 3; stigma 2-lobed or 2-parted; petiole to 3.4 cm; leaf blade 1.4–5.4 × 0.6–3 cm, margin repand to indistinctly denticulate.

41a. Flowers always solitary; peduncle ca. 1.2 cm; corolla 2.5–3.4 cm, inside glabrous; filaments ca. 5.5 mm ................................................................. 60. *C. vestita*

41b. Flowers 1–6 per cyme; peduncle 2.4–4.5 cm; corolla ca. 2.2 cm, inside puberulent on limb; filaments ca. 3 mm ................................................................. 61. *C. secundiflora*

42a. Leaf blade 1.5–3.3 cm wide; cymes 1–3-flowered; corolla 2.3–2.7 cm; adaxial lip 3–3.5 mm.
42b. Leaf blade 1.9–16.5 cm wide; cymes (1–)4–15-flowered; corolla 2.5–6.4 cm; adaxial lip 6–12 mm.

43a. Corolla purplish blue, inside with longitudinal lines of very short hairs on adaxial lip; petiole 0.7–1.1 cm; leaf blade 3–4.8 cm; calyx segments ca. 5 mm; filaments glandular puberulent; anthers purple strigose at apex .......................... 23. *C. jiuwanshanica*

43b. Corolla flesh colored, inside pilose basally; petiole 2.5–3 cm; leaf blade 3–9 cm; calyx segments 7–7.5 mm; filaments glabrous; anthers glabrous .......................... 74. *C. skogiana*

44a. Corolla 2.5–3.4 cm; pistil ca. 2.1 cm; petiole 5–25 cm ............................................ 77. *C. macrodonta*

44b. Corolla 3.5–6.4 cm; pistil 2.7–3.2 cm; petiole 0.8–10 cm.

45a. Calyx 4–7 mm; corolla ca. 3.5 cm, inside sparsely pubescent basally; leaf blade 1.9–7 cm wide; cymes with up to 12 flowers ........................................ 22. *C. obtusidentata*

45b. Calyx 7–17 mm; corolla (3.5–)4–6.4 cm, inside puberulent just below adaxial lip on lines or spots; leaf blade 3.5–11 cm wide; cymes with up to 5 flowers.

46a. Peduncle to 28 cm; bract margin entire; pedicel 0.5–3.8 cm; calyx segments 0.7–1.1 (–1.5) cm, apex acute to acuminate ........................................ 29. *C. fimbrisepala*

46b. Peduncle to 10 cm; bract margin crenulate; pedicel 0.1–0.5 (–2) cm; calyx segments 1.2–1.7 cm, apex attenuate ........................................ 30. *C. verecunda*

36b. Calyx segment margin entire.

47a. Bracts 3.
47b. Bracts 1 or 2.

51a. Bract 1.
52a. Leaf blade margin entire; peduncle 1.1–2.2 cm, densely spreading villous; calyx ca. 2 mm; corolla ca. 1.2 cm, tube cylindric, mouth ca. 2 mm in diam.; filaments ca. 1.6 mm; staminode 1 ................................................................. 63. C. speluncae

52b. Leaf blade margin repand-crenate, remotely denticulate or undulate-crenate; peduncle 5–7 cm, densely or spreading puberulent; calyx 4.8–5 mm; corolla 2.8–3 cm, tube narrowly funnelform or nearly campanulate, mouth 9–15 mm in diam.; filaments 9–10 mm; staminodes 2.

53a. Leaf blade membranous; petiole 0.3–2 cm; bract subulate, ca. 1.2 mm, apex acute; corolla tube narrowly funnelform; stigma undivided .............................................. 7. C. tenuifolia

53b. Leaf blade papery; petiole 1–9 cm; bract narrowly spathelike, navicular-ovate, 15–20 mm, apex long acuminate; corolla tube nearly campanulate; stigma 2-lobed 35. C. spadiciformis

51b. Bracts 2.

54a. Leaf blade leathery.

55a. Leaf blade margin crenate or repand, rarely subentire.

56a. Leaf blade to 3.2 cm; cymes 2–4-flowered .................................................. 51. C. yungfuensis

56b. Leaf blade 4–10 cm; cymes 5–11-flowered.

57a. Corolla 3.7–4.6 cm; peduncle villous; bracts linear-lanceolate, ca. 1 mm wide, apex acute to acuminate; calyx segments apex acuminate .................................................. 44. C. sclerophylla

57b. Corolla ca. 2.7 cm; peduncle puberulent; bracts narrowly ovate, 3.5–5 mm wide, apex obtuse; calyx segments apex obtuse .................................................. 46. C. liboensis

55b. Leaf blade margin entire.

58a. Leaf blade to 4 cm, apex obtuse to rounded; cymes 1- or 2-flowered.

59a. Leaf base rounded; peduncle 5.3–5.6 cm; bracts 8–11 × ca. 4 mm; corolla ca. 2.7 cm, glabrous inside; anthers glabrous; stigma 2-lobed ............................. 50. C. parvifolia

59b. Leaf base broadly cuneate; peduncle 9–12.5 cm; bracts 4–5 × 1.6–2 mm; corolla 3.4–4 cm, puberulent at least basally inside; anthers pubescent or villous; stigma undivided.

60a. Petiole 1–5 mm; calyx segments narrowly lanceolate-linear, 6.5–7 × 1–1.2(–1.5) mm; stigma ovate, ca. 0.8 mm .................................................. 3. C. brachystigma

60b. Petiole 6–14 mm; calyx segments lanceolate, ca. 5 × 1.5–2 mm; stigma ligulate-linear, ca. 6 mm ................................................................. 5. C. atropurpurea

58b. Leaf blade 2.5–16 cm, apex acute to acuminate or attenuate, rarely rounded; cymes (1 or)2–15-flowered.

61a. Petiole absent to 1 cm; leaf blade base attenuate; stigma obtrapeziform.

62a. Leaf blade 1–2.9 cm wide; bracts 4–20 mm; pedicel 0.7–4 cm; calyx 5–8 mm; corolla 3.4–4 cm .................................................. 54. C. longgangensis

62b. Leaf blade 0.4–0.8 cm wide; bracts 4–10 mm; pedicel 0.5–1.2 cm; calyx 3.2–4 mm; corolla ca. 2.4 cm .................................................. 55. C. linearifolia

61b. Petiole 1–5 cm; leaf blade base cuneate, rarely broadly cuneate; stigma cuneate or oblong (unknown in C. minutimaculata).

63a. Cymes 7–11-flowered; bract and calyx segment apex obtuse; leaf blade apex acute to rounded .................................................. 46. C. liboensis

63b. Cymes ca. 5-flowered; bract apex acute, calyx segment apex attenuate; leaf blade apex acute.

64a. Leaf blade not spotted; bracts 5–7 mm wide; calyx segments ca. 11 mm 20. C. pseudoeburnea

64b. Leaf blade adaxially densely and minutely purple spotted; bracts 8–12 mm wide; calyx segments ca. 5.5 mm ........................................ 21. C. minutimaculata

54b. Leaf blade herbaceous or papery.

65a. Bracts 3 mm or more wide.
66a. Leaf blade with 3–6 palmate basal veins and 1–3 pinnate veins on each side of midrib distally.
67a. Leaf blade adaxially with dense, long and short hairs, abaxially puberulent, base cuneate; petiole to 9 cm; bracts 2–2.5 mm; corolla ca. 4.4 cm ........................ 31. C. langshanica
67b. Leaf blade villous on both surfaces, base cordate; petiole to 25 cm; bracts 4–10 mm;
corolla 2.5–3.4 cm ............................................................................. 77. C. macrodonta
66b. Leaf blade with 3–7 pinnate lateral veins on each side of midrib.
68a. Leaf blade 0.8–3.2 cm ................................................................. 17. C. lixiwenensis
68b. Leaf blade (2–)3–26 cm.
69a. Calyx at least 10 mm.
  70a. Petiole 0.2–2.8 cm; leaf blades appressed puberulent; peduncle 3–9 cm;
corolla ca. 4 cm, abaxial lip ca. 1.3 cm; anthers glabrous; staminodes 2; stigma undivided ................................................................. 2. C. subulatisepala
  70b. Petiole 2.5–7.5 cm; leaf surfaces sparsely strigose; peduncle 8–31.5 cm;
corolla 4.5–6 cm, abaxial lip 2–3 cm; anthers densely bearded abaxially; staminodes 3;
stigma 2-lobed ................................................................................ 78. C. macrorhiza
71a. Petiole 0.2–2.8 cm; leaf surfaces appressed puberulent; peduncle 4–12 cm; staminodes 2 ............................. 24. C. polycephala
71b. Petiole 2.5–7.5 cm; leaf surfaces sparsely strigose; peduncle 8–31.5 cm;
corolla 4.5–6 cm, abaxial lip 2–3 cm; anthers densely bearded abaxially; staminodes 3;
stigma 2-lobed ................................................................................ 78. C. macrorhiza
72a. Apical internodes of rhizome to 2.2 cm; calyx 7–17 mm; leaf blade 3–23 cm,
margin entire to indistinctly denticulate; pedicel to 6 cm ............. 36. C. heterotricha
72b. Apical internodes of rhizome inconspicuous; calyx 4–7 mm; leaf blade 2–15 cm, margin undulate-dentate, crenulate, crenate, dentate, or repand;
pedicel to 2.5 cm.
69b. Calyx less than 10 mm.
  75a. Petiole (0.2–)7–18 mm wide.
  76a. Petiole 0.2–2.8 cm; leaf blades appressed puberulent; peduncle 3–9 cm;
corolla ca. 4 cm, abaxial lip ca. 1.3 cm; anthers glabrous; staminodes 2; stigma undivided ................................................................. 2. C. subulatisepala
  76b. Petiole 2.5–7.5 cm; leaf surfaces sparsely strigose; peduncle 8–31.5 cm;
corolla 4.5–6 cm, abaxial lip 2–3 cm; anthers densely bearded abaxially; staminodes 3;
stigma 2-lobed ................................................................................ 78. C. macrorhiza
79a. Peduncle ca. 18 cm; bracts ca. 22 mm; corolla ca. 2.1 cm; anthers glabrous; pistil ca. 1 cm; stigma obovoid ...................................................... 13. *C. latinervis*

79b. Peduncle 7–13 cm; bracts 4–13(–18) mm; corolla 3.2–4 cm; anthers sparsely puberulent or bearded; pistil 2.6–2.8 cm; stigma cuneate.

80a. Leaf blade surfaces sparsely strigose; peduncle 9–13 cm; calyx segments 0.8–1 mm wide, apex acute ............................................. 39. *C. roseoalba*

80b. Leaf blade surfaces sparsely puberulent; peduncle 7–9 cm; calyx segments 1.5–2.5 mm wide, apex obtuse ...................................... 45. *C. brachytricha*

75b. Petiole to 6 mm wide.

81a. Leaves sessile or petiole to 1.4 cm.

82a. Rhizome internodes conspicuous, 0.4–2 cm; leaf blade base attenuate; anthers bearded; cymes 2–15-flowered ................................. 54. *C. longgangensis*

82b. Rhizome internodes inconspicuous; leaf blade base cuneate; anthers glabrous; cymes 4- or 5-flowered.

83a. Leaf blade margin shallowly crenate, apex obtuse to rounded; filaments glabrous; staminodes 3; stigma 2-lobed ................................................................ 26. *C. depressa*

83b. Leaf blade margin subentire to repand, apex acute; filaments glandular puberulent above middle; staminodes 2; stigma emarginate . 80. *C. atroglandulosa*

81b. Petiole (0.2–)1–9(–19) cm.

84a. Bracts to 3 mm wide.

85a. Corolla 4.5–6 cm, adaxial lip 10–15 mm, abaxial lip 20–30 mm; peduncle 8–31.5 cm; calyx 6–11 mm; petiole 2.5–7.5 cm; leaf blade sparsely strigose ........................................................ 78. *C. macrorhiza*

85b. Corolla 2.2–3.5 cm, adaxial lip 3–3.5 mm, abaxial lip 5–11 mm; peduncle 7–8 cm; calyx 3–6 mm; petiole 1–3.5 cm; leaf blade sparsely to densely puberulent.

86a. Bracts ca. 5 mm, margin remotely crenulate, apex obtuse; calyx 3–3.5 mm; corolla glabrous outside, abaxial lip ca. 5 mm; anthers glabrous; staminodes 2

86b. Bracts 8–9 mm, margin entire, apex acute; calyx ca. 6 mm; corolla puberulent outside, abaxial lip ca. 11 mm; anthers bearded; staminodes 3 ........................................................................ 25. *C. leiophylla*

84b. Bracts (4–)5–28 mm wide.

87a. Adaxial corolla lip ca. 11 mm; stigma ligulate, undivided; leaf blade 2.2–6.5 cm; bracts strigose ........................................................................ 2. *C. subulatisepala*

87b. Adaxial corolla lip 4–7 mm; stigma cuneate or obtrapeziform to oblong, 2-lobed; leaf blade 2.6–20 cm; bracts puberulent to villous.

88a. Staminodes 3; calyx densely puberulent and glandular puberulent inside ........................................................................................................ 19. *C. lungzhouensis*

88b. Staminodes 2; calyx glabrous inside.

89a. Leaf blade adaxially puberulent only near margin, abaxial surface sparsely appressed puberulent, margin repand to entire; bracts 0.9–1.8 × 0.4–0.9 cm ........................................................................ 47. *C. glabrescens*

89b. Leaf blade both surfaces puberulent, pubescent, and/or pilose, margin repand to crenate or denticulate, rarely dentate or serrate; bracts 0.6–4 × 0.4–2.7 cm.

90a. Leaf blade adaxially puberulent; staminodes ca. 0.8 mm; cymes 1–4-flowered; peduncle 4–8 cm; bracts 0.9–2.1 cm .......... 15. *C. sichuanensis*
90b. Leaf blade adaxially appressed pubescent and pilose; staminodes 3–7 mm; cymes 1–12-flowered; peduncle 5–32 cm; bracts 0.6–4 cm.
91a. Leaf blade 2.6–10(–12) cm, abaxially appressed pilose; corolla tube narrowly funnelform; peduncle 5–20 cm; bracts elliptic to broadly ovate, 0.4–2.7 cm wide; pedicel 0.6–1 cm .......................... 18. *C. lunglinensis*
91b. Leaf blade 4–20 cm, abaxially appressed pubescent and pilose; corolla tube tubular to broadly funnelform, often gibbous abaxially; peduncle 12–32 cm; bracts ovate to lanceolate, 0.4–1.6 cm wide; pedicel 0.8–2.5 cm ................................................. 56. *C. sinensis*

65b. Bracts less than 3 mm wide.
92a. Leaf blade base cordate, rarely truncate-cordate on both sides.
93a. Filaments sparsely puberulent; anthers glabrous; rhizome apical internodes to 2.2 cm; leaf blade sometimes oblique, narrowly elliptic to oblong, obovate or ovate, apex acute to obtuse; adaxial corolla lip 3–5 mm .......................................................... 36. *C. heterotricha*
93b. Filaments glabrous or sparsely glandular near apex; anthers glandular, villous, or densely bearded abaxially; rhizome internodes inconspicuous; leaf blade ovate to orbicular, oblate, or reniform, apex acute to rounded; adaxial corolla lip 5–7 mm.
94a. Leaf blade basally with 3–6 palmate veins, apically with 2 or 3 pinnate veins on each side of midrib, blade 4.5–15 × 5–16.5 cm; peduncle 8–23 cm; bract margin 3–5-glandular denticulate ............................................. 77. *C. macrodonta*
94b. Leaf blade veins all pinnate, 3–5 on each side of midrib, blade 1.6–6.8 × 1.6–6.8 cm; peduncle 3.5–13 cm; bract margin entire.
95a. Cymes 2–7-flowered; peduncle 4.5–13 cm; pedicel 1.7–7 cm; calyx 4–5 mm; corolla 2.3–2.7 cm; leaf blade adaxially appressed pilose (hairs to 5 mm); petiole 1–4.5 cm .............................................................. 49. *C. rotundifolia*
95b. Flowers solitary; peduncle ca. 3.5 cm; pedicel ca. 1 cm; calyx ca. 13 mm; corolla 4–4.5 cm; leaf blade adaxially puberulent; petiole 3–17.5 cm .. 52. *C. cordifolia*
92b. Leaf blade base decurrent, attenuate, cuneate to broadly cuneate to rounded, rarely truncate, if cordate on 1 side then other side merely cuneate or rounded.
96a. Calyx to 4 mm.
97a. Cymes 2–11-flowered; peduncle 3.5–20 cm; leaf blade 3.5–20 cm.
97b. Cymes 1–3-flowered; peduncle 2.5–7 cm; leaf blade 1.5–4.2(–4.7) cm.
98a. Leaf blade 2–3.5 cm wide, abaxially velutinous, base cuneate; petiole 0.5–2.5 cm .......................................................... 12. *C. medica*
98b. Leaf blade 2.5–10 cm wide, abaxially appressed puberulent or densely puberulent and appressed pilose, base cuneate to rounded or cordate; petiole 0.5–11 cm.
99a. Pedicel 2.5–4 cm; stigma undivided; pistil ca. 1.1 cm; bracts ca. 3.5 mm .. 8. *C. liguliformis*
99b. Pedicel 0.3–1.6 cm; stigma 2-lobed; pistil 1.2–3.7 cm; bracts 3–9 mm .... 37. *C. fordii*
100a. Calyx pilose inside; corolla ca. 1.4 cm, mouth ca. 4 mm in diam., adaxial lip ca. 2 mm, abaxial lip ca. 5.5 mm; anthers glabrous ........................................... 75. *C. napoensis*
100b. Calyx glabrous inside; corolla 3–3.5 cm, mouth ca. 1 cm in diam., adaxial lip 5–6 mm, abaxial lip ca. 1 cm; anthers puberulent or villous.
101a. Leaves ca. 8; bracts 1.2–2.2 mm; staminodes 3 .............................. 33. *C. villosissima*
101b. Leaves to 24; bracts 3–4 mm; staminodes 2 ................................. 72. *C. wangiana*
96b. Calyx at least 4 mm.
102a. Leaf blade (2–)6–24 cm.
103a. Leaf blade to 3 cm wide, margin entire.
104a. Petiole 1.5–4 cm; leaf blade apex acute to obtuse; staminodes absent; rhizome internodes inconspicuous ................................. 53. *C. bicolor*
104b. Leaves sessile or petiole to 1 cm; leaf blade apex acute to acuminate; staminodes 3; rhizome internodes conspicuous, 0.4–2 cm ........................ 54. *C. longgangensis*
103b. Leaf blade (1.5–)3.5–17 cm wide, margin crenate, crenulate, dentate, denticulate, or serrate, often repand, seldom subentire to entire.
105a. Bracts over 9 mm.
106a. Petiole to 3 cm; bract and calyx segment apex obtuse ............... 45. *C. brachytricha*
106b. Petiole (0.5–)2–17 cm; bract apex acute to acuminate (unknown in *C. depressa*, sometimes obtuse in *C. macrorhiza*), calyx segment apex acute to acuminate or attenuate.
107a. Pistil ca. 1.4 cm; stigma ligulate, undivided; corolla tube ca. 1.7 cm 6. *C. brassicoides*
107b. Pistil 2–3.3 cm; stigma cuneate, oblong, trapezoid, obtrapeziform, or obovoid, 2-lobed or rarely undivided; corolla tube 2.2–3.3 cm.
108a. Leaf blade adaxially sparsely to densely strigose; anthers sparsely puberulent to densely bearded.
109a. Bract strigose; peduncle 9–13 cm, puberulent; leaf blade base broadly cuneate, margin crenulate or remotely dentate .................... 39. *C. roseoalba*
109b. Bract puberulent or pubescent; peduncle 8–31.5 cm, villous or pubescent; leaf blade base cuneate to rounded, margin crenate to subentire or repand.
110a. Corolla tube mouth 0.9–1.3 cm in diam., abaxial lip 1.2–2 cm; staminodes 2; stigma ca. 1.2 mm; cymes 5–10-flowered ..................... 44. *C. sclerophylla*
110b. Corolla tube mouth 1.5–2 cm in diam., abaxial lip 2–3 cm; staminodes 3; stigma ca. 3.5 mm; cymes 1–6-flowered ...................... 78. *C. macrorhiza*
108b. Leaf blade adaxially sparsely to densely puberulent, sometimes also pilose; anthers glabrous.
111a. Leaf blade 3–24 cm; lateral veins 4 or 7 on each side of midrib; peduncle 4.4–30 cm.
112a. Peduncle 4.4–21 cm; apical rhizome internodes to 2.2 cm; petiole to 1.5 cm wide; bracts 0.9–25 mm ................................. 36. *C. heterotricha*
112b. Peduncle 15–30 cm; rhizome internodes inconspicuous; petiole to 3 cm wide; bracts 10–13 mm ................................. 40. *C. pteropoda*
111b. Leaf blade 6–15 cm; lateral veins 4 or 5 on each side of midrib; peduncle 4–11 cm.
113a. Petiole ca. 8 mm; leaf blade abaxially velutinous; corolla ca. 3 cm; staminodes 3 ...................................................... 26. *C. depressa*
113b. Petiole 3–17 cm; leaf blade abaxially appressed puberulent; corolla 3.5–4.5 cm; staminodes 2 ............................................. 41. *C. juliae*
105b. Bracts to 9 mm.
114a. Petiole to 3 cm.
114b. Petiole 0.5–2–17 cm.
115a. Leaf blade narrowly elliptic to oblone, densely appressed puberulent 38. *C. carnosifolia*
115b. Leaf blade broadly ovate to ovate, sparsely puberulent ....... 45. *C. brachytricha*
116a. Leaf blade sparsely strigose to strigose on both surfaces; abaxial corolla lip 1–3 cm.
117a. Corolla 2.4–4.2 cm, abaxial lip 1–2.2 cm; staminodes 2; pistil 1.5–1.7 cm; stigma undivided; bracts 2–6 mm ................................. 1. C. swinglei

117b. Corolla 4.5–6 cm, abaxial lip 2–3 cm; staminodes 3; pistil ca. 3.3 cm; stigma 2-lobed; bracts 5–16 mm ....................... 78. C. macrorhiza

116b. Leaf blade adaxially sparsely to densely puberulent and sometimes pilose, abaxially sparsely to densely puberulent and sometimes pilose, pubescent, or velutinous; abaxial corolla lip 0.6–1.5 cm.

118a. Staminode 1; anthers pilose; cymes ca. 2-flowered .......... 42. C. cruciformis

118b. Staminodes 2 or 3; anthers glabrous or seldom puberulent; cymes 2–15-flowered.

119a. Petiole (0.5–)4–17 cm; bracts to 25 mm; calyx segments to 17 mm; corolla tube mouth 0.8–1.5 cm in diam.

120a. Adaxial corolla lip 3–5 mm; anthers 2.2–3 mm; pistil 2–2.6 cm; petiole to 11 cm; leaf blade to 23 cm; bracts to 25 mm; pedicel (0.3–)1.5–6 cm; calyx 7–17 mm ........................................ 36. C. heterotricha

120b. Adaxial corolla lip 7–8 mm; anthers 3.2–3.5 mm; pistil 3–3.2 cm; petiole to 17 cm; leaf blade to 15 cm; bracts to 13 mm; pedicel 0.1–1.5 cm; calyx 4–13 mm ........................................................................ 41. C. juliae

119b. Petiole to 5.2 cm; calyx and corolla segments to 9 mm (bracts unknown in C. depressa); corolla tube mouth 0.4–0.8 cm in diam.

121a. Staminodes 3; petiole ca. 0.8 cm; leaf blade abaxially velutinous 26. C. depressa

121b. Staminodes 2; petiole (0.5–)2–5.2 cm; leaf blade abaxially densely puberulent and sometimes appressed pilose.

122a. Stigma 2-lobed; corolla tube 1.5–2.6 cm; leaf blade lateral veins ca. 4 on each side of midrib; calyx 3.5–9 mm; peduncle spreading pubescent to pilose .................................................. 37. C. fordii

122b. Stigma undivided; corolla tube ca. 1.2 cm; leaf blade lateral veins 5–7 on each side of midrib; calyx 4.5–4.8 mm; peduncle puberulent or glandular puberulent.

123a. Bracts 3–4 mm; pistil ca. 9.5 mm; calyx segment apex obtuse; cymes 3–7-flowered; leaf blade 6–9.6 cm ................................. 9. C. laxiflora

123b. Bracts 6–8 mm; pistil ca. 12.5 mm; calyx segment apex acute; cymes 8–15-flowered; leaf blade 8.5–14 cm ..................... 11. C. floribunda

102b. Leaf blade 0.8–8(–11) cm.

124a. Leaf blade margin shallowly crenate to crenate to serrate, dentate, denticulate, or undulate, indistinctly undulate-denticulate.

125a. Stigma undivided; pistil ca. 1 cm; corolla ca. 1.7 cm, glabrous inside . . 9. C. laxiflora

125b. Stigma 2-lobed, 2-parted, or emarginate; pistil (1.2–)1.5–3.7 cm; corolla 2.1–6 cm, puberulent inside basally, on adaxial lip, below stamens, near mouth, or on lobes.

126a. Leaf blade apex acute or acuminate, seldom obtuse.

127a. Stigma emarginate; filaments glabrous; leaf blade 2.8–4 × 1.6–2.4 cm; cymes 1- or 2-flowered; bract 2–5 mm ......................................................... 59. C. fangii

127b. Stigma 2-lobed; filaments sparsely puberulent or glandular puberulent at base and apex; leaf blade 2.5–11 × 1.5–7 cm; cymes 1–8-flowered; bract 3–16 mm.

128a. Corolla 2.1–3.9 cm, mouth 0.6–0.8 cm in diam., abaxial lip 7–9 mm; leaf blade puberulent and villous or pilose; peduncle 3.5–13 cm; staminodes 2 ................................................................. 37. C. fordii
128b. Corolla 4.5–6 cm, mouth 1.5–2 cm in diam., abaxial lip 20–30 mm; leaf blade sparsely strigose; peduncle 8–31.5 cm; staminodes 3 ... 78. C. macrorhiza

126b. Leaf blade apex obtuse to rounded.
129a. Leaf blade abaxially velutinous; petiole ca. 0.8 cm ................. 26. C. depressa
129b. Leaf blade abaxially puberulent, pubescent, pilose, or villous; petiole (0.5–)1–5(–6) cm.

130a. Staminodes 3; stigma 2-parted; abaxial corolla lip ca. 1.6 cm; petiole to 2.5 cm.
131a. Bracts lanceolate-linear, ca. 7 × 1–1.2 mm, apex attenuate; staminodes ca. 5 mm ................................................................. 32. C. linglingensis
131b. Bracts ovate-triangular, ca. 4 × 1.6–1.8 mm, apex obtuse; staminodes 7–14 mm ................................................................. 43. C. crassituba

130b. Staminodes 2; stigma 2-lobed; abaxial corolla lip 0.7–1.5 cm; petiole (0.5–)1–5(–6) cm.
132a. Leaf blade 0.8–3.2 × 0.8–2.8 cm; corolla ca. 2.7 cm .......... 17. C. lienxienensis
132b. Leaf blade 2–11 × 1–7 cm; corolla (2.1–)3–6 cm.

133a. Filaments glabrous; corolla 4–6 cm, mouth 1.2–2 cm in diam., adaxial lip 9–12 mm; bracts 2–14 mm; peduncle 1.5–6 cm ....... 34. C. gueilinensis
133b. Filaments sparsely puberulent at least near apex; corolla 2.1–3.9 cm, mouth 0.6–1 cm in diam., adaxial lip 3–7 mm; bracts 3–9 mm; peduncle 3–14 cm.

134a. Peduncle spreading pubescent to pilose; bracts and calyx pubescent to pilose outside; corolla tube nearly tubular, mouth 6–8 mm in diam., abaxial lip 7–9 mm; cymes 2–8-flowered ...... 37. C. fordii
134b. Peduncle villous and glandular pubescent; bracts and calyx villous outside; corolla tube funnelform, mouth ca. 1 cm in diam., abaxial lip ca. 12 mm; cymes 2– or 3-flowered .................. 79. C. liujiangensis
135a. Peduncle 0.6–1.4 cm.
136a. Calyx 10–12 mm; bracts 4–6 mm; pedicel 7–11 mm; corolla ca. 4.5 cm, mouth ca. 1.4 cm in diam.; filaments ca. 11 mm; anthers woolly; pistil ca. 3.4 cm; stigma 2-lobed, adaxial lobe 2-lobed ............... 73. C. shouchengensis
136b. Calyx 4–6 mm; bracts 0.8–3 mm; pedicel 2–5.5 mm; corolla 2–3.4 cm, mouth 2–5 mm in diam.; filaments 4.5–5.5 mm; anthers glabrous; pistil 1.9–2.2 cm; stigma merely 2-lobed or 2-parted.

137a. Corolla 2.5–3.4 cm, abaxial lip ca. 13 mm; staminodes 3; stigma 2-lobed; flowers solitary; petiole 2–30 mm; leaf blade to 5.4 cm ................. 60. C. vestita
137b. Corolla 2–2.5 cm, abaxial lip 5–7.5 mm; staminodes 2; stigma 2-parted; cymes 1–3-flowered; petiole 3–9 mm; leaf blade to 3.2 cm .................. 62. C. tenuituba

135b. Peduncle 3–31.5 cm.
138a. Leaf blade sparsely strigose; corolla 4.5–6 cm, mouth 1.5–2 cm in diam., adaxial lip 10–15 mm, abaxial lip 20–30 mm; petiole to 7.5 cm; peduncle to 31.5 cm ................................................................. 78. C. macrorhiza
138b. Leaf blade puberulent, pubescent, pilose, villous, and/or velutinous; corolla 2–4 cm, mouth 0.5–1 cm in diam., adaxial lip 3–8 mm, abaxial lip 4–15
Perennial, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.8–7.5 cm × 2–11 mm; leaf blade elliptic to ovate, obovate, or orbicular, 6–19 × 4–17 cm, herbaceous, strigose, eglandular, base often oblique, broadly cuneate to rounded or truncate, margin denticate or dentate to crenate, apex acute to rounded; lateral veins 3–7 on each side of midrib, slightly conspicuous. Cymes (1–)3–8-flowered; peduncle 2.8–19 cm, pubescent; bracts 2, free, linear to linear-lanceolate, 2–6 × 0.8–1 mm, puberulent, margin entire, apex acute. Pedicel 2–4(–8) cm, spreading puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 6–10 × 1–1.5 mm, outside densely puberulent, inside apically sparsely puberulent, margin entire, apex acute. Corolla bluish to purple, 2.4–4.2 cm, outside sparsely puberulent, inside glabrous or glandular puberulent on adaxial lip; tube campanulate to funnelform, 1.2–2.2 × 0.7–1.2 cm; adaxial lip 7–11 mm; abaxial lip 1–2.2 cm. Filaments ca. 9 mm, sparsely puberulent; anthers fused by entire adaxial surfaces, 2.5–3 mm, glabrous; staminodes 2, 1.2–2 mm. Pistil 1.5–1.7 cm, puberulent; ovary ca. 9 mm. Stigma spatulate to narrowly ovoid, 1–2 mm, undivided. Capsule erect, 2–3.5 cm. Fl. May–Sep, fr. Jul–Oct.

Forests, cliffs in valleys; 600–900 m. Guangdong (Luofushan, Zengcheng Xian), S Guangxi [N Vietnam].


钻萼唇柱苣苔 zuan e chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite;
Chirita demissa

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.5–3 cm × 1–3 mm; leaf blade elliptic to narrowly ovate or narrowly obovate, 2.5–5(–7) × 1–2 cm, papery, adaxially densely puberulent and villous, eglandular, abaxially grayish velutinous to densely pubescent, base cuneate to broadly cuneate, margin entire, apex acute to rounded; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle ca. 6 cm, densely pubescent to villous; bracts 2, free, triangular-linear, ca. 2 × 0.3 mm, pilose, margin entire, apex obtuse. Pedicel ca. 5 mm, densely spreading pilose. Calyx 5-locular from base; segments equal, lanceolate-linear, 4–5 × 0.8–1 mm, outside densely pubescent, margin entire, apex acute. Corolla white, ca. 2.3 cm, outside sparsely puberulent, inside glabrous, stamens absent. Pistil ca. 1.5 cm, puberulent; ovary ca. 5.5 mm. Stigma narrowly oblong, ca. 1 mm, undivided. Capsule erect, ca. 5 cm. Fl. Oct.

3. Chirita brachystigma

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–5 × 2.5–4 mm; leaf blade oblique, orbicular-ovate to ovate, 1.2–3 × 0.9–1.8 cm, leathery, appressed puberulent, eglandular, base broadly cuneate, margin entire, apex obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 1- or 2-flowered; peduncle 9–11.5 cm, spreading purple puberulent; bracts 2, free, lanceolate, ca. 5 × 1.6 mm, puberulent, margin entire, apex obtuse. Pedicel ca. 1.2 cm, puberulent. Calyx 5-locular from base; segments equal, narrowly lanceolate-linear, 6.5–7 × 1–1.2(–1.5) mm, outside purple puberulent, inside glabrous, margin entire, apex obtuse. Corolla ca. 3.4 cm, outside sparsely puberulent, inside densely puberulent; tube narrowly funnel-form, ca. 2.2 × 0.8 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1.2 cm. Filaments ca. 8 mm, sparsely glandular puberulent near apex; anthers fused by entire adaxial surfaces, ca. 3 mm, pubescent; staminodes 2, ca. 4.5 mm. Pistil ca. 2.2 mm, puberulent; ovary ca. 1.4 cm. Stigma ovate, ca. 0.8 mm, undivided. Immature capsule erect, ca. 6 cm. Fl. Apr–May. Fr. May.

4. Chirita atropurpurea

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 6–14 × 4 mm; leaf blade narrowly ovate to ovate, 2.2–4 × 1.3–2 cm, leathery, adaxially sparsely appressed puberulent, eglandular, abaxially densely appressed puberulent, base broadly cuneate, margin entire, apex obtuse to rounded; lateral veins invisible. Cymes 2-flowered; peduncle 9.5–12.5 cm, dark purple pubescent; bracts 2, free, narrowly ovate, 4–5 × 2 cm, densely purple villous, margin entire, apex obtuse. Pedicel 0.7–1.5 cm, puberulent. Calyx 5-locular from base; segments equal, lanceolate, ca. 5 × 1.5–2 mm, outside densely purple puberulent, inside glabrous, margin entire, apex obtuse. Corolla purple, ca. 4 cm, outside puberulent, inside puberulent basally; tube nearly tubular, ca. 3 × 1.2 cm; adaxial lip 6 mm; abaxial lip 1 cm. Filaments ca. 1.4 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 4.5 mm, villous; staminodes 3,
central 1 ca. 0.5 mm, laterals ca. 1 mm. Pistil ca. 3.2 cm, puberulent; ovary ca. 1.6 cm. Stigma ligulate-linear, ca. 6 mm, undivided. Fruit and seeds unknown. Fl. Feb.
• Limestone hills. Guangxi (Guilin Xian).


芥状唇柱苣苔 jie zhuang chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–6 cm × 3–5 mm; leaf blade broadly elliptic to elliptic-ovate, 7–15.5 × 5–14 cm, herbaceous, densely appressed puberulent, eglandular, base oblique, cordate to broadly cuneate on 1 side and cordate on other, margin irregularly crenate-dentate, apex acute to obtuse; lateral veins 6 or 7 on each side of midrib, conspicuous. Cymes ca. 6-flowered; peduncle ca. 17 cm, puberulent; bracts 2, free, linear to lanceolate-linear, 1–1.5 cm × ca. 2 mm, puberulent, margin entire, apex acute. Pedicel to 3 cm, densely spreading puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, ca. 10 × 1.2 mm, puberulent, margin entire, apex acute. Corolla purplish, ca. 2.8 cm, outside puberulent, inside sparsely puberulent below stamens; tube nearly tubular, ca. 1.7 × 0.8 cm; adaxial lip ca. 5 mm; abaxial lip ca. 1 cm. Filaments ca. 9 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 2.8 mm, glabrous; staminodes 2, ca. 2.6 mm. Pistil ca. 1.4 cm, puberulent; ovary ca. 7 mm. Stigma ligulate, ca. 1.5 mm, undivided. Fruit and seeds unknown. Fl. Jun.
• Rocks on limestone hills. SW Guangxi (Longzhou Xian).


薄叶唇柱苣苔 bo ye chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–20 × 0.6–1 mm; leaf blade elliptic, 2.2–5 × 1.1–3 cm, membranous, sparsely appressed puberulent, eglandular, base oblique, broadly cuneate, margin remotely denticulate to undulate-crenate, apex obtuse to rounded; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes 1-flowered; peduncle ca. 5 cm, densely puberulent; bract 1, subulate, ca. 1.2 × 0.3 mm, puberulent, margin entire, apex acute. Pedicel ca. 3.3 cm, puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, ca. 4.8 × 0.8 mm, outside densely puberulent, inside apically sparsely puberulent, margin entire, apex acute. Corolla purplish, ca. 2.8 cm, outside sparsely puberulent, inside glabrous; tube narrowly funnelform, ca. 1.5 × 0.9 cm; adaxial lip ca. 6 mm; abaxial lip ca. 8 mm. Filaments ca. 9 mm, sparsely puberulent; anthers fused by entire adaxial surfaces, ca. 2.2 mm, glabrous; staminodes 2, ca. 1.2 mm. Pistil ca. 1.8 cm, puberulent; ovary ca. 1 cm. Stigma ligulate, ca. 1.8 mm, undivided. Fruit and seeds unknown. Fl. Aug.
• Limestone hills. Guangxi (Donglan Xian).


舌柱唇柱苣苔 she zhu chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–11 cm × 4–9 mm; leaf blade elliptic to broadly ovate, 4–20 × 2.5–10 cm, papery, adaxially appressed pilose, eglandular, abaxially appressed puberulent, base sometimes oblique, broadly cuneate to cordate on 1 side and cuneate to rounded on other, margin undulate-crenate to dentate, apex obtuse to acute; lateral veins 4 or 5 on each side of midrib, inconspicuous. Cymes 7–11-flowered; peduncle 6–20 cm, spreading puberulent; bracts 2, free, narrowly triangular, ca. 3.5 × 1.1 mm, puberulent, margin entire, apex acute. Pedicel 2.5–4 cm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 3–3.5 × ca. 1 mm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purplish, ca. 2.2 cm, outside sparsely puberulent, inside below adaxial lip puberulent; tube funnelform-tubular, ca. 1.5 cm × 6 mm; adaxial lip ca. 3 mm; abaxial lip ca. 7 mm. Filaments ca. 1 cm, sparsely puberulent basally, black glandular near apex; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, ca. 2 mm. Pistil ca. 1.1 cm, puberulent; ovary ca. 7 mm. Stigma ligulate, ca. 2 mm, undivided. Capsule erect, 2–3 cm. Fl. Jun–Jul, fr. Jul.
• Wet valley forests; ca. 800 m. SW Guizhou (Anlong Xian, Ceheng Xian).


疏花唇柱苣苔 shu hua chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2–5 cm × 3–8 mm; leaf blade ovate to elliptic, 6–9.6 × 4–6.5 mm, herbaceous, densely puberulent, eglandular, base sometimes oblique, cuneate to nearly rounded on 1 side and cuneate on other, margin crenate to serrate or dentate, apex acute to rounded; lateral veins 5–7 on each side of midrib, conspicuous. Cymes 3–7-flowered; peduncle 8.5–15 cm, puberulent; bracts 2, free, linear, 3.4 × 0.6–0.8 mm, puberulent, margin entire, apex obtuse. Pedicel 0.3–4 cm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 4.5 × 1 mm, outside puberulent, inside apically sparsely puberulent, margin entire, apex obtuse. Corolla purple, ca. 1.7 cm, outside puberulent, inside glabrous; tube nearly tubular, ca. 1.2 × 0.6 cm; adaxial lip ca. 3 mm; abaxial lip ca. 6 mm. Filaments ca. 8.5 mm, sparsely puberulent; anthers fused by entire
adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, ca. 1.5 mm. Pistil ca. 1 cm, puberulent; ovary ca. 5.5 mm. Stigma ligulate-oblung, ca. 1.5 mm, undivided. Capsule erect, ca. 2.8 cm. Fl. Jun.

• Rocks in limestone hills, NW Guangxi (Lingyun Xian).


多花唇柱苣苔 huang ban chun zhu ju tai
Perennials, stemless or pilose stemmed. Rhizome internodes inconspicuous. Leaves basal or along stem, opposite; petiole 2–9 × 0.4–1 cm; leaf blade oblong ovate to ovate, obovate, or narrowly elliptic, 8–26 × 4.5–14 cm, papery, adaxially pilose, eglandular, abaxially pubescent, pilose along veins, base cuneate to broadly cuneate, margin nearly entire to shallowly crenate, apex acute; lateral veins 4–6 on each side of midrib, conspicuous to inconspicuous. Cymes 7–28-flowered; peduncle 20–35 cm, puberulent; bracts 2, free, narrowly triangular to navicular-triangular, 1–1.6 cm × 3–4 mm, puberulent to pilose, margin entire, apex acute. Pedicel 1.2–3 cm, glandular puberulent. Calyx 5-sect from base; segments equal, narrowly triangular to lanceolate-linear, 1–1.5 cm × ca. 2 mm, puberulent, margin entire, apex attenuate. Corolla blue-purple, with 1 yellow spot below adaxial lip, 3.2–4.5 cm, outside sparsely glandular puberulent, inside glandular puberulent on yellow spot; tube nearly tubular, 2.4–3.5 × ca. 1 cm; adaxial lip 3.5–4 mm; abaxial lip 8–10 mm. Filaments ca. 1 cm, puberulent near apex; stamens fused by entire adaxial surfaces, ca. 2.2 mm, glabrous; staminodes 3, central 1 ca. 0.8 mm, laterals 5–6 mm. Pistil 2.9–3.2 cm, densely glandular puberulent; ovary 2–2.3 cm. Stigma narrowly elliptic, 2.2–3 mm, undivided. Immature capsule ca. 3 cm. Fl. Nov.

• Known only from cultivation. First cultivated at the South China Institute of Botany in Guangzhou, Guangdong; possibly introduced from Guangxi.


多花唇柱苣苔 duo hua chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.2–5.2 × 0.5–1 cm; leaf blade narrowly elliptic to narrowly ovate, 8.5–14 × 3.8–7 cm, papery, densely appressed puberulent, eglandular, base cuneate, margin crenate, apex acute to obtuse; lateral veins 6 or 7 on each side of midrib, slightly conspicuous. Cymes 8–15-flowered; peduncle 10–12 cm, densely spreading glandular puberulent; bracts 2, free, lanceolate-linear, 6–8 × ca. 1 mm, puberulent, margin entire, apex acute. Pedicel 1.5–20 mm, densely glandular puberulent. Calyx 5-sect from base; segments equal, narrowly triangular to narrowly lanceolate-linear, ca. 4.8 × 0.6–0.9 mm, outside puberulent, inside apically sparsely puberulent, margin entire, apex acute. Corolla purple, ca. 2.1 cm, outside sparsely puberulent, inside adaxial lip puberulent basally; tube funnelform-tubular, ca. 1.2 cm × 4–6 mm; adaxial lip ca. 2.5 mm; abaxial lip ca. 8.5 mm. Filaments ca. 7 mm, sparsely glandular; stamens fused by entire adaxial surfaces, 2 mm, glabrous; staminodes 2, ca. 3 mm. Pistil ca. 1.2 cm, densely puberulent and glandular puberulent; ovary ca. 7.5 mm. Stigma obturapzoid, ca. 1.5 mm, undivided. Fruit and seeds unknown. Fl. Jun.

• Known only from cultivation. Cultivated in the Medicinal Botanic Garden of Nanning, Guangxi; possibly introduced from Jinxiou Xian, Guangxi.


药用唇柱苣苔 yao yong chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 5–25 × 5–8 mm; leaf blade narrowly ovate to elliptic, 3.5–7 × 2–3.5 cm, papery to herbaceous, adaxially with dense, short and long hairs, eglandular, abaxially velutinous, base oblique, cuneate, margin entire to repand, apex acute; lateral veins ca. 5 on each side of midrib, inconspicuous. Cymes 3–7-flowered; peduncle 8.5–11 cm, villous and glandular puberulent; bracts 2, free, lanceolate-linear, 4–7 × 1–1.2 mm, villous, margin entire, apex acute. Pedicel 3–15 mm, villous and glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 3.5–4 × 0.8–1 mm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla white, tinged pink, 1.7–2.1 cm, outside sparsely puberulent, inside basally sparsely puberulent; tube nearly tubular, 1.3–1.5 cm × 5–6 mm; adaxial lip ca. 3 mm; abaxial lip ca. 6 mm. Filaments ca. 9 mm, glabrous; stamens 2, 1.5–2.5 mm. Pistil 1.3–1.8 cm, densely puberulent; ovary ca. 7 mm. Stigma obdeltoid, ca. 1 mm, 2-lobed. Capsule erect, ca. 1.5 mm. Fl. Apr.

• Rocky crevices of limestone hills. Guangxi (Pingle Xian).


宽脉唇柱苣苔 kuan mai chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.8–3.5 × 0.5–1.8 cm; leaf blade broadly ovate to orbicular-ovate, 6–12 × 5–12 cm, papery, sparsely appressed puberulent, eglandular, base nearly truncate to truncate on 1 side and broadly cuneate on other, margin undulate-dentate to repand, apex acute to rounded; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes ca. 10-flowered; peduncle ca. 18 cm, spreading pubescent; bracts 2, free, lanceolate, ca. 2.2 cm × 5–7 mm, appressed puberulent, margin entire, apex obtuse. Pedicel to 1.6 cm, puberulent. Calyx 5-sect from base; segments equal, narrowly triangular to lan-
ceolate-linear, ca. 6 × 1.1 mm, outside puberulent, inside apically puberulent with very short hairs, margin entire, apex acute. Corolla blue-purple, ca. 2.1 cm, sparsely puberulent; tube nearly tubular, ca. 1.3 cm × 7 mm; adaxial lip ca. 5 mm; abaxial lip ca. 8 mm. Filaments ca. 8 mm, sparsely glandular puberulent near apex; anthers fused by entire adaxial surfaces, ca. 4 mm, glabrous; staminodes 2, ca. 2.2 mm. Pistil ca. 1 cm, puberulent; ovary ca. 6 mm. Stigma ovobvoid, ca. 1.2 mm, 2-lobed. Fruit and seeds unknown. Fl. Aug.

- Damp rocks at cave entrances; ca. 300 m. S Hunan (Xinning Xian).


四川唇柱苣苔 si chuan chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–3.5 cm × 3–6 mm; leaf blade narrowly ovate to narrowly elliptic, 7–11 × 3–4.2 cm, herbaceous, densely puberulent, eglandular, base oblique, cuneate, margin densely crenulate to dentate or serrulate, apex acute to rounded; lateral veins 5 or 6 on each side of midrib, slightly conspicuous. Cymes 2–8-flowered; peduncle 7–8 cm, spreading puberulent; bracts 2, free, ovate, ca. 5 × 3 mm, puberulent, margin remotely crenulate, apex obtuse. Pedicel 4–13 mm, puberulent and glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate, ca. 6 × 0.9 cm; adaxial lip ca. 5 mm. Filaments ca. 9 mm, sparsely puberulent and glandular above; anthers fused by entire adaxial surfaces, ca. 2.5 mm, glabrous; staminodes 2, ca. 1.5 mm. Pistil ca. 2.1 cm, puberulent; ovary ca. 1 cm. Stigma oblong, ca. 2 mm, 2-lobed. Capsule erect, 2.5–3 cm. Fl. May.

- Rocks in hilly regions. N Guangdong (Liannan Xian).


四川唇柱苣苔 si chuan chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.5–5 cm × 2–4 mm; leaf blade ovate to elliptic, 2.9–11.5 × 1.5–6.5 cm, papery, puberulent, eglandular, base often oblique, cuneate on 1 side and broadly cuneate on other, margin repand-crenate to denticulate, apex acute to obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 1–4-flowered; peduncle 4–8 cm, spreading puberulent; bracts 2, free, ovate to nearly elliptic, 0.9–2.1 × 0.5–1.2 cm, puberulent, margin crenulate to entire, apex acute to obtuse. Pedicel 6–12 mm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 7–10 × 1.5–2 mm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purple, ca. 4 cm, outside puberulent, inside puberulent below adaxial lip; tube funnelform-tubular, ca. 2.8 × 0.9 cm; adaxial lip ca. 6.5 mm; abaxial lip ca. 1.1 cm. Filaments ca. 9 mm, glandular puberulent above; anthers fused by entire adaxial surfaces, ca. 3 mm, apically with a few short hairs; staminodes 2, ca. 0.8 mm. Pistil ca. 2.6 cm, puberulent; ovary ca. 1.1 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Capsule erect, ca. 4 cm. Fl. May–Jun.

- Damp areas of montane forests; 700–1200 m. SE Sichuan (Pengshui Xian, Xiushan Xian).


直蕊唇柱苣苔 niu er duo
Chirita fauriei Franchet; Didymocarpus eburneus (Hance) H. Léveillé; Roettlera eburnea (Hance) Kuntze.
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–8 × 0.5–1 cm; leaf blade ovate to elliptic or obovate, 3.5–17 × 2–9.5 cm, papery, appressed puberulent to pilose, eglandular, base attenuate to broadly cuneate, margin entire, apex acute; lateral veins 4 or 5 on each side of midrib, inconspicuous. Cymes (1 or)2–13(–17)-flowered; peduncle 4–30 cm, puberulent; bracts 2, free, ovate to orbicular-ovate, 1.4–5 × 0.8–2.8 cm, densely puberulent, margin entire, apex acute to obtuse. Pedicel to 2.3 cm, puberulent and glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate, (3–)7–10 × (1–)2–2.5 mm, outside puberulent and glandular puberulent, inside sparsely puberulent, margin entire, apex acute. Corolla purple to white or yellow, 3–4.5 cm, sparsely puberulent; tube nearly tubular, ca. 3 × 1–1.4 cm; adaxial lip 5–9 mm; abaxial lip 1.2–1.8 cm. Filaments 9–10 mm, sparsely puberulent basally; anthers fused by entire adaxial surfaces, 3–5 mm, nearly glabrous; staminodes 2, 4–6 mm. Pistil 2.2–3 cm, densely puberulent; ovary ca. 2 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Capsule erect, 4–8 cm. Fl. Apr–Sep, fr. May–Oct.

- Rocks in forests or along stream sides in forests on limestone hills; near sea level to 1900 m. N Guangdong, N Guangxi, Guizhou, W Hubei, SE and W Hunan, E and S Sichuan.


连县唇柱苣苔 lian xian chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–3.5(–6) cm × 1.5–3 mm; leaf blade broadly ovate to ovate, seldom nearly orbicular, 0.8–3.2 × 0.8–2.8 cm, papery, puberulent to pilose, eglandular, base sometimes oblique, cuneate to nearly truncate, margin indistinctly undulate-denticulate, apex obtuse to rounded; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1- or 2-flowered; peduncle 1.5–6 cm, spreading puberulent; bracts 2, free, ovate to lanceolate or oblanceolate-linear, 5–12 × 2.2–5 mm,
perrenials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.6–8 cm × 1–5 mm; leaf blade elliptic to ovate, seldom broadly ovate, 2.6–10 (–12) × 1.6–5.7 (–11.5) cm, papery, adaxially appressed pubescent and pilose, eglundular, abaxially appressed pilose, base oblique, broadly cuneate to cuneate on one side, cuneate to nearly cordate on other, margin crenate to denticate, apex acute to obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 2–8-flowered; peduncle 5–20 cm, spreading pilose; bracts 2, free, elliptic to broadly ovate, 0.6–3.8 × 0.4–2.7 cm, puberulent, margin entire or denticate, apex acute to obtuse. Pedicele 6–10 mm, glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate to narrowly triangular, 3–9 × 1.1–1.9 mm, outside puberulent, inside glabrous, margin entire, apex attenuate to acute. Corolla white to purple-blue, 3–8 × 3.8 cm, puberulent below abaxial lip and stamens; tube narrowly funnelform, ca. 2.8 × 1–1.2 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1.1 cm. Filaments ca. 1.3 cm, sparsely glandular puberulent; anthers fused by entire adaxial surfaces, 4.5 mm, bearded; staminodes 2, 6–7 mm. Pistil ca. 2.7 cm, puberulent; ovary ca. 1.7 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun.

Streamside cliffs in valleys or on rocks; 700–800 m. Guangxi (Luocheng Xian).


隆林唇柱苣苔 long lin chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.6–8 cm × 1–5 mm; leaf blade elliptic to ovate, seldom broadly ovate, 2.6–10 (–12) × 1.6–5.7 (–11.5) cm, papery, adaxially appressed pubescent and pilose, eglundular, abaxially appressed pilose, base oblique, broadly cuneate to cuneate on one side, cuneate to nearly cordate on other, margin crenate to denticate, apex acute to obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 2–8-flowered; peduncle 5–20 cm, spreading pilose; bracts 2, free, elliptic to broadly ovate, 0.6–3.8 × 0.4–2.7 cm, puberulent, margin entire or denticate, apex acute to obtuse. Pedicele 6–10 mm, glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate to narrowly triangular, 3–9 × 1.1–1.9 mm, outside puberulent, inside glabrous, margin entire, apex attenuate to acute. Corolla white to purple-blue, 3–8 × 3.8 cm, puberulent below abaxial lip and stamens; tube narrowly funnelform, ca. 2.8 × 1–1.2 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1.1 cm. Filaments ca. 1.3 cm, sparsely glandular puberulent; anthers fused by entire adaxial surfaces, 4.5 mm, bearded; staminodes 2, 6–7 mm. Pistil ca. 2.7 cm, puberulent; ovary ca. 1.7 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun.

• Rocks in montane thickets. N Guangdong (Lian Xian).


龙州唇柱苣苔 long zhou chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.6–8 cm × 1–5 mm; leaf blade elliptic to ovate, seldom broadly ovate, 2.6–10 (–12) × 1.6–5.7 (–11.5) cm, papery, adaxially appressed pubescent and pilose, eglundular, abaxially appressed pilose, base oblique, broadly cuneate to cuneate on one side, cuneate to nearly cordate on other, margin crenate to denticate, apex acute to obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 2–8-flowered; peduncle 14–19 cm, puberulent; bracts 2, free, ovate, 2.5–3.8 × 2.2–2.8 cm, puberulent, margin denticate, apex acute. Pedicele 6–11 mm, densely glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate, 7–8.5 × 1.2–2 mm, outside puberulent apically, inside densely puberulent and glandular puberulent, margin entire, apex acute. Corolla ca. 4.8 cm [color unknown, probably purple], outside sparsely puberulent and glandular puberulent, inside puberulent below adaxial lip and stamens; tube narrowly funnelform, ca. 3 × 1.4 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.6 cm. Filaments ca. 1.1 cm, sparsely glandular puberulent; anthers fused by entire adaxial surfaces, 4.5 mm, puberulent; staminodes 3, central ca. 1 mm, laterals 4–9 mm. Pistil ca. 3 cm, densely puberulent; ovary ca. 1.4 cm. Stigma cuneate, ca. 3.5 mm, 2-lobed. Immature capsule, ca. 3 cm. Fl. Apr–May.

• Streamside cliffs in valleys among limestone hills. SW Guangxi (Longzhou Xian).


紫纹唇柱苣苔 zi wen chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.6–8 cm × 1–5 mm; leaf blade elliptic to ovate, seldom broadly ovate, 2.6–10 (–12) × 1.6–5.7 (–11.5) cm, papery, adaxially appressed pubescent and pilose, eglundular, abaxially appressed pilose, base oblique, broadly cuneate to cuneate on one side, cuneate to nearly cordate on other, margin crenate to denticate, apex acute to obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 2–8-flowered; peduncle 14–19 cm, puberulent; bracts 2, free, ovate, 2.5–3.8 × 2.2–2.8 cm, puberulent, margin denticate, apex acute. Pedicele 6–11 mm, densely glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate, 7–8.5 × 1.2–2 mm, outside puberulent apically, inside densely puberulent and glandular puberulent, margin entire, apex acute. Corolla ca. 4.8 cm [color unknown, probably purple], outside sparsely puberulent and glandular puberulent, inside puberulent below adaxial lip and stamens; tube narrowly funnelform, ca. 3 × 1.4 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.6 cm. Filaments ca. 1.1 cm, sparsely glandular puberulent; anthers fused by entire adaxial surfaces, 4.5 mm, puberulent; staminodes 3, central ca. 1 mm, laterals 4–9 mm. Pistil ca. 3 cm, densely puberulent; ovary ca. 1.4 cm. Stigma cuneate, ca. 3.5 mm, 2-lobed. Immature capsule, ca. 3 cm. Fl. Apr–May.

• Streamside cliffs in valleys; 700–800 m. Guangxi (Laocheng Xian).
lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes ca. 5-flowered; peduncle 10–19 cm, densely appressed puberulent; bracts 2, free, lanceolate, 1.5–1.8 cm × 0.8–1.2 cm, pubescent, margin entire, apex acute. Pedicel 1–5 cm, densely glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate, ca. 1.2 × 1.2–2 mm, outside densely glandular puberulent, inside densely puberulent, margin entire, apex attenuate. Corolla purple, ca. 3 cm, outside sparsely puberulent, inside with short, yellow hairs below stamens and in 4 longitudinal lines; tube narrowly funnelform, 2.5–4 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun–Jul.

Chirita obtusidentata var. obtusidentata
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.8–4 cm × 1.5–2 mm; blade elliptic to ovate-oblong, 6–10 × 3.5–5 cm, puberulent, margin entire, apex acute. Pedicel 1.5–2 cm, spreading glandular puberulent. Persistent calyx 5-sect from base; segments equal, linear-lanceolate, ca. 3–5 × 0.8–1 mm, outside densely glandular puberulent, inside glabrous, margin entire, apex acute; lateral veins not evident. Capsule 4–6 cm. Fl. Jun–Jul.

Chirita laifengensis W. T. Wang
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–5 cm × 3–6 mm; leaf blade narrowly elliptic to oblanceolate, 6–13 × 4–6 mm, leathery, sparsely appressed puberulent, adaxially densely minutely purple spotted, base cuneate, margin entire, apex acute; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes 1- or 2- or 3-flowered; peduncle 4–13 cm, pubescent. Fl. Jun–Jul.

Chirita jiuwanshanica W. T. Wang
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–4.5 cm × 1.5–2 cm; blade elliptic to ovate-oblong, 5–7 × 3–5 cm, puberulent; ovary 1.1–1.5 cm. Stigma linear, 2–3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun–Jul.

Chirita mollipes var. mollipes

22a. Chirita obtusidentata var. obtusidentata

钝齿唇柱苣苔 (原变种) dun chi chun zhu ju tai (yuan bian zhong)

Chirita laifengensis W. T. Wang

Peduncle 0.1–0.4 cm, densely villous. Fl. Jun.

Chirita jiuwanshanica W. T. Wang

九万山唇柱苣苔 jiu wan shan chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 7–11 mm × 2.2–2.6 mm; leaf blade elliptic to ovate, 3.4–8.4 × 1.5–3 cm, papery, adaxially with short and long hairs, whitish along midrib and lateral veins, eglandular, abaxially puberulent, base oblique, cuneate to rounded, margin crenate to dentate, apex rounded to acute; lateral veins 4 or 5 on each side of midrib, conspicuous. Cymes 2– or 3-flowered; peduncle ca. 6 cm, densely puberulent; bracts 2, free, ovate to narrowly elliptic, 9.4 × 4.5 mm, puberulent, margin 1-dentate to denticate, apex acute to obtuse. Pedicel to 1.2 cm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear to narrowly triangular, 5 × 0.9–1.2 mm, outside densely puberulent, inside puberulent apically, margin 1- or 2-dentate, apex attenuate. Corolla purple-blue, 2.7 cm, outside puberulent, inside in longitudinal lines with very short hairs on adaxial lip; tube funnelform-tubular, 2 × 0.9 cm; adaxial lip ca. 0.9 cm, outside densely puberulent, inside sparsely puberulent apically, margin 1- or 2-dentate apically, apex acute. Corolla purple, ca. 3.5 cm, outside puberulent, inside sparsely puberulent basally; tube nearly tubular, 2.5–2.7 cm × 8–9 mm; adaxial lip 6–7 mm; abaxial lip 1.1–1.2 cm. Filaments 1.1–1.4 cm, sparsely glandular puberulent; staminodes 2, 4–7 mm. Pistil ca. 2.9 cm, puberulent; ovary 1.1–1.5 cm. Stigma linear, 2–3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun–Jul.

Rocks in evergreen broad-leaved forests in valleys; 200–1200 m. NE Guizhou (Fanjingshan, Jiangkou Xian, Yinjiang Xian), SW Hubei (Laifeng Xian), Hunan.
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.7–10 cm × 3–7 mm; leaf blade ovate to nearly orbicular, seldom elliptic, 3–12 × 2.8–11 cm, thin papery, sparsely appressed pilose and appressed pubescent, eglandular, base broadly cuneate, truncate, to nearly cordate, margin entire or reprise to irregularly shallowly crenate, apex obtuse to rounded; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 2–7(–15)-flowered; peduncle 4–12 cm, villous; bracts 2, free, ovate to lanceolate or elliptic, 2.3–3.2 × (0.3–)1–1.8 cm, pubescent, margin entire, apex acute to attenuate. Pedicel 0.5–2 cm, puberulent and glandular villous. Calyx 5-sect from base; segments slightly unequal, narrowly lanceolate, 1–1.5 cm × 1–2 mm, outside puberulent and glandular villous, inside puberulent, margin entire, apex attenuate. Corolla purple-purplish, 3–4.5 cm, outside sparsely puberulent, inside puberulent in longitudinal lines near base of tube; tube nearly tubular, 2.5–2.8 × 1.2 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.1 cm. Filaments 8–10 mm, sparsely puberulent and glandular puberulent; anthers fused by entire adaxial surfaces, 3.5–3.5 mm, abaxially villous; staminodes 2, 3.5–6 mm. Pistil ca. 3 cm, densely puberulent; ovary ca. 1.1 cm. Stigma cuneate, 2–4 mm, 2-lobed. Capsule erect, 4.5 cm. Fl. Jun, fr. Oct.

• Rocks in forested valleys; 600–800 m. N Guangdong (Ruyuan Xian, Yangshan Xian).


光叶唇柱苣苔 guang ye chun zhu ju tai Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–2.5 cm × ca. 6 mm; leaf blade elliptic to oblance, ca. 12 × 4.7–7.2 cm, thin papery, sparsely puberulent, eglandular, base oblique, cuneate to broadly cuneate on 1 side, broadly cuneate to rounded on other, margin indistinctly denticulate to crenulate or entire on 1 side, apex acute to obtuse; lateral veins ca. 6 on each side of midrib, inconspicuous. Cymes 2–4-flowered; peduncle ca. 7.2 cm, puberulent; bracts 2, free, elliptic, 8–9 × ca. 3 mm, puberulent, margin entire, apex acute. Pedicel 5–12 mm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 6 × 1–1.2 mm, outside purplish puberulent, inside glabrous, margin entire, apex acute. Corolla purple-white, ca. 3.5 cm, outside puberulent, inside sparsely puberulent on adaxial lip; tube funnelform-tubular, ca. 2.4 × 1.3 cm; adaxial lip ca. 3 mm; abaxial lip ca. 1.1 cm. Filaments ca. 8.5 mm, glandular puberulent above; anthers fused by entire adaxial surfaces, ca. 2.1 mm, bearded; staminodes 3, central ca. 0.8 mm, laterals ca. 6 mm. Pistil ca. 2.5 cm, puberulent and pubil glandular puberulent; ovary ca. 1.7 cm. Stigma trapezoid, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun.

• Mixed forests on limestone hills. SW Guangxi (Longzhou Xian).


短序唇柱苣苔 duan xu chun zhu ju tai Didymocarpus depressus (J. D. Hooker) W. Y. Chun, Sunyatsenia 6: 298. 1946.

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole ca. 8 × 6 mm; leaf blade broadly ovate or elliptic to obovate, ca. 10 × 6 cm, papery, adaxially densely puberulent, eglandular, abaxially velutinous, base cuneate, margin shallowly crenate, apex obtuse to rounded; lateral veins ca. 4 on each side of midrib, conspicuous. Cymes ca. 4-flowered; peduncle shorter than leaves; bracts 2. Calyx 5-sect from base; segments slightly unequal, narrowly linear, ca. 7 × 1 mm, outside puberulent and glandular puberulent, margin entire, apex attenuate. Corolla purple, ca. 3 cm, outside sparsely pubescent, inside glandular puberulent below stamens; tube funnelform-tubular, 2.3 × 0.8 cm; adaxial lip ca. 6 mm; abaxial lip ca. 7 mm. Filaments ca. 1.3 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 2.5 mm, glabrous; staminodes 3, central ca. 2 mm, laterals ca. 6 mm. Pistil nearly as long as corolla tube; ovary puberulent and sparsely glandular puberulent. Stigma obovoid, 2-lobed. Fruit and seeds unknown.

• N Guangdong. This species is known only from the type specimen, which has only two detached leaves and a corolla (without stamens). The plate in the protologue is excellent, but does not show inflorescence characters.

新宁唇柱苣苔

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2–8.5 cm × 3–7.5 mm; leaf blade orbicular to broadly ovate, rarely oblanceolate or oblanceolate, 4–10 × 3.5–11 cm, herbaceous, adaxially puberulent and appressed pilose, eglandular, abaxially sparsely puberulent to velutinous, base oblique, broadly cuneate to cordate, margin denticulate to dentate, crenate, or serrate, apex acute to rounded; lateral veins 3–5 on each side of midrib, inconspicuous. Cymes (1 or)2–5-flowered; peduncle 6–28 cm, pubescent to appressed pilose; bracts 2, free, narrowly elliptic to lanceolate, ovate, or narrowly triangular, 5–11 × 1–3(–7) mm, pubescent, margin entire, apex acute. Pedicel 0.5–3.8 cm, pubescent. Calyx 5-sect from base; segments equal, lanceolate-linear to narrowly ovate, 7–11(–15) × 1.5–3 mm, puberulent, margin often denticulate to serrate apically, apex acute to acuminate. Corolla blue, purple, to pinkish green, (3.5–)4.2–6.4 cm, outside basally sparsely puberulent, inside puberulent below adaxial lip on 2 purple lines; tube narrowly funnelform, 2.5–3.8 × 0.8–1.4 cm; adaxial lip 0.7–1.2 cm; abaxial lip 1.5–2.4 cm. Filaments ca. 1.3 cm, apex sparsely puberulent to glabrous; anthers fused by entire adaxial surfaces, ca. 4 mm, sparsely bearded; staminodes 2 or 3, ca. 4 mm. Pistil ca. 2.7–3.2 cm, densely puberulent; ovary 2–2.6 cm. Stigma obtrapezoid, 2–3 mm, 2-lobed. Capsule erect, 4–8 cm. Fl. Mar–Apr, fr. Apr-Jun.

29a. Chirita fimbrisepala var. fimbrisepala

蚂蝗七（原变种）ma huang qi (yuan bian zhong)

Didymocarpus fimbrisepalus (Handel-Mazzetti) Handel-Mazzetti.

Leaf blade abaxially sparsely puberulent to pubescent.

- Rocks or cliffs in forests or montane streamsides; 400–1000 m.
- Fujian, N Guangdong, N and S Guangxi, S Guizhou, Hunan, Jiangxi.


密毛蚂蝗七 mi mao ma huang qi

Leaf blade abaxially densely puberulent to velutinous.

- Rocks in forested valleys; 800–1000 m. S Guangxi (Fangcheng Xian, Jiangxi Xian).


齿瓣唇柱苣苔 chi e chun zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–10 cm × 4–10 mm; leaf blade oblique, rhombic-elliptic, 8–15 × 5–11 cm, papery, sparsely puberulent, eglandular,
base oblique, cuneate to rounded on 1 side and rounded to cordate on other, margin irregularly dentate to denticulate, apex acute to rounded; lateral veins 4 or 5 on each side of midrib, inconspicuous. Cymes ca. 5-flowered; peduncle to 10 cm, villous; bracts 2, free, narrowly ovate to oblong, 1–1.2 cm × 3–6 mm, puberulent, margin crenulate, apex acute. Pedicel 1–5–20 mm, puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, 1.2–1.7 cm × 2–4 mm, outside puberulent, inside appressed puberulent, margin denticulate, apex attenuate. Corolla blue, 4–4.5 cm, outside sparsely puberulent, inside puberulent on purple spots below adaxial lip; tube nearly tubular, ca. 3 × 0.9 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.8 cm. Filaments ca. 1.2 cm, apex puberulent; anthers fused by entire adaxial surfaces, ca. 6 mm, abaxially puberulent; staminodes 2, ca. 3 mm. Pistil ca. 3 cm, puberulent; ovary ca. 2 cm. Stigma cuneate, ca. 5 mm, 2-lobed. Capsule erect, 4–5.5 cm. Fl. Dec.

- Forests, rocky streamsides in valleys; 1000–1100 m. NE Guangxi (Mengshan Xian, Lipu Xian).


- Mengshan Xian, Lipu Xian).

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole (1–)8–9 cm × 7–9 mm; leaf blade rhombic-ovate to nearly rhombic, 4.8–10 × 3.8–7 cm, papery, adaxially with dense, short and long hairs, eglandular, abaxially puberulent, base cuneate, margin coarsely dentate, apex rounded to acute, basal veins 5; lateral veins 1 or 2 on each side of midrib, conspicuous. Cymes 10–16-flowered; peduncle 16.5–17.5 cm, puberulent; bracts 2, free, lanceolate-linear, 2–2.5 cm × 3–3.5 mm, puberulent, margin entire, apex attenuate. Pedicel 1.6–5 cm, glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate-linear, 1.2–1.4 cm × 1–2 mm, appressed puberulent, margin entire, apex subulate-acuminate. Corolla purplish, ca. 4.4 cm, outside sparsely puberulent, inside puberulent on spots below adaxial lip; tube narrowly funnelform-tubular, ca. 3 × 1 cm; adaxial lip ca. 9 mm; abaxial lip ca. 1.4 cm. Filaments ca. 1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, ca. 3 mm, puberulent; staminodes 2, ca. 5 mm. Pistil ca. 2.9 cm, puberulent; ovary ca. 1.7 cm. Stigma linear, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. Sep.

- Shaded rocky cliffs; ca. 500 m. S Hunan (Xinning Xian).


- Lingling Xian).

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.5–2 × 0.4–1.2 cm; leaf blade oblique, ovate to nearly orbicular, 2.5–6 × 2.5–6.4 cm, papery, puberulent, eglandular, base oblique to broadly cuneate to rounded, margin dentate to obtusely dentate, apex rounded to obtuse; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes 1–4-flowered; peduncle 3–7 cm, villous; bracts 2, free, lanceolate-linear, ca. 7 × 1–1.2 mm, villous, margin entire, apex attenuate. Pedicel 1.2–2.2 cm, pubescent and glandular puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, 7–9 × 1.2–2 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla purple-red, 3.5–5 cm, outside sparsely puberulent, inside puberulent toward mouth; tube broadly funnelform to tubular-funnelform, 2.3–3 × 1.4–1.8 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.6 cm. Filaments ca. 1.1 cm, sparsely puberulent apically; anthers fused by entire adaxial surfaces, ca. 3.2 mm, abaxially puberulent; staminodes 3, ca. 5 mm. Pistil ca. 3 cm, densely puberulent; ovary ca. 1.4 cm. Stigma suboblong, ca. 3 mm, 2-parted. Capsule erect, 3–4 cm. Fl. Mar–Apr.

- Shaded rocks in valleys; ca. 300 m. S Hunan (Lingling Xian).


长毛唇柱苣苔 chang mao chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.4–2.2 cm × ca. 3 mm; leaf blade narrowly to broadly elliptic or ovate, 1.5–3.6(–4.7) × 1–1.9(–2.4) cm, papery, adaxially densely villous (hairs to 8.2 mm) and puberulent, eglandular, abaxially densely pubescent, base cuneate to broadly cuneate, margin repand to entire, apex acute to rounded; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1- or 2-flowered; peduncle ca. 7 cm, spreading pubescent; bracts 2, free, triangular to narrowly triangular, 1.2–2.2 × 0.6–1.2 mm, pubescent, margin entire, apex acute. Pedicel 0.9–1.4 cm, spreading pubescent. Calyx 5-sect from base; segments equal, linear-triangular, ca. 4 × 1.5–1.8 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla pale purple, ca. 3 cm, outside puberulent, inside puberulent basally; tube tubular-funnelform, ca. 2 × 1 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 3.5 mm, villous; staminodes 3, central ca. 2 mm, laterals ca. 5 mm. Pistil ca. 1.8 cm, puberulent; ovary ca. 1.1 cm. Stigma sub-oblong, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. May.

- Forests on limestone hills; ca. 100 m. S Guangdong (Zhaoqing Xian).


桂林唇柱苣苔 gui lin chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.5–4 cm × 4–8 mm; leaf blade narrowly elliptic to rhombic-elliptic or ovate, 2.5–7.5 × 1.4–4 cm, papery, densely puberulent, eglandular, base oblique, cuneate, margin
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite or ternate; petiole 1–9 cm × 1.5–3.5 mm; leaf blade slightly oblique, elliptic, 1.5–8.2 × 1–4.4 cm, papery, densely puberulent, eglandular, base oblique, cuneate to cuneate on 1 side and rounded on other, margin repand-crenate, apex obtuse; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes ca. 2-flowered; peduncle 6–7 cm, densely spreading puberulent; bract 1, spathe-like, navicular-ovate, 1.5–2 cm × 4–6 mm, densely puberulent, margin entire, apex long acuminate. Pedicel 1–16 mm, puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, ca. 5 × 1–1.2 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla bluish to pale purple with 1 yellow spot below adaxial lip, ca. 3 cm, outside puberulent, inside glandular puberulent only on yellow spot; tube nearly campanulate, ca. 2.1 × 1.5 cm; adaxial lip ca. 6 mm; abaxial lip ca. 9 mm. Filaments ca. 1 cm, sparsely puberulent near apex; anthers fused by entire adaxial surfaces, 2.5–3 mm, glabrous; staminodes 2, ca. 4 mm. Pistil 2.2 cm, puberulent; ovary ca. 1.1 cm. Stigma obtrapezoid, ca. 1.5 mm, 2-lobed. Capsule erect, ca. 3.5 mm. Fl. and fr. Aug.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite or ternate; petiole 1–9 cm × 1.5–3.5 mm; leaf blade slightly oblique, elliptic, 1.5–8.2 × 1–4.4 cm, papery, densely puberulent, eglandular, base oblique, cuneate to cuneate on 1 side and rounded on other, margin repand-crenate, apex obtuse; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes ca. 2-flowered; peduncle 6–7 cm, densely spreading puberulent; bract 1, spathe-like, navicular-ovate, 1.5–2 cm × 4–6 mm, densely puberulent, margin entire, apex long acuminate. Pedicel 1–16 mm, puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, ca. 5 × 1–1.2 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla bluish to pale purple with 1 yellow spot below adaxial lip, ca. 3 cm, outside puberulent, inside glandular puberulent only on yellow spot; tube nearly campanulate, ca. 2.1 × 1.5 cm; adaxial lip ca. 6 mm; abaxial lip ca. 9 mm. Filaments ca. 1 cm, sparsely puberulent near apex; anthers fused by entire adaxial surfaces, 2.5–3 mm, glabrous; staminodes 2, ca. 4 mm. Pistil 2.2 cm, puberulent; ovary ca. 1.1 cm. Stigma obtrapezoid, ca. 1.5 mm, 2-lobed. Capsule erect, ca. 3.5 mm. Fl. and fr. Aug.


Perennials, stemless. Rhizome apical internodes to 2.2 cm. Stem absent, or decumbent, to 25 × 3 cm, puberulent. Leaves basal or crowded at apex of stem, opposite; petiole 0.5–11 × 0.2–1.5 cm; leaf blade sometimes oblique, narrowly elliptic to oblong, obovate, or ovate, 3–23 × 1.5–13 cm, herbaceous to papery, adaxially sparsely puberulent and sparsely pilose, eglandular, abaxially sparsely pubescent, base sometimes oblique, cuneate to attenuate and decurrent, seldom truncate-cordate, margin entire to indistinctly denticulate, apex acute to obtuse; lateral veins 4–7 on each side of midrib, inconspicuous. Cymes 2–15-flowered; peduncle 4.4–21 cm, puberulent to spreading pilose and glandular puberulent; bracts 2, free, elliptic to ovate or narrowly triangular, 0.9–25 × 0.5–2 mm, pubescent, margin entire, apex acute to acuminate. Pedicel (0.3–)1.5–6 cm, puberulent to spreading pilose. Calyx 5-sect from or near base; segments equal, linear-lanceolate to narrowly triangular, 0.7–1.7 cm × 0.5–1.2 mm, outside sparsely to densely puberulent and glandular puberulent, inside puberulent, margin entire, apex acute to attenuate. Corolla purplish to white with a purple spot below adaxial lip, 3–4 cm, outside sparsely puberulent to puberulent, inside glandular or puberulent on adaxial lip; tube nearly tubular, 2.4–2.8 × 0.8–1.2 cm; adaxial lip 3–5 mm; abaxial lip 7–12 mm. Filaments ca. 1 cm, sparsely puberulent; anthers fused by entire adaxial surfaces, 2.2–3 mm, glabrous; staminodes 2 or 3, 3–4 mm. Pistil 2–2.6 cm, puberulent and glandular puberulent; ovary ca. 1.2 cm. Stigma cuneate to narrowly oblong, 2–4 mm, 2-lobed or undivided. Capsule erect, 4.5–9 cm. Fl. Apr–Oct, fr. May–Oct.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite or ternate; petiole 0.5–5 cm × 2–5 mm; leaf blade ovate to elliptic or obovate, 5.5–11 × 2.5–7 cm, herbaceous, adaxially appressed puberulent (hairs 0.2–0.9 mm) and sparsely villous (hairs 2–5 mm), eglandular, abaxially densely puberulent and appressed pilose, base slightly oblique, cuneate to nearly rounded, margin entire to shallowly crenate or denticulate, apex obtuse to abruptly acuminate; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes 2–8-flowered; peduncle 3.5–13 cm, spreading pubescent to pilose; bracts 2, free, linear-lanceolate to narrowly triangular, 3–9 × 0.5–2 mm, pubescent to pilose, margin entire, apex obtuse to acute. Pedicel 3–16 mm, pubescent to spreading pilose. Calyx 5-sect from base; segments equal, lanceolate-linear to narrowly triangular, 3.5–9 × 0.8–1.5 mm, outside pubescent to pilose, inside glabrous to puberulent, margin entire, apex obtuse to acute. Corolla pink to purple with a purple spot on adaxial lip, 2.1–3.9 cm, outside sparsely puberulent,
inside sparsely pubescent on purple spot and lines; tube nearly tubular, 1.5–2.6 cm × 6–8 mm; adaxial lip 3–5.5 mm; abaxial lip 7–9 mm. Filaments 7–11 mm, sparsely puberulent; anthers fused by entire adaxial surfaces, 2.5–3.5 mm, glabrous to sparsely puberulent; staminodes 2, ca. 5 mm. Pistil 1.2–3.7 cm, puberulent; ovary 0.6–1.7 cm. Stigma cuneate to linear, 1–3.5 mm, 2-lobed. Capsule erect, 1.4–3 cm. Fl. Apr, Jul, Aug, fr. Aug–Oct.

- Rocky streamsides in forested valleys; 400–1100 m. N and S Guangdong, E Guangxi, Guizhou, NW Hunan, E and SE Sichuan.

1a. Leaf blade adaxially with shorter (0.3–0.9 mm) and longer (2–4 mm) hairs; calyx segments 0.8–1 mm wide; anthers glabrous ...

37a. var. fordii

桂粤唇柱苣苔 (原变种) gui yue chun zu ju tai (yuan bian zhong)


Leaf blade adaxially with shorter (0.3–0.9 mm) and longer (2–4 mm) hairs. Calyx segments 0.8–1 mm wide. Anthers glabrous.

- Rocky streamsides in valleys; ca. 400 m. N Guangdong, E Guangxi (Cangwu Xian), Guizhou, NW Hunan, E and SE Sichuan.

37b. var. dolichotricha

鼎湖唇柱苣苔 ding hu chun zu ju tai


Leaf blade adaxially with shorter (0.8–1.5 mm) and longer (4–5 mm) hairs; calyx segments 1–1.5 mm wide. Anthers sparsely puberulent.

- Rocks along streamsides in forested valleys. S Guangdong (Zhaoping Xian).


肉叶唇柱苣苔 rou ye chun zu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–3 cm × 4–5 mm; leaf blade narrowly elliptic to oblong, 9–12 × 3–6 cm, papery, densely appressed puberulent, eglandular, base attenuate, margin entire to repand, apex obtuse; lateral veins 4–7 on each side of midrib, inconspicuous. Cymes ca. 10-flowered; peduncle 4.5–11 cm, spreading pubescent; bracts 2, free, linear-lanceolate, 4–9 × ca. 1.5 mm, pubescent, margin entire, apex obtuse. Pedicel to 1 cm in fruit, spreading pubescent. Persistent calyx 5-sect from base; segments equal, linear, 5–8 × ca. 1 mm, outside densely puberulent, inside pubescent only near apex, margin entire, apex acute. Corolla, stamens, and pistil unknown. Capsule erect, 2.5–3.5 cm; persistent stigma 2-lobed. Fr. Jun.

- Rocks in rainforest valleys; 300–1100 m. SE Yunnan (Malipo Xian).


粉花唇柱苣苔 fen hua chun zu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2.5–5 × 0.7–1.5 cm; leaf blade slightly oblique, ovate, 6.8–12.5 × 4–8 cm, herbaceous, sparsely strigose, eglandular, base oblique, broadly cuneate, margin crenulate to remotely dentate, apex obtuse; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 3–6-flowered; peduncle 9–13 cm, puberulent; bracts 2, free, linear-lanceolate, 1.1–1.3 cm × 2.2–3 mm, strigose, margin entire, apex acute. Pedicel 1–2.5 cm, puberulent and glandular puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, 4–6 × 0.8–1 mm, outside puberulent and glandular puberulent, inside glabrous, margin entire, apex acute. Corolla white to pinkish, ca. 4 cm, outside sparsely puberulent, inside puberulent on adaxial lip; tube funnelform-tubular, ca. 2.4 × 1.2 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.5 cm. Filaments ca. 1.1 cm, base sparsely pubescent, apex sparsely glandular puberulent; anthers fused by entire adaxial surfaces, ca. 3 mm, sparsely puberulent; staminodes 2, ca. 6 mm. Pistil ca. 2.8 cm; ovary ca. 1.5 cm, puberulent. Style glandular puberulent; stigma cuneate, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Jul.

- Rocky streamsides in valleys. NW Hunan (Dayong Xian).


翅柄唇柱苣苔 chi bing chun zu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.4–8 × 0.8–3 cm; leaf blade elliptic-ovate to elliptic, 6–24 × 4.4–16 cm, papery, sparsely puberulent, eglandular, base broadly cuneate and decurrent into broad wings of petiole, margin repand-denticulate to shallowly crenate, apex acute to rounded; lateral veins ca. 6 on each side of midrib, conspicuous. Cymes 5–19-flowered; peduncle 15–30 cm, glandular puberulent and sparsely puberulent; bracts 2, free, lanceolate to narrowly triangular, 1–1.3 cm × 2.5–4 mm, pubescent, margin entire, apex acute. Pedicel 1–3.8 cm, glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 1–1.2 cm × ca. 2 mm, outside puberulent and glandular puberulent, inside puberulent, margin entire, apex acute. Corolla white to purplish with 1 purple spot below adaxial lip, 3.6–4 cm, outside...
glandular puberulent, inside puberulent only on purple spot; tube nearly tubular, 2.5–2.8 cm × 1 cm; adaxial lip 4.5–6 mm; abaxial lip 1.1–1.2 cm. Filaments ca. 1.2 cm, glandular puberulent only near apex; anthers fused by entire adaxial surfaces, ca. 2 mm; glabrous; staminodes 3, central ca. 0.5 mm, laterals 4.5–5 mm. Pistil 2.2–2.5 cm, densely glandular puberulent; ovary 1.3–1.6 cm. Stigma oblong, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Nov.

- Known only from cultivation. Cultivated at the South China Institute of Botany in Guangzhou, Guangdong; possibly introduced from Guangxi.

41. **Chirita juliae** Hance, J. Bot. 21: 168. 1883.

大齿唇柱苣苔 da chi chun zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–17 × 0.4–1.3 cm; leaf blade ovate to elliptic, 6–15 × 4.4–9 cm, herbaceous, appressed puberulent, eglandular, base narrowly cuneate to subtruncate, margin dentate to pinnately lobed basally or crenate, apex acute to rounded; lateral veins 4 or 5 on each side of midrib, inconspicuous. Cymes 2–12-flowered; peduncle 4–11 cm, spreading puberulent; bracts 2, free, lanceolate-linear, 5–13 × 0.6–1.2 mm, puberulent, margin entire, apex acute. Pedicel 1–15 mm, pubescent. Calyx 5-sect from base; segments equal, subulate to lanceolate, 4–13 × 0.6–1.5 mm, puberulent, margin entire, apex acute. Pedicel 1–15 mm, pubescent. Calyx 5-sect from base; segments equal, subulate to lanceolate, 4–13 × 0.6–1.5 mm, puberulent, margin entire, apex acute. Corolla blue to purple, 3.5–4.5 cm, outside sparsely puberulent, inside nearly glabrous; tube nearly tubular to funnelform-tubular, 2.2–3.3 × 0.8–1.5 cm; adaxial lip 7–8 mm; abaxial lip 1–1.2 cm. Filaments 1–1.3 cm, glabrous to glandular puberulent near apex; anthers fused by entire adaxial surfaces, 3.2–3.5 mm, glabrous; staminodes 2, 4–5.5 mm. Pistil 3–3.2 cm, puberulent; ovary 4–8 mm. Stigma narrowly oblong, ca. 5 mm, 2-lobed. Capsule erect, 0.9–1.3 cm. Fl. Jul–Oct, fr. Oct.

- Shaded streamside rocks in hilly regions; 300–600 m. W Fujian (Ninghua Xian), N Guangdong, SE Hunan, NE Jiangxi (Guangfeng Xian).


十字唇柱苣苔 shi zi chun zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 5–10 × 4–10 mm; leaf blade ovate to orbicular-ovate, 5–8 × 4–7 cm, papery, densely appressed puberulent and appressed pilose (hairs to 1 mm and to 3 mm), glandular, base broadly cuneate, margin subentire to repand-crenate, apex acute to rounded; lateral veins ca. 4 on each side of midrib, inconspicuous. Cymes ca. 2-flowered; peduncle 4–6 cm, spreading pilose; bracts 2, seldom 3, free, linear-lanceolate to narrowly triangular, 4–9 × 1–2 mm, densely puberulent and pilose, margin entire, apex acute. Pedicel 1–2.3 cm, densely glandular puberulent and pilose. Calyx 5-sect from base; segments equal, linear-lanceolate, 5–7 × 0.8–1 mm, outside puberulent, inside glabrous, margin entire, apex subulate-acuminate. Corolla purple, 3.5–4 cm, outside sparsely pubescent, inside puberulent on 2 longitudinal lines; tube narrowly funnelform, ca. 2.2 × 1 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.5 cm. Filaments ca. 8 mm, glabrous; anthers fused by entire adaxial surfaces, 3–4 mm, pilose; staminode 1, ca. 4 mm. Pistil ca. 2.5 cm, puberulent; ovary ca. 2 cm. Stigma cuneate, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Nov.

- Hunan (Hengyang Xian).


粗筒唇柱苣苔 cu tong chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole to 2.5 cm × 7 mm; leaf blade orbicular-ovate to nearly orbicular, to 4.8 × 5.8 cm, thin papery, puberulent, eglandular, base broadly cuneate, margin obtusely dentate to undulate, apex rounded to obtuse; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle ca. 4.5 cm, puberulent; bracts 2, free, ovate-triangular, ca. 4 × 1.6–1.8 mm, puberulent, margin entire, apex obtuse. Pedicel ca. 2 cm, villous. Calyx 5-sect from base; segments equal, lanceolate-linear, 7 × 1.3 mm, outside puberulent, inside glabrous, margin entire, apex acute to obtuse. Corolla red, ca. 4.5 cm, outside sparsely puberulent, inside puberulent below adaxial lip; tube broadly tubular, ca. 3 × 1.8 cm; adaxial lip ca. 1 cm; abaxial lip ca. 1.6 cm. Filaments ca. 8.5 mm, glandular puberulent above; anthers fused by entire adaxial surfaces, ca. 4 mm, puberulent; staminodes 3, central ca. 7 mm, laterals ca. 1.4 cm. Pistil ca. 2.7 cm, puberulent; ovary ca. 1.4 cm. Stigma obtriangular, ca. 3 mm, 2-parted. Capsule erect, ca. 6 cm. Fl. Apr, fr. Jun.

- Dense slope forests; ca. 900 m. S Hunan (Shuangpai Xian).


硬叶唇柱苣苔 yiing ye chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.2–5.5 cm × 5–8 mm; leaf blade slightly oblique, elliptic to ovate, 7.5–10 × 4.2–5.2 cm, leathery to papery, adaxially densely stigose (hairs mixed 0.15–1.2 mm), eglandular, abaxially appressed puberulent, base cuneate to rounded, margin crenate to subentire, apex

短毛唇柱苣苔（原变种）duan mao chun zhu ju tai (yuan bian zhong)

Leaf blade 2–8.5 × 2–6.6 cm, apex rounded. Bracts 4–8 × 2.8–3.5 mm. Calyx segments outside purple puberulent.

- Damp rocky crevices in forests of hilly regions; 400–1000 m. SE Guizhou (Libo Xian).


大苞短毛唇柱苣苔 da bao duan mao chun zhu ju tai

Leaf blade to 15 × 12 cm, apex obtuse. Bracts to 18 × 6 mm. Calyx segments outside white puberulent.

- Rocks in forested valleys; ca. 700 m. SE Guizhou (Libo Xian).


荔波唇柱苣苔 li bo chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–4.5 cm × 1–5.5 mm; leaf blade oblique, elliptic to ovate, 4–10 × 2–4.5 cm, leathery, sparsely puberulent, eglandular, base oblique, cuneate to broadly cuneate, margin entire to repand, apex acute to rounded; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 7–11-flowered; peduncle ca. 12 cm, purple puberulent; bracts 2, free, narrowly ovate, 1.3–2 × 3.5–5 mm, sparsely puberulent, margin entire, apex obtuse. Pedicel 1.5–15 mm, purple puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 7 × 1.2–1.5 mm, purplish puberulent, margin indistinctly denticulate, apex obtuse. Corolla blue-purple, ca. 2.7 cm, outside puberulent, inside puberulent on limb; tube funnelform-tubular, ca. 1.7 × 0.8 cm; adaxial lip ca. 4 mm; abaxial lip ca. 1 cm. Filaments ca. 1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, ca. 3.8 mm, bearded; staminodes 2, ca. 3 mm. Pistil ca. 1.9 cm, puberulent; ovary ca. 1.3 cm. Stigma oblong, ca. 1.5 mm, 2-lobed. Fruit and seeds unknown. Fl. May.

- Rocks in forests of hilly regions; ca. 400 m. SE Guizhou (Libo Xian).


少毛唇柱苣苔 shao mao chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.5–5 cm × 3.5–4.5 mm; leaf blade oblique, oblong to narrowly oblong, 4–12 × 1.9–3.5 cm, papery, adaxially puberulent near margin, eglandular, abaxially sparsely appressed puberulent, base oblique, cuneate, margin repand to entire, apex acute to rounded; lateral veins 3–5 on each side of midrib, inconspicuous. Cymes 3–11-flowered; peduncle 9–13 cm, sparsely purple puberulent; bracts 2, free, ovate, 0.9–18 cm × 4–9 mm, sparsely puberulent, margin entire, apex obtuse. Pedicel
0.15–12 mm, spreading purple puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 6 × 0.8 mm, outside puberulent, inside glabrous, margin entire, apex acute to acuminate. Corolla purple, ca. 2.8 cm, sparsely puberulent; tube funnelform-tubular, ca. 1.9 × 0.7 cm; adaxial lip ca. 4 mm; abaxial lip ca. 8 mm. Filaments ca. 1.1 cm, margin sparsely puberulent; anthers fused by entire adaxial surfaces, ca. 2.8 mm, bearded; staminodes 2, ca. 6 mm. Pistil ca. 2.3 cm, puberulent; ovary ca. 1.5 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. May.

- Rocks in forested valleys; ca. 900 m. SE Guizhou (Libo Xian).


菱叶唇柱苣苔 ling ye chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.4–2.5 cm × 2–4.5 mm; leaf blade rhomboid-ovate to elliptic, broadly ovate, or spatulate, 3.7–7 × 1.5–3.7 cm, leathery, adaxially sparsely strigose, eglandular, abaxially sparsely pubescent, base cuneate to broadly cuneate, margin repand to subentire, apex rounded to acute; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle 5.5–8 cm, densely appressed puberulent; ovary ca. 1.5 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. May.

- N Guangdong.


小叶唇柱苣苔 xiao ye chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1–1.4 cm × ca. 1.2 mm; leaf blade broadly elliptic to ovate, 1.7–3 × 1.3–1.9 cm, leathery, densely brownish appressed puberulent, eglandular, base rounded, margin entire, apex rounded; lateral veins invisible. Cymes 1-flowered; peduncle 5.3–5.6 cm, densely appressed puberulent; bracts 2, free, obovate to elliptic, 8–11 × ca. 4 mm, apressed-puberulent, margin entire, apex obtuse. Pedicel ca. 8 mm, densely spreading glandular puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate to lanceolate, 5–6 × 0.8–2.2 mm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purple-red, ca. 2.7 cm, outside sparsely puberulent basally, inside glabrous; tube narrowly funnelform, ca. 1.7 × 1.1 cm; adaxial lip ca. 6 mm; abaxial lip ca. 9 mm. Filaments ca. 1.1 cm, puberulent; anthers fused by entire adaxial surfaces, ca. 2 mm, glabrous; staminodes 2, ca. 5 mm. Pistil ca. 2.4 cm, puberulent; ovary ca. 1.5 cm. Stigma oblongoid, ca. 1.5 mm, 2-lobed. Fruit and seeds unknown. Fl. Oct.

- Limestone hills. Guangxi (Gui Xian).


永福唇柱苣苔 yong fu chun zhu ju tai
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole (0.5–)1–3 cm × ca. 3 mm; leaf blade elliptic to ovate, (1.4–)2.3–3.2 × (1.1–)1.7–2.4 cm, leathery, purple puberulent to pilosum (hairs 0.3–4 mm adaxially, 0.5–2 mm abaxially), eglandular, base broadly cuneate, margin crenate to repand, apex acute to rounded; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 2–4-flowered; peduncle 4.5–9 cm, purple villous; bracts 2, free, narrowly ovate to elliptic, 7–12 × 5–7 mm, purple pubescent, margin entire, apex obtuse. Pedicel 1–1.8 cm, densely puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear to nar-
rowly triangular, 5.5–7 × 1.2–2.2 mm, puberulent, margin entire, apex acute. Corolla purplish, 3.8–4.6 cm, outside puberulent, inside basally puberulent with very short hairs; tube tubular, 2.5–3 × 1–1.3 cm; adaxial lip ca. 7 mm; abaxial lip 1.2–1.7 cm. Filaments ca. 1.1 cm, glabrous; anthers fused by entire adaxial surfaces, 4–5 mm, bearded; staminodes 2, ca. 7.5 mm. Pistil ca. 3.2 cm, densely puberulent; ovary ca. 1.4 cm. Stigma linear, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. May.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–17.5 cm × ca. 2 mm; leaf blade ovate to oblanceolate, 6–9 × 1–1.2 mm, puberulent and glandular puberulent, margin entire, apex acute. Pedicel ca. 1 cm, densely puberulent. Calyx 5-sect from base; segments equal, lanceolate-lanceolate, ca. 1.3 cm × 1.2–1.5 mm, outside puberulent and glandular, inside strigose, margin entire, apex attenuate. Corolla pink, 4–4.5 cm, outside puberulent, inside puberulent basally and on limb; tube narrowly funnelform, ca. 2.8 × 1.1 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.4 cm. Filaments ca. 1.4 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 5 mm, villous; staminodes 2, ca. 8.5 mm. Pistil ca. 2.7 cm, puberulent; ovary ca. 2 cm. Stigma cuneate, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Jul.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–17.5 cm × 3–5 mm; leaf blade oblong, narrowly oblong to narrowly elliptic, often falcate, 4–13 × 1.3–3 cm, papery, adaxially densely appressed puberulent, eglandular, abaxially white velvutinous, base attenuate, margin entire, apex acute to obtuse; lateral veins 5 or 6 on each side of midrib, inconspicuous. Cymes 2-flowered; peduncle 8–13 cm, puberulent to velutinous; bracts 2, free, linear to triangular or ovate, 5–12 × 1.5–2.5 mm, densely puberulent to velutinous, margin entire, apex acute. Pedicel 6–12 (–18) mm, pilose and sparsely glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear to narrowly triangular, 4–7 × 1.2–2 mm, outside densely pubescent to pilose, inside puberulent near apex, margin entire, apex acute. Corolla purplish, ca. 3.6 cm, outside sparsely pilose, inside puberulent below stamens; tube narrowly funnelform, ca. 2.2 × 1 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1.3 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, 3–5 mm, bearded; staminodes absent. Pistil ca. 2.5 cm, puberulent; ovary ca. 1.5 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Capsule erect, 5–6 cm. Fl. Apr, fr. May.


Perennials, stemless. Rhizome with conspicuous internodes, 0.4–2 cm. Leaves basal, opposite or ternate, sessile or petiole to 10 × 5 mm; leaf blade narrowly elliptic or narrowly oblanceolate to oblong linear, 5–16 × 1–2.9 cm, papery to leathery, densely appressed puberulent and pilose, eglandular, base attenuate, margin entire, revolute, apex acute to acuminate; lateral veins 3–6 on each side of midrib, abaxially prominent. Cymes 2–15-flowered; peduncle 3–15 cm, glandular pilose to puberulent; bracts 2, free, linear to lanceolate or obovate, 4–20 × 0.5–6 mm, abaxially pilose to puberulent, margin entire, involute, apex acute. Pedicel 0.7–4 cm, glandular puberulent and pilose. Calyx 5-sect from base; segments equal, lanceolate-linear, 5–8 × 0.9–1.5 mm, outside minutely appressed puberulent and glandular puberulent, inside puberulent near apex, margin entire, apex attenuate. Corolla white to red-purple, 3.4–4 cm, outside glabrous to puberulent, inside puberulent or glabrous below stamens; tube narrowly funnelform, ca. 2 × 1 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.4 cm, basally puberulent; anthers fused by entire adaxial surfaces, 3–4 mm, bearded; staminodes 3, central ca. 0.5 mm, laterals 5–7 mm. Pistil ca. 2.8 cm, densely pubescent to glandular puberulent; ovary ca. 1.7 cm. Stigma obtrapeziform, ca. 2 mm, 2-lobed. Capsule erect, 1.6–2.5 cm. Fl. Sep–Dec.

Rocks in hilly regions. Guangdong (Yunfu Xian).

54a. Chirita longgangensis var. longgangensis

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–17.5 cm × 3–5 mm; leaf blade elliptic to narrowly elliptic, often falcate, 4–13 × 1.3–3 cm, papery, adaxially densely appressed puberulent, eglandular, abaxially white velvutinous, base attenuate, margin entire, apex acute to obtuse; lateral veins 5 or 6 on each side of midrib, inconspicuous. Cymes 2-flowered; peduncle 8–13 cm, puberulent to velutinous; bracts 2, free, linear to triangular or ovate, 5–12 × 1.5–2.5 mm, densely puberulent to velutinous, margin entire, apex acute. Pedicel 6–12 (–18) mm, pilose and sparsely glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear to narrowly triangular, 4–7 × 1.2–2 mm, outside densely pubescent to pilose, inside puberulent near apex, margin entire, apex acute. Corolla purplish, ca. 3.6 cm, outside sparsely pilose, inside puberulent below stamens; tube narrowly funnelform, ca. 2.2 × 1 cm; adaxial lip ca. 6 mm; abaxial lip ca. 1.3 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, 3–5 mm, bearded; staminodes absent. Pistil ca. 2.5 cm, puberulent; ovary ca. 1.5 cm. Stigma cuneate, ca. 3 mm, 2-lobed. Capsule erect, 5–6 cm. Fl. Apr, fr. May.

54b. var. hongyao

Corolla white, outside glabrous, inside puberulent below stamens.

- Rocks on forest margin on limestone hills; 200–300 m. SW Guangxi (Longzhou Xian).


- Shaded rocky crevices on limestone hills. SW Guangxi (Tiangdeng Xian).

The entire plant is used medicinally as a hematinic tonic and is one of the raw materials of the medicine "guihuaqiao" made in Tiandeng Xian. Guangxi. The name "hong yao" means "red medicine."


- Wet shady places by streams or on rocks in valleys; 100–500 m. W Guangdong.


- Rocks on limestone hills; 100–300 m. S Guangxi (Long’an Xian).


- Rocks on limestone hills; 200–300 m. SW Guangxi (Longzhou Xian).

Bracts linear, 4–15 × 0.5–1.5 mm. Corolla purple-red, outside puberulent, inside glabrous.

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite, sessile; leaf blade linear to narrowly elliptic or narrowly oblanceolate, 3–8.3 cm × 4–8 mm, leathery, appressed pubescent, eglandular, base attenuate, margin entire, apex attenuate to acute; lateral veins 4 or 5 on each side of midrib, inconspicuous. Cymes 1–7-flowered; peduncle 5.5–15 cm, densely glandular puberulent and villous; bracts 2, free, lanceolate to ovate, 4–10 × 1.6–5 mm, puberulent to glabrous, margin entire, apex acute. Pedicel 5–12 mm, glandular puberulent. Calyx 5-sect from base; segments equal, linear-lanceolate, 3.2–4 × 0.6–1.1 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla white to pale bluish, ca. 2.4 cm, outside puberulent, inside basally sparsely puberulent; tube narrowly funnelform, ca. 1.4 cm × 6–7 mm; adaxial lip ca. 4 mm; abaxial lip ca. 9 mm. Filaments ca. 1 cm, puberulent basally; anthers fused by entire adaxial surfaces, ca. 2.5 mm, bearded; staminodes 2, 7–8 mm. Pistil 1.8–2.5 cm, puberulent to pilose and glandular puberulent; ovary 1–1.8 cm. Stigma obtrapeziform to oblong, 2–3 mm, 2-lobed. Capsule at ca. 90° to peduncle, 4–7.5 cm. Fl. May–Feb, fr. Aug–Feb.

- Wet shady places by streams or on rocks in valleys; 100–500 m. W Guangdong.

- Rocks on limestone hills; 200–300 m. SW Guangxi (Longzhou Xian).

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite or ternate; petiole 1.5–10 cm × 1–3 mm; leaf blade oblong to lanceolate or narrowly ovate, 3–20 × 1.5–7.8 cm, herbaceous, appressed puberulent to pilose, eglandular, base cuneate to broadly cuneate, margin irregularly pinnately lobed, apex acute to rounded; lateral veins 3–5 on each side of midrib, inconspicuous. Cymes 1–4-flowered; peduncle 4.5–20 cm, spreading villous to pilose; bracts 2, free, ovate to lanceolate, 1–4 × 0.4–1.6 cm, puberulent to villous, margin entire or crenulate to serrulate, apex acute. Pedicel 0.8–2.5 cm, puberulent to pilose and glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate to narrowly ovate, 3–6 × 1–2.5 mm, outside puberulent to pilose, inside glabrous, margin entire, apex acute to rounded. Corolla purple to white, inside tinged purple with 2 yellow longitudinal lines adaxially of tube, (2–)2.7–4 cm, outside sparsely pubescent to pilose, inside puberulent only on purple spot of adaxial lip; tube tubular to broadly funnelform, often gibbous abaxially, (1.5–)2–3.5 × 1.1–1.5 cm; adaxial lip 4–6 mm; abaxial lip 0.7–1.5 cm. Filaments 0.7–1.4 mm, puberulent; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous to pubescent; staminodes 2, 3–6 mm. Pistil 1.8–2.5 cm, puberulent to pilose and glandular pubescent; ovary 1–1.8 cm. Stigma obtrapeziform to oblong, 2–3 mm, 2-lobed. Capsule at ca. 90° to peduncle, 4–7.5 cm. Fl. May–Feb, fr. Aug–Feb.
- Rocks, streambeds in forested valleys; 600–2100 m. W Fujian, N Guangdong, Guangxi, S Hunan, Jiangxi, S and W Zhejiang.


方氏唇柱苣苔 fu ye chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.5–5 cm × 1–2 mm; leaf blade deeply pinnately lobed, nearly compound, elliptic to narrowly ovate or obovate, 3–15 × 2–6 cm, papery, sparsely appressed puberulent to pilose, epilobe, base cuneate, margin deeply dentate to pinnately lobed, lateral lobes 3–7 on each side of midrib, 0.4–4 mm, margin deeply crenate or serrate to entire, apex acuminate to rounded; lateral veins 3–10 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle 4–11 cm, spreading and appressed villose; bracts 2, free, oblong to elliptic or oblanceolate, 2.4–15 × 1.5–2.5 mm, papery, adaxially puberulent, base cuneate, margin repand-denticulate, apex acute; lateral veins 3–7 mm; abaxial lip ca. 6 mm. Filaments at ca. 90° to peduncle, ca. 3.5 mm; abaxial lip ca. 7 mm. Filaments ca. 1.3 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 3 mm, puberulent; staminodes 3, central ca. 0.2 mm, laterals 0.3–0.4 mm. Pistil ca. 2 mm, puberulent; ovary ca. 7 mm. Stigma narrowly oblong, ca. 2.5 mm, emarginate. Fruit and seeds unknown. Fl. Jun.

- Rocks in montane regions. E Sichuan (Kai Xian).


细筒唇柱苣苔 xi tong chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 0.2–3 cm × ca. 1.2 mm; leaf blade narrowly elliptic to narrowly obovate, 1.4–5.4 × 0.6–2.4 cm, thin papery, densely pubescent to appressed pilose, eglandular, base cuneate, margin repand-denticulate, apex acute; lateral veins 3–7 mm; abaxial lip ca. 7 mm. Filaments at ca. 90° to peduncle, 3–4 cm, puberulent; calyx 5-sect from base; segments equal, lanceolate-linear, 4–6 × 0.5–1 mm, outside puberulent to pilose, inside glabrous to pubescent, margin 2–4-denticulate to entire, apex acute to attenuate. Corolla purple, 2.5–3.4 cm, outside puberulent to sparsely puberulent, inside glabrous; tube cylindric, ca. 2.1 cm × 3–5 mm; adaxial lip ca. 0.6 mm; abaxial lip ca. 1.3 cm. Filaments ca. 5.5 mm, sparsely glandular puberulent; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 3, central ca. 0.4 mm, lateral 0.6–1 mm. Pistil ca. 2.2 cm, puberulent to pilose; ovary ca. 3.5 mm. Stigma cuneate, ca. 2.5 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun.

- Rocks in shaded areas. Guizhou (Qingzhen Xian).


清镇唇柱苣苔 qing zhen chun zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 1.2–3.4 cm × 1.5–2.5 mm; leaf blade broadly ovate to narrowly elliptic, 2.2–4 × 1.1–3 cm, papery, adaxially densely pubescent villous and puberulent, eglandular, abaxially puberulent, base cuneate to nearly truncate, margin repand to indistinctly denticulate, apex acute to ob lanceolate, ca. 4 × 0.8–1 mm, outside densely villous, inside puberulent, margin 1- or 2-denticulate, apex acute. Corolla purplish, ca. 2.2 cm, outside puberulent,
inside puberulent on the limb; tube cylindric, ca. 9 × 3.5 mm; adaxial lip ca. 3 mm; abaxial lip ca. 7 mm. Filaments ca. 3 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 1.6 mm, glabrous; staminodes 3, central ca. 0.3 mm, laterals 0.6–0.8 mm. Pistil ca. 1 cm, puberulent; ovary ca. 3 mm. Stigma obdeltoid, ca. 2 mm, 2-parted. Capsule erect, 7–9 mm. Fl. May.

- Rocks in shaded areas. Guizhou (Qingzhen Xian).


神农架唇柱苣苔  shen nong jia chun zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 3–9 × 1–1.2 mm; leaf blade ovate to suborbicular, 1–3.2 × 0.8–2.5 cm, papery, appressed pubescent to appressed pilose, eglandular, base broadly cuneate to nearly truncate, margin entire to repand-crenate, apex acute to rounded; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle 0.6–1.4 cm × 5–9 mm, papery, densely pubescent, eglandular, base cuneate, margin entire, apex acute to rounded; lateral veins invisible. Cymes 2- or 3-flowered; peduncle 6–10 cm, spreading pubescent and glandular, inconspicuous. Filaments ca. 3 mm, densely spreading pubescent to pilose; bracts 2, free, narrowly linear, 3–3.5 cm × 0.4–1.5 mm, leathery, glabrous, eglandular, base cuneate, margin finely spiny denticulate, apex acute to obtuse. Corolla purple, 2–2.5 cm, outside sparsely pubescent, inside glabrous, margin entire, apex acute to obtuse. Pedicel 1–2 cm, spreading densely villous; bract 1, narrowly linear, ca. 1 × 0.3 mm, pubescent, margin entire, apex acute. Pedicel ca. 4 mm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 2 × 0.5 mm, outside densely villous, inside puberulent near apex, margin often 1-denticulate apically, apex acute. Corolla purple, ca. 1.2 cm, outside sparsely pubescent, inside nearly glabrous; tube cylindric, ca. 6 × 2 mm; adaxial lip ca. 4 mm; abaxial lip ca. 6 mm. Filaments ca. 1.6 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 1.2 mm, glabrous; staminode 1, ca. 0.3 mm. Pistil ca. 3.8 mm, puberulent; ovary ca. 1.7 mm. Stigma oblate, ca. 0.4 mm, undivided. Capsule erect, ca. 7 mm. Fl. Apr.

- Rocky crevices, cliffs in forests; 300–1000 m. Guizhou, W Hunan, SE Sichuan.


肥牛草  fei niu cao


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole nearly absent to 2 cm × 1.5–3 mm; leaf blade elliptic to lanceolate, often falcate, 6.5–12 × 0.9–2.4 cm, leathery, appressed pilose, eglandular, base attenuate, margin entire, revolute, apex attenuate; lateral veins 3 or 4 on each side of midrib, inconspicuous abaxially. Cymes 12–20-flowered; peduncle 5.5–21 cm, densely puberulent; bracts 2, free, narrowly elliptic to lanceolate, 3–5 × 1.5–2 mm, puberulent, margin entire, apex acute. Pedicel 2–5 mm, puberulent. Calyx ca. 1.5 mm, 5-lobed from middle; tube ca. 0.5 mm; lobes equal, broadly triangular, ca. 1 × 1 mm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purple, 0.9–1.5 cm, outside puberulent, inside glabrous; tube cylindric, 7–10 × ca. 3 mm; adaxial lip ca. 2.5 mm; abaxial lip ca. 6 mm. Filaments ca. 6 mm, sparsely puberulent; anthers fused by entire adaxial surfaces, ca. 2 mm, glabrous; staminodes 2, ca. 4 mm. Pistil ca. 1 cm, puberulent; ovary ca. 6 mm. Stigma obturbinate, ca. 1 mm, 2-lobed. Capsule erect, 2–3 cm. Fl. Aug–Oct, fr. Sep–Oct.

- Rocky crevices, cliffs in limestone hills; ca. 200 m. SW Guangxi (Longzhou Xian, Ningming Xian).


文采唇柱苣苔 wen cai chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, crowded, sessile; leaf blade lanceolate-linear, seldom falcate, 4.5–9 × 0.4–1.5 cm, leathery, glabrous, eglandular, base cuneate, margin finely spiny denticulate, apex acute to obtuse; lateral veins invisible. Cymes 2- or 3-flowered; peduncle 6–10 cm, spreading pubescent and glandular pubescent; bracts 2, free, narrowly linear, 3–3.5 cm × 2–2.4 mm, pubescent and glandular pubescent, margin entire, apex attenuate. Pedicel 1–2 cm, spreading densely villous; tube cylindric, ca. 7–10 mm, densely spreading pilose; bracts 1, free, narrowly linear, ca. 1 × 0.8 mm; ovary 1.7–4 × 0.8 mm. Stigma obdeltoid, 1.5–2 mm, 2-parted. Capsule erect, 7–9 mm. Fl. May.

- Hilly regions; ca. 800 m. NE Yunnan.


岩生岩柱苔 yin sheng yan zhu ju tai


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2–10 × 1–2 mm; leaf blade narrowly elliptic to elliptic, 1–2.2 cm × 5–9 mm, papery, densely pubescent, eglandular, base cuneate, margin entire, apex acute to rounded; lateral veins 2 or 3 on each side of midrib, inconspicuous. Cymes 1-flowered; peduncle 1.1–2.2 cm, densely spreading villous; bract 1, narrowly linear, ca. 1 × 0.3 mm, pubescent, margin entire, apex acute. Pedicel ca. 4 mm, puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, ca. 2 × 0.5 mm, outside densely villous, inside puberulent near apex, margin often 1-denticulate apically, apex acute. Corolla purple, ca. 1.2 cm, outside sparsely pubescent, inside nearly glabrous; tube cylindric, ca. 6 × 2 mm; adaxial lip ca. 4 mm; abaxial lip ca. 6 mm. Filaments ca. 1.6 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 1.2 mm, glabrous; staminode 1, ca. 0.3 mm. Pistil ca. 3.8 mm, puberulent; ovary ca. 1.7 mm. Stigma oblate, ca. 0.4 mm, undivided. Capsule erect, ca. 7 mm. Fl. Apr.

- Shaded rocks or cliffs in limestone hills; ca. 200 m. SW Guangxi (Longzhou Xian, Ningming Xian).
Corolla blue-purple, ca. 1.3 cm, outside apically puberulent, inside glabrous; tube nearly tubular, ca. 10 × 2 mm; adaxial lip ca. 2.5 mm; abaxial lip ca. 3.5 mm. Filaments ca. 6.5 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 2 mm, basally sparsely puberulent; staminodes 2, ca. 1.5 mm. Pistil ca. 1.4 cm; ovary ca. 7 mm, glabrous. Style sparsely puberulent; stigma obovate, 0.8 mm, 2-lobed. Fruit and seeds unknown. Fl. Nov.

- Shaded areas on limestone hills; ca. 100 m. SW Guangxi (Fusui Xian).


Perennials. Rhizome tuberlike, internodes inconspicuous. Stems erect, 3.5–14(–25) cm, sparsely puberulent to pilose. Stem leaves 4 or 6, opposite, 4 crowded near apex; petiole 2–10(–30) × ca. 1 mm; leaf blade elliptic to ovate or obovate, 1–6.6 × 0.9–3.5 cm, thin papery, sparsely puberulent to pilose, eglandular, base cuneate to rounded, margin entire to repand or shallowly crenate, apex acute to rounded; lateral veins 5–7 on each side of midrib, inconspicuous. Cymes 1–4-flowered; peduncle 2.4–5.5 cm, sparsely puberulent to pilose; bracts 2, free, narrowly elliptic to lanceolate, 3–7 × 1–2 mm, pilose, margin entire, apex acute. Pedicel 0.7–1.5 cm, glandular puberulent to pilose. Calyx 5–sect from base; segments equal, linear-triangular, 6–9 × 1–1.5 mm, outside puberulent to pilose, inside glabrous, margin entire, apex acute. Corolla white, 3.2–3.6 cm, outside sparsely puberulent to pilose, inside glabrous; tube nearly tubular, ca. 2.5 × 1 cm; adaxial lip ca. 5 mm; abaxial lip ca. 1 cm. Filaments ca. 9 mm, glandular puberulent; anthers fused by entire adaxial surfaces, ca. 2.5 mm, glandular puberulent; staminodes 2, ca. 3 mm. Pistil ca. 1 cm, glandular puberulent; ovary ca. 8 mm. Stigma obovate, ca. 1 mm, 2-lobed. Capsule erect, ca. 3 cm. Fl. Mar.–Apr., fr. Apr.

- Forests, cliffs, on rocks; 1400–3200 m. SW Sichuan, NE Yunnan.


Perennials. Rhizome internodes inconspicuous. Stems erect, 1.2–12(–19) cm, sparsely pilose to pubescent. Stem leaves 4 or 6, opposite, 4 crowded near apex; petiole 0.3–3 cm × 0.5–2 mm; leaf blade elliptic to ovate or obovate, 1–15 × 0.7–8.5 cm, membranous, sparsely pubescent to appressed pilose, eglandular, base broadly cuneate to subcordate, margin dentate to serrate,
apex acute to rounded; lateral veins 4–6 on each side of midrib, slightly conspicuous. Cymes 1–5-flowered; peduncle 1.7–7 cm, pilose to glandular puberulent; bracts 2, free, lanceolate-linear, 2.6–7 × 0.8–1 mm, pubescent to pilose, margin entire, apex attenuate. Pedicel 0.7–1.8 cm, pilose to glandular pubescent. Calyx 5-nect from base; segments equal, narrowly lanceolate, 7–11 × 1–1.5 mm, outside pubescent to pilose, inside nearly glabrous, margin entire, apex acuminate. Corolla purple to blue with yellow throat, 3.2–4 cm, outside basally sparsely puberulent to pilose, inside glabrous; tube funnelform, ca. 2.5 × 1.2 cm; adaxial lip ca. 1.1 cm; abaxial lip ca. 1.6 cm. Filaments ca. 1.1 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 1.5 mm, glabrous; staminode 1, ca. 2 mm. Pistil ca. 2 cm, densely pubescent to pilose; ovary ca. 1.4 cm. Stigma obtrapeziform, ca. 2.5 mm, 2-lobed. Capsule erect, 7–10 cm. Fl. Jul–Sep, fr. Jul–Oct.

• Streamside rocks in forested valleys; 2000–3100 m. SW Sichuan, NW Yunnan (Zhangdian Xian).

多痕唇柱苣苔 duo hen chun zhu ju tai


Perennials. Rhizome internodes conspicuous. Stems decumbent, 4–20 cm, densely brownish glandular pubescent and villose. Stem leaves 4–10; alternate; petiole 0.5–5.5 cm × ca. 2 mm; leaf blade ovate to elliptic, 1.5–8.5 × 1.4–4.2 cm, herbaceous, sparsely puberulent to pilose, eglandular, base oblique, cuneate to cordate, margin denticulate to crenate or serrate, apex acute; lateral veins 5 or 6 on each side of midrib, slightly conspicuous. Cymes 1- or 2-flowered; peduncle 1.5–8 cm, pubescent to pilose; bracts 2, free, broadly lanceolate, 5–11 × 2.4–3.5 mm, pubescent to pilose, margin entire, apex acuminate. Pedicel 0.6–1.4 cm, pubescent to glandular pilose. Calyx 5-nect from base; segments equal, lanceolate, 8–10 × 1.8–2.5 mm, outside pilose, inside sparsely puberulent, margin entire, apex acuminate. Corolla blue-purple, ca. 4.5 cm, outside sparsely puberulent, inside glabrous; tube narrowly funnelform, ca. 2.8 cm × 8 mm; adaxial lip ca. 1.2 cm; abaxial lip ca. 7 mm. Filaments ca. 1 cm, puberulent near apex; anthers fused by entire adaxial surfaces, ca. 3 mm, densely puberulent; staminodes 2, 2–7 mm. Pistil ca. 3 cm, puberulent; ovary ca. 1.8 cm. Stigma obtrapeziform, ca. 2.5 mm, emarginate. Capsule erect, 3–4.5 cm. Fl. Oct, fr. Nov.

Montane forests. S Guangxi (Dongxing Xian, Fangcheng Xian) [Vietnam].


弯果唇柱苣苔 wan guo chun zhu ju tai

Perennials. Rhizome internodes conspicuous. Stems decumbent, 32–61 cm, spreading glandular villous and puberulent. Stem leaves 6–17, alternate; petiole 1–11 cm × ca. 1 mm; leaf blade oblique, narrowly to broadly ovate or elliptic, 3–15 × 1.5–6.5 cm, herbaceous, villous and puberulent, eglandular, base oblique rounded to cordate on 1 side, cuneate on other, often slightly peltate, margin serrate, apex acute to acuminate; lateral veins (4 or)5–7 on each side of midrib, inconspicuous. Cymes 2–11-flowered; peduncle 5.5–11 cm, spreading glandular villous and puberulent; bracts 2, free, ovate to lanceolate or narrowly elliptic, 6–14 × 1–4 mm, adaxially nearly glabrous, margin entire, apex acute. Pedicel 1.5–8 mm, spreading glandular villous and puberulent. Calyx 5-nect from base; segments equal, oblong lanceolate, 5–8 × 1–2 mm, outside spreading glandular villous and puberulent, inside nearly glabrous, margin entire, apex acute. Corolla dark purple, 3.3–5.5 cm, outside glandular pubescent and sparsely pubescent, inside glandular puberulent on base of adaxial lip; tube funnelform, ca. 3 × 0.9 cm; adaxial lip 4–6 mm; abaxial lip 1–1.5 cm. Filaments ca. 1 cm, glandular puberulent, densely bearded apically; anthers fused by entire adaxial surfaces, ca. 3.5 mm, woolly; staminodes 2, 7–10 mm. Pistil 3–4 cm, glandular puberulent; ovary 7–9 mm. Stigma obtrapeziform, ca. 4.5 mm, 2-lobed. Capsule at ca. 90° to peduncle, 1.5–2 cm. Fl. Jun, fr. Jul–Aug.

• Hilly regions; 100–200 m. NE Guanxi (He Xian).


王氏唇柱苣苔 wang shi chun zhu ju tai

Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 4–12 × 3–4 mm; leaf blade ovate to orbicular, 2–4 × 1.4–3.5 cm, thick papery, adaxially sparsely appressed puberulent, eglandular, abaxially sparsely appressed puberulent, base broadly cuneate to rounded, margin remotely repand-crenate, apex obtuse to rounded; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 1–3-flowered; peduncle 4–4.5 cm, densely purple puberulent and glandular puberulent; bracts 2, free, linear, 3–4 × ca. 0.4 mm, puberulent, margin entire, purple ciliate, apex obtuse to rounded. Pedicel ca. 3 mm, purple puberulent and glandular puberulent. Calyx 5-nect from base; segments equal, lanceolate-linear, ca. 3 × 0.8 mm, outside puberulent, inside glabrous, margin entire, apex subulate-acuminate. Corolla white, inside limb purplish, ca. 3.5 cm, outside sparsely puberulent and glandular puberulent, inside glabrous; tube funnelform-tubular, ca. 2.5 × 1 cm; adaxial lip ca. 5 mm; abaxial lip ca. 1 cm. Filaments ca. 1.4 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, ca. 4 mm. Pistil ca. 2.7 cm, densely puberulent and glandular puberulent; ovary ca. 1.7 cm. Stigma obtrapeziform, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jul.

Known only from cultivation. Cultivated in the conservatory of Longtan Park; introduced from Guangxi (Rong’an Xian).

Perennials, stemless. Rhizome internodes inconspicuous. Leaves crowded at rhizome apex, opposite; petiole ca. 10 × 2 mm; leaf blade oblanceolate, 2–3 × 0.5–1 cm, papery, adaxially greenish white puberulent, eglandular, abaxially pressed white velutinous, base decurrent, margin entire, apex acute; lateral veins 2 or 3 on each side of midrib, inconspicuous. Cymes 1-flowered; peduncle nodding, 0.9–1.1 cm, densely puberulent; bracts 2, free, oblong linear, 4–6 × ca. 1 mm, densely puberulent, margin obtuse to rounded. Pedicel 7–11 mm, densely puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear, 1–1.2 cm × 1.6–1.8 mm, outside puberulent, inside glabrous, margin entire, apex acuminate. Corolla purplish, ca. 4.5 cm, outside sparsely puberulent, inside glabrous; tube funnelform, ca. 3.3 × 1.4 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.1 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 4 mm, woolly; staminodes 2, 3–4 mm. Pistil ca. 3.4 cm, densely puberulent; ovary ca. 1.2 cm. Stigma obtrapeziform, ca. 4.2 mm, 2-lobed. Fruit and seeds unknown. Fl. Apr–Jun.

• Limestone hills, also cultivated; ca. 300 m. Cultivated in Longtan Park; introduced from Guangxi (Yongfu Xian).


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 2.5–3 cm; leaf blade strongly oblique, ovate to ovate-elliptic, 3–9 × 2–3.3 cm, herbaceous, appressed pilose and puberulent, eglandular, base broadly rounded to narrowly cuneate, margin repand-denticulate, apex minutely acute; lateral veins 3 or 4 on each side of midrib, inconspicuous. Cymes 1- or 2-flowered; peduncle 2.5–6.5 cm, densely puberulent; bracts 2, free, narrowly oblong, 1.5–3.5 × ca. 0.3 mm, puberulent, margin entire, apex obtuse. Calyx 5-sect from base; segments equal, lanceolate-linear, 2.5–3 × 0.7–0.9 mm, outside puberulent, inside pilose, margin entire, apex obtuse. Corolla blue-purple, ca. 1.4 cm, outside puberulent and glandular puberulent, inside glabrous; tube subcampanulate, ca. 8.5 × 4 mm; adaxial lip ca. 2 mm; abaxial lip ca. 5.5 mm. Filaments ca. 4 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, ca. 0.7 mm. Pistil ca. 1.3 cm, puberulent; ovary ca. 3 mm. Stigma narrowly oblong, ca. 1.2 mm, undivided. Immature capsule erect, ca. 1.5 cm. Fl. May.

• Rocks in valleys; ca. 600 m. Guangxi (Napo Xian).


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 1–1.7 cm × ca. 3 mm; leaf blade ovate to ovate-elliptic, 2.5–5.5 × 1.3–3.5 cm, papery, densely appressed puberulent, eglandular, base cuneate to rounded, margin nearly entire, apex rounded to obtuse; lateral veins 3 or 4 on each side of midrib, conspicuous. Cymes 1–4-flowered; peduncle 4–7 cm, glandular puberulent; bracts 2, free, linear-lanceolate, 3–4 × ca. 1.2 mm, glandular puberulent, margin entire, apex acute. Pedicel 0.7–2.3 cm, glandular puberulent. Calyx 5-sect from base; segments equal, lanceolate-linear to subulate, 4–7 × 0.5–0.8 mm, outside densely pubescent, margin entire, apex acute. Corolla purple, 2–3 cm, outside glandular puberulent, inside glabrous; tube funnelform, 1.3–1.8 cm × ca. 6 mm; adaxial lip 3–5 mm; abaxial lip 4–7 mm. Filaments 5–6 mm, glandular pilose; anthers fused by entire adaxial surfaces, ca. 3 mm, abaxially villous; staminodes 2, ca. 1.5 mm. Pistil 1.5–2 cm; ovary 5–9 mm, densely puberulent and glandular puberulent or glandular pilose. Stigma ligulate, ca. 1 mm, emarginate at apex. Capsule erect, 1.5–2 cm. Fl. and fr. Oct.

• Limestone hills; ca. 600 m. Guangxi (Hechi Xian).


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 1–2 cm; leaf blade ovate to ovate-elliptic, 3–4 × 1.2–1.4 cm, undivided. Immature capsule erect, ca. 1.1 cm. Fl. Apr.
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 5–25 cm × 2–4 mm; leaf blade orbicular to ovate, 4.5–15 × 5–16.5 cm, papery, villous, eglandular, base cordate, margin double dentate, occasionally lobed, apex acute to rounded, basal veins 3–6; lateral veins 2 or 3 on each side of midrib, adaxially inconspicuous, abaxially slightly conspicuous. Cymes 4–15-flowered; peduncle 8–23 cm, densely spreading villous and glandular pubescent; bracts 2, free, lanceolate to oblong, 4–10 × 1–2.5 mm, densely villous and glandular pubescent, margin 3–5-glandular denticulate, apex acute. Pedicel 2–5 cm. Calyx 5-sect from base; segments equal, lanceolate, 0.8–1.2 cm × ca. 1.5 mm, densely villous and glandular pubescent, margin entire or 1–2-denticulate, apex acute. Corolla white to purplish, 2.5–3.4 cm, outside glandular pubescent, inside pubescent at lobe base; tube subtubular, 1.7–2.5 × ca. 1 cm; adaxial lip ca. 6 mm; abaxial lip 1–1.2 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 4 mm, abaxially densely bearded; staminodes 2, ca. 5.5 mm. Pistil ca. 2.1 cm; ovary ca. 6 mm, densely villous or densely glandular pubescent. Stigma obtrapeziform, ca. 2 mm, 2-lobed. Fruit and seeds unknown. Fl. Jul.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 2.5–7.5 cm × 1–3 mm; leaf blade ovate, seldom elliptic to broadly ovate, 2.5–9.5 × 1.5–6.5 cm, papery, sparsely strigose, eglandular, base broadly cuneate to rounded, margin crenate, seldom repand, apex acute; lateral veins 3–5 on each side of midrib, inconspicuous. Cymes 1–6-flowered; peduncle 8–31.5 cm, pubescent; bracts 2(or 3), free, nearly oblong to lanceolate-triangular, 0.5–1.6 cm × 1–2 mm, pubescent, margin entire, apex acute to obtuse. Pedicel 0.7–2.6 cm, puberulent. Calyx 5-sect from base; segments equal, lanceolate, 6–11 × ca. 1.5 mm, pubescent, margin entire, apex acute. Corolla white, limb purplish, 2.4–3 cm, inside with 2 purple spots on abaxial lip, 4.5–4.8 cm, outside sparsely pubescent, inside pubescent, densely glandular pubescent on spots of adaxial lip, glandular puberulent on spots of abaxial lip; tube funnelform, 2.5–3 × 1.5–2 cm; adaxial lip 1–1.5 cm; abaxial lip 2–3 cm. Filaments ca. 1.5 cm, glandular puberulent at base and apex; anthers fused by entire adaxial surfaces, ca. 4 mm, abaxially densely bearded; staminodes 3, 1–12 mm. Pistil ca. 3.3 cm; ovary ca. 2.2 cm, densely glandular puberulent. Stigma obtrapeziform, ca. 3.5 mm, 2-lobed. Fruit and seeds unknown. Fl. Apr.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal; petiole 0.5–4 cm × 2–4 mm; leaf blade ovate, seldom elliptic, 2–8 × 1–6 cm, papery, pubescent (hairs 1–7 mm), eglandular, base cuneate or oblique and broadly cuneate, margin crenate to slightly repand, apex obtuse; lateral veins 3–5 on each side of midrib, inconspicuous. Cymes 2- or 3-flowered; peduncle 3–14 cm, villous and glandular pubescent; bracts 2, free, linear, 3–6 × 0.5–1.5 mm, villous, margin entire, apex obtuse. Pedicel 3–15 mm, villous and glandular puberulent. Calyx 5-sect from base; segments equal, narrowly lanceolate, 4–6 × ca. 1 mm, outside villous, inside sparsely puberulent, margin entire, apex acute. Corolla purple red, 3–3.8 cm, outside sparsely pubescent and glandular pubescent, inside glandular puberulent on lobes; tube funnelform, ca. 2.4 × 1 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1 cm, sparsely puberulent near apex; anthers fused by entire adaxial surfaces, ca. 3 mm, abaxially puberulent; staminodes 2, ca. 4 mm. Pistil ca. 2.4 cm; ovary ca. 1.8 cm, densely puberulent and glandular puberulent. Stigma obtrapeziform, ca. 1 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun.


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2–14 × 2–4 mm; leaf blade narrowly elliptic to narrowly ovate, 2–7.5 × 0.8–2.8 cm, papery, densely appressed puberulent, adaxially with hairs 0.8–1.1 and 0.15–0.5 mm, eglandular, base cuneate, margin subentire to repand, apex acute; lateral veins ca. 3 on each side of midrib, inconspicuous. Cymes 5–15-flowered; peduncle 12–13 cm, spreading puberulent; bracts 2, free, ovate to narrowly ovate, 6.5–7 × 2.5–3 mm, densely appressed puberulent, margin entire, apex acute. Pedicel 0.3–1.8 cm, densely puberulent and glandular puberulent. Calyx 5-sect from base; segments nearly equal, narrowly triangular-lanceolate, 4.5–5 × 1–1.1 mm, appressed puberulent, margin entire, apex acute. Corolla ca. 3 cm, outside sparsely puberulent, inside puberulent near base of adaxial lip and below filaments; tube funnelform-tubular, ca. 2 × 1 cm; adaxial lip ca. 4 mm; abaxial lip ca. 1 cm. Filaments ca. 9 mm, glandular puberulent above middle; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, ca. 3 mm. Pistil ca. 1.5 cm; ovary ca. 9 mm, densely appressed puberulent. Style glabrous; stigma narrowly oblong, ca. 2 mm, emarginate. Fruit and seeds unknown.

• Forests on limestone hills. Guangxi (Liujiang Xian).

• Forests on limestone hills. Guangxi (Longzhou Xian).

**Perennials, stemless. Rhizome internodes inconspicuous. **Leaves basal, opposite; petiole 2–7.5 cm × 0.6–2 mm; leaf blade elliptic to elliptic-ovate or elliptic-ovobovate, 4.5–13 × 2.3–6.5 cm, herbaceous, sparsely puberulent (hairs to 1.2 mm), glandular, base oblique, rounded to subcordate, margin dentate to serrate, apex obtuse; lateral veins ca. 5 on each side of midrib, inconspicuous. Cymes 1-flowered; peduncle 2–4 cm, sparsely pubescent; bracts absent or 2, free, narrowly linear, 2.5–3 × 0.3–0.5 mm, puberulent, margin entire, apex acute. Pedicel 1.3–3 cm, pubescent. Calyx 1.7–1.9 cm, 5-lobed; tube 5–10 mm; lobes equal, triangular-lanceolate, 7 mm, outside sparsely puberulent, inside glabrous, margin entire, apex subulate-acuminate. Corolla purplish, 4.5–5.6 cm, glabrous; tube narrowly funnelform, 3–4 × 1–1.5 cm; adaxial lip ca. 1 cm; abaxial lip ca. 1.6 cm. Filaments ca. 9 mm, glandular puberulent near apex; anders fused by entire adaxial surfaces, ca. 3 mm, glandular; staminodes 2, ca. 6 mm. Pistil ca. 3.1 cm, sparsely glandular puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 3 mm, 2-lobed. Fruit and seeds unknown. Fl. Jun–Jul.

*Guangxi (Longzhou Xian)*.


**Perennials, stemless. Rhizome internodes inconspicuous. **Leaves basal, opposite; petiole 1–5×(–8) cm × 1.5–3 cm; leaf blade broadly ovate to broadly obovate or orbicular to reniform, 2–11 × 2–8 cm, herbaceous, adaxially between lateral veins with long white hairs 3–6.5 mm, glandular, abaxially puberulent, white to brownish pubescent to pilose along veins, base rounded to cordate, margin dentate to crenate or serrate, apex obtuse to rounded; lateral veins 4 or 5 on each side of midrib, conspicuous. Cymes 1(or 2)-flowered; peduncle 3–8(–11) cm, pubescent to sparsely pilose; bracts 2 or absent, free, lanceolate to oblanceolate, 0.8–1.2 cm × 1–2.5 mm, pubescent, margin entire to sparsely denticulate, apex acute. Pedicel 3–4 cm, pubescent to sparsely pilose. Calyx 1–1.7 cm, 2-lipped; adaxial lip 4-lobed from above middle; tube 1–3 mm; lobes triangular, 4–5 × 2–2.5 mm; abaxial lip entire, linear to lanceolate, 1–1.5 cm × 3–4 mm, outside sparsely pubescent to pilose or glabrous, inside glabrous, margin entire, apex acuminate. Corolla purple to purple-blue, 4–7 cm, glabrous; tube funnelform-tubular, 2.8–5 × 1.2–2 cm; adaxial lip 1–1.2 cm; abaxial lip 1.2–2 cm. Filaments ca. 1 cm,
Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 12.5–21 cm × ca. 3 mm; leaf blade broadly ovate, ca. 8.3 × 8.3 cm, papery, adaxially brownish pubescent, eglandular, abaxially yellowish pubescent along veins, base cordate, margin denticulate to serrate, apex acute; lateral veins ca. 0.8–1.2 cm; adaxial lip 6–10 mm; abaxial lip 1.2–1.5 cm. Filaments ca. 1.1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, 2–4 mm, puberulent; staminodes 3, central ca. 1.5 mm, laterals ca. 6 mm. Pistil ca. 2.8 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 6 mm, 2-lobed. Old capsule erect, ca. 5.5 cm. Fl. Apr–Jun.

Shaded valleys along streambeds; ca. 600 m. S Guangxi (Ningning Xian, Shangsi Xian) [Vietnam].

Based on observation of the types of *Chirita ceratoscyphus* and *C. corniculata* Burtt (pers. comm.) concluded that they are the same.


Perennials. Rhizome internodes inconspicuous. Stems absent or prostrate and rooting at nodes, puberulent. Leaves 2–8, basal, sometimes on stem and alternate or opposite, ± widely spaced; petiole 2–18 cm × 1–2 mm; leaf blade ovate to narrowly oblong or rarely oblong, 5–14 × 3.4–9 cm, herbaceous, adaxially puberulent, eglandular, abaxially pubescent only along veins, base oblique, cuneate to cordate on 1 side, rounded to cordate on other, margin dentate to serrate, apex acute to obtuse or abruptly acuminate; lateral veins 6–8 on each side of midrib, conspicuous. Cymes 1–4–flowered; peduncle 4.5–17(–21) cm, puberulent to villous; bract 1, narrowly ovate or oblong to spatulate, 1.8–7 × 1–3 mm, sparsely puberulent to villous, margin sparsely denticulate to subentire, apex acute. Pedicel 2–4 cm, sparsely puberulent to villous. Calyx 0.9–1.2 cm, 5-lobed from near base to 5-lobed from near middle; tube 1.6–7 mm; lobes equal, lanceolate-linear with protruberance near middle, 5–10 mm, outside puberulent, inside glabrous, margin entire, apex attenuate, hollow, hornlike. Corolla purple to blue, ca. 4.5 cm, outside sparsely puberulent, inside glabrous; tube funnelform, ca. 3.2 × 1.4 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, 2–4 mm, puberulent; staminodes 3, central ca. 1.5 mm, laterals ca. 6 mm. Pistil ca. 2.8 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 6 mm, 2-lobed. Old capsule erect, ca. 5.5 cm. Fl. Apr–Jun.

Shaded rocks in montane regions; 1900–3400 m. Yunnan (Fengqing Xian, Lufeng Xian, Yongsheng Xian).


Perennials, stemless. Rhizome internodes inconspicuous. Leaves basal, opposite; petiole 2–18 cm × 1–2 mm; leaf blade ovate to narrowly oblong, 5–14 × 3.4–9 cm, herbaceous, adaxially puberulent, eglandular, abaxially pubescent only along veins, base oblique, cuneate to cordate on 1 side, rounded to cordate on other, margin dentate to serrate, apex acute to obtuse or abruptly acuminate; lateral veins 6–8 on each side of midrib, conspicuous. Cymes 1–4–flowered; peduncle 4.5–17(–21) cm, puberulent to villous; bract 1, narrowly ovate or oblong to spatulate, 1.8–7 × 1–3 mm, sparsely puberulent to villous, margin sparsely denticulate to subentire, apex acute. Pedicel 2–4 cm, sparsely puberulent to villous. Calyx 0.9–1.2 cm, 5-lobed from near base to 5-lobed from near middle; tube 1.6–7 mm; lobes equal, lanceolate-linear with protruberance near middle, 5–10 mm, outside puberulent, inside glabrous, margin entire, apex attenuate, hollow, hornlike. Corolla purple to blue, ca. 4.5 cm, outside sparsely puberulent, inside glabrous; tube funnelform, ca. 3.2 × 1.4 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, 2–4 mm, puberulent; staminodes 3, central ca. 1.5 mm, laterals ca. 6 mm. Pistil ca. 2.8 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 6 mm, 2-lobed. Old capsule erect, ca. 5.5 cm. Fl. Apr–Jun.

Shaded rocks in montane regions; 1900–3400 m. Yunnan (Fengqing Xian, Lufeng Xian, Yongsheng Xian).

89. *Chirita clarkei* J. D. Hooker.

Perennials. Rhizome internodes inconspicuous. Stems absent or prostrate and rooting at nodes, puberulent. Leaves 2–8, basal, sometimes on stem and alternate or opposite, ± widely spaced; petiole 2–18 cm × 1–2 mm; leaf blade ovate to narrowly oblong or rarely oblong, 5–14 × 3.4–9 cm, herbaceous, adaxially puberulent, eglandular, abaxially pubescent only along veins, base oblique, cuneate to cordate on 1 side, rounded to cordate on other, margin dentate to serrate, apex acute to obtuse or abruptly acuminate; lateral veins 6–8 on each side of midrib, conspicuous. Cymes 1–4–flowered; peduncle 4.5–17(–21) cm, puberulent to villous; bract 1, narrowly ovate or oblong to spatulate, 1.8–7 × 1–3 mm, sparsely puberulent to villous, margin sparsely denticulate to subentire, apex acute. Pedicel 2–4 cm, sparsely puberulent to villous. Calyx 0.9–1.2 cm, 5-lobed from near base to 5-lobed from near middle; tube 1.6–7 mm; lobes equal, lanceolate-linear with protruberance near middle, 5–10 mm, outside puberulent, inside glabrous, margin entire, apex attenuate, hollow, hornlike. Corolla purple to blue, ca. 4.5 cm, outside sparsely puberulent, inside glabrous; tube funnelform, ca. 3.2 × 1.4 cm; adaxial lip ca. 8 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.1 cm, glandular puberulent apically; anthers fused by entire adaxial surfaces, 2–4 mm, puberulent; staminodes 3, central ca. 1.5 mm, laterals ca. 6 mm. Pistil ca. 2.8 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 6 mm, 2-lobed. Old capsule erect, ca. 5.5 cm. Fl. Apr–Jun.

Shaped valleys along streambeds; ca. 600 m. S Guangxi (Ningning Xian, Shangsi Xian) [Vietnam].
Incarvillea oblongifolia Roxburgh, Fl. Ind., ed. 2, 3: 113. 1832; Aeschynanthus oblongifolius (Roxburgh) G. Don; Babactes oblongifolia (Roxburgh) A.P. de Candolle ex Meissner; Chirita acuminata R. Brown; Roettlera oblongifolia (Roxburgh) Kuntze.

Perennials. Rhizomes unknown. Stems erect, 45–90 cm, rust-brown puberulent apically. Leaves to 8 or more, along stem, opposite, ± widely spaced; petiole 1.6–4.5 cm × 1.4–2 mm; leaf blade oblate, ovate to elliptic or oblong, 8–18 × 5–10 cm, papery, densely puberulent, densely yellow glandular, base oblique, cuneate to cordate, margin denticate, apex acuminate; lateral veins 8–13 on each side of midrib, conspicuous. Cymes 5–7-flowered; peduncle 1.5–3.5 cm, densely rust-brown puberulent; bracts 2, free, narrowly ovate, ca. 6 × 2–3 mm, densely puberulent, margin denticate, apex acute. Pedicel 0.5–1.5 cm, densely rust-brown puberulent. Calyx 1.1–1.4 cm, 5-lobed from above to near middle; tube 7–9 mm; lobes equal, triangular, 3–5 mm, outside densely puberulent and glandular, inside glabrous with very short hairs near apex, margin entire, apex acute to acuminate. Corolla white with yellow at throat, 4–4.3 cm, outside sparsely puberulent, inside glabrous; tube funnelform, 2.7–3 × ca. 1.2 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.3 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 1.5 mm, glabrous; staminodes 3, central ca. 0.6 mm, laterals ca. 6 mm. Pistil ca. 2.5 cm, puberulent; ovary ca. 2 cm. Stigma obtrapeziform to obdeltoid, ca. 2–5 mm, emarginate or 2-lobed. Capsule erect, 5–7 cm. Fl. Aug–Sep, fr. Sep–Oct.

Montane evergreen broad-leaved forests; 800–1200 m. SE Xizang (Medog Xian), NW Yunnan (Gongshan Xian) [NE India, N Myanmar].

89. Chirita speciosa Kurz, J. Bot. 11: 195. 1873.

美丽唇柱苣苔 mei li chun zhu ju tai


Perennials. Rhizome internodes inconspicuous. Stems absent or erect to prostrate, to 15–37 cm, sparsely appressed puberulent. Basal leaves ca. 2, stem leaves 1–3 pairs, opposite, ± widely spaced, strongly unequal in each pair, larger ones similar to basal leaves, but smaller; petiole 1.3–4 cm × 1–4 mm; leaf blade ovate to elliptic, 9.5–19 × 6–14 cm, herbaceous, adaxially appressed puberulent, eglandular, abaxially sparingly pubescent, base oblique, cordate to rounded, margin dentate to serrate, apex abruptly acuminate to rounded; lateral veins 6–9 on each side of midrib, conspicuous. Cymes (1 or)2–6-flowered; peduncle 6.5–15–(25) cm, sparingly pubescent; bracts 2, free, ovate or elliptic to suborbicular, 0.4–2 cm × 1–10 mm, sparsely pubescent, margin entire to dentate, apex acute to rounded. Pedicel 0.7–2.3 cm, pubescent to glabrous. Calyx 1.5–2.2 cm, 5-lobed from above to near middle; tube 7–11 mm; lobes unequal, narrowly triangular, 5–8 × 3–4 mm, glabrous or outside sparsely puberulent, margin entire, apex acute to attenuate. Corolla white to yellow, sometimes purplish to bluish, 4.4–5.5 cm, glabrous; tube tubular, 3–4 × ca. 1 cm; adaxial lip ca. 9 mm; abaxial lip ca. 1.1 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, 3–4 mm, glabrous; staminodes 3, central ca. 2 mm, laterals 3.5–5.5 mm. Pistil ca. 2.3 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 3 mm, 2-lobed. Capsule often at to 90° to peduncle, 8–13 cm. Fl. May–Sep, fr. Aug–Dec.

Rocks in wet valleys; 700–3100 m. S and W Yunnan [NE India, Myanmar, Thailand, N Vietnam].


大叶唇柱苣苔 da ye chun zhu ju tai

Didymocarpus grandifolius (A. Dietrich) F. G. Dietrich; Henckelia grandifolia A. Dietrich (1831), not H. macrophylla (Wallich ex D. Don) Sprengel (1817).

Perennials. Rhizome internodes inconspicuous. Stems absent or erect to prostrate, to 15–37 cm, sparsely appressed puberulent. Basal leaves ca. 2, stem leaves 1–3 pairs, opposite, ± widely spaced, strongly unequal in each pair, larger ones similar to basal leaves, but smaller; petiole 1.3–4 cm × 1–4 mm; leaf blade ovate to elliptic, 9.5–19 × 6–14 cm, herbaceous, adaxially appressed puberulent, eglandular, abaxially sparingly pubescent, base oblique, cordate to rounded, margin dentate to serrate, apex abruptly acuminate to rounded; lateral veins 6–9 on each side of midrib, conspicuous. Cymes 1 or 2–6-flowered; peduncle 6.5–15–(25) cm, sparingly pubescent; bracts 2, free, ovate or elliptic to suborbicular, 0.4–2 cm × 1–10 mm, sparsely pubescent, margin entire to dentate, apex acute to rounded. Pedicel 0.7–2.3 cm, pubescent to glabrous. Calyx 1.5–2.2 cm, 5-lobed from above to near middle; tube 7–11 mm; lobes unequal, narrowly triangular, 5–8 × 3–4 mm, glabrous or outside sparsely puberulent, margin entire, apex acute to attenuate. Corolla white to yellow, sometimes purplish to bluish, 4.4–5.5 cm, glabrous; tube tubular, 3–4 × ca. 1 cm; adaxial lip ca. 9 mm; abaxial lip ca. 1.1 cm. Filaments ca. 1 cm, glabrous; anthers fused by entire adaxial surfaces, 3–4 mm, glabrous; staminodes 3, central ca. 2 mm, laterals 3.5–5.5 mm. Pistil ca. 2.3 cm, puberulent; ovary ca. 1.5 cm. Stigma flabellate, ca. 3 mm, 2-lobed. Capsule often at to 90° to peduncle, 8–13 cm. Fl. May–Sep, fr. Aug–Dec.

Rocks in forests; 300–3100 m. SW Guizhou (Zhengfeng Xian), S Yunnan [Bhutan, NE India, N Myanmar, Nepal, Thailand].


美丽荨麻苣苔 mei li qun mea ju tai
Chirita grandiflora Wallich; Didymocarpus urticifolius (Buchanan-Hamilton ex D. Don) Wonisch; Gonostemum boucheanum Regel; Henckelia urticifolia (Buchanan-Hamilton ex D. Don) A. Dietrich; H. wollichiana A. Dietrich; Roettlera urticifolia (Buchanan-Hamilton ex D. Don) Kuntze.

Perennials. Rhizome unknown. Stems erect, 30–80 cm, sparsely puberulent. Stem leaves to 8 or more, ± widely spaced, unequal in a pair; petiole 0.7–6.5 cm × 1–2 mm; leaf blade elliptic to broadly elliptic, rarely ovate or obovate, 4–11(–17) × 2.2–6(–10) cm, papery, puberulent, eglandular, abaxially mostly along veins, basally broadly cuneate to rounded, margin dentate to serrate, apex acute to abruptly acuminate; lateral veins 5–10 on each side of midrib, conspicuous. Cymes 1–2-flowered; peduncle 1.5–5.5 cm, puberulent to sparsely puberulent; bracts 2, free, lanceolate to ovate, 6–16 × 3–9 mm, nearly glabrous to pubescent, margin subentire to denticate, apex acute. Pedicel 0.8–2.2 cm, puberulent or pilose to glabrous. Calyx 2.5–3.5 cm, 5-lobed; tube 1–1.5 cm; lobes slightly unequal, narrowly triangular to lanceolate, 1–2 cm, outside sparsely puberulent to villous near base, inside glabrous, margin entire, apex attenuate. Corolla white to yellow with yellow or purple markings, 3.2–5.7 cm, outside glabrous to sparsely puberulent, inside glabrous; tube nearly tubular, 2.5–4 × 1–1.6 cm; adaxial lip 7–10 mm; abaxial lip 1.2–1.5 cm. Filaments 1–1.2 cm, glabrous to puberulent; anthers fused by entire adaxial surfaces, 2–3 mm, glabrous (rarely pubescent); staminodes 2 or 3, 0.2–3.5 mm. Pistil 2.4–3 cm, glabrous or with a few hairs (rarely pubescent); ovary 1.5–2.5 cm. Stigma obturapitiform, 3.5–4.5 mm, 2-lobed to deeply 2-lobed. Capsule erect, 7.5–12 cm. Fl. Jul–Sep, fr. Aug–Nov.

Rocks in forests, valley streambeds; 200–2300 m. Guangdong, Guangxi, S Hunan, Taiwan, SE Xizang (Medog Xian), S Yunnan [Laos, N Myanmar, Sikhim, N Thailand, N Vietnam].

93. Chirita pumila D. Don, Prodr. Fl. Nepal. 90. 1825.斑叶唇柱苣苔 ban ye chun zhu ju tai

Bonnaya pumila (D. Don) Sprengel; Chirita flava R. Brown; C. sphagnicola H. Léveillé & Vaniot; Didymocarpus anthonyanus Handel-Mazzetti; Henckelia pumila (D. Don) A. Dietrich; Roettlera pumila (D. Don) Kuntze.

Annuals, not rhizomatous. Stems erect, 6–46 cm, pubescent to sparsely pilose. Stem leaves 4–8, opposite, ± widely spaced; petiole 4.12(–28) × 1–2 mm; leaf blade oblique, lanceolate to ovate or elliptic, 2–17 × 1.2–5.5(–8) cm, herbaceous, puberulent to pilose, eglandular, abaxially purple spotted, basally glabrous, margin entire to shallowly denticate, apex acute to acuminate; lateral veins 6–9 on each side of midrib, conspicuous. Cymes (1 or)2–7-flowered; peduncle 2.8–10 cm, puberulent to sparsely pilose or glabrescent; bracts 2, free, ovate to lanceolate or obovate, 5–18 × 1–4 cm, pubescent, margin entire to sparsely pubescent, apex acute to acuminate; pedicel 3–20 mm, glabrous to puberulent or pilose. Calyx 0.9–1.8 cm, 5-lobed from below to above middle; tube 4–10 mm; lobes slightly unequal, narrowly triangular to ovate, 4–10 × ca. 2 mm, outside pubescent to sparsely pilose, inside glabrous, margin entire, apex subulate-acuminate, hornlike, spreading. Corolla white to purple with yellow or purple markings, 3.2–5.7 cm, outside puberulent to pilose, inside glabrous to sparsely pubescent adaxially; tube narrowly funnelform, 2.5–4.5 × 0.8–1.5 cm; adaxial lip 4–10 mm; abaxial lip 0.6–1.5 cm. Filaments 0.8–1.3 cm, sparsely puberulent to sparsely pubescent; bracts 2 or 3, free, lanceolate to ovate, 5–8 × 2–(4–7) mm, ciliate to puberulent, margin entire to remotely denticate, apex acute. Pedicel 0.5–1.8 cm, glabrous to sparsely pubescent or glandular puberulent. Calyx (0.6–)1.1–1.7 cm, 5-lobed from near middle; tube 3–12 mm; lobes slightly unequal, narrowly triangular to triangular, 5–7.5 × 3–4 mm, outside sparsely puberulent to pilose or glabrous, sometimes glandular, inside glabrous, margin entire, apex acuminate. Corolla white to yellow with yellow or purple markings or blue-purple, (2.3–)3.4–5.8 cm, outside glabrous to sparsely puberulent, inside glabrous; tube nearly tubular, 2.5–4 × 1–1.6 cm; adaxial lip 7–10 mm; abaxial lip 1.2–1.5 cm. Filaments 1–1.2 cm, glabrous to sparsely puberulent; anthers fused by entire adaxial surfaces, 2–3 mm, glabrous (rarely pubescent); staminodes 2 or 3, (0.2–)3–5 mm. Pistil 2.4–3 cm, glabrous or with a few hairs (rarely pubescent); ovary 1.5–2.5 cm. Stigma obturapitiform, 3.5–4.5 mm, 2-lobed to deeply 2-lobed. Capsule erect, 7.5–12 cm. Fl. Jul–Sep, fr. Aug–Nov.
Perennials. Rhizome internodes inconspicuous. Stems erect, 12–40 cm, densely brown pubescent. Stem leaves 4–8, opposite, ± widely spaced; petiole 1–5.5 cm × 1–2 mm; leaf blade oblique, elliptic to ovate, 3.5–12.5 × 2–8 cm, papery, adaxially densely puberulent, eglandular, abaxially pubescent along veins, base oblique, broadly cuneate on 1 side, cordate on other, margin irregularly denticulate, apex acuminate; lateral veins 7 on each side of midrib, slightly conspicuous. Cymes 1–2-flowered; peduncle 3.4–6 cm, densely brown pubescent; bracts 2, connate into an involucre, broadly funnelform, ca. 1.5 cm, ca. 2.3 cm in diam., puberulent, margin denticulate, apex acute. Pedicel 2–4 mm, sparsely puberulent. Calyx ca. 2.5 cm, 5-lobed; tube ca. 1 cm; lobes equal, triangular, 1.1–1.5 cm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purple-red, ca. 4.8 cm, outside sparsely puberulent, inside glabrous; tube narrowly funnelform, ca. 4.5 cm × ca. 1.1 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.2 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 2 mm, glabrous; staminodes 2, ca. 9 mm. Pistil 4–5.2 cm, puberulent; ovary ca. 3 cm. Stigma ligulate-spurulate, ca. 5 mm, undivided. Fruit and seeds unknown. Fl. Jul–Sep, fr. Jul–Oct.

Forests, stream sides, rocks, or among grassy clumps; 800–2800 m. NW Guangxi, SW Guizhou, SE Xizang, NW and S Yunnan [Bhutan, N and NE India, Myanmar, Nepal, Sikkim, Thailand, N Vietnam].


Perennials. Rhizome internodes inconspicuous. Stems erect, 18–34 cm, glabrous or glabrescent. Stem leaves 2–4 pairs, opposite, all or at least upper 2 pairs crowded near stem apex; petiole 1.2–9.5 cm × 2–2.5 mm; leaf blade elliptic to broadly ovate or suborbicular, 2.5–21.4 × 2.5–11.2 cm, herbaceous, adaxially appressed white puberulent, eglandular, abaxially glabrous to puberulent near veins, base oblique, 1 side cuneate to auriculate, other narrowly cuneate to cuneate, rarely rounded, margin dentate to repand-crenate, apex acute to rounded; lateral veins 4–9 on each side of midrib, conspicuous. Cymes 1–2-flowered; peduncle 1–6 cm, glabrous; bracts 2, free, ovate to lanceolate, 0.5–1.7 × 2–8 mm, ciliate, margin denticulate, apex acuminate. Pedicel 3–5(–8.5) cm, glabrous. Calyx 2.4–3 cm, 5-lobed from middle; tube 1.3–1.9 cm; lobes unequal, ovate to ovate-lanceolate, adaxial lobes 1–1.2 cm × 4–6 mm, abaxial lobes 8 × 2–5 mm, outside pilose, inside glabrous, margin entire, apex cuspidate. Corolla pale yellow with pale brown stripes in the throat, 5.9–6.1 cm, outside sparsely puberulent, inside glabrous; tube narrowly funnelform, 4.2–4.5 cm × ca. 1.1 cm; adaxial lip ca. 1.1 cm; abaxial lip 1.6–1.7 cm. Filaments ca. 8 mm, glabrous; anthers fused by entire adaxial surfaces, ca. 4.5 mm, glabrous; staminodes 2, ca. 2.5 mm. Pistil ca. 3.8 cm, glabrous; ovary ca. 2.4 cm. Stigma deltoid, ca. 3.5 mm, 2-lobed. Capsule erect, 14–18.5 cm. Fl. Jul–Sep, fr. Sep–Oct.

• Under dense forests near mountain streams; 2600–2900 m. Yunnan (Wenshan Xian).


Perennials. Rhizome internodes inconspicuous. Stems erect, 5.5–20 cm, white villous. Stem leaves 2–6, opposite, crowded at stem apex; petiole 1–12 × 1–2 mm; leaf blade elliptic to obovate or ovate, 2.5–17.5 × 2–9.5 cm, herbaceous, puberulent to pilose, eglandular, base oblique, cuneate to truncate, margin denticulate to serrulate, apex acute to rounded; lateral veins 5 or 6 on each side of midrib, slightly conspicuous. Cymes 1–10-flowered; peduncle absent; bracts ca. 7, free, spathulate to linear, 0.6–1.5 cm × 0.3–2 mm, pubescent, margin entire, apex attenuate. Pedicel to 2.5 cm, puberulent. Calyx 1–1.4 cm, deeply 5-lobed; tube ca. 3 mm; lobes slightly unequal, triangular, 3–10 mm, outside with 5 longitudinal bands of pilose hairs between lobes, inside glabrous, margin entire, apex acute. Corolla blue, 5–6.5 cm, outside puberulent, inside glabrous; tube narrowly funnelform, 4–5.5 × ca. 1.3 cm; adaxial lip ca. 7 mm; abaxial lip ca. 1.2 cm. Filaments ca. 1.2 cm, glabrous; anthers fused by entire adaxial surfaces, ca. 2 mm, glabrous; staminodes 2, ca. 9 mm. Pistil 4–5.2 cm, puberulent; ovary ca. 3 cm. Stigma ligulate-spurulate, ca. 5 mm, undivided. Fruit and seeds unknown. Fl. Jun.

Perennials. Rhizome internodes conspicuous. Stems erect, opposite, ± widely spaced; petiole 1.8–9 cm × 1–2 mm; leaf blade elliptic to broadly ovate or suborbicular, 8 cm, glabrous. Stem leaves 1–3, alternate, ± widely spaced; petiole 1.8–9 cm × 1–2 mm; leaf blade oblique, elliptic to broadly ovate or suborbicular, 2.5–12 × 1–2 mm, puberulent; ovary ca. 3 cm. Stigma ligulate-spurulate, ca. 5 mm, undivided. Fruit and seeds unknown. Fl. Jul–Sep, fr. Sep–Oct.


Perennials. Rhizome internodes conspicuous. Stems erect, 12–40 cm, densely brown pubescent. Stem leaves 4–8, opposite, ± widely spaced; petiole 1–5.5 cm × 1–2 mm; leaf blade oblique, elliptic to ovate, 3.5–12.5 × 1–2 cm, papery, adaxially densely puberulent, eglandular, abaxially pubescent along veins, base oblique, broadly cuneate on 1 side, cordate on other, margin irregularly denticulate, apex acuminate; lateral veins 7 on each side of midrib, slightly conspicuous. Cymes 1–2-flowered; peduncle 3.4–6 cm, densely brown pubescent; bracts 2, connate into an involucre, broadly funnelform, ca. 1.5 cm, ca. 2.3 cm in diam., puberulent, margin denticulate, apex acute. Pedicel 2–4 mm, sparsely puberulent. Calyx ca. 2.5 cm, 5-lobed from middle; tube ca. 1 cm; lobes equal, triangular, 1–1.5 cm, outside puberulent, inside glabrous, margin entire, apex acute. Corolla purple-red, ca. 4.8 cm, outside sparsely puberulent, inside glabrous; tube nearly tubular, ca. 4 × 1 cm; adaxial lip ca. 6 mm; abaxial lip ca. 8 mm. Filaments ca. 1.1 cm, glanduliferous apically; anthers fused by entire adaxial surfaces, ca. 6 mm, glabrous; staminodes 2, ca. 6 mm. Pistil ca. 6.8 cm; ovary ca. 1.1 cm, glabrous. Style puberulent; stigma obovate-zigzagform, ca. 6 mm, 2-lobed. Fruit and seeds unknown. Fl. Aug.

• Broad-leaved forest margins, montane stream sides; 900–1700 m. SE Xizang (Medog Xian).


depressed semi-orbicular, 5–7 mm × 1–2 cm, glabrous, margin subentire, apex truncate-rounded. Pedicel ca. 1.8 mm, glabrous. Calyx ca. 1.3 cm, 5-lobed from above middle; tube ca. 9 mm; lobes equal, deltoid, ca. 4 × 4.8 mm, glabrous, margin entire, apex acute. Corolla ca. 3.2 cm, glabrous; tube funnelform, ca. 3 × 1.8 cm; adaxial lip ca. 2 mm; abaxial lip ca. 4 mm. Filaments ca. 9 mm, minutely glandular; anthers fused by entire adaxial surfaces, ca. 3 mm, glabrous; staminodes 2, 4–5.5 mm. Pistil ca. 2.9 cm, sparsely appressed puberulent; ovary ca. 1.7 cm. Stigma flabellate, ca. 3 mm, deeply 2-lobed. Fruit and seeds unknown. Fl. Oct.

• Yunnan (Simao Xian).


普洱唇柱苣苔 pu er chun zhu ju tai
Annuals, not rhizomatous. Stems 10–30 cm, glabrous to sparsely puberulent. Basal leaves 1–2, stem leaves usually 2 pairs, opposite; petiole 1.5–9.5 cm × 2–2.5 mm; leaf blade ovate to elliptic, 1.7–14.5 × 1.2–7.5 cm, herbaceous, adaxially densely to sparsely puberulent, sparsely puberulent along veins, eglandular, axially puberulent to glabrescent, densely to sparsely puberulent along veins, base oblique, broadly cuneate to subcordate, margin serrate to double serrate, apex obtuse, rarely acute to shortly acuminate; lateral veins 4–8 on each side of midrib, conspicuous. Cymes (2 or)3–7-flowered; peduncle 3–8 cm, glabrous to sparsely puberulent; bracts 2, free, ovate-orbicular to subreniform, 1–1.8 × 1.2–2.7 cm, sparsely ciliate, margin entire, apex rounded. Pedicel 4–10 mm, glabrous to sparsely puberulent. Calyx 1.5–2 cm, 2-lipped; tube 1.1–1.5 mm; adaxial lip shallowly 4-lobed, lobes triangular, 4–7 mm; abaxial lip entire, oblanceolate, 1.4–1.9 cm × 5–6 mm, outside sparsely pilose near apex, inside glabrous, margin entire, apex apiculate. Corolla white, 3.5–5 cm, glabrous; tube funnelform, 2–3.3 × 1–1.3 cm; adaxial lip 5–9 mm; abaxial lip 1–1.4 cm. Filaments 1–1.2 cm, sparsely glandular puberulent near apex; anthers fused by entire adaxial surfaces, 2.9–3.2 mm, glabrous; staminodes 3, central ca. 1 mm, laterals 3.5–4.5 mm. Pistil 2.5–3.5 cm; ovary 1.5–2 cm, puberulent near apex. Style puberulent and glandular puberulent; stigma obdeltoid, 3.5–3.7 mm, deeply 2-lobed. Capsule erect, 8–12 cm. Fl. and fr. Jul–Oct, fr. Jul–Nov.

Shaded rocks in forests, cliffs, or streamside valleys; 300–1500 m. S and W Guangxi, S and SE Yunnan [India, Laos, Malaysia, Myanmar, Thailand, N Vietnam].


钩序唇柱苣苔 gou xu chun zhu ju tai
Roettlera hamosa (R. Brown) Kuntze.

Annuals, not rhizomatous. Stems erect, 5–25(–36) cm, sparsely puberulent to glabrous. Stem leaves 1–3(–7), lowermost solitary, leaves toward apex opposite; petiole 2–4(–10) × 1–3 mm; leaf blade narrowly to broadly ovate, 1.5–13 × 1–11 cm, herbaceous, adaxially puberulent, eglandular, axially sparsely puberulent to glabrescent, base rounded to cordate, margin entire, apex acute to obtuse; lateral veins 6–16 on each side of midrib, slightly conspicuous. Cymes scorpioid, 1–5(–10)-flowered; peduncle adnate to petiole, puberulent; bracts absent. Pedicel 3–14 mm, spreading pubescent. Calyx 5–11 mm, 5-lobed to 5-sect from near base; tube 0.5–4 mm; segments unequal, linear to narrowly triangular, 4.5–7 × 1–1.5 mm, outside puberulent, inside glabrous, margin entire, apex attenuate. Corolla white, yellow at throat, often flushed lavender, 1–1.9 cm, outside sparsely puberulent adaxially, inside glabrous; tube nearly tubular, 7–15 × 3–5 mm; adaxial lip 1.2–2 mm; abaxial lip ca. 2.3 mm. Filaments 2–4 mm, glabrous; anthers fused by projections on connectives, 1–1.8 mm, bearded; staminodes 2, 0.8–1.5 mm. Pistil 1.1–1.4 cm, puberulent; ovary 3–6 mm. Stigma narrowly obtrapeziform, ca. 1 mm, deeply 2-lobed. Capsule erect, 1.4–4 cm. Fl. Jul–Oct, fr. Jul–Nov.

Rocks in shrubby area; 1200–1400 m. Yunnan (Puer Xian).