

186. HOLCOGLOSSUM Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 4: 285. 1919.

槽舌兰属 cao she lan shu

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Herbs, epiphytic, monopodial, small to moderate-sized. Stems enclosed by persistent leaf sheaths, rooting mostly from base or lower part. Leaves many, distichous, terete, subterete, or broadly subterete, fleshy, adaxially channeled, jointed and dilated into sheathing base. Inflorescences axillary, racemose, few to many flowered; rachis usually purple; floral bracts much shorter than pedicel and ovary. Flowers usually opening widely. Sepals subsimilar, dorsally usually ± carinate; lateral sepals often slightly larger, oblique. Petals similar to dorsal sepal; lip saccate or spurred, 3-lobed; lateral lobes erect beside entrance of spur, spotted; mid-lobe rather larger, often narrowed and with appendages at base; spur often cylindric and curved, attenuate toward tip, interior usually hispid papillose. Column short, thick, winged, with a very short but distinct foot; rostellum distinct, sometimes reduced, bilobed; pollinia 2, waxy, globose, porate, attached by a common, short, linear stipe to a broad viscidium.

Twelve species: mainly in China, extending to Vietnam, Laos, Thailand, Myanmar, and NE India; 12 species (seven endemic) in China.

- 1a. Leaves broadly subterete, 5–10 mm wide 1. *H. amesianum*
- 1b. Leaves terete or subterete, 2–3(–4) mm wide.
 - 2a. Spur broadly saccate; mid-lobe of lip with an incurved margin, concave or shallowly cucullate at base 2. *H. subulifolium*
 - 2b. Spur cylindric to hornlike; mid-lobe of lip flat, not concave nor cucullate at base.
 - 3a. Mid-lobe of lip entire or nearly entire, with fleshy and thickened callus at base; spur 7–8(–12) mm.
 - 4a. Plants erect; inflorescence 6–10-flowered 9. *H. rupestre*
 - 4b. Plants pendulous or slanting; inflorescence 1–3-flowered.
 - 5a. Flowers very small (sepals 9–10 × 4–5 mm, petals ca. 8 × 4 mm), spur unornamented inside 11. *H. sinicum*
 - 5b. Flowers medium to large, spur hispid papillate inside.
 - 6a. Leaves 4–8.5 cm × 3–4 mm; floral bracts 5–8 mm 8. *H. flavescens*
 - 6b. Leaves 20–30 cm × ca. 2 mm; floral bracts ca. 2 mm.
 - 7a. Mid-lobe of lip semicircular 10. *H. weixiense*
 - 7b. Mid-lobe of lip rhombic 12. *H. nujiangense*
 - 3b. Mid-lobe of lip with a denticulate or undulate margin, with crested lamellae at base; spur (8–)12–20 mm.
 - 8a. Spur cylindric, not narrowed toward end; mid-lobe of lip ca. 2 × as long as spur 7. *H. wangii*
 - 8b. Spur narrowed toward end; mid-lobe of lip nearly as long as spur.
 - 9a. Mid-lobe of lip suborbicular, purple 3. *H. kimballianum*
 - 9b. Mid-lobe of lip ligulate to obovate-rhombic, white.
 - 10a. Lateral lobes of lip entire; mid-lobe obovate-rhombic; column foot indistinct 4. *H. quasipinifolium*
 - 10b. Lateral lobes of lip bilobed, with 2 lobules; mid-lobe ligulate; column foot distinct, 1.5–2 mm.
 - 11a. Mid-lobe of lip ca. 2 × as long as wide, lower lobule of lateral lobe triangular 5. *H. omeiense*
 - 11b. Mid-lobe of lip ca. 3 × as long as wide, lower lobule of lateral lobe ovate 6. *H. lingulatum*

1. *Holcoglossum amesianum* (H. G. Reichenbach) Christenson, Notes Roy. Bot. Gard. Edinburgh 44: 255. 1987.

大根槽舌兰 da gen cao she lan

Vanda amesiana H. G. Reichenbach, Gard. Chron., ser. 3, 1: 764. 1887.

Plants ascending. Stems 2–5 cm, rooting at base. Leaves 4–7, nearly basal; blade broadly subterete, 9–30 cm × 5–10 mm, fleshy, adaxially channeled or ± conduplicate, acute. Inflorescence ascending, 23–25 cm, several flowered; peduncle to 15 cm, 4–5 mm in diam., with 2–4 short sheaths; floral bracts ovate, 3–4 mm, obtuse. Flowers thinly textured, sepals and petals white with pinkish midvein, lip with 3 deep purple-red ridges above, anther cap white; pedicel and ovary whitish, 3–5 cm. Dorsal sepal elliptic, ca. 15 × 10 mm, base contracted, apex obtuse; lateral sepals obliquely ovate-elliptic, ca. 15 × 11 mm, obtuse. Petals oblanceolate, ca. 14 × 9 mm, base contracted, apex obtuse; lip spurred, 3-lobed; lateral lobes ascending, ovate-triangular, ca. 4 × 5 mm, ± adnate to base of column,

obtuse; mid-lobe reniform-orbicular, ca. 10 × 14 mm, base with an erect square appendage at spur entrance, margin denticulate, apex retuse; spur narrowly conic, ca. 6 × 3–4 mm, obtuse and slightly curved backward at tip. Column ca. 6 mm, thick; anther cap narrowed and truncate at apex. Fl. Dec–Mar. 2n = 38.

Epiphytic on tree trunks in broad-leaved evergreen forests; 1200–2000 m. S and W Yunnan [India, Laos, Myanmar, Thailand, Vietnam].

2. *Holcoglossum subulifolium* (H. G. Reichenbach) Christenson, Notes Roy. Bot. Gard. Edinburgh 44: 255. 1987.

凹唇槽舌兰 ao chun cao she lan

Vanda subulifolia H. G. Reichenbach, Flora 69: 552. 1886; *Holcoglossum auriculatum* Z. J. Liu, S. C. Chen & X. H. Jin; *V. watsonii* Rolfe.

Plants ascending. Stems 2–20 cm. Leaves often 3–5; blade nearly subterete, 5–14 cm × ca. 3 mm, fleshy, adaxially channeled, apex acute. Inflorescence ascending, arching, ca. 14 cm, several flowered; floral bracts ovate, ca. 5 mm. Flowers

opening widely, white, thinly textured, lateral lobes of lip brownish yellow, tinged with pale purple, mid-lobe with yellowish brown ridges, anther cap pale yellow; pedicel and ovary white, tinged with purple, 2–3 cm. Dorsal sepal suboblong, ca. 17×6 mm, base contracted, apex acute; lateral sepals falcate-oblong, ca. 19×7 mm. Petals oblong-lanceolate, slightly smaller than dorsal sepal; lip spurred, 3-lobed; lateral lobes erect, triangular, acute; mid-lobe broadly triangular, ca. 12×10 mm, concave or shallowly cucullate, base with 3 ridges, margin incurved, undulate and irregularly denticulate; spur conic, 2–3 mm, obtuse. Column 4–5 mm, foot very short; anther cap slightly narrowed toward apex. Fl. Mar–May.

Epiphytic on tree trunks in broad-leaved evergreen forests; 1300–2200 m. SW Hainan, SE Yunnan (Malipo) [Myanmar, Thailand, Vietnam].

3. *Holcoglossum kimbalianum* (H. G. Reichenbach) Garay, Bot. Mus. Leaflet 23: 182. 1972.

管叶槽舌兰 *guan ye cao she lan*

Vanda kimbaliana H. G. Reichenbach, Gard. Chron., ser. 3, 5: 232. 1889; *Holcoglossum saprophyticum* (Gagnepain) Christenson; *V. saprophytica* Gagnepain.

Plants ascending. Stems short to slightly elongate. Leaves often 4 or 5; blade terete, $30\text{--}60$ cm \times $3\text{--}4$ mm, fleshy, adaxially channeled, apex acuminate. Inflorescence nodding, $10\text{--}28$ cm, laxly many flowered; floral bracts broadly ovate, ca. 5 mm, obtuse. Flowers large, opening widely, thinly textured, sepals and petals white, sometimes tinged with pale purple, lip purple or white heavily striped with purple, lateral lobes brownish, spur and column white; pedicel and ovary 3–3.5 cm. Dorsal sepal elliptic, ca. 23×8 mm, base contracted into a short claw, apex obtuse; lateral sepals obliquely ovate-falcate, ca. 27×10 mm, obtuse. Petals similar to dorsal sepal; lip spurred, 3-lobed; lateral lobes erect, somewhat ovate-lanceolate, oblique, abruptly contracted near middle, apical half linear-lanceolate and curved; mid-lobe suborbicular, ca. 1.6 cm, adaxially with 2 or 3 basal lamellae, margin \pm erose, apex retuse; spur \pm arcuate, cylindrical, ca. 1.5 cm, attenuate toward tip. Column ca. 7 mm; anther cap narrowed at apex. Fl. Oct–Nov. $2n = 38$.

Epiphytic on tree trunks or rocks in forests; 1000–1700 m. S Yunnan [Laos, Myanmar, Thailand, NW Vietnam].

4. *Holcoglossum quasipinifolium* (Hayata) Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 4: 285. 1919.

槽舌兰 *cao she lan*

Saccolabium quasipinifolium Hayata, Icon. Pl. Formosan. 2: 144. 1912.

Plants ascending. Stems ca. 5 cm. Leaves 6–10; blade subterete, $7\text{--}10$ cm \times ca. 3 mm, adaxially channeled; basal sheaths equitant. Inflorescence axillary, 6–10 cm, usually 1–5 flowered; peduncle 4–6 cm, with 2 or 3 tubular sheaths; floral bracts ovate, usually 6–7 mm. Flowers opening widely, white, tinged with pink and slightly spotted with brownish red on midvein of sepals and petals, tinged yellowish brown on lateral lobes of lip; pedicel and ovary ca. 2.5 cm. Dorsal sepal obovate-oblong, $10\text{--}16 \times 4\text{--}6$ mm, dorsally carinate, base contracted,

apex obtuse; lateral sepals obliquely oblong or falcate-oblong, $12\text{--}17 \times 6\text{--}8$ mm, dorsally carinate, base contracted, apex acute. Petals slightly oblique, oblong-elliptic, $10\text{--}16 \times 6\text{--}8$ mm, dorsally slightly carinate, base contracted, apex obtuse; lip spurred, 3-lobed; lateral lobes erect, 5–6 mm; mid-lobe obovate-cuneate, $13\text{--}16 \times 7\text{--}8$ mm, with 5–7 crested lamellae near base, apical margin \pm denticulate, apex truncate and retuse; spur cylindrical, $1.2\text{--}1.8$ cm \times ca. 2 mm, narrowed toward tip, sometimes bent forward. Column ca. 6 mm. Fl. Feb–Apr.

• Epiphytic on tree trunks in mixed or coniferous forests; 1800–2800 m. Taiwan.

5. *Holcoglossum omeiense* X. H. Jin & S. C. Chen, Kew Bull. 59: 633. 2005.

峨眉槽舌兰 *e mei cao she lan*

Plants ascending or arching. Stems 2–30 cm. Leaves many; blade terete, $6\text{--}20$ cm \times ca. 2 mm, slender, fleshy, adaxially channeled, apex acute. Inflorescences 1–10-flowered; rachis flexuous; floral bracts ovate, ca. 4 mm. Flowers white, veins usually reddish or pinkish, fully opening; pedicel and ovary ca. 2 cm. Sepals and petals slightly twisted; dorsal sepal obovate-oblong, ca. 12×5 mm, apex obtuse; lateral sepals falcate-oblong obtuse, ca. 15×6 mm, oblique at base. Petals oblong, ca. 12×4 mm, base contracted, apex obtuse; lip spurred, 3-lobed; lateral lobes ca. 5 mm, erect, bilobulate, lower lobule triangular; mid-lobe oblong-ligulate, $13\text{--}20 \times 7\text{--}9$ mm, spreading, with 3–7 crested basal lamellae, apical margins undulate or crenulate; spur conic-cylindrical, 16–20 mm, usually rigid, narrowed toward tip, \pm bent forward. Column 5–6 mm, foot ca. 2 mm. Fl. Sep–Oct.

• Epiphytic on tree trunks in open forests; 700–1000 m. SC Sichuan (Emei Shan).

6. *Holcoglossum lingulatum* (Averyanov) Averyanov, Konsp. Sosud. Rast. Fl. Vietnam 1: 110. 1990.

舌唇槽舌兰 *she chun cao she lan*

Holcoglossum kimbalianum (H. G. Reichenbach) Garay var. *lingulatum* Averyanov, Bot. Zhurn. (Moscow & Leningrad) 73: 426. 1988; *H. tangii* Christenson.

Plants ascending or arching. Stems 2–20 cm, ca. 7 mm in diam. Leaves many, often twisted at base and \pm secund; blade terete, $10\text{--}19$ cm \times $2\text{--}3$ mm, slender, fleshy, adaxially channeled, apex acute. Inflorescence shorter or nearly as long as leaves, 1–6-flowered; peduncle and rachis slender; rachis flexuous; floral bracts deflexed, ovate, ca. 3 mm. Flowers white, often slightly spotted with reddish brown, opening widely; pedicel and ovary 2–2.5 cm, ovary 5- or 6-ribbed. Sepals and petals slightly twisted; dorsal sepal obovate-oblong, ca. 13×5 mm, base contracted, apex obtuse; lateral lobes falcate-oblong or obliquely ovate-oblong, ca. 13×6 mm, obtuse. Petals oblong, ca. 12×4.5 mm, base contracted, apex obtuse; lip spurred, 3-lobed; lateral lobes erect, ca. 5 mm, unequally bilobulate, lower lobule ovate; mid-lobe from deep gap of front wall of spur, spreading, ligulate, $12\text{--}15 \times 3\text{--}5$ mm, with 2 or 3 crested basal lamellae, apical margin undulate or crenulate, apex obtuse and retuse or shallowly bilobed; spur funnel-shaped, ca. 2 cm,

usually rigid, narrowed toward tip, sometimes \pm bent forward. Column ca. 6 mm, foot ca. 1.5 mm. Fl. Oct–Jan. $2n = 38$.

Epiphytic on tree trunks in open forests; 1000–1300 m. NW Guangxi, SE Yunnan [NW Vietnam].

7. *Holcoglossum wangii* Christenson, Lindleyana 13: 123. 1998.

筒距槽舌兰 tong ju cao she lan

Stems ca. 2 cm. Leaves several, nearly basal; blade subterete, 30–58 cm \times ca. 4 mm, fleshy. Inflorescence ca. 5 cm, 3–5-flowered; rachis purple; floral bracts ovate, ca. 2 mm. Flowers white, lateral lobes of lip yellow, spotted with purple; pedicel and ovary ca. 3.3 cm. Dorsal sepal oblong, ca. 20 \times 7 mm, obtuse; lateral sepals oblique, elliptic, ca. 23 \times 10 mm, base clawed and \pm twisted, apex obtuse. Petals elliptic-oblong, ca. 28 \times 10 mm, base twisted and clawed, apex obtuse; lip spurred, 3-lobed; lateral lobes erect, unequally bilobulate; mid-lobe oblong-elliptic, ca. 18 \times 15 mm, with 3–5 basal lamellae; spur cylindrical, 8–10 mm. Column ca. 6 mm. Fl. Oct–Dec. $2n = 38^*$.

Epiphytic on tree trunks in broad-leaved evergreen forests; 800–1200 m. SW Guangxi, SE Yunnan [N Vietnam].

8. *Holcoglossum flavescens* (Schlechter) Z. H. Tsi, Acta Phytotax. Sin. 20: 441. 1982.

短距槽舌兰 duan ju cao she lan

Aerides flavescens Schlechter, Repert. Spec. Nov. Regni Veg. 19: 382. 1924; *Papilionanthe flavescens* (Schlechter) Garay; *Saccolabium yunpeense* Tang & F. T. Wang.

Stems 1–2 cm, with several leaves. Leaves nearly basal, distichous; blade subterete, 4–8.5 cm \times 3–4 mm, fleshy or thickly leathery, adaxially broadly channeled or \pm conduplicate, apex acute. Inflorescence suberect or arching, 3–5 cm, 1–3-flowered; floral bracts slightly reflexed, broadly ovate, 5–8 mm. Flowers opening widely, white, tinged with yellow, lateral lobes of lip with brownish purple stripes, callus yellow, column striped purplish red on either side, anther cap white; pedicel and ovary ca. 1.7 cm. Dorsal sepal elliptic, 9–12 \times 4.5–6 mm, base slightly contracted, apex obtuse; lateral sepals obliquely oblong, 13–14 \times 5–6 mm, dorsally \pm carinate, apex obtuse. Petals elliptic, 9–12 \times 4.2–5.5 mm, obtuse; lip spurred, 3-lobed; lateral lobes erect, subovate or ovate-triangular, obtuse; mid-lobe broadly ovate-rhombic, 6–8 \times ca. 7 mm, margin slightly undulate, apex obtuse-rounded or sometimes emarginate, with a broadly ovate-triangular basal callus; callus strongly thickened, centrally channeled; spur bent forward, horn-shaped, ca. 7 mm, narrowed toward tip. Column ca. 5 mm, winged, foot ca. 2 mm; rostellum large. Capsule ellipsoid, 2–3 cm \times 6–7 mm. Fl. Mar–May, fr. Aug–Sep. $2n = 38^*$.

• Epiphytic on tree trunks in broad-leaved evergreen forests; 1200–2700 m. N Fujian, SW Hubei, SW Sichuan, N Yunnan.

9. *Holcoglossum rupestre* (Handel-Mazzetti) Garay, Bot. Mus. Leaf. 23: 182. 1972.

滇西槽舌兰 dian xi cao she lan

Vanda rupestris Handel-Mazzetti, Anz. Akad. Wiss. Wien,

Math.-Naturwiss. Kl. 62: 241. 1925; ?*Holcoglossum tsii* T. Yukawa.

Plants erect. Stems ca. 2 cm, base with many roots to 50 cm. Leaves many; blade terete, 12–28 cm \times 2–2.5 mm, fleshy, acuminate. Inflorescence ascending, 5–10 cm, 2–10-flowered; peduncle with several ovate sheaths; rachis soft, slender; floral bracts persistent, ovate, ca. 1 cm. Flowers opening widely, ca. 3 cm in diam., sepals and petals white, lip with yellowish callus at base; pedicel and ovary 2.5–3.5 mm. Dorsal sepal subelliptic, ca. 12 \times 7 mm, obtuse; lateral lobes slightly oblique, oblong, ca. 12 \times 7 mm, dorsally carinate, apex obtuse. Petals subovate-elliptic, ca. 10 \times 5.5 mm, obtuse-rounded; lip spurred, 3-lobed; lateral lobes erect, subobovate, slightly unequally bilobulate; mid-lobe ovate, 11–12 \times ca. 7 mm, with 2 or 3 small crested basal appendages, margin \pm undulate, apex rounded; spur bent forward, nearly cylindrical, ca. 8 \times 2 mm, narrowed toward tip, acute. Column ca. 5 mm, slightly enlarged toward apex. Fl. Jun. $2n = 38^*$.

• Epiphytic on *Quercus* in mixed forests; 2000–2400 m. NW Yunnan.

10. *Holcoglossum weixiense* X. H. Jin & S. C. Chen, Syst. Gen. Holcoglossum, 94. 2003.

维西槽舌兰 wei xi cao she lan

Plants pendulous. Stems 1–2 cm, rooting at base. Leaves many, nearly basal; leaf blade subterete, 10–30 cm \times 1.5–2 mm, fleshy, acuminate. Inflorescence short, 1–5-flowered; floral bracts ovate, ca. 2 mm. Flowers white, slightly tinged with pink, lip lateral lobes with purple stripes adaxially; pedicel and ovary ca. 2 cm. Dorsal sepal elliptic, ca. 10 \times 7 mm, subobtuse; lateral sepals oblique, similar to dorsal sepal, ca. 15 \times 9 mm. Petals spatulate, ca. 11 \times 6 mm, obtuse; lip attached to end of column foot, immovable, spurred, 3-lobed; lateral lobes erect, triangular, base extending to column foot; mid-lobe semicircular, ca. 10 \times 12 mm, entire, with a strongly thickened basal callus, its sides swollen and forming 2 ridges; spur ca. 7 mm, narrowed toward end, inside papillate. Column ca. 4 mm, foot ca. 1 mm. Fl. May–Jun. $2n = 38^*$.

• Epiphytic on tree trunks in broad-leaved forests along valleys; 2500–3000 m. NW Yunnan.

11. *Holcoglossum sinicum* Christenson, Notes Roy. Bot. Gard. Edinburgh 44: 255. 1987.

中华槽舌兰 zhong hua cao she lan

Plants pendulous. Stems very short. Leaves many, nearly basal; blade subterete, 10–20 cm \times ca. 2 mm, fleshy, acute. Inflorescence very short, 1–3-flowered; floral bracts ovate, ca. 2 mm. Flowers opening widely, white, lip callus yellow. Dorsal sepal elliptic, ca. 9 \times 4 mm, obtuse; lateral sepals slightly oblique, subelliptic, ca. 10 \times 5 mm, obtuse. Petals similar to dorsal sepal, ca. 8 \times 4 mm, obtuse; lip spurred, 3-lobed; lateral lobes erect, ovate-triangular, ca. 2 mm wide, base decurrent and adnate to column foot, apex obtuse; mid-lobe subrhombic, ca. 7 mm wide, with a basal callus, margin entire, apex rounded; spur narrowly conic, ca. 8 mm. Column erect, ca. 3 mm, foot ca. 2 mm; stipe linear, tapering; viscidium

irregularly square, wider than stipe. Capsule cylindric, ca. 1.3 cm × 3 mm, 6-ribbed. Fl. May, fr. Jun–Aug. $2n = 38^*$.

• Epiphytic on tree trunks in *Alnus* or *Quercus* forests; 2600–3200 m. N Yunnan.

12. *Holcoglossum nujiangense* X. H. Jin & H. Li, *Nordic J. Bot.* 25: 127. 2008.

怒江槽舌兰 nu jiang cao she lan

Plants pendulous. Roots white, terete, ca. 2 mm in diam. Stems 1–2 cm. Leaves subterete, 20–30 cm × ca. 1.5 mm, apex acuminate. Inflorescence lateral, 1–5-flowered; peduncle ca. 1

cm; floral bracts ovate, ca. 7 mm. Flowers fully opening, white; pedicel and ovary ca. 2 cm. Dorsal sepal erect, elliptic, ca. 1.4 × 6 mm, apex obtuse; lateral sepals oblique, narrowly elliptic, ca. 1.3 × 5 mm. Petals narrowly ovate, ca. 1.2 × 6 mm; lip 3-lobed; lateral lobes erect, triangular, adaxially with red stripes; mid-lobe broadly rhombic, ca. 6 × 8 mm, entire, obtuse, with a yellow fleshy callus at its base; spur funnel-shaped, curved forward, 6–10 mm. Column white, ca. 3 mm, foot ca. 1 mm; viscidium narrowly suborbicular. Fl. Apr–May. $2n = 38^*$.

• Epiphytic on tree trunks in evergreen broad-leaved forests; 2500–3000 m. W Yunnan.

