

### 41. PERISTYLUS Blume, Bijdr. 404. 1825, nom. cons.

阔蕊兰属 *kuo rui lan shu*

Chen Xinqi (陈心启 Chen Sing-chi); Stephan W. Gale, Phillip J. Cribb

*Glossaspis* Sprengel; *Glossula* Lindley.

Herbs, terrestrial, slender to robust, medium-sized. Tubers subglobose to ellipsoid-oblong, undivided, fleshy, neck with several slender roots. Stem erect, with 2 or 3 tubular sheaths at base, 1- to many leaved, glabrous. Leaves basal, clustered midway along stem or widely spaced, elliptic, ovate, oblanceolate, or linear, base contracted into amplexicaul sheath. Inflorescence erect, terminal, racemose, glabrous; peduncle often with 1 to several sterile bracts; rachis laxly to densely many flowered. Flowers spirally arranged, resupinate, small, sometimes spidery, green, yellowish green, or white; ovary and pedicel usually erect and held close to rachis, twisted, cylindric-fusiform, slender, usually glabrous. Sepals free; dorsal sepal erect; lateral sepals usually spreading, rarely reflexed. Petals often connivent with dorsal sepal and forming a hood, slightly fleshy; lip connate with column at base, distally 3-lobed or rarely entire, larger than sepals and petals, slightly fleshy, spurred at base, ecallose or with a fleshy callus above mouth of spur; spur short and scrotiform, or sometimes elongate and cylindric, usually much shorter than ovary. Column erect, very short, stout; anther with 2 parallel or slightly divergent locules; pollinia 2, granular-farinaceous, sectile, each attached to a viscidium via a short caudicle; viscidia often small, naked, elliptic, ovate, or suborbicular; rostellum small, with short, inconspicuous arms; stigma lobes 2, basally connate but diverging widely, convex, globose or subclavate, often adnate to base of lip; auricles 2, prominent, placed laterally at base of anther.

About 70 species: E, S, and SE Asia to New Guinea, NE Australia, and the SW Pacific islands; 19 species (five endemic) in China.

- 1a. Lip entire.
  - 2a. Leaves linear, 0.2–0.3 cm wide; spur 5.5–6(–8) mm, ca. as long as ovary ..... 17. *P. Forrestii*
  - 2b. Leaves oblong, oblong-elliptic, elliptic-lanceolate, or lanceolate, 0.7–2 cm wide; spur 0.7–1.2 mm, much shorter than ovary.
    - 3a. Plants 2–5-leaved; floral bracts ca. 8 mm, exceeding flower ..... 18. *P. forceps*
    - 3b. Plants 1-leaved; floral bracts 4–5 mm, almost as long as to slightly exceeding ovary ..... 19. *P. nematocaulon*
- 1b. Lip 3-lobed.
  - 4a. Lateral lobes of lip filiform or linear, ca. 2 × as long as mid-lobe or much longer, spreading at right angles from axis of lip.
    - 5a. Lip lacking a transverse ridge, not clearly demarcated into a hypochile and epichile, deeply 3-lobed near base.
      - 6a. Lateral sepals spreading; lip with a large, subglobose callus near base; spur saccate-ovoid, neck contracted, ca. 2 mm ..... 4. *P. formosanus*
      - 6b. Lateral sepals reflexed; lip ecallose; spur cylindric-clavate, ca. 3.5 mm ..... 5. *P. jinchuanicus*
    - 5b. Lip divided near base by a transverse ridge into a short, concave hypochile and a longer, deflexed, deeply 3-lobed epichile.
      - 7a. Lateral lobes of lip linear, 4–7 mm, 2–3 × as long as mid-lobe ..... 3. *P. densus*
      - 7b. Lateral lobes of lip filiform, 8–18 mm, 4–6 × as long as mid-lobe.
        - 8a. Spur fusiform, 3–5 mm ..... 2. *P. calcaratus*
        - 8b. Spur globose-saccate, 1–2.5 mm ..... 1. *P. tentaculatus*
  - 4b. Lateral lobes of lip oblong, triangular, ovate-triangular, or triangular-lanceolate, shorter than to subequal in length to mid-lobe, spreading at an acute angle to axis of lip.
    - 9a. Lip with a large, subglobose callus near base.
      - 10a. Ovary 7–10 mm; dorsal sepal 2.8–3.5 mm; lip 3.5–4.2 mm; spur ovoid, apex acute ..... 14. *P. lacertifer*
      - 10b. Ovary 4–5 mm; dorsal sepal 2–2.5 mm; lip 2–3 mm; spur globose or saccate, apex obtuse.
        - 11a. Flowers white or pale whitish green; callus on lip glabrous ..... 15. *P. coeloceras*
        - 11b. Flowers green; callus on lip papillose ..... 16. *P. neotineaoides*
    - 9b. Lip ecallose.
      - 12a. Plants 1-leaved ..... 6. *P. fallax*
      - 12b. Plants 2–6-leaved.
        - 13a. Leaves linear, to 0.6 cm wide.
          - 14a. Petals ca. 3.5 mm; lip 3–4.5 mm; spur cylindric, curved forward, 4–6 mm, almost as long as ovary ..... 7. *P. bulleyi*
          - 14b. Petals 2–2.5 mm; lip 2–2.5 mm; spur scrotiform, 1–1.5 mm, much shorter than ovary ..... 8. *P. mannii*

- 13b. Leaves elliptic-lanceolate, elliptic, oblong-elliptic, ovate-lanceolate, or ovate, 0.8–6.5 cm wide.  
 15a. Petals and lip pure white; dorsal sepal 7–9 mm; lip 9–11 mm ..... 9. *P. constrictus*  
 15b. Petals and lip green, yellowish green, or creamy white; dorsal sepal 2–5.5 mm; lip 2.5–6 mm.  
 16a. Plants usually robust; lip shallowly 3-lobed toward apex, 3.5–4 mm wide, disk with a dark, triangular nectary toward base ..... 10. *P. goodyeroides*  
 16b. Plants slender to somewhat robust; lip 3-lobed near middle, 1–2 mm wide, disk lacking a nectary.  
 17a. Petals and lip creamy white; lip base concave-saccate, papillose in front of spur mouth ..... 11. *P. affinis*  
 17b. Petals and lip green to yellowish green; lip base shallowly concave, glabrous.  
 18a. Leaves narrowly elliptic-lanceolate, 0.8–2 cm wide; floral bracts 5–8 mm, almost as long as ovary; lip ca. 3 mm; spur ca. 1 mm ..... 12. *P. elisabethae*  
 18b. Leaves elliptic-lanceolate to ovate, 2–3.5 cm wide; floral bracts 8–12 mm, exceeding ovary (and sometimes flowers); lip 4–5.5 mm; spur 1.8–2.5 mm ..... 13. *P. parishii*

**1. *Peristylus tentaculatus*** (Lindley) J. J. Smith, Fl. Buitenzorg 6: 35. 1905.

触须阔蕊兰 *chu xu kuo rui lan*

*Glossula tentaculata* Lindley, Bot. Reg. 10: ad t. 862. 1825; *Glossaspis antennifera* H. G. Reichenbach; *G. tentaculata* (Lindley) Sprengel; *Habenaria garrettii* Rolfe ex Downie; *H. tentaculata* (Lindley) H. G. Reichenbach; *Peristylus garrettii* (Rolfe ex Downie) J. J. Wood & Ormerod.

Plants slender to somewhat robust, 16–45(–60) cm tall. Tubers subglobose to ovoid, 1–2.2 × 0.5–1 cm. Stem with 2 or 3 tubular sheaths at base, 2–5-leaved. Leaves basal to somewhat spaced along stem, ovate-oblong to lanceolate, 4–9(–12) × 0.8–1.5(–3) cm, base attenuate, apex acute. Inflorescence 10–34(–48) cm; peduncle cylindrical, slender to stout; sterile bracts several, lanceolate, 5–12 mm; rachis 4.5–17 cm, subdensely many flowered; floral bracts ovate to ovate-lanceolate, 5–8 mm, shorter than to almost as long as ovary, apex acuminate. Flowers erect, green or yellowish green; ovary 6–10 mm including pedicel. Dorsal sepal erect, oblong-ovate, concave, ca. 2.8 × 1–1.5 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong-ovate, slightly oblique, ca. 3 × 1.2 mm, slightly narrower than dorsal sepal, 1-veined, apex obtuse. Petals connivent with dorsal sepal and forming a hood, ovate-oblong, slightly oblique, ca. 3 × 1.5 mm, 1-veined, apex obtuse; lip oblong, 2.8–3.5 × ca. 0.8 mm, divided near base by a transverse ridge into a short, concave hypochile and a longer, deflexed, deeply 3-lobed epichile, ecallose; lateral lobes spreading at right angles to axis of lip, filiform, 10–18 mm; mid-lobe narrowly oblong-ligulate, ca. 2 mm, apex obtuse; spur pendulous, globose-saccate, 1–2.5 mm, apex usually shallowly 2-lobed, neck contracted. Column ca. 1 mm; viscidia ovate; rostellum with short arms. Fl. Nov–Apr.

Damp places on slopes, beside streams, wastelands; 100–300 m. S Fujian, S Guangdong, E Guangxi, Hainan, SE and W Yunnan [Cambodia, Thailand, Vietnam].

**2. *Peristylus calcaratus*** (Rolfe) S. Y. Hu, Quart. J. Taiwan Mus. 26: 398. 1973.

长须阔蕊兰 *chang xu kuo rui lan*

*Glossula calcarata* Rolfe, Bull. Misc. Inform. Kew 1913: 145. 1913; *Habenaria calcarata* (Rolfe) Schlechter; *H. lilungshania* S. S. Ying; *Platanthera pricei* Hayata.

Plants slender, 17–48 cm tall. Tubers subglobose to oblong-ellipsoid, 0.8–2 × 0.5–1.5 cm. Stem with 2–4 tubular sheaths at base, 3–5-leaved. Leaves clustered near base to somewhat spaced along stem, elliptic-lanceolate, 2.5–12 × 0.6–3.5 cm, base attenuate, apex acute to obtuse. Inflorescence 13–38 cm; peduncle cylindrical, slender; sterile bracts few, lanceolate, to 2 cm; rachis 6–23 cm, laxly to subdensely many flowered; floral bracts ovate-lanceolate, 6–11 mm, shorter than to slightly exceeding ovary, apex acuminate. Flowers erect, pale yellowish green; ovary 7–9 mm including pedicel. Dorsal sepal erect, oblong-ovate, concave, 2–3 × ca. 1.5 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong, 3–3.5 × ca. 1.2 mm, slightly narrower than dorsal sepal, apex obtuse. Petals connivent with dorsal sepal and forming a hood, ovate-oblong, oblique, 3–3.5 × 1.5–2 mm, 1- or 2-veined, apex obtuse; lip narrowly oblong, 3–3.5 × ca. 0.5 mm, divided near base by a transverse ridge into a short, concave hypochile and a longer, deflexed, deeply 3-lobed epichile, ecallose; lateral lobes spreading at right angles to axis of lip, horizontal or ascending, filiform, 8–15 mm; mid-lobe narrowly oblong-lanceolate, 2–3 mm, apex obtuse; spur pendulous, fusiform, 3–5 mm, apex obtuse or sometimes shallowly 2-lobed. Column ca. 1 mm; viscidia ellipsoid. Fl. Jul–Oct.

Forests, grassy slopes; 200–1300 m. Guangdong, Guangxi, Hunan, Jiangsu, Jiangxi, Taiwan, W Yunnan, Zhejiang [Vietnam].

**3. *Peristylus densus*** (Lindley) Santapau & Kapadia, J. Bombay Nat. Hist. Soc. 57: 128. 1960.

狭穗阔蕊兰 *xia sui kuo rui lan*

*Coeloglossum densum* Lindley, Gen. Sp. Orchid. Pl. 302. 1832; *C. flagelliferum* (Makino) Maximowicz ex Makino; *Glossula passerina* Gagnepain; *Habenaria atramentaria* Kraenzlin; *H. burchneroides* Schlechter; *H. dankiaensis*

Gagnepain; *H. evrardii* Gagnepain; *H. flagellifera* Makino; *H. neglecta* King & Pantling; *H. passerina* (Gagnepain) Tang & F. T. Wang; *H. stenostachya* (Lindley ex Benth) Benth; *H. stenostachya* subsp. *burchneroides* (Schlechter) Soó; *Peristylus flagellifer* (Makino) Ohwi; *P. neglectus* (King & Pantling) Kraenzlin; *P. stenostachyus* (Lindley ex Benth) Kraenzlin; *P. xanthochlorus* Blatter & McCann; *Platanthera stenostachya* Lindley ex Benth.

Plants slender to somewhat robust, 15–50(–65) cm tall. Tubers subglobose to oblong-ovoid, 0.8–2 × 0.6–1.5 cm. Stem with 2 or 3 tubular sheaths at base, 4–6-leaved. Leaves widely spaced along stem, ovate, oblong, or oblong-lanceolate, 2.5–10 × 0.6–2.5 cm, apex acute or acuminate. Inflorescence 11–38(–47) cm; peduncle cylindrical to slightly ridged, slender to stout; sterile bracts several, ovate-lanceolate, to 3.5 cm; rachis 4–24 cm, laxly to subdensely many flowered; floral bracts ovate-lanceolate, 5–15 mm, basal ones often exceeding ovary, apex acuminate. Flowers erect to horizontal, yellowish green or pale green to whitish; ovary 6–10 mm including pedicel. Dorsal sepal forming a hood to erect, narrowly oblong-ovate, concave, 3–4 × 0.8–1.2 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong-lanceolate, oblique, 3–4 × 0.8–1 mm, 1-veined, apex obtuse. Petals connivent with dorsal sepal and forming a hood, narrowly ovate-oblong, ca. 3 × 0.8–1 mm, 1-veined, apex obtuse; lip narrowly oblong-ovate, ca. 4.5 × 0.8 mm, divided near base by a transverse ridge into a short, concave hypochile and a longer, deflexed, deeply 3-lobed epichile, ecallose; lateral lobes spreading at right angles to axis of lip, linear, 4–7 mm; mid-lobe oblong-lanceolate, ca. 2.5 mm, apex obtuse; spur pendulous, cylindrical-clavate, 3–4 mm, apex sometimes shallowly 2-lobed. Column ca. 1.5 mm; viscidia ellipsoid; rostellum with short arms. Fl. May–Oct.  $2n = 25 \pm 2, 42 + 0-2B, 44, 46, 48, 50$ .

Forests, moist grasslands; 300–2100 m. N Fujian, Guangdong, Guangxi, Guizhou, Jiangxi, Yunnan, Zhejiang [Bangladesh, Cambodia, India, Japan, Korea, Myanmar, Thailand, Vietnam].

**4. *Peristylus formosanus*** (Schlechter) T. P. Lin, Native Orchids Taiwan 2: 274. 1977.

台湾阔蕊兰 tai wan kuo rui lan

*Habenaria formosana* Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 4: 127. 1919, based on *H. tentaculata* (Lindley) H. G. Reichenbach var. *acutifolia* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 354. 1911; *H. brevicealcarata* Fukuyama (1932), not (Hayata) Masamune (1968); *Peristylus flagellifer* (Makino) Ohwi var. *acutifolius* (Hayata) Hatusima; *P. lacertifer* (Lindley) J. J. Smith var. *formosanus* (Schlechter) S. S. Ying, nom. superfl.

Plants slender, 15–45 cm tall. Tubers subglobose, 1–2 × 0.8–1.5 cm. Stem with 2 or 3 tubular sheaths at base, 3- or 4-leaved. Leaves forming a basal rosette to somewhat spaced along stem, elliptic to ovate-lanceolate, 5–10 × 2–3 cm, apex obtuse or acute. Inflorescence 13–36 cm; peduncle cylindrical, slender; sterile bracts 2 or 3, lanceolate, to 1.5 cm; rachis 6–20 cm, densely many flowered; floral bracts ovate-lanceolate, 8–12 mm, basal ones exceeding flowers, apex acuminate. Flowers

erect to horizontal, whitish green; ovary 8–10 mm including pedicel. Dorsal sepal erect, ovate, concave, 3.5–4 × 2.2–2.5 mm, apex obtuse-rounded; lateral sepals spreading, oblong-elliptic, 3.8–4.8 × ca. 1.8 mm, apex subobtuse to acute. Petals connivent with dorsal sepal and forming a hood, ovate-rhombic, 3.8–4.8 × ca. 2.5 mm, apex acute; lip narrowly ovate, ca. 4 × 1.8 mm, deeply 3-lobed near base; disk with a large, subglobose callus near base; lateral lobes diverging widely from axis of lip, filiform, 5–12 mm; mid-lobe ligulate, 1.7–3 mm, apex obtuse; spur saccate-ovoid, neck contracted, ca. 2 mm, apex subacute. Column ca. 1.5 mm; viscidia oblong; rostellum with short arms. Fl. Aug–Dec.

Open places, grasslands; below 300 m. Taiwan [Japan (Ryukyu Islands)].

“*Caeloglossum formosanum*” [sic] (Makino & Hayata, J. Coll. Sci. Imp. Univ. Tokyo 22: 420. 1906) belongs here but is a nomen nudum and was therefore not validly published.

The identity and placement of this species within the genus remains contentious. Garay and Sweet (Orchids S. Ryukyu Islands, 37. 1974) considered it conspecific with *Habenaria lacertifera*, a position followed by Seidenfaden (Dansk Bot. Ark. 31(3): 58. 1977, as *Peristylus lacertifer*). More recently, however, Su (Fl. Taiwan 5: 994. 2000) maintained the two taxa as distinct on account of differences in lip shape and flower color. A re-assessment of type material and of fresh material is clearly required.

**5. *Peristylus jinchuanicus*** K. Y. Lang, Acta Phytotax. Sin. 25: 447. 1987.

金川阔蕊兰 jin chuan kuo rui lan

Plants slender, 17–50 cm tall. Tubers oblong, 2–4 × 1–2 cm. Stem with 2 tubular sheaths at base, 4- or 5-leaved. Leaves widely spaced along stem, oblong-lanceolate, 5–10 × 0.8–2 cm, apex acute or acuminate. Inflorescence 11–33 cm; peduncle cylindrical, slender; sterile bracts 4–8, lanceolate, to 2.4 cm; rachis 5–21 cm, subdensely many flowered; floral bracts lanceolate, to 9 mm, basal ones sometimes exceeding flowers, apex acuminate. Flowers erect, yellowish green; ovary ca. 7 mm including pedicel. Dorsal sepal erect, ovate, concave, ca. 4 × 2.5 mm, 3-veined, apex obtuse; lateral sepals reflexed, oblong, oblique, ca. 4 × 2 mm, 3-veined, apex obtuse. Petals connivent with dorsal sepal and forming a hood, ovate-lanceolate, slightly oblique, 4.5–5 × ca. 1.5 mm, 1-veined, apex acute; lip narrowly oblong, ca. 6 × 1 mm, deeply 3-lobed near base, ecallose; lateral lobes spreading almost at right angles to axis of lip, linear, 5–6 mm; mid-lobe narrowly oblong, ca. 3 mm, apex obtuse; spur pendulous, cylindrical-clavate, ca. 3.5 mm, apex obtuse or sometimes shallowly 2-lobed. Column ca. 1 mm; viscidia ellipsoid; rostellum with short arms. Fl. Jul–Sep.

• *Picea* forests, thickets, grasslands; 1700–3900 m. W Sichuan, NW Yunnan.

**6. *Peristylus fallax*** Lindley, Gen. Sp. Orchid. Pl. 298. 1835.

盘腺阔蕊兰 pan xian kuo rui lan

*Habenaria fallax* (Lindley) King & Pantling; *Herminium fallax* (Lindley) J. D. Hooker; *Monorchis fallax* (Lindley) O. Schwarz; *Peristylus fallax* var. *dwarikae* Deva & H. B. Naitani; *Platanthera fallax* (Lindley) Schlechter.

Plants slender to somewhat robust, 14–30 cm tall. Tubers subglobose to oblong-ellipsoid, 1–1.5 × ca. 0.8 cm. Stem with 2 or 3 tubular sheaths at base, 1-leaved. Leaf basal or cauline, narrowly oblong-elliptic to oblanceolate, 6–13 × 0.8–2 cm, apex acute. Inflorescence 11–22 cm; peduncle cylindrical to slightly ridged, slender to stout, ebracteate or with 1 lanceolate sterile bract to 20 mm; rachis 5–14 cm, subaxly to densely many flowered; floral bracts lanceolate, 6–15 mm, basal ones exceeding flowers, apex acuminate. Flowers horizontal, yellowish green; ovary 6–7 mm including pedicel. Dorsal sepal suberect, oblong-ovate, concave, 3–4 × 1.5–1.8 mm, 1-veined, apex obtuse; lateral sepals spreading, ovate-lanceolate, oblique, slightly concave, 3.5–4.2 × ca. 1.4 mm, 1-veined, apex subacute. Petals ascending, ovate-lanceolate, 3.2–4 × ca. 1.2 mm, 1-veined, apex acute; lip spreading, ovate, 3.2–5.5 × 1–1.3 mm, ecallose, 3-lobed near middle; lateral lobes diverging at an acute angle from axis of lip, oblong, 0.8–1.5 mm, apex obtuse; mid-lobe oblong, 1–2 mm, broader than lateral lobes; spur pendulous, scrotiform to oblong-clavate, 0.8–1.5 mm, apex obtuse or sometimes shallowly 2-lobed. Column ca. 1 mm; viscidia disklike; rostellum broad, with short arms. Fl. Jul–Sep.  $2n = 30$ , 34, 42.

Forests, forest margins, alpine grasslands; 3000–3300 m. SW Sichuan, S Xizang, NW Yunnan [Bhutan, India, Nepal].

**7. *Peristylus bulleyi*** (Rolfe) K. Y. Lang, Acta Phytotax. Sin. 25: 448. 1987.

条叶阔蕊兰 tiao ye kuo rui lan

*Habenaria bulleyi* Rolfe, Notes Roy. Bot. Gard. Edinburgh 8: 25. 1913; *H. beesiana* W. W. Smith; *Herminium bulleyi* (Rolfe) Tang & F. T. Wang; *Peristylus gracillimus* (J. D. Hooker) Kraenzlin f. *lankongensis* Finet; *Platanthera praeus-tipetala* Kraenzlin.

Plants slender, 15–35 cm tall. Tubers oblong, 1–2 × ca. 0.5 cm. Stem with 2 tubular sheaths at base, 2–4-leaved. Leaves somewhat spaced to clustered midway along stem, linear, 4–10 × 0.2–0.6 cm, apex acute or acuminate. Inflorescence 13–30 cm; peduncle cylindrical to slightly ridged, slender; sterile bracts 1–3, linear-lanceolate, 5–7 mm; rachis 5–15 cm, subaxly several to subdensely many flowered; floral bracts ovate-lanceolate, 4–6 mm, shorter than ovary, apex acuminate. Flowers erect, yellowish green; ovary 5–8 mm including pedicel. Dorsal sepal erect, ovate-oblong, concave, 2–3.5 × 0.8–1.2 mm, 1-veined, apex obtuse; lateral sepals spreading to reflexed, oblong, slightly oblique, 3–4 × 0.8–1.2 mm, 1-veined, apex obtuse. Petals erect-spreading to reflexed, narrowly ovate-lanceolate, ca. 3.5 × 1(–1.5) mm, slightly fleshy above middle, 3-veined, apex acute; lip narrowly oblong, 3–4.5 × ca. 0.4 mm, ecallose, 3-lobed near middle; lateral lobes diverging at an acute angle from axis of lip, narrowly oblong, 0.8–2.5 mm; mid-lobe linear-oblong, 2–3 mm, slightly longer and wider than lateral lobes, apex obtuse; spur pendulous, curved forward, cylindrical, 4–6 mm, almost as long as ovary, apex obtuse. Column ca. 0.8 mm; viscidia ellipsoid. Fl. Jul–Aug.

• *Pinus* forests, grassy slopes; 2500–3300 m. SW and W Sichuan, N and NW Yunnan.

**8. *Peristylus mannii*** (H. G. Reichenbach) Mukerjee, Notes Roy. Bot. Gard. Edinburgh 21: 153. 1953.

纤茎阔蕊兰 xian jing kuo rui lan

*Coeloglossum mannii* H. G. Reichenbach, Linnaea 41: 54. 1877; *Habenaria duclouxii* Rolfe; *H. gracillima* J. D. Hooker; *H. spiranthiformis* Ames & Schlechter; *Herminium mannii* (H. G. Reichenbach) Tang & F. T. Wang; *H. spiranthiforme* (Ames & Schlechter) Tang & F. T. Wang; *H. yuanum* Tang & F. T. Wang; *Peristylus gracillimus* (J. D. Hooker) Kraenzlin; *Platanthera mannii* (H. G. Reichenbach) Schlechter.

Plants slender, 15–40 cm tall. Tubers subglobose to oblong-elliptic, 1–1.5 × 0.4–1 cm. Stem with 2 tubular sheaths at base, 2–4-leaved. Leaves clustered at base of stem, linear, 3.5–15 × 0.2–0.4 cm, apex acuminate. Inflorescence 14–37 cm; peduncle cylindrical, slender; sterile bracts 1–5, lanceolate, to 20 mm; rachis 4–20 cm, subaxly few to many flowered; floral bracts ovate-lanceolate, 2–4 mm, shorter than ovary, apex acuminate. Flowers horizontal, green to pale yellowish green; ovary 3–5 mm including pedicel. Dorsal sepal oblong-ovate, concave, ca. 2.5 × 0.8 mm, 1-veined, apex obtuse; lateral sepals weakly spreading, ligulate to narrowly oblong, ca. 2.5 × 0.8 mm, 1-veined, apex obtuse. Petals loosely connivent with dorsal sepal and forming a hood, narrowly ovate-lanceolate, 2–2.5 × ca. 0.8 mm, slightly fleshy above middle, 2-veined, apex obtuse; lip spreading, narrowly ovate, 2–2.5 × ca. 0.8 mm, ecallose, 3-lobed near middle; lateral lobes diverging at an acute angle from axis of lip, narrowly oblong, 0.8–1.2 mm; mid-lobe oblong, slightly attenuate, 1–1.5 mm, slightly broader than lateral lobes, 3-veined; spur pendulous, scrotiform, 1–1.5 mm, apex obtuse. Column ca. 0.5 mm; viscidia ellipsoid. Fl. Sep–Oct.

Open forests, thickets, grassy slopes; 1700–2900 m. S Sichuan, C and W Yunnan [India].

**9. *Peristylus constrictus*** (Lindley) Lindley, Gen. Sp. Orchid. Pl. 300. 1835.

大花阔蕊兰 da hua kuo rui lan

*Herminium constrictum* Lindley, Edwards's Bot. Reg. 18: ad t. 1499. 1832; *Habenaria constricta* (Lindley) J. D. Hooker; *Platanthera constricta* (Lindley) Wallich.

Plants robust, (30–)45–77 cm tall. Tubers oblong, 3–4 × 0.8–1.5 cm. Stem with 4–6 tubular sheaths at base, 4–6-leaved. Leaves basal and clustered to somewhat spaced along stem, broadly elliptic, 5–13 × 3.5–6.5 cm, apex acute. Inflorescence 21–42 cm; peduncle cylindrical, stout; sterile bracts several, lanceolate, to 30 mm; rachis 5–18 cm, densely many flowered; floral bracts ovate-lanceolate, 9–15 mm, exceeding ovary, apex acuminate. Flowers horizontal; sepals pale brown; petals and lip pure white; ovary 8–10 mm including pedicel. Dorsal sepal forming a hood, concave, 7–9 × 2–3 mm, 1-veined, apex obtuse; lateral sepals spreading, narrowly oblong-lanceolate, oblique, 7–9 × ca. 2.5 mm, 1-veined, margin incurved, apex acute to mucronate. Petals ovate-lanceolate, oblique, 9–11 × 3.5–4 mm, 3- or 4-veined, apex obtuse; lip spreading, oblong-obovate, 9–11 × 4–5 mm, ecallose, base shallowly concave, 3-lobed near middle; lateral lobes diverging at an acute angle from axis of lip, triangular to shortly oblong, slightly falcate,

2.8–5.8 mm, apex acute; mid-lobe 3–5.5 mm, slightly broader than lateral lobes, apex obtuse; spur pendulous, globose, 2–3 mm, apex rounded, neck contracted. Column ca. 1.8 mm; viscidia ovoid; rostellum deltoid, with short arms. Fl. Jun–Aug.  $2n = 38, 42$ .

Scrubby slopes; 1500–2800 m. SW and W Yunnan [Bhutan, Cambodia, India, Myanmar, Nepal, Thailand, Vietnam].

**10. *Peristylus goodyeroides*** (D. Don) Lindley, Gen. Sp. Orchid. Pl. 299. 1835.

阔蕊兰 kuo rui lan

*Habenaria goodyeroides* D. Don, Prodr. Fl. Nepal. 25. 1825; *H. goodyeroides* var. *formosana* Hayata; *H. hayatana* Schlechter; *H. pandurilabia* Schlechter; *H. tenii* Schlechter; *Herminium goodyeroides* (D. Don) Lindley; *Peristylus sphaerocentron* Tang & F. T. Wang.

Plants usually robust, (17–)28–60(–90) cm tall. Tubers oblong, 1.5–4 × 0.5–2 cm. Stem with 2–4 tubular sheaths at base, 4–6-leaved. Leaves usually clustered midway along stem, ovate to oblong-elliptic, 3.5–17 × 2.5–6.5 cm, apex obtuse or acute. Inflorescence (10–)22–44(–60) cm; peduncle cylindrical, stout; sterile bracts 1 to many, occasionally foliaceous, lanceolate, 8–35 mm; rachis 4–21 cm, subclaxly to densely many flowered; floral bracts lanceolate, 6–15 mm, ca. as long as to slightly exceeding ovary, apex acuminate. Flowers erect to horizontal; sepals olive to brownish green; petals and lip pale yellowish green to creamy white; ovary 6–11 mm including pedicel. Dorsal sepal erect, ovate-lanceolate to broadly ovate, concave, 4–5.5 × 2.5–3.5 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong, oblique, 4–6 × 2–2.8 mm, 1-veined, apex acute to obtuse. Petals spreading, broadly ovate, oblique, 4–5.5 × 3–4(–5) mm, 2- or 3-veined, base concave, apex obtuse; lip spreading, oblong-obovate, 4–6 × 3.5–4 mm, shallowly 3-lobed toward apex; disk ecallose but with a dark, triangular nectary toward base; lateral lobes ovate-triangular, 0.8–1.8 mm, apex obtuse; mid-lobe ovate, 1–1.8 mm, slightly broader than lateral lobes, apex obtuse; spur pendulous, globose-scapiform, ca. 2 mm, apex rounded, neck contracted. Column ca. 1.5 mm; viscidia ellipsoid; rostellum with short arms. Fl. Jun–Aug.  $2n = 23 + 2f, 42, 46, 47$ .

Broad-leaved forests, scrub, grassy slopes; 500–2300 m. Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Bhutan, Cambodia, N India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Thailand, Vietnam].

**11. *Peristylus affinis*** (D. Don) Seidenfaden, Dansk Bot. Ark. 31(3): 48. 1977.

小花阔蕊兰 xiao hua kuo rui lan

*Habenaria affinis* D. Don, Prodr. Fl. Nepal. 25. 1825; *Gymnadenia affinis* (D. Don) H. G. Reichenbach; *H. cavaleriei* Schlechter; *H. goodyeroides* D. Don var. *affinis* (D. Don) King & Pantling; *H. sampsonii* (Hance) Hance; *Peristylus goodyeroides* (D. Don) Lindley var. *affinis* (D. Don) Cooke; *P. sampsonii* Hance; *Phyllomphax affinis* (D. Don) Schlechter.

Plants slender, 21–54 cm tall. Tubers oblong-ellipsoid, 1–2 × 0.4–1 cm. Stem with 2–4 tubular sheaths at base, 3–5-leaved.

Leaves clustered to somewhat spaced along stem, elliptic to ovate-lanceolate, 2.5–9 × 1–3.5 cm, apex acute. Inflorescence 14–25 cm; peduncle cylindrical, slender; sterile bracts 1 or 2, lanceolate, ca. 15 mm; rachis 8–15 cm, subdensely several to many flowered; floral bracts ovate-lanceolate, 8–10 mm, ca. as long as to slightly exceeding ovary, apex acuminate. Flowers erect; sepals olive to brownish green, petals and lip creamy white; ovary 8–10 mm including pedicel. Dorsal sepal erect, oblong, slightly concave, ca. 3 × 1.5–1.8 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong, ca. 3 × 1.2 mm, 1-veined, apex obtuse. Petals forming a loose hood with dorsal sepal, ovate, oblique, ca. 2.5 × 2 mm, 1-veined, apex obtuse; lip spreading, oblong-obovate, 2.5–3 × ca. 1.8 mm, ecallose, papillose near mouth of spur, base concave-saccate, 3-lobed near middle; lateral lobes diverging at an acute angle from axis of lip, oblong, to ca. 1 mm, apex obtuse; mid-lobe oblong, ca. 1.2 mm, broader than lateral lobes, apex obtuse; spur pendulous, saccate, 0.8–1.2 mm, apex rounded. Column ca. 0.8 mm; viscidia subellipsoid; rostellum small, with short arms on both sides. Fl. Jun–Sep.  $2n = 28, 42, 44, 46 + 0–3B$ .

Evergreen broad-leaved forests, open scrub along valleys, roadsides, grassy slopes; 400–3000 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Yunnan [NE India, Laos, Myanmar, Nepal, Thailand].

**12. *Peristylus elisabethae*** (Duthie) R. K. Gupta, Fl. Nainital. 351. 1968.

西藏阔蕊兰 xi zang kuo rui lan

*Habenaria elisabethae* Duthie, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 71: 44. 1902; *Herminium elisabethae* (Duthie) Tang & F. T. Wang.

Plants slender, 9–36 cm tall. Tubers oblong-ellipsoid, 1.5–2 × 0.5–1.2 cm. Stem with 1 or 2 tubular sheaths at base, 2- or 3-leaved. Leaves basal to somewhat spaced along stem, narrowly elliptic-lanceolate, 4.5–12 × 0.8–2 cm, apex acute or acuminate. Inflorescence 8–32 cm; peduncle cylindrical, slender; sterile bracts 1 or 2, occasionally foliaceous, lanceolate, to 40 mm; rachis 3.5–22 cm, subdensely many flowered; floral bracts lanceolate, 5–8 mm, almost as long as ovary, apex acuminate. Flowers horizontal, green to yellowish green; ovary 6–9 mm including pedicel. Dorsal sepal broadly ovate, concave, ca. 2 × 1.8 mm, 1-veined, apex obtuse; lateral sepals weakly spreading, ovate, oblique, ca. 2.2 × 1.5 mm, 1-veined, apex acute. Petals loosely connivent with dorsal sepal and forming a hood, ovate-lanceolate, oblique, 1.5–1.8 × ca. 1.2 mm, 1-veined, apex obtuse; lip slightly deflexed, oblong, ca. 3 × 1 mm, ecallose, base shallowly concave, 3-lobed near middle; lateral lobes triangular to shortly oblong, ca. 1.2 mm, diverging at an acute angle from axis of lip, apex obtuse; mid-lobe oblong, 1.2–1.5 mm, slightly broader than lateral lobes, apex obtuse; spur pendulous, oblong-clavate, ca. 1 mm, apex obtuse or shallowly 2-lobed. Column ca. 1 mm; viscidia ellipsoid. Fl. Jul–Sep.  $2n = 42$ .

Coniferous and broad-leaved mixed forests, glades in forests, flooded meadows, grasslands; 3100–4100 m. C and S Xizang [Bhutan, India, Nepal].

**13. *Peristylus parishii*** H. G. Reichenbach, Trans. Linn. Soc.

London 30: 139. 1874.

滇桂阔蕊兰 dian gui kuo rui lan

*Habenaria parishii* (H. G. Reichenbach) J. D. Hooker.

Plants slender to somewhat robust, 26–57 cm tall. Tubers ovoid-oblong, 1–2.5 × 0.8–1.5 cm. Stem with 3–5 tubular sheaths at base, 4- or 5-leaved. Leaves clustered near middle of stem, elliptic-lanceolate to ovate, 4–9 × 2–3.5 cm, apex acute. Inflorescence 17–41 cm; peduncle cylindric to slightly ridged, slender to stout, ebracteate or with 1 lanceolate sterile bract ca. 10 mm; rachis 7–25 cm, densely many flowered; floral bracts ovate-lanceolate, 8–12 mm, exceeding ovary (and sometimes flowers), apex acuminate. Flowers horizontal, green; ovary 6–9 mm including pedicel. Dorsal sepal erect, ovate, concave, 3.2–4.5 × 1.8–2 mm, 1-veined, apex obtuse; lateral sepals spreading, oblong, oblique, 3.5–5 × ca. 1.5 mm, 1-veined, apex obtuse. Petals spreading, ovate, oblique, 3.5–4.8 × 1.8–2.2 mm, 1- or 2-veined, apex obtuse; lip spreading to deflexed, ovate, 4–5.5 × ca. 2 mm, ecallose, base shallowly concave, 3-lobed near middle; lateral lobes oblong-triangular, ca. 0.8 mm, apex obtuse; mid-lobe oblong, ca. 1.5 mm, slightly broader than lateral lobes, apex obtuse; spur pendulous, fusiform, 1.8–2.5 mm, apex acute, neck contracted. Column ca. 1 mm; viscidia oblong; rostellum with short arms. Fl. Jun–Aug.

Broad-leaved forests, thickets; 700–1800 m. N Guangxi, S and SE Yunnan [India, Myanmar, Nepal, Thailand, Vietnam].

**14. *Peristylus lacertifer*** (Lindley) J. J. Smith, Bull. Jard. Bot. Buitenzorg, sér. 3, 9: 23. 1927.

撕唇阔蕊兰 si chun kuo rui lan

Plants slender, 16–45 cm tall. Tubers subglobose to oblong, 0.6–1.5 × 0.5–1 cm. Stem with 2 or 3 tubular sheaths at base, 2- or 3-leaved. Leaves subopposite or clustered at base of stem, oblong-lanceolate to ovate-lanceolate, 2.5–12 × 1–3.5 cm, apex acute. Inflorescence 14–40 cm; peduncle cylindric, slender; sterile bracts 3 or more, occasionally foliaceous, lanceolate, to 30 mm; rachis 5–16 cm, subdensely many flowered; floral bracts lanceolate, 6–12 mm, ca. as long as to slightly exceeding ovary, apex acuminate. Flowers erect, green to pale yellowish green or white; ovary 7–10 mm including pedicel, glabrous. Dorsal sepal erect, ovate-oblong, concave, 2.8–3.5 × ca. 1.8 mm, 1-veined, apex acute; lateral sepals erect to obliquely spreading, 2.8–3.5 × ca. 1.4 mm, 1-veined, apex acute. Petals connivent with dorsal sepal and forming a hood, ovate, 2.8–3.5 × ca. 1.5 mm, 1-veined, apex obtuse; lip usually deflexed, oblong-obovate, 3.5–4.2 × 1.8–2 mm, base concave, 3-lobed toward apex; disk with a large, subglobose callus near base; lateral lobes triangular-lanceolate, 1–1.6 mm, apex acute; mid-lobe ovate-ligulate, 0.8–1.4 mm, broader than lateral lobes, apex obtuse; spur pendulous, somewhat incurved, ovoid, ca. 1 mm, apex acute. Column 1–1.2 mm; viscidia elliptic, small. Fl. Jul–Oct.  $2n = 44, 88$ .

Forests, thickets, grassy slopes; 100–1300 m. S Fujian, S and SW Guangdong, C and SE Guangxi, S Hainan, SW Sichuan, C Taiwan, S Yunnan [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Myanmar, Philippines, Thailand, Vietnam].

1a. Flowers green to pale yellowish

green ..... 14a. var. *lacertifer*

1b. Flowers white ..... 14b. var. *taipoensis*

**14a. *Peristylus lacertifer* var. *lacertifer***

撕唇阔蕊兰(原变种) si chun kuo rui lan (yuan bian zhong)

*Coeloglossum lacertiferum* Lindley, Gen. Sp. Orchid. Pl. 302. 1835; *Choeradoplectron spiranthes* Schauer; *Coeloglossum acuminatum* Lindley; *Habenaria lacertifera* (Lindley) Benth; *H. maingayi* King & Pantling; *H. meyenii* Merrill; *Peristylus chloranthus* Lindley ex Benth; *P. spiranthes* (Schauer) S. Y. Hu.

Flowers green to pale yellowish green. Lateral lobes of lip shorter than to subequal in length to mid-lobe.

Forests, thickets, grassy slopes; 600–1300 m. S Fujian, S and SW Guangdong, C and SE Guangxi, S Hainan, SW Sichuan, C Taiwan, S Yunnan [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Myanmar, Philippines, Thailand, Vietnam].

**14b. *Peristylus lacertifer* var. *taipoensis*** (S. Y. Hu & Barretto) S. C. Chen, S. W. Gale & P. J. Cribb, **comb. nov.**

短裂阔蕊兰 duan lie kuo rui lan

Basionym: *Peristylus spiranthes* (Schauer) S. Y. Hu var. *taipoensis* S. Y. Hu & Barretto, Chung Chi J. 13(2): 2. 1976; *P. taipoensis* (S. Y. Hu & Barretto) T. C. Hsu & S. W. Chung.

Flowers white. Lateral lobes of lip always shorter than mid-lobe.

• Forests, grasslands; 100–800 m. Hong Kong, C Taiwan.

**15. *Peristylus coeloceras*** Finet, Rev. Gén. Bot. 13: 519. 1901.

凸孔阔蕊兰 tu kong kuo rui lan

*Herminium coeloceras* (Finet) Schlechter; *H. tenianum* Kraenzlin; *H. unicolorne* Kraenzlin; *Monorchis coeloceras* O. Schwarz; *M. teniana* (Kraenzlin) O. Schwarz.

Plants slender, 6–35 cm tall. Tubers oblong-ovoid, 1–2 × 0.5–1 cm. Stem with 1 or 2 tubular sheaths at base, 1–3-leaved. Leaves clustered at base of stem, narrowly elliptic-lanceolate to oblong-elliptic, 2–10 × 0.8–2 cm, apex obtuse or acute. Inflorescence 5–27 cm; peduncle cylindric, slender; sterile bracts 1–3, occasionally foliaceous, ovate-lanceolate, 4–32 mm; rachis 2–10 cm, subdensely to densely many flowered; floral bracts lanceolate, 4–6 mm, slightly longer than ovary, apex acuminate. Flowers horizontal, white or pale whitish green; ovary 4–5 mm including pedicel. Dorsal sepal broadly erect, ovate, concave, 2–2.2 × ca. 1.8 mm, 1-veined, apex obtuse; lateral sepals spreading, cuneate-ovate, ca. 2.3 × 1.5 mm, 1-veined, apex obtuse. Petals ovate, oblique, 2–2.2 × ca. 1.4 mm, slightly fleshy above middle, 3-veined, apex obtuse; lip spreading, cuneate, ca. 3 × 2 mm, 3-lobed toward apex; disk with a large, glabrous, subglobose callus near base; lateral lobes oblong-ovate, ca. 0.5 mm, apex obtuse; mid-lobe oblong-ovate, ca. 0.8 mm, apex obtuse; spur pendulous, globose-saccate, very small, ca. 1 mm, apex obtuse. Column ca. 0.8 mm; viscidia elliptic; rostellum with short arms. Fl. Jun–Aug.

Coniferous and broad-leaved mixed forests, thickets, alpine grasslands; 2000–3900 m. W Sichuan, E and SE Xizang, NE and NW Yunnan [N Myanmar].

**16. *Peristylus neotineoides*** (Ames & Schlechter) K. Y. Lang, Acta Phytotax. Sin. 25: 453. 1987.

川西阔蕊兰 chuan xi kuo rui lan

*Herminium neotineoides* Ames & Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 4: 42. 1919; *Monorchis neotineoides* (Ames & Schlechter) O. Schwarz.

Plants slender, 20–38 cm tall. Tubers oblong-ovoid, 1.5–2 × 1–1.5 cm. Stem with 2 or 3 tubular sheaths at base, 2-leaved. Leaves basal, oblong to oblong-lanceolate, 4–14 × 0.8–3 cm, apex acute to acuminate. Peduncle cylindrical, with 1 sterile bract; rachis 8–16 cm, densely many flowered; floral bracts lanceolate, basal ones ca. as long as flowers, apex acuminate. Flowers green; ovary ca. 5 mm including pedicel. Dorsal sepal erect, elliptic, 2–2.5 × ca. 1.5 mm, 1-veined, apex obtuse; lateral sepals spreading, elliptic, 2–2.5 × ca. 1.1 mm, 1-veined, apex obtuse. Petals connivent with dorsal sepal and forming a hood, ovate-lanceolate, oblique, 2–2.5 × ca. 1 mm, 1–3-veined, basal half concave, apex obtuse; lip ovate, 2–3 × 2–2.5 mm, base concave, 3-lobed toward apex; disk with a large, papillose, subglobose callus near base; lateral lobes lanceolate, falcate, apex obtuse; mid-lobe ovate-lanceolate, slightly longer and broader than lateral lobes, apex obtuse; spur saccate, very small; viscidia ovate. Fl. Jul.

• Grassy slopes; 3100–4000 m. W Sichuan.

**17. *Peristylus forrestii*** (Schlechter) K. Y. Lang, Acta Phytotax. Sin. 25: 454. 1987.

条唇阔蕊兰 tiao chun kuo rui lan

*Habenaria forrestii* Schlechter, Notes Roy. Bot. Gard. Edinburgh 5: 101. 1912; *Herminium suave* Tang & F. T. Wang.

Plants slender, 20–25 cm tall. Tubers oblong, 1.5–2 × 0.5–1 cm. Stem with 2 or 3 tubular sheaths at base, 2- or 3-leaved. Leaves basal, linear, 2–6 × 0.2–0.3 cm, ± conduplicate, apex acute. Inflorescence 16–22 cm; peduncle cylindrical, slender; sterile bracts 1–3, lanceolate, 4–5 mm; rachis 6–15 cm, laxly many flowered; floral bracts ovate-lanceolate, ca. 3 mm, much shorter than ovary, apex acuminate. Flowers horizontal to nodding, green; ovary 5–8 mm including pedicel. Dorsal sepal erect, broadly ovate, ca. 2.5 × 2 mm, 1-veined, apex obtuse; lateral sepals reflexed, oblong-ligulate, falcate, ca. 2.5 × 1.2 mm, 1-veined, apex obtuse. Petals ovate-lanceolate to ovate, oblique, ca. 3 × 1 mm, 1-veined, apex obtuse; lip deflexed, ligulate, ca. 3 mm, with an oblong groove near base, ecallose, entire, apex obtuse; spur pendulous, curving forward, cylindrical, 5.5–6(–8) mm, ca. as long as ovary, slightly dilated toward apex; pollinia ovoid; caudicles short; viscidia slightly curled, ovate. Fl. Aug–Sep.

• Forests, grassy slopes; 1700–3900 m. SW Sichuan, NE and NW Yunnan.

**18. *Peristylus forceps*** Finet, Rev. Gén. Bot. 13: 521. 1901.

一掌参 yi zhang shen

*Habenaria forceps* (Finet) Schlechter; *H. herminioides* Ames & Schlechter; *Herminium forceps* (Finet) Schlechter; *H. liguliforme* Tang & F. T. Wang; *H. isoongii* Tang & F. T. Wang.

Plants slender, 15–45 cm tall. Tubers ovoid-oblong, ca. 1 cm. Stem with 2 or 3 tubular sheaths at base, 2–5-leaved. Leaves widely spaced along stem, elliptic-lanceolate to lanceolate, 4–10 × 0.8–2 cm, apex acute or acuminate, intergrading into sterile bracts above. Inflorescence 10–30 cm; peduncle cylindrical, slender; sterile bracts several, often foliaceous, lanceolate, to 35 mm; rachis 8–18 cm, densely many flowered; floral bracts ovate-lanceolate, ca. 8 mm, exceeding flower, apex acuminate. Flowers horizontal, green; ovary ca. 5 mm including pedicel, glabrous to slightly pubescent. Dorsal sepal erect, ovate, 2–3 × ca. 2 mm, 3-veined, apex obtuse; lateral sepals spreading, oblong, slightly oblique, 2–3 × ca. 1.5 mm, 1- or 3-veined, apex obtuse. Petals ovate-lanceolate, slightly oblique, 2–3 × ca. 1.5 mm, fleshy above middle, 1-veined, apex obtuse; lip deflexed,

ligulate-lanceolate, entire,  $2.5\text{--}3.5 \times 1.5\text{--}1.8$  mm, sometimes abruptly narrowed above middle, abaxially carinate, ecallose, margin incurved, apex obtuse; spur pendulous, obovoid, 0.7–1 mm, much shorter than ovary, apex obtuse. Column ca. 0.8 mm; viscidia disklike; rostellum with short arms. Fl. Jun–Aug.

• *Abies* forests, *Quercus* forests along valleys, grassy slopes; 1200–4000 m. S Gansu, Guizhou, W Hubei, Sichuan, SE Xizang, Yunnan.

**19. *Peristylus nematocaulon*** (J. D. Hooker) Banerji & P. Pradhan, *Orchids Nepal Himalaya* 106. 1984.

小巧阔蕊兰 xiao qiao kuo rui lan

*Habenaria nematocaulon* J. D. Hooker, *Fl. Brit. India* 6: 154. 1890; *H. juncea* King & Pantling; *Platanthera juncea* (King & Pantling) Kraenzlin; *P. nematocaulon* (J. D. Hooker) Kraenzlin.

Plants slender, 7.5–25 cm tall. Tubers oblong-cylindric,  $1.5\text{--}2 \times 0.5\text{--}0.7$  cm. Stem with 1 or 2 tubular sheaths at base, 1-leaved. Leaf subbasal, oblong to oblong-elliptic,  $1.2\text{--}8 \times 0.7\text{--}2$  cm, apex subacute. Inflorescence 7–20 cm; peduncle cylindric, slender, ebracteate or with 1 or 2 linear-lanceolate sterile bracts 7–13 mm; rachis 1.2–10 cm, laxly few to several flowered; floral bracts lanceolate, 4–5 mm, almost as long as to slightly exceeding ovary, apex subacute. Flowers horizontal, pale green; ovary 3–5 mm including pedicel. Dorsal sepal erect, ovate-lanceolate,  $1.5\text{--}2 \times 0.8\text{--}1$  mm, 1-veined, apex acute; lateral sepals weakly spreading, ovate-lanceolate, slightly oblique,  $1.5\text{--}2 \times$  ca. 0.8 mm, apex acute. Petals narrowly oblong,  $1.5\text{--}2 \times 0.8\text{--}1$  mm, 1-veined, apex subobtuse; lip horizontal, oblong-lanceolate,  $1.5\text{--}2.2 \times$  ca. 0.7 mm, ecallose, entire, apex subacute; spur pendulous, slightly curving forward, cylindric-clavate, ca. 1.2 mm, much shorter than ovary, apex obtuse. Column ca. 0.6 mm; caudicles very short; viscidia elliptic. Fl. Jul–Aug.

Alpine scrub, meadows; 3500–3800 m. SE Xizang [Bhutan, NE India, Nepal].

