

45. ANNA Pellegrin, Bull. Soc. Bot. France 77: 46. 1930.

大苞苴苔属 da bao ju tai shu

Tumidinodus H. W. Li.

Subshrubs, epipetric or terrestrial, rhizomatous. Stems branched, branchlets sometimes angled. Leaves few, along stem, opposite, unequal in each pair; leaf blade puberulent to glabrescent, base narrowly cuneate to rounded. Inflorescences lax to dense, axillary, 2–8-flowered cymes; bracts 2, deciduous, opposite. Calyx actinomorphic, 5-sect from base; segments equal. Corolla white to yellowish, zygomorphic, inside with 2 arcuate projections abaxially; tube subtubular, gibbous abaxially near limb, longer than limb, 0.7–1.7 cm in diam.; limb 2-lipped; adaxial lip 2-lobed; usually shorter than abaxial lip; abaxial lip 3-lobed, lobes equal to unequal, apex rounded to obtuse. Stamens 4, adnate to corolla tube near middle, included; anthers basifixed, coherent in pairs, thecae slightly divergent, confluent at apex, dehiscing longitudinally; connective not projecting; staminode 1, adnate to adaxial side of corolla tube. Disc ringlike. Ovary linear, 1-loculed; placentas 2, parietal, projecting inward, 2-cleft. Stigma 1, terminal, disclike, undivided. Capsule straight in relation to pedicel, linear, much longer than calyx, dehiscing loculicidally to base; valves 2, straight, not twisted. Seeds with 1 subulate appendage at each end.

Three species: China, N Vietnam; all three species in China.

According to the protologue, *Anna* has 2 stigmas. A specimen from Chapa (N Vietnam), the type locality of *A. submontana*, has persistent, entire, and disclike stigmas.

Tumidinodus H. W. Li was based on two specimens from SE Yunnan. An examination of the type (*Wang Shou-zheng* 879), as well as *Fang Ding* 25490 from Guangxi and a specimen from N Vietnam (collector unknown), reveal that they belong to *Anna submontana*.

1a. Leaf blade usually falcate, lanceolate, 4–13 × 1.1–4.5 cm, margin indistinctly denticulate; lateral veins 6–8 on each side of midrib; internodes 0.2–5 cm; petiole 0.7–2 cm; bracts and calyx white; seed appendages ca. 0.5 mm

..... 3. *A. ophiorrhizoides*

1b. Leaf blade asymmetric (at least slightly), elliptic to broadly ovate, 6.5–22 × 3.2–9.5 cm, subentire to shallowly serrate; lateral veins 8–15(–17) on each side of midrib; internodes 1–15 cm; petiole 0.7–5.5 cm; bracts and calyx red; seed appendages 0.1–0.2 mm.

2a. Peduncle (4–)8–15 cm, glabrescent; leaf blade glabrescent, veins abaxially often appressed puberulent; calyx segments narrowly obovate to oblanceolate, ca. 10 × 2–4.5 mm; corolla 3–4 cm; pistil ca. 1.5 cm 1. *A. submontana*

2b. Peduncle 1.2–2.2 cm, densely puberulent; leaf blade ± densely puberulent; calyx segments obovate, 10–12 × 4.5–6 mm; corolla 4.5–5.8 cm; pistil ca. 2.5 cm 2. *A. mollifolia*

1. ***Anna submontana*** Pellegrin, Bull. Soc. Bot. France 77: 46. 1930.

大苞苴苔 da bao ju tai

Tumidinodus purpureoruber H. W. Li.

Stems with internodes 1–15 cm. Petiole 1–4.5 cm; leaf blade asymmetric (at least slightly), elliptic to broadly ovate, 9–18 × 4.5–8 cm, glabrescent, abaxially often appressed puberulent along veins, margin subentire, apex acuminate; lateral veins 11–15(–17) on each side of midrib. Peduncle (4–)8–15 cm, glabrescent; bracts deciduous, red, ca. 1.2 × 1 cm. Calyx red; segments narrowly obovate to oblanceolate, ca. 10 × 2–4.5 mm, outside sparsely glandular puberulent, apex obtuse to rounded. Corolla white to pink, 3–4 cm, outside glabrous, 2.5–3.5 × 0.7–1 cm; adaxial lip lobes rounded, 5–6 mm; abaxial lip ca. 1 cm, lobes suborbicular, ca. 5 mm. Adaxial stamens 8–10 mm, abaxial ones 0.9–1.3 cm; staminode ca. 2 mm. Pistil ca. 1.5 cm, sparsely puberulent near apex, glabrous basally. Capsule 6–7 cm. Seed appendages ca. 0.2 mm. Fl. Jun–Oct, fr. Oct–Feb.

Limestone or in shady areas of forests; 900–1700 m. SW Guangxi, SE Yunnan [N Vietnam].

2. ***Anna mollifolia*** (W. T. Wang) W. T. Wang & K. Y. Pan in K. Y. Pan, Fl. Reipubl. Popularis Sin. 69: 487. 1990.

软叶大苞苴苔 ruan ye da bao ju tai

Lysionotus mollifolius W. T. Wang, Guihaia 3: 262. 1983.

Stems with internodes 1–8 cm. Petiole 0.7–5.5 cm; leaf blade asymmetric (at least slightly), elliptic to broadly ovate, 6.5–22 × 3.2–9.5 cm, puberulent to densely so, margin subentire to shallowly serrulate, apex acute to acuminate; lateral veins 8–14 on each side of midrib. Peduncle 1.2–2.2 cm, densely puberulent; bracts deciduous, red, ca. 1.2 × 1 cm. Calyx red; segments obovate, 1–1.2 cm × 4.5–6 mm, outside glabrescent, apex acute to rounded. Corolla white, 4.5–5.8 cm, outside glabrescent, 3.5–4.5 × 1.5–1.7 cm; lobes suborbicular, ca. 7 mm. Adaxial stamens ca. 1.5 cm, abaxial ones ca. 1.8 cm; staminode ca. 0.6 mm. Pistil ca.

2.5 cm, glabrescent. Capsule 5.5–8 cm. Seed appendages 0.1–0.2 mm. Fl. Aug, fr. Sep.

• Rock crevices in limestone hills; 1100–1500 m. SW Guangxi (Napo Xian), SE Yunnan (Xichou Xian, Malipo Xian).

3. **Anna ophiorrhizoides** (Hemsley) B. L. Burtt & R. Davidson, Notes Roy. Bot. Gard. Edinburgh 21: 233. 1955.

白花大苞苣苔 bai hua da bao ju tai

Lysionotus ophiorrhizoides Hemsley in F. B. Forbes & Hemsley, J. Linn. Soc., Bot. 26: 224. 1890;

Didissandra sinophiorrhizoides W. T. Wang;

Didymocarpus cavaleriei H. Léveillé (1911), not *D. cavaleriei* (H. Léveillé & Vaniot) H. Léveillé (1906).

Stems with internodes 0.2–5 cm. Petiole 0.7–2 cm; leaf blade usually falcate, lanceolate, 4–13 × 1.1–4.5 cm, adaxially sparsely appressed puberulent, abaxially sparsely puberulent along veins, margin indistinctly denticulate, apex acuminate; lateral veins 6–8 on each side of midrib. Peduncle 1.5–4 cm, glabrous; bracts deciduous, white, ca. 1.5 × 1.3 cm. Calyx white; segments obovate to oblong, 0.9–1.2 cm × 3–6 mm, outside glandular pubescent to glabrous, apex rounded, rarely emarginate. Corolla white to yellowish, ca. 4–5 cm, outside puberulent to glabrous, 2.5–3.5 × 1–1.5 cm; adaxial lobes rounded, ca. 5 mm; abaxial lip 1.3–1.5 cm, lobes suborbicular, central lobe 8–10 mm, lateral lobes ca. 5 mm. Adaxial stamens ca. 1 cm, abaxial ones ca. 1.4 cm; staminode ca. 1.2 mm. Pistil 2.2–2.6 cm, glabrous to glandular puberulent. Capsule 6–8 cm. Seed appendages ca. 0.5 mm. Fl. Jul–Oct, fr. Oct.

• Grassy slopes, rock crevices in forests by streams; 900–1700 m. S Guizhou (Luodian Xian), W and SE Sichuan.

