

59. APHYLLORCHIS Blume, Tab. Pl. Jav. Orchid. ad t. 77. 1825.

无叶兰属 *wu ye lan shu*

Chen Xinqi (陈心启 *Chen Sing-chi*); Stephan W. Gale

Sinorchis S. C. Chen.

Herbs, terrestrial, leafless, holomycotrophic. Rhizome short; roots fascicled, spreading, fleshy. Stem erect, fleshy, unbranched, usually pale brown, with loose cymbiform or cylindric sheaths enclosing proximal nodes and scalelike sterile bracts at distal nodes. Inflorescence terminal, racemose, few to many flowered; floral bracts membranous. Flowers resupinate, small to medium-sized, often with long pedicel and ovary. Sepals similar, free, often weakly concave-cymbiform. Petals similar to but shorter and narrower than sepals; lip adnate to base of column, 2-partite; hypochile often winged; epichile hinged at junction with hypochile and often deflexed, entire or lobed. Column arcuate, long, slender; anther borne at anterior margin of clinandrium, suberect, 2-locular; filament extremely short; staminodes 2 (1 on either side of column), apical, white, spotted with silver; pollinia 2, granular-farinaceous, caudicles absent; viscidium large; stigma concave, near apex of column; rostellum very small. Capsule usually pendulous.

About 30 species: mainly in tropical Asia and the Himalayas, extending as far north as Japan and south to Australia; five species (one endemic) in China.

- 1a. Lip not distinct, similar to lateral petals 1. *A. simplex*
- 1b. Lip clearly distinct from petals.
 - 2a. Floral bracts shorter than pedicel and ovary.
 - 3a. Sepal 9–11 mm, apex obtuse to subacute 2. *A. montana*
 - 3b. Sepal 30–35 mm, apex long cuspidate 3. *A. caudata*
 - 2b. Floral bracts longer than pedicel and ovary.
 - 4a. Rachis 19–22 cm; flowers yellowish green; floral bracts linear to linear-lanceolate, 3–4 mm wide; lip contracted at middle into hypochile and epichile 4. *A. alpina*
 - 4b. Rachis to 6 cm; flowers pale purplish brown; floral bracts ovate to elliptic-lanceolate, 6–8 mm wide; lip contracted near base into hypochile and epichile 5. *A. gollanii*

1. *Aphyllorchis simplex* Tang & F. T. Wang, Acta Phytotax. Sin. 1: 67. 1951.

单唇无叶兰 *dan chun wu ye lan*

Sinorchis simplex (Tang & F. T. Wang) S. C. Chen.

Plants 48–53 cm tall. Rhizome 4–6 mm in diam., densely noded; roots long, 1.5–2 mm in diam. Stem glabrous; proximal internodes 7–12 mm, each node with 1 tubular sheath 4–18 mm; distal internodes much longer. Inflorescence with 10–13 well-spaced flowers; rachis 18–22 cm; floral bracts reflexed, linear-lanceolate, ca. 1 cm, 3-veined. Flowers white, suberect; pedicel 3–5 mm; ovary 1.2–1.7 cm, with sparse glandular hairs. Sepals sublanceolate-oblong, ca. 10 × 2–3 mm, apex subacute; lateral petals similar, suboblong, slightly shorter than sepals, thinly textured; lip unmodified, similar to lateral petals. Column ca. 8 mm, apex slightly dilated, with 2 silver staminodes and linear appendage on ventral surface near apex; appendage 0.7–1 mm; stigma subterminal; rostellum ovate, apex emarginate. Fl. Aug.

- Sandy soils in thickets, rocky slopes. E Guangdong.

One of us (Gale) regards this species as probably a peloric form of *Aphyllorchis montana*, with which it agrees in all characters except the lip. However, the other of us (Chen) does not agree, noting that *A. montana* is not found in E Guangdong and that the column of *A. simplex* is different from that of *A. montana*.

2. *Aphyllorchis montana* H. G. Reichenbach, Linnaea 41: 57. 1877.

无叶兰 *wu ye lan*

Aphyllorchis benguetensis Ames; *A. prainii* J. D. Hooker; *A. purpurea* Fukuyama; *A. tanegashimensis* Hayata; *A. unguiculata* Rolfe ex Downie.

Plants 43–70 cm tall. Rhizome short, creeping; roots spreading, stout. Stem with many membranous sheaths; proximal sheaths tubular, 0.5–2 cm; sterile bracts 1–1.3 cm. Inflorescence with few to 10 or more well-spaced flowers; rachis 10–20 cm; floral bracts reflexed, linear-lanceolate, 6–14 × 2–2.5 mm, shorter than pedicel and ovary. Flowers spreading ± horizontally, usually becoming pendulous, yellow or yellowish brown; ovary glabrous or sometimes slightly puberulent. Dorsal sepal cymbiform, oblong or obovate, 9–11 × 3–4 mm, 3-veined, apex obtuse; midrib of dorsal sepal scabrous near apex on abaxial surface; lateral sepals slightly shorter, not cymbiform. Petals suboblong, shorter and thinly textured; lip 7–9 mm, fleshy, contracted into epichile and hypochile toward base; hypochile slightly concave, ca. 2 mm, irregularly verrucose inside, with 2 triangular or triangular-lanceolate wings; epichile ovate, 5–7 mm, obscurely 3-lobed, margin slightly undulate. Column slightly arcuate, 7–10 mm, apex dilated. Fl. Jul–Sep. $2n = 40$.

Open forests; 700–1500 m. E Guangxi, Guizhou, S Hainan, Hong Kong, C and N Taiwan, S and W Yunnan [Cambodia, India, Indonesia, Japan, Malaysia, Philippines, Sri Lanka, Thailand, Vietnam].

3. *Aphyllorchis caudata* Rolfe ex Downie, Bull. Misc. Inform. Kew 1925: 415. 1925.

尾萼无叶兰 *wei e wu ye lan*

Plants to 1 m tall. Stem erect, stout, with many membranous sheaths to 4 cm. Inflorescence with many well-spaced flowers; rachis to 50 cm; floral bracts reflexed, narrowly lanceolate, 4–4.8 × 0.5–0.6 cm, shorter than pedicel and ovary, apex acuminate. Flowers creamy white and purple-brown, ca. 4 cm in diam.; pedicel and ovary 4.5–5 cm, glabrous. Dorsal sepal linear-lanceolate or lanceolate, slightly concave, 30–35 × ca. 8 mm, abaxially sparsely puberulent, apex long cuspidate; lateral sepals similar to dorsal sepal, not concave, 6–7 mm wide. Petals lanceolate, ca. 20 × 6–7 mm, thinly textured, slightly hairy along abaxial midrib, apex acuminate; lip 14–17 mm, fleshy, contracted below middle into epichile and hypochile; hypochile concave, small, 2–3 mm, with 2 ligulate wings ca. 4 mm; epichile ovate, ca. 1.2 cm × 5 mm, adaxially densely papillose, 3-lobed; lateral lobes incurved, suborbicular; mid-lobe with acuminate apex. Column slightly arcuate, 1.1–1.4 cm, winged toward apex. Fl. Jul–Aug. $2n = 36$.

Forests; ca. 1200 m. S Yunnan [Thailand, Vietnam].

4. *Aphyllorchis alpina* King & Pantling, Ann. Roy. Bot. Gard. Calcutta 8: 261. 1898.

高山无叶兰 *gao shan wu ye lan*

Plants 75–100 cm tall. Rhizome elongate, covered in scales. Stem erect, with many membranous sheaths 1–4 cm. Inflorescence with 10–20 widely spaced flowers; rachis 19–22 cm; floral bracts reflexed, linear to linear-lanceolate, 25–30 × 3–4 mm, conspicuously longer than pedicel and ovary. Flowers spreading ± horizontally, yellowish green; pedicel and ovary puberulent, 2–3 cm, stout. Sepals ovate-lanceolate, slightly cymbiform, 18–23 × 6–7 mm, apex acuminate-caudate. Petals 14–17 × 5–7 mm; lip 14–17 mm, contracted at or above middle into epichile and hypochile; hypochile winged, basal margins forming a small sac; epichile ovate, margin often involute, apex

acute. Column slightly arcuate, 1–1.3 cm. Capsule elliptic, ca. 3 × 1 cm. Fl. Jul, fr. Sep.

Forests, riverbanks; 2100–2600 m. SE Xizang [India, Nepal].

5. *Aphyllorchis gollanii* Duthie, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 71: 42. 1902 [*“gollani”*].

大花无叶兰 *da hua wu ye lan*

Plants 40–50 cm tall. Rhizome subcylindric; roots sparse, stout, fleshy. Stem robust, erect, tinged with purple, with many sheaths; sheaths mostly tubular, 1.5–3.5 cm, membranous. Inflorescence stout, 10- or more flowered; rachis less than 6 cm; floral bracts suberect, ovate to elliptic-lanceolate, large, 15–25 × 6–8 mm, longer than pedicel and ovary. Flowers suberect, not opening fully, pale purplish brown; ovary puberulent, including pedicel to 1.7 cm. Sepals ovate-lanceolate, ca. 30 × 6–7 mm, apex acuminate. Petals slightly shorter than sepals; lip slightly shorter than petals, contracted near base forming epichile and hypochile; hypochile slightly concave, winged; epichile sub-ovate, lateral margins reflexed, erose. Column strongly arcuate, ca. 1 cm. Fl. Jun–Jul.

Evergreen broad-leaved forests; 2200–2400 m. S Xizang (Nyalam) [India].

