

**18. ANOECTOCHILUS** Blume, Bijdr. 411. 1825 [*“Anecoehilus”*], nom. cons.

金线兰属 jin xian lan shu

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

*Chrysobaphus* Wallich.

Herbs, terrestrial. Rhizome creeping, terete, several noded, fleshy; roots narrowly filiform to fibrous, villous, arising singly from rhizome nodes. Stem erect or ascending, with 1 to a few loose tubular sheaths at base, and a few clustered subrosulate leaves, glabrous. Leaves green to purplish black with white, pinkish, or golden reticulate venation on adaxial surface, ovate or elliptic, velvety and often slightly fleshy, with a long petiole-like base dilating into tubular amplexicaul sheath. Inflorescence erect, terminal, racemose, pubescent; peduncle with a few scattered sheathing bracts; rachis laxly 2–10-flowered. Flowers resupinate or not; ovary slender, twisted or not. Sepals free, similar, often widely spreading, outer surface usually pubescent; dorsal sepal forming a hood with petals. Petals obliquely ligulate-oblong, membranous; lip basally adnate to base of column, distinctly 3-partite, with an exerted conic to cylindrical spur at base; hypochile subtubular, lateral margin erect; mesochile short to elongate, canaliculate, both external lateral margins with an entire, pectinate or filamentous flange; epichile entire to deeply 2-lobed, lobes divergent, rarely divided; spur containing a pair of irregular calli or septa. Column short, dorsally dilated, ventrally with 2 intramarginal, lamellate or fleshy appendages (wings); anther erect, ovoid, 2-locular; pollinia 2, clavate, sectile, granular-farinaceous, each attenuate into a narrow stalk attached to a solitary ovate viscidium; rostellum usually erect, remnant shortly bifid; stigma lobes 2, separate, convex, placed laterally toward apex of column. Capsule narrowly ellipsoid.

About 30 species: India and the E Himalayas, through S and SE Asia to Australia and the SW Pacific islands; 11 species (seven endemic) in China.

The taxonomic distinction between *Anoectochilus* and its close ally *Odontochilus* has been problematic, and members of the latter (and other closely related genera) have frequently been lumped with those of the former. *Anoectochilus* is circumscribed here in line with Pridgeon et al. (Gen. Orchid. 3: 69–72. 2003), which regards the ornate venation of the leaves, the conic spur that is exerted beyond the bases of the lateral sepals, and the widely separated stigma lobes that are placed laterally toward the apex of the column as definitive generic characters. Members of *Odontochilus*, in contrast, lack colored reticulate venation on their leaves, possess only a short saccate hypochile that is enclosed within the bases of the lateral sepals, and have confluent or narrowly separated stigma lobes that are positioned directly beneath the rostellum. Further work is clearly required to better resolve generic and specific affinities; the endemic species of China, in particular, remain poorly known.

A photograph labeled “*Anoectochilus roxburghii*” by X. H. Jin, X. D. Zhao, and X. C. Shi (Native Orchids Gaoligongshan Mts. China, 79. 2009) appears to represent *A. calcareus* Averyanov (Bot. Zhurn. (Moscow & Leningrad) 81(10): 75. 1996). This would be a new record for China, but it was discovered too late to be given a full entry in the present treatment.

- 1a. Lip T-shaped, epichile lobes diverging at right angles to axis of lip ..... 1. *A. pingbianensis*
- 1b. Lip Y-shaped, epichile lobes diverging at an acute angle to one another.
  - 2a. Mesochile of lip with entire or occasionally shallowly notched flanges.
    - 3a. Lip 13–22 mm, yellow; spur 2–3.2 mm, apex obtuse ..... 2. *A. burmannicus*
    - 3b. Lip ca. 10 mm, white; spur 4–6 mm, apex deeply bilobed ..... 3. *A. koshunensis*
  - 2b. Mesochile of lip with pectinate or filamentous flanges.
    - 4a. Flowers resupinate; ovary twisted.
      - 5a. Mesochile flange composed of 4–8 teeth, each tooth ca. 1 mm ..... 4. *A. xingrenensis*
      - 5b. Mesochile flange 3–9-laciniate, each filament 2–8 mm.
        - 6a. Ovary and pedicel ca. 8 mm; flange filaments of lip mesochile 2–3.5 mm ..... 5. *A. baotingensis*
        - 6b. Ovary and pedicel 10–14 mm; flange filaments of lip mesochile 4–8 mm.
          - 7a. Lip pale yellowish white; mesochile flanges 4- or 5-laciniate; spur 2–4 mm ..... 6. *A. formosanus*
          - 7b. Lip white; mesochile flanges 7–9-laciniate; spur ca. 8 mm ..... 7. *A. hainanensis*
      - 4b. Flowers usually erect, not resupinate; ovary not twisted.
        - 8a. Lip pinkish white, mesochile flanges 6–8-laciniate, each filament 2.5–6 mm ..... 8. *A. roxburghii*
        - 8b. Lip white, mesochile flanges fimbriate, composed of 2–5 teeth, each tooth 1.5–3 mm.
          - 9a. Epichile lobes 8–9 × 6–7 mm ..... 9. *A. chapaensis*
          - 9b. Epichile lobes 5–6 × 2–5 mm.
            - 10a. Leaves 0.7–2.6 × 0.6–2.1 cm; epichile lobes flabellate, ca. 5 mm wide ..... 10. *A. zhejiangensis*
            - 10b. Leaves 3.5–4 × 3–3.2 cm; epichile lobes oblong to oblanceolate, ca. 2 mm wide ..... 11. *A. emeiensis*

**1. *Anoectochilus pingbianensis*** K. Y. Lang, Acta Phytotax. Sin. 34: 556. 1996.

屏边金线兰 ping bian jin xian lan

Plants 15–18 cm tall. Stem erect or ascending, 3–4 mm in

diam., 4- or 5-leaved. Leaves abaxially pale green or pale red, adaxially dark green with gold venation, ovate, slightly oblique, 3–4.5 × 2–3 cm, apex acute; petiole-like base and tubular sheath 1.5–2 cm. Peduncle ca. 9 cm, with 2 or 3 pale red sheathing sterile bracts; rachis ca. 4 cm, few to 8-flowered;

floral bracts ovate-lanceolate, 10–13 mm, ca. as long as ovary, outer surface pubescent, apex acuminate. Flowers resupinate; ovary and pedicel twisted, cylindric-fusiform, 10–12 mm, densely pubescent. Sepals pink, outer surface pubescent, 1-veined; dorsal sepal ovate, cymbiform, ca. 6 × 4 mm, apex acute; lateral sepals spreading, oblong, slightly oblique, ca. 8 × 3.5 mm, apex acute. Petals white, ovate, slightly oblique, ca. 6 × 2 mm, 1-veined, apex acute; lip white, T-shaped, ca. 9 mm; hypochile ca. 2 mm; mesochile ca. 2.8 mm; flanges lacinate, composed of 5 or 6 narrow filaments; epichile transversely dilated, broader than long, 2-lobed; lobes diverging at right angles to axis of lip, narrowly oblong, entire, ca. 5.5 × 1.2 mm, apex obtuse; spur conic, ca. 3 mm, mouth ca. 2 mm in diam., apex obtuse, containing 2 narrowly elliptic, fleshy, stalked calli near entrance. Column ovoid, ca. 2.8 mm, with 2 lamellate wings; stigma lobes suborbicular. Fl. Oct.

- Shaded humid places in forests; ca. 1500 m. SE Yunnan.

**2. Anoectochilus burmannicus** Rolfe, Bull. Misc. Inform. Kew 1922: 24. 1922.

滇南金线兰 dian nan jin xian lan

Plants 16–30 cm tall. Roots fibrous, to 9 cm. Stem erect, 3–6-leaved. Leaves abaxially pinkish red, adaxially blackish green with limited bronze venation, broadly ovate to ovate-elliptic, slightly oblique, 3–8 × 1.8–5 cm, apex acute; petiole-like base and tubular sheath 1.5–2.8 cm. Peduncle 9–14 cm, with 2 or 3 pale red sterile sheathing bracts; rachis 3.5–6 cm, 3–12-flowered; floral bracts ovate-lanceolate, often sheathing ovary at base, 9–14 mm, shorter than ovary, outer surface sparsely pubescent, apex acuminate. Flowers erect, not resupinate; ovary and pedicel narrowly fusiform, not twisted, 11–15 mm, pubescent. Sepals pink, outer surface pubescent, 1-veined; dorsal sepal broadly ovate, cymbiform, 4.5–6 × 4–5 mm, apex subobtusely; lateral sepals spreading, oblong-elliptic, oblique, 6–7.5 × 3–5 mm, apex subacute. Petals yellowish white, broadly ovate-elliptic, strongly oblique, falcate, 5–6 × 3–4 mm, 1-veined, apex obtuse; lip yellow, Y-shaped, 13–22 mm; hypochile 2–3 mm; mesochile reflexed at right angle from apex of hypochile, 5–9 mm; flanges narrow, margin entire, terminating in small, slightly revolute auricles at apex of mesochile; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, oblong, oblanceolate, or spatulate, 6–9 × 2–3 mm, entire, apex obtuse; spur conic, 2–3.2 mm, mouth 1.5–2.2 mm in diam., apex obtuse, containing 2 subelliptic, sessile calli near entrance. Column broadly ovoid, ca. 3 mm, with 2 lamellate wings; stigma lobes elliptic. Fl. Sep–Dec.

Damp places in evergreen broad-leaved forests, valleys; 1000–2200 m. S Yunnan [Laos, Malaysia (Peninsular), Myanmar, Thailand].

**3. Anoectochilus koshunensis** Hayata, Icon. Pl. Formosan. 4: 104. 1914.

恒春银线兰 heng chun yin xian lan

*Anoectochilus koshunensis* (Hayata) S. S. Ying.

Plants ca. 20 cm tall. Stem ascending, 2–4-leaved. Leaves abaxially reddish purple, adaxially blackish green with white venation, ovate to orbicular-ovate, 3–4 × 2–3 cm, apex acute; petiole-like base and tubular sheath ca. 1 cm. Peduncle 7–10

cm, with 2 or 3 sheathing sterile bracts, reddish brown; rachis ca. 4.5 cm, 5- or 6-flowered; floral bracts pinkish, ovate to ovate-lanceolate, ca. 7 mm, shorter than ovary, outer surface pubescent. Flowers suberect, not resupinate, white; ovary and pedicel cylindric-fusiform, not twisted, ca. 12 mm, pubescent. Sepals reddish brown, pubescent on outer surface, 1-veined; dorsal sepal orbicular-ovate, cymbiform, 5–5.5 × 3–4 mm, apex acute to cuspidate; lateral sepals spreading, narrowly elliptic, oblique, 7–8 × 3.5–4 mm, apex acute. Petals white, ovate-elliptic, strongly oblique, falcate, 5.5–6 × 1.5–2 mm, 1-veined, apex cuspidate and incurved; lip white, Y-shaped, ca. 10 mm; hypochile 1–2 mm; mesochile reflexed at right angle from apex of hypochile, 3–4 mm; flanges oblong to linear-lanceolate, 4–5 × ca. 2 mm, entire or sometimes shallowly notched at apex; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, oblong, 7–9 × 3.5–3.7 mm, apex obtuse to slightly mucronate; spur tubular-conic, 4–6 mm, mouth ca. 2 mm in diam., apex deeply bilobed, containing 2 irregular, stalked calli. Column ovoid, 3–3.5 mm, with 2 lamellate wings; stigma lobes orbicular. Fl. Jul–Oct.

- Broad-leaved evergreen forests; 700–2000 m. Taiwan.

**4. Anoectochilus xingrenensis** Z. H. Tsi & X. H. Jin, Acta Phytotax. Sin. 40: 84. 2002.

兴仁金线兰 xing ren jin xian lan

Plants 15–20 cm tall. Stem ascending, 2–3 mm in diam., 2–5-leaved. Leaves adaxially dark green with golden venation, ovate to orbicular-ovate, 2–5 × 2–3 cm, apex apiculate; petiole-like base and tubular sheath 1.5–2 cm. Peduncle ca. 12 cm, with 2 or 3 sterile sheathing bracts; rachis 3–5 cm, 3–5-flowered; floral bracts pink, ovate-lanceolate, 10–12 mm, subequal in length to ovary. Flowers resupinate; ovary and pedicel twisted, 10–13 mm, pubescent. Sepals pinkish red, outer surface pubescent; dorsal sepal ovate, concave, 5–7 × 3–5 mm, apex acute; lateral sepals suboblong, slightly oblique, 7–9 × 3.5–5 mm, apex acute. Petals white, ovate, oblique, 6–8 × 2–3 mm, 1-veined, apex cuspidate; lip white, Y-shaped, 13–18 mm; hypochile ca. 3 mm; mesochile ca. 3 mm; flanges pectinate, composed of 4–8 short teeth, each tooth ca. 1 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, flabellate, 6–7 × 2.5–3.5 mm, apical margin slightly incised; spur narrowly conic, 3–4 mm, mouth ca. 2 mm in diam., containing 2 irregular calli. Column ca. 1 mm. Fl. Aug.

- Forests; ca. 1200 m. SW Guizhou (Xingren).

**5. Anoectochilus baotingensis** (K. Y. Lang) Ormerod, Taiwaniana 48: 87. 2003.

保亭金线兰 bao ting jin xian lan

*Anoectochilus roxburghii* (Wallich) Lindley var. *baotingensis* K. Y. Lang, Acta Phytotax. Sin. 34: 557. 1996.

Plants 15–17 cm tall. Stem erect, 2- or 3-leaved. Leaves purplish red, suborbicular, ca. 3 × 2.5 mm, apex acute; petiole-like base and tubular sheath ca. 0.6 cm. Peduncle ca. 8 cm, with 3 sheathing sterile bracts; rachis ca. 1 cm, 3-flowered; floral bracts ovate-lanceolate, 9–12 mm, ca. as long as to exceeding ovary, apex acute. Flowers resupinate, white; ovary and pedicel

twisted, cylindric-fusiform, ca. 8 mm, pubescent. Sepals 1-veined, outer surface pubescent; dorsal sepal ovate, cymbiform, ca.  $6.5 \times 2.5$  mm, apex acuminate; lateral sepals spreading, oblong-elliptic, ca.  $7.5 \times 3$  mm, apex acute. Petals oblong-cuneate, strongly oblique, ca.  $6.5 \times 2.5$  mm, 1-veined, apex ligulate-acute; lip white, Y-shaped, ca. 17.5 mm; hypochile rectangular, ca. 5 mm, with lateral lobes ca. 1.5 mm wide; mesochile ca. 3 mm; flanges 3-laciniate, each filament 2–3.5 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, ligulate, ca.  $8 \times 2.5$  mm, entire, apex obtuse; spur conic, 3–3.5 mm, apex obtuse, containing 2 large, circular, carunculate calli. Column ovoid, 5–6 mm, with 2 oblong-elliptic wings; stigma lobes deltoid. Fl. Apr.

- Soil-covered rocks in forests; 300–400 m. Hainan.

**6. *Anoectochilus formosanus*** Hayata, Icon. Pl. Formosan. 4: 101. 1914.

台湾银线兰 tai wan yin xian lan

Plants 11–20 cm tall. Stem ascending, 2–4-leaved. Leaves abaxially reddish purple, adaxially dark green with white venation, ovate to ovate-orbicular,  $2-5 \times 1-3.5$  cm, apex acute; petiole-like base and tubular sheath 0.8–1.6 cm. Peduncle 10–15 cm, with 2 or 3 sheathing sterile bracts, reddish brown; rachis 1.5–5 cm, 3–5-flowered; floral bracts ovate-lanceolate, 8–10 mm, shorter than ovary, outer surface hairy, apex acuminate. Flowers resupinate, pale yellowish white; ovary and pedicel twisted, fusiform, 10–14 mm, pubescent. Sepals reddish brown, pubescent on outer surface; dorsal sepal suborbicular, cymbiform,  $6-7 \times 5-6$  mm, apex acute; lateral sepals narrowly elliptic, oblique,  $8-10 \times 5-6$  mm, apex acute. Petals white, ovate, strongly oblique, falcate, ca.  $8 \times 2.6$  mm, apex cuspidate; lip pale yellowish white, Y-shaped, 12–16 mm; hypochile ca. 2 mm; mesochile 5–6 mm; flanges 4- or 5-laciniate, each filament 4–6 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, linear-oblong to rhombic-oblong,  $6-7.5 \times 1.5-3$  mm, apex obtuse; spur conic, 2–4 mm, mouth ca. 3 mm in diam., apex shallowly bilobed, containing 2 carunculate calli. Column ovoid, ca. 2 mm. Fl. Oct–Nov.  $2n = 24, 40$ .

Broad-leaved evergreen forests, bamboo forests; 500–1500 m. Taiwan [Japan (Ryukyu Islands)].

**7. *Anoectochilus hainanensis*** H. Z. Tian, F. W. Xing & L. Li, Ann. Bot. Fenn. 45: 220. 2008.

海南开唇兰 hai nan kai chun lan

Plants ca. 12 cm tall. Stem ascending, 3- or 4-leaved. Leaves abaxially lilac, adaxially velvety blackish green with dense golden reticulate venation, ovate, oblique,  $3-3.5 \times 1.8-2.2$  cm, apex acute; petiole-like base and tubular sheath 1.2–1.5 cm. Peduncle 3–3.5 cm, with 2 or 3 sterile bracts, pubescent; rachis 3–4 cm, 4–6-flowered; floral bracts ovate-lanceolate, 6–9 mm, shorter than ovary, outer surface hairy, apex acuminate. Flowers resupinate, slightly fragrant, white; ovary and pedicel twisted, fusiform, ca. 14 mm, pubescent. Sepals green tinged reddish brown at apex and pubescent on outer surface; dorsal sepal ovate-elliptic,  $9-10 \times$  ca. 6 mm, apex acuminate; lateral sepals elliptic, oblique,  $11-12 \times 4.5-5$  mm, apex subacute. Pet-

als olive-green with white margins, elliptic-falcate, oblique,  $8-8.5 \times$  ca. 3.6 mm, apex acuminate; lip white, Y-shaped, ca. 16 mm; hypochile ca. 2.5 mm; mesochile ca. 4.5 mm; flanges 7–9-laciniate, each filament 4–8 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, ligulate-elliptic, ca.  $9 \times 3.5$  mm, apex truncate; spur cylindric-conic, ca. 8 mm, mouth ca. 3.5 mm in diam., apex distinctly bilobed, containing 2 trapeziform calli. Column stout, ca. 4 mm, with 2 semicircular wings. Fl. Jan (in cultivation).

- Damp shady places in montane forests. Hainan.

**8. *Anoectochilus roxburghii*** (Wallich) Lindley, Ill. Bot. Himal. Mts. 368. 1839.

金线兰 jin xian lan

*Chrysobaphus roxburghii* Wallich, Tent. Fl. Nepal. 37. 1826; *Anoectochilus yungianus* S. Y. Hu; *Zeuxine roxburghii* (Wallich) M. Hiroe.

Plants 8–20 cm tall. Stem erect, 2–5-leaved. Leaves abaxially pale purplish red, adaxially dark green to blackish purple with pinkish golden reticulate venation, ovate to ovate-orbicular,  $1.3-4.5 \times 0.8-3.6$  cm, apex acute; petiole-like base and tubular sheath 0.6–1.8 cm. Peduncle 7–15 cm, with 2 or 3 pinkish sterile bracts; rachis 1–5 cm, 2–10-flowered; floral bracts pinkish, ovate-lanceolate to lanceolate, 6–9 mm, shorter than ovary, apex acuminate. Flowers usually erect, not resupinate; ovary and pedicel narrowly cylindric, not twisted, 10–15 mm, pubescent. Sepals pinkish, outer surface pubescent, 1-veined; dorsal sepal ovate, cymbiform, ca.  $6 \times 2.5-3$  mm, apex acuminate; lateral sepals spreading, oblong to oblong-elliptic,  $7-8 \times 2.5-3$  mm, apex subacute. Petals pinkish white, ovate-elliptic, strongly oblique,  $7-8 \times 2-2.5$  mm, 1-veined, apex acuminate; lip pinkish white, Y-shaped, 10–16 mm; hypochile 2–4 mm; mesochile reflexed at right angle from apex of hypochile, 4–5 mm; flanges 6–8-laciniate, each filament 2.5–6 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, obovate-oblong to spatulate, entire,  $5.5-8 \times 1.5-2.2$  mm, apex obtuse; spur conic, 3–4.5 mm, apex shallowly bilobed, mouth ca. 1.5 mm in diam., containing 2 irregular, fleshy calli near entrance. Column ovoid, ca. 2.5 mm, with 2 broad, lamellate wings; stigma lobes elliptic. Fl. Aug–Dec.  $2n = 15 + 2-3B, 30$ .

Evergreen broad-leaved forests, damp valleys; 100–1600 m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan, SE Xizang, Yunnan, Zhejiang [Bangladesh, Bhutan, India, Japan, Laos, Nepal, Thailand, Vietnam].

**9. *Anoectochilus chapaensis*** Gagnepain, Bull. Mus. Natl. Hist. Nat., sér. 2, 3: 679. 1931.

滇越金线兰 dian yue jin xian lan

Plants 12–18 cm tall. Stem ascending or erect, 2.5–3 mm in diam., 4- or 5-leaved. Leaves abaxially pale green, adaxially blackish green with golden-red venation, ovate, oblique,  $2-5 \times 1.5-3.5$  cm, apex acute; petiole-like base and tubular sheath 0.8–1.6 cm. Peduncle 8–11 cm, with 2 or 3 pale red sheathing sterile bracts; rachis 2–5 cm, 2–7-flowered; floral bracts pale red, ovate-lanceolate, 6–10 mm, shorter than ovary, outer sur-

face pubescent, apex acuminate. Flowers erect, not resupinate, white; ovary and pedicel narrowly cylindrical, not twisted, 10–13 mm, pubescent. Sepals pubescent on outer surface, 1-veined; dorsal sepal ovate, cymbiform, ca.  $6 \times 3.5$  mm, apex acuminate; lateral sepals ovate-oblong, ca.  $6 \times 3$  mm, apex obtuse. Petals ovate, strongly oblique, falcate, ca.  $6 \times 3$  mm, 1-veined, apex caudate and incurved; lip white, Y-shaped, 10–12 mm; hypochile short; mesochile  $5\text{--}6 \times \text{ca. } 3$  mm; flanges oblong, pectinate, divided into 3 or 4 narrow teeth; epichile longitudinally dilated, 2-lobed; lobes diverging widely, obovate,  $8\text{--}9 \times 6\text{--}7$  mm, margin crenulate, apex truncate; spur conic, 4–5 mm, apex obtuse, containing 2 calli. Column short, with 2 broad lamellate wings. Fl. Jul–Aug.

Shaded humid places in dense forests; 1300–1400 m. SE Yunnan [N Vietnam].

**10. *Anoetochilus zhejiangensis*** Z. Wei & Y. B. Chang, Bull. Bot. Res., Harbin 9(2): 39. 1989.

浙江金线兰 zhe jiang jin xian lan

Plants 8–16 cm tall. Stem ascending, pale reddish brown, 2–6-leaved. Leaves abaxially pale purplish red, adaxially dark greenish purple with golden-red venation, broadly ovate to ovate-orbicular,  $0.7\text{--}2.6 \times 0.6\text{--}2.1$  cm, margin slightly undulate, apex acute; petiole-like base and tubular sheath ca. 0.8 cm. Peduncle 5–10 cm, with 2 sterile bracts; rachis 1–4 cm, 1–4-flowered; floral bracts ovate-lanceolate, ca. 6.5 mm, subequal in length to ovary, outer surface pubescent, apex acuminate. Flowers erect, not resupinate; ovary and pedicel pale reddish brown, narrowly fusiform, not twisted, ca. 7 mm, white pubescent. Sepals pinkish red, outer surface pubescent; dorsal sepal ovate, cymbiform, ca.  $5 \times 3.5$  mm, apex acute; lateral sepals spreading, oblong-obovate, slightly oblique, ca.  $7 \times 3$  mm, apex obtuse. Petals white, oblanceolate, strongly oblique, ca.  $6 \times 2$  mm, apex acute; lip white, Y-shaped, ca. 10 mm; hypochile ca. 2.5 mm; mesochile ca. 3 mm; flanges pectinate, composed of 2–5 narrow teeth, each tooth ca. 2 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, flabellate, slightly oblique, ca.  $6 \times 5$  mm, entire, apex truncate; spur conic, slightly curved, ca. 5 mm, apex shallowly bilobed, containing 2 irregular, stalked calli near entrance. Column short. Fl. Jul–Sep.

• Damp places in dense forests, valleys; 700–1200 m. C and N Fujian, N Guangxi, SW Zhejiang.

**11. *Anoetochilus emeiensis*** K. Y. Lang, Acta Phytotax. Sin. 20: 183. 1982.

峨眉金线兰 e mei jin xian lan

Plants 19–21 cm tall. Stem ascending, ca. 2 mm in diam.,

3-leaved. Leaves abaxially purplish red, adaxially blackish green with golden-red venation, ovate,  $3.5\text{--}4 \times 3\text{--}3.2$  cm, apex acute; petiole-like base and tubular sheath 1–2 cm. Peduncle pale purplish red, ca. 12 cm, with 2–4 pale purplish red sterile bracts; rachis 2–2.5 cm, 3- or 4-flowered; floral bracts pale purplish red, lanceolate, ca. 6 mm, shorter than ovary, outer surface pubescent, apex acuminate. Flowers erect, not resupinate, white, foetid; ovary and pedicel cylindrical-fusiform, not twisted, ca. 13 mm, pubescent. Sepals purplish red, outer surface sparsely pubescent, 1-veined; dorsal sepal ovate-elliptic, cymbiform, ca.  $7 \times 2$  mm, apex acute; lateral sepals spreading, narrowly oblong-obovate, oblique,  $7\text{--}8 \times \text{ca. } 3.2$  mm, apex acute to shortly mucronate. Petals pinkish white, ovate, strongly oblique, falcate, ca.  $7 \times 3$  mm, 1-veined, apex acute; lip white, Y-shaped, ca. 13 mm; hypochile ca. 3 mm; mesochile reflexed sharply downward from apex of hypochile, ca. 4 mm; flanges subsquare,  $3\text{--}3.5 \times 3\text{--}3.5$  mm, margin fimbriate, divided into 5 teeth, each tooth ca. 1.5 mm; epichile longitudinally dilated, 2-lobed; lobes diverging at an acute angle to one another, oblong to oblanceolate, ca.  $5 \times 2$  mm, entire, apex obtuse; spur conic, ca. 6 mm, apex shallowly bilobed, containing 2 subcuneate calli. Column ca. 5.5 mm, stout, with 2 broad, oblong wings; stigma lobes elliptic. Fl. Aug–Sep.

• Forests along streams; ca. 900 m. SC Sichuan.

