

**132. CERATOSTYLIS** Blume, Bijdr. 304. 1825.

牛角兰属 niu jiao lan shu

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*Ritaia* King & Pantling.

Herbs, epiphytic or lithophytic. Rhizome short or rather long, creeping or pendulous; roots fibrous. Stems simple or branched, tufted, sometimes terete and rushlike, 1-leaved, with thin, brown, often reticulate basal sheaths, sometimes entirely covered by membranous, reddish brown sheaths, pseudobulbs absent. Leaves borne at apex of stem or branches, usually linear, narrowly lanceolate, or subcylindric, leathery, fleshy or subterete, rarely thinly textured, base articulate. Inflorescence terminal, usually with several clustered flowers, rarely reduced to a solitary flower. Flowers resupinate, small, rarely large and showy. Sepals similar, erect, connivent; lateral sepals adnate at base to column foot forming a saccate or spurlike mentum, enclosing basal part of lip. Petals narrower than sepals; lip adnate to apex of column foot by a long incumbent claw, slightly or partly thickened, spurless, entire or inconspicuously 3-lobed, usually with longitudinal calli. Column short, dilated above, apex bilobed or with 2 spatulate erect arms, foot long; anther terminal, incumbent; pollinia 8, in 2 groups, waxy, sessile, commonly adhering to a small viscidium.

About 100 species: tropical Asia to New Guinea and the Pacific islands; three species (one endemic) in China.

- 1a. Leaves subterete, grooved on one side; stem more than 20 cm, only base enclosed in scalelike sheaths ..... 3. *C. subulata*
- 1b. Leaves linear to narrowly oblong; stem less than 10 cm, completely enclosed in scalelike sheaths.
  - 2a. Stem (1.5–)2–7 cm, branching ..... 1. *C. himalaica*
  - 2b. Stem ca. 1 cm, unbranched ..... 2. *C. hainanensis*

**1. *Ceratostylis himalaica*** J. D. Hooker, Fl. Brit. India 5: 826. 1890.

ovate-lanceolate or ovate, 5–10 mm. Leaf blade shortly petio- late, linear-oblongate, 30–60 × 2.5–4(–5) mm, articulate, unequally bilobed or sometimes ± unlobed. Inflorescence termi-

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*Ritaia himalaica* (J. D. Hooker) King & Pantling.

Plants epiphytic or lithophytic. Stems clustered, pendu- lous, (1.5–)2–7 cm, dichotomously branched, completely en- closed in scalelike sheaths; sheaths reddish brown or pale red- dish brown, ovate-lanceolate, 5–10 mm, membranous, apex long acuminate. Leaf blade linear or narrowly oblong, 3.5–6.5 × 0.3–0.7 cm, fleshy, obliquely notched, acute; petiole 4–6 cm. Inflorescence arising from leaf base, subcapitate, 1- or 2-flow- ered; peduncle and pedicel ca. 4 mm, ± pubescent; peduncle with 2 sheaths; floral bracts ovate, 4–5 × 1.5–2 mm, sheathing, acute to acuminate. Flowers small, white spotted with purplish red, column yellow. Dorsal sepal oblong-ovate, 5–6 × 2–3.5 mm, abaxially pubescent; lateral sepals broadly ovate, 3.5–4.5 mm, abaxially pubescent. Petals linear, 3.5–4.5 × ca. 1 mm, glabrous; lip suboblong, cymbiform, 2–3 mm, thickened, base deeply saccate, margin entire, apex with a cushionlike callus abaxially; disk slightly hairy. Column very short, apical arms horn-shaped, foot short. Capsule ellipsoid, 6–7 × 3–4 mm. Fl. and fr. Apr–Jun.

Epiphytic on trees or lithophytic on rocks in forests; 900–1700 m. SE Xizang, S Yunnan [Bhutan, NE India, Laos, Malaysia, Myanmar, Nepal, Vietnam].

**2. *Ceratostylis hainanensis*** Z. H. Tsi, Acta Phytotax. Sin. 33: 582. 1995.

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*Ceratostylis caespitosa* (Rolfe) Tang & F. T. Wang, Acta Phytotax. Sin. 1: 87. 1951, not L. O. Williams (1938); *Eria caespitosa* Rolfe; *Trichotosia caespitosa* (Rolfe) Kraenzlin.

Plants epiphytic or lithophytic. Rhizome short. Stems clus- tered, ca. 1 cm, unbranched; basal sheaths reddish brown,

nal, usually 1-flowered; floral bracts persistent, ca. 1 mm, scarious, amplexicaul at base. Flowers fragrant, white, with purplish stripes near base; peduncle and pedicel 4–5 mm. Dorsal sepal elliptic-oblong, 4–5 × ca. 2 mm, subacute; lateral sepals ± broadly oblong, 6–7 × ca. 3 mm; mentum ca. 2 mm. Petals lanceolate-oblong, 3.5–4 × ca. 1.5 mm, obtuse; lip ± broadly elliptic-rhombic, 5–6 × 3.5–4 mm, inconspicuously 3-lobed; lateral lobes subelliptic; mid-lobe broadly cordate-ovate, fleshy; disk with 2 longitudinal lamellae; lamellae fleshy, villous at base. Column very short, foot distinct. Capsule subellipsoid, 5–6 × 2.5–3.5 mm. Fl. and fr. May–Jun.

• Epiphytic on trees in forests, lithophytic on rocks along streams; 700–1000 m. Hainan.

**3. *Ceratostylis subulata*** Blume, Bijdr. 306. 1825.

管叶牛角兰 guan ye niu jiao lan

*Appendicula teres* Griffith; *Ceratostylis teres* (Griffith) H. G. Reichenbach.

Plants epiphytic or lithophytic. Rhizome short. Stems clustered, suberect, cylindric, rushlike, 6–18(–26) cm, apex with 1 leaf and 1 shortened inflorescence; basal sheaths reddish brown, ovate-lanceolate, 5–20 mm. Leaf often deciduous after anthesis, erect, subcylindric, 2.3–5.2 cm × ca. 2 mm, attenuate toward apex. Inflorescence terminal, capitate, sessile, several flowered, base with several sterile bracts 5–7 mm; floral bracts 4–6 mm. Flowers greenish yellow or yellow; pedicel and ovary very short, sparsely hairy. Sepals oblong, ca. 2.5 × 1 mm, abaxially hairy, subacute; lateral sepals slightly wider than dorsal sepal; mentum subclavate, ca. 0.5 mm, slightly 2-lobed, outer surface shortly hairy. Petals lanceolate-rhombic, ca. 3 × 0.7 mm, glabrous, acute; lip somewhat spatulate, 2–3 × ca. 1.5 mm, distal part thickened and fleshy, base narrowed into a claw; claw with 2 longitudinal lamellae adaxially. Column short, foot distinct. Capsule obovoid-ellipsoid or ellipsoid, 5.5–6.5 × 2.5–3.5 mm. Fl. and fr. Jun–Nov.  $2n = 40$ .

Epiphytic on trees or lithophytic on rocks in forest; 700–1100 m. Hainan [Cambodia, India, Indonesia, Laos, Malaysia, Philippines, Thailand, Vietnam].

