

12. DIDISSANDRA C. B. Clarke in A. & C. de Candolle, Monogr. Phan. 5: 65. 1883.

漏斗苣苔属 lou dou ju tai shu

Raphiocarpus W. Y. Chun.

Herbs, rarely shrubs or subshrubs, perennial, epipetric or terrestrial, rhizomatous. Stems simple or branched. Leaves 2 to few, on stem, opposite, often crowded at stem apex, equal to strongly unequal in a pair; leaf blade puberulent to villous or glabrous, base cuneate to cordate. Inflorescences lax or dense, axillary, 1–10-flowered cymes; bracts 2 or apparently absent, opposite. Calyx actinomorphic, 5-sect from base to 5-lobed; segments equal. Corolla white to yellow, orange-red, purple, or blue-purple, zygomorphic, inside glabrous to sparsely glandular pubescent; tube narrowly cylindrical to cylindrical basally, ampliate above, not swollen, 4–5 × longer than limb, 0.6–1.5 cm in diam.; limb 2-lipped; adaxial lip 2-lobed, longer than to much shorter than abaxial lip; abaxial lip 3-lobed, lobes equal or subequal, apex rounded. Stamens 4, adnate to corolla tube near or above middle, included; anthers basifixed, coherent in pairs, thecae divergent, not confluent or confluent, dehiscing longitudinally; connective not projecting; staminode absent or 1, adnate to adaxial side of corolla tube. Disc ringlike. Ovary linear, 1-loculed; placentas 2, parietal, projecting inward, 2-cleft. Stigmas 2, equal or unequal, oblong to deltoid, undivided or 2-lobed. Capsule straight in relation to pedicel, linear to narrowly oblong, much longer than calyx, dehiscing loculicidally to base; valves 2, straight, not twisted. Seeds unappendaged.

About 31 species: China, Indonesia, Malaysia, Thailand, Vietnam; five species in China.

- 1a. Leaves 1 pair, strongly unequal; petiole absent to 3 mm; calyx 5-lobed from below to above middle, tube at least 3 mm; stigmas unequal, adaxial undivided, oblong, ca. 2 mm, abaxial 2-lobed, obovate, ca. 3 mm 5. *D. sesquifolia*
- 1b. Leaves 2 or more pairs, equal to slightly unequal in each pair; petiole 0.3–6 cm; calyx 5-sect from base or near base, tube to 1 mm; stigmas equal, oblong to deltoid.
 - 2a. Stem and peduncle glabrous to pubescent, glabrescent; calyx 2.5–6 mm; corolla yellow or white, often flushed purple, 1–4.9 cm.
 - 3a. Corolla white, often flushed purple, 1.2–1.5 cm; bracts 1–2 × ca. 0.5 mm; calyx 2.5–3 × ca. 1 mm; stems glabrous to very sparsely puberulent; leaf blade with both surfaces glabrous 1. *D. sinica*
 - 3b. Corolla yellow, 3.5–4.9 cm; bracts ca. 3–6 × 1–3 mm; calyx 4–6 × 1–3 mm; stems pubescent to puberulent, glabrescent, leaf blade adaxially sparsely puberulent to strigose, abaxially glabrous to sparsely puberulent, veins sparsely pubescent to sparsely villous 2. *D. longipedunculata*
- 2b. Stem and peduncle villous to woolly, sometimes also puberulent or glabrescent; calyx 6–15 mm; corolla purple, purple-blue, or orange-red to yellow, 3–7 cm.
 - 4a. Cymes 5–10-flowered; peduncle 3–10(–12) cm; bracts deciduous, broadly ovate to orbicular, 15–25 × 15–30 mm, margin irregularly dentate to subentire; corolla pale-purple or rusty lilac to purple; ovary pubescent, style glandular puberulent 4. *D. begoniifolia*
 - 4a. Cymes 1–3-flowered; peduncle 1.5–4.3 cm; bracts persistent, lanceolate to oblong or oblanceolate, 2–4 × ca. 1 mm, margin entire; corolla orange-red to yellow; ovary and style glabrous 3. *D. macrosiphon*

1. *Didissandra sinica* (W. Y. Chun) W. T. Wang, Acta Phytotax. Sin. 13: 97. 1975.

无毛漏斗苣苔 wu mao lou dou ju tai

Raphiocarpus sinicus W. Y. Chun, Sunyatsenia 6: 275. 1946.

Shrubs to subshrubs. Stems 1–1.5 m, glabrous to very sparsely puberulent. Leaves spread along stem, equal to unequal in a pair; petiole 3–13 mm; leaf blade narrowly elliptic to obovate, 5–17 × 1.4–6.3 cm, glabrous, base slightly oblique, cuneate to rounded, margin indistinctly to distinctly serrulate, apex acuminate to caudate-

acuminate. Cymes 1–5-flowered; peduncle 2–6 mm, sparsely puberulent to sparsely pubescent; bracts 2, persistent, oblanceolate to linear-lanceolate, 1–2 × ca. 0.5 mm, margin entire. Calyx 5-sect from base; segments lanceolate, 2.5–3 × ca. 1 mm. Corolla white, often flushed purple, 1.2–1.5 cm; tube ca. 8 mm; adaxial lip ca. 3 mm; abaxial lip ca. 6 mm. Adaxial stamens 4–5.5 mm, abaxial ones 5–6.5 mm; anther thecae not confluent; staminode absent. Pistil 6–8 mm; ovary glabrous. Style 1.5–2 mm, sparsely glandular puberulent; stigmas deltoid, ca. 0.2 mm. Capsule 2–5 cm. Fl. Jul–Aug, fr. Jul–Oct.

• Fertile soil in shady and damp places under forests; 400–2400 m. S Guangxi.

Many specimens of *Didissandra sinica* are labelled as having come from Guangdong, but that part of Guangdong is now in Guangxi.

2. *Didissandra longipedunculata* C. Y. Wu ex H. W. Li, Bull. Bot. Res., Harbin 3(2): 17. 1983.

长梗漏斗苣苔 chang geng lou dou ju tai

Herbs to subshrubs. Stems to 1 m, pubescent to puberulent, glabrescent. Leaves mostly near stem apex, equal, rarely unequal in a pair; petiole 0.5–2.5 cm; leaf blade lanceolate to ovate or obovate, 7–17 × 3–6.5 cm, adaxially sparsely puberulent to strigose, abaxially glabrous to sparsely puberulent, sparsely pubescent to sparsely villous along veins, base slightly oblique, cuneate to subcordate, margin serrulate to entire, apex acuminate. Cymes 3–7-flowered; peduncle 1.5–6.5 cm, glandular puberulent to pubescent; bracts 2, persistent, lanceolate to ovate, ca. 3–6 × 1–3 mm, margin entire. Calyx 5-sect from base; segments ovate to lanceolate or oblong, 4–6 × 1–3 mm. Corolla yellow, 3.5–4.9 cm; tube 3–3.5 cm; adaxial lip 5–7 mm; abaxial lip 1–1.3 cm. Adaxial stamens 6–9 mm, abaxial ones 1.2–1.5 cm; anther thecae confluent; staminode absent. Pistil 2.4–3.5 cm, sparsely pubescent to glandular puberulent. Style 1.2–1.7 cm; stigmas oblong, 1–2 mm. Capsule 3–4.5 cm. Fl. Sep–Oct, fr. Oct.

• Shady and damp places under forests or by streams; 1400–1700 m. SE Yunnan (Pingbian Xian).

3. *Didissandra macrosiphon* (Hance) W. T. Wang, Acta Phytotax. Sin. 13: 98. 1975.

长筒漏斗苣苔 chang tong lou dou ju tai

Chirita macrosiphon Hance, Ann. Sci. Nat. Bot., sér. 5, 5: 231. 1866; *Didissandra aurea* (Dunn) B. L. Burt; *Loxostigma aureum* Dunn; *Didymocarpus microsiphon* (Hance) H. Léveillé; *Roettlera macrosiphon* (Hance) Kuntze.

Herbs. Stems to 30 cm, densely villous to woolly. Leaves mostly spread along stem, equal to unequal in a pair; petiole 0.5–6 cm; leaf blade ovate to broadly ovate, rarely elliptic or obovate, 5–17 × 3–8(–10.8) cm, villous to pubescent, base oblique, broadly cuneate to subcordate, margin serrate to serrulate, apex obtuse to acuminate. Cymes 1–3-flowered; peduncle 1.5–4.3 cm, villous, glabrescent; bracts 2, persistent, lanceolate to oblong or oblanceolate, 2.5–4 × ca. 1 mm, margin entire. Calyx 7–10 mm, 5-sect from near base; segments narrowly lanceolate, 6–9 × 1–1.5 mm. Corolla orange-red to yellow, 5.5–7 cm; tube 4–4.5 cm; adaxial lip 0.8–1.5 cm; abaxial lip 1.2–2.5 cm. Adaxial stamens 1.1–1.3 cm, abaxial ones 1.4–1.6 cm; anther thecae confluent; staminode absent. Pistil 4–5 cm, glabrous. Style 2.2–2.5 cm; stigmas oblong, 1.5–2 mm. Capsule 3–5 cm. Fl. Jul–Aug, fr. Aug–Oct.

• Shady and damp rocks under forests; 200–800 m. SW Guangdong, SE Guangxi.

4. *Didissandra begoniifolia* H. Léveillé, Repert. Spec. Nov. Regni Veg. 11: 495. 1913.

大苞漏斗苣苔 da bao lou dou ju tai

Chirita chlamydata W. W. Smith; *Loxostigma begoniifolium* (H. Léveillé) J. Anthony.

Herbs. Stems to 1.7 m, densely villous and puberulent. Leaves mostly spread along stem, equal to unequal in a pair; petiole 0.6–6.5 cm; leaf blade ovate, rarely obovate, 6–23 × 2.5–11.5 cm, densely villous to pubescent, base oblique, narrowly cuneate to cordate, margin serrate to subentire, apex acuminate. Cymes 5–10-flowered; peduncle 3–10(–12) cm, villous; bracts 2, deciduous, broadly ovate to orbicular, 1.5–2.5 × 1.5–3 cm, margin irregularly dentate to subentire. Calyx 5-sect from base; segments lanceolate to narrowly oblong, 0.7–1.5 cm × ca. 1–2 mm. Corolla pale-purple or rusty lilac to purple, 3–6 cm; tube 2.5–4 cm; adaxial lip 5–8 mm; abaxial lip 0.9–2 cm. Adaxial stamens 8–10 mm, abaxial ones ca. 1.5 cm; anther thecae confluent; staminode absent. Pistil 3.2–3.6 cm; ovary pubescent. Style ca. 1 cm, glandular puberulent; stigmas oblong, 1–2.4 mm. Capsule (3–)6.5–7.5 cm. Fl. Aug–Sep, fr. Sep–Oct.

• Crevices of rocks under thickets on slopes; 1200–2100 m. W Guangxi, Guizhou, W Hubei, SE Yunnan.

5. *Didissandra sesquifolia* C. B. Clarke, Hooker's Icon. Pl. 18: pl. 1797. 1888.

大叶罂 da ye luo

Didymocarpus sesquifolius (C. B. Clarke) H. Léveillé.

Herbs. Stems 12–38 cm, sparsely villous, glabrescent. Leaves 2, at stem apex, strongly unequal; petiole absent to 3 mm; leaf blade ovate to very broadly ovate, 8.5–29 × 5.2–21 cm and (1–)3–6.5 × (0.6–)2–4.6 cm, pubescent to villous, base rounded to cordate, margin serrate to dentate-serrate, often doubly so, apex obtuse to acuminate. Cymes 1- or 2(–4)-flowered; peduncle 0.5–1(–3.5) cm, densely villous; bracts 2, often deciduous, lanceolate to oblanceolate, 4–5 × 0.5–2, margin entire. Calyx 1–2 cm, 5-lobed from below to above middle; lobes lanceolate to broadly triangular, 3–14 × 2–3 mm. Corolla purple to purple-blue, 4.8–7 cm; tube 3.5–5.7 cm; adaxial lip 8–10 mm; abaxial lip ca. 1.2–1.5 cm. Adaxial stamens 0.9–1.1 cm, abaxial ones 1.2–1.6 cm; anther thecae confluent; staminode 1, ca. 0.6 mm. Pistil 2.8–3.4 cm; ovary sparsely villous to puberulent. Style 6–7 mm, sparsely pubescent, glabrescent; adaxial stigma oblong, ca. 2 mm, abaxial stigma obovate, ca. 3 mm, 2-lobed. Capsule 5.5–7 cm. Fl. Jul–Aug, fr. Aug–Oct.

Flora of China 18: 281–282. 1998.

- Under forests, near roads, cliffs in montane regions; 900–1600 m.
SW Sichuan.

