

83. OREORCHIS Lindley, J. Proc. Linn. Soc., Bot. 3: 26. 1858.

山兰属 shan lan shu

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

Herbs, terrestrial. Pseudobulb cormlike, subterranean, ovoid-oblong, several noded, with fibrous roots at base, occasionally persisting and remaining connected to pseudobulbs produced in subsequent years by means of a slender rhizome. Leaves 1 or 2, arising from apex of pseudobulb, linear to oblong-lanceolate, plicate, tapering into a long petiole-like stalk at base, often with 1 or 2 membranous sheaths at base. Inflorescence arising from an intermediate node of pseudobulb, erect, terminal, with several tubular sheaths, racemose; rachis several to many flowered; floral bracts persistent, membranous. Flowers small to medium-sized, resupinate. Sepals and petals free, similar, spreading; lateral sepals sometimes shallowly saccate at base. Lip 3-lobed or entire, clawed at base, without a spur; disk usually with a pair of longitudinal lamellae or a callus, rarely without either. Column long, slightly arcuate, base sometimes dilated, but without a conspicuous foot; anther terminal, incumbent; pollinia 4, subglobose, waxy, borne on a common stipe and attached to a globose viscidium.

About 16 species: Bhutan, E and SW China, NE India, Japan, Korea, Myanmar, Nepal, E Russia (Far East, Siberia); 11 species (seven endemic) in China.

- 1a. Leaves 2–4 cm, 2–4 × as long as wide, abruptly contracted at base into a distinct petiole-like stalk.
 - 2a. Inflorescence subdensely (2–)5–14-flowered; sepals 6–7 mm; lip 5–7 mm, yellow, with purple spots 10. *O. nana*
 - 2b. Inflorescence laxly 1–3(or 4)-flowered; sepals 12–15 mm; lip 8–10 mm, white to pale purple, with purple spots 11. *O. oligantha*
- 1b. Leaves 7–40 cm, 5–20 × as long as wide, tapering at base into a sometimes indistinct petiole-like stalk.
 - 3a. Dorsal sepal 15–16 mm; column ca. 8 mm 9. *O. nepalensis*
 - 3b. Dorsal sepal 5.5–11 mm; column 2.5–6 mm.
 - 4a. Lip lacking a callus, 3-lobed above middle or sometimes entire 8. *O. foliosa*
 - 4b. Lip with a callus or a pair of lamellae, 3-lobed at or below middle, never entire.
 - 5a. Plants 2-leaved.
 - 6a. Flowers yellowish brown to pale yellow, lip white with purple spots; disk of lip with a pair of lamellae 3. *O. patens*
 - 6b. Flowers white, lip white with red or pale brown spots on mid-lobe; disk of lip with a longitudinally channeled callus.
 - 7a. Dorsal sepal 5.5–6 mm 1. *O. micrantha*
 - 7b. Dorsal sepal 9–11 mm 2. *O. fargesii*
 - 5b. Plants 1-leaved.
 - 8a. Lip 3-lobed near middle; disk of lip with a longitudinally channeled, fleshy callus 4. *O. bilamellata*
 - 8b. Lip 3-lobed below middle; disk of lip with a pair of lamellae.
 - 9a. Lip 6.5–8.5 mm; lateral lobes of lip ca. 3 mm 3. *O. patens*
 - 9b. Lip 4.5–5 mm; lateral lobes of lip to 1.4 mm.
 - 10a. Lamellae on lip very short, less than 1 mm, positioned between bases of lateral lobes 5. *O. erythrochrysea*
 - 10b. Lamellae on lip ca. 2 mm, positioned at base of lip and extending onto mid-lobe.
 - 11a. Plants 8–16 cm tall; petiole-like leaf base 1–3 cm 6. *O. parvula*
 - 11b. Plants 20–35 cm tall; petiole-like leaf base ca. 6 cm 7. *O. angustata*

1. Oreorchis micrantha Lindley, J. Proc. Linn. Soc., Bot. 3: 27. 1858.

狭叶山兰 xia ye shan lan

Oreorchis rolfei Duthie.

Plants 20–35 cm tall. Pseudobulbs ovoid or oblong, 1–1.3 × ca. 1 cm, several noded, persisting and often forming a tight chain of pseudobulbs connected by a short rhizome. Leaves 2, linear-lanceolate or narrowly lanceolate, plicate, 17–25 × 0.5–1.2 cm, gradually tapering at base into an indistinct petiole-like stalk 4–7 cm. Inflorescence 20–32 cm, with 2 or 3 tubular sheaths below middle; rachis 4–6 cm, subdensely 8–12-flowered; floral bracts ovate-lanceolate, 1.5–3 mm. Flowers white,

lip white with red spots on mid-lobe; pedicel and ovary 6–9 mm. Sepals oblong-lanceolate, 5.5–6 × 1.5–2 mm, apex subacute; lateral sepals slightly falcate. Petals lanceolate or linear-lanceolate, slightly falcate, 5–5.5 × ca. 1.2 mm, apex shortly acuminate; lip suboblong-obovate, ca. 5 × 3 mm, 3-lobed near base, shortly clawed at base; lateral lobes sublinear, ca. 1.5 mm, apex acute; mid-lobe obovate or broadly obovate, ca. 3 × 2.5 mm, apical margin irregularly incised and slightly crisped, apex obtuse and sometimes emarginate; disk with a linear, longitudinally channeled callus between lateral lobes and extending almost midway along mid-lobe. Column slightly arcuate, ca. 2.5 mm, base slightly dilated. Capsule pendulous, ellipsoid, 10–12 × ca. 5 mm. Fl. Jun.

Forests; 1500–3000 m. E and S Taiwan, S and SE Xizang [Bhutan, NE India, Myanmar, Nepal].

2. *Oreorchis fargesii* Finet, Bull. Soc. Bot. France 43: 697. 1897.

长叶山兰 *chang ye shan lan*

Oreorchis fargesii var. *subcapitata* Hayata; *O. intermedia* S. S. Chien; *O. ohwii* Fukuyama; *O. subcapitata* (Hayata) Schlechter.

Plants 18–30 cm tall. Pseudobulbs ellipsoid to subglobose, 1–2.5 × 1–2 cm, 2- or 3-noded, usually persisting and forming a tight chain of pseudobulbs connected by a short rhizome. Leaves 2, linear-lanceolate or linear, plicate, 15–28 × 0.8–2.5 cm, gradually tapering at base, apex acuminate; petiole-like stalk articulate, 3–5 cm, usually enclosed in tubular sheaths and forming a pseudostem. Inflorescence 18–30 cm, with 2 or 3 tubular sheaths below middle; rachis 2–6 cm, densely more than 10-flowered; floral bracts ovate-lanceolate, 3–5 mm. Flowers white, with brown lamellate crests on lip and pale brown spots on mid-lobe of lip; pedicel and ovary 7–12 mm. Sepals oblong-lanceolate, 9–11 × 2.5–4 mm, apex acuminate; lateral sepals oblique, slightly wider than dorsal sepal. Petals narrowly ovate to ovate-lanceolate, 9–10 × 3–3.5 mm, apex acuminate; lip oblong-obovate, 7.5–9 × 4–4.5 mm, 3-lobed near base, shortly clawed at base; claw ca. 1 mm; lateral lobes linear, 2–3 × ca. 0.7 mm, margin minutely ciliate, apex obtuse; mid-lobe subelliptic-obovate or rhombic-obovate, ca. 6 × 4 mm, basal margin often ciliate, apical margin crisped, apex obtuse-rounded and irregularly incised; disk with a short lamellate, longitudinally channeled callus between lateral lobes. Column ca. 3 mm, base thickened. Capsule narrowly ellipsoid, ca. 20 × 8 mm. Fl. May–Jun, fr. Sep–Oct.

• Forests, thickets, shaded places along valleys; 700–2600 m. N Fujian, S Gansu, Hubei, Hunan, S Shaanxi, Sichuan, Taiwan, E Yunnan, Zhejiang.

3. *Oreorchis patens* (Lindley) Lindley, J. Proc. Linn. Soc., Bot. 3: 27. 1858.

山兰 *shan lan*

Corallorhiza patens Lindley, Gen. Sp. Orchid. Pl. 535. 1840; *Diplolabellum confluens* (Handel-Mazzetti) Garay & W. Kittredge; *Oreorchis gracilis* Franchet & Savatier; *O. gracilis* var. *gracillima* Hayata; *O. gracillima* (Hayata) Schlechter; *O. lancifolia* A. Gray; *O. patens* var. *confluens* Handel-Mazzetti; *O. patens* var. *gracilis* (Franchet & Savatier) Makino ex Schlechter; *O. patens* var. *gracillima* (Hayata) S. S. Ying; *O. setchuamica* Ames & Schlechter; *O. wilsonii* Rolfe ex Adamson; *O. yunnanensis* Schlechter.

Plants 25–70 cm tall. Pseudobulb ovoid to subellipsoid, 1–2 × 0.5–1.5 cm, 2- or 3-noded, sometimes persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, or rarely 2, linear or narrowly lanceolate, plicate, 13–30 × (0.4–)1–2 cm, gradually tapering at base into an indistinct petiole-like stalk 3–5(–8) cm, apex acuminate. Inflorescence 25–67 cm, with 2 or 3 tubular sheaths below middle; rachis 4–15.5 cm, laxly few to subdensely many flowered;

floral bracts narrowly lanceolate, 2.5–5 mm. Flowers yellowish brown to pale yellow, lip white with purple spots; pedicel and ovary 8–12 mm. Sepals narrowly oblong, 7–9 × 1.5–2 mm, apex slightly obtuse; lateral sepals slightly falcate. Petals narrowly oblong, slightly falcate, 7–8 × 1.5–1.8 mm, apex acute; lip oblong-obovate, 6.5–8.5 × 3.5–5 mm, shortly clawed at base, 3-lobed below middle; lateral lobes slightly incurved, linear, ca. 3 × 0.7 mm, apex obtuse; mid-lobe subobovate, 5.5–7 × 3–5.5 mm, apex obtuse-rounded and irregularly incised; disk with a pair of thick lamellae, extending from base to midway along mid-lobe; lamellae to 3.5 mm. Column 4–5 mm, base thickened. Capsule oblong, ca. 15 × 7 mm. Fl. Jun–Jul, fr. Sep–Oct. $2n = 48$.

Forests, forest margins, thickets, grassy places, shaded places along valleys; 1000–3000 m. Gansu, Guizhou, Heilongjiang, Henan, Hunan, Jiangxi, Jilin, Liaoning, Sichuan, Taiwan, NE and NW Yunnan [Japan, Korea, Russia (Far East)].

4. *Oreorchis bilamellata* Fukuyama, Bot. Mag. (Tokyo) 48: 436. 1934.

大霸山兰 *da ba shan lan*

Tainia bilamellata (Fukuyama) S. S. Ying.

Plants to 50 cm tall. Pseudobulbs ovoid or globose, 2–3 × 0.7–2 cm, 2- or 3-noded, persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, linear, plicate, 20–40 × 1–2 cm, gradually tapering at base into an indistinct petiole-like stalk, apex acute. Inflorescence ca. 50 cm, with 3 or 4 sheaths; rachis ca. 14 cm, laxly 15–20-flowered; floral bracts lanceolate, ca. 5 mm. Flowers brownish yellow, sepals with dark purple striations, lip yellow or whitish with dark purple spots on mid-lobe; pedicel and ovary brown, ca. 9 mm. Sepals lanceolate, 8–9 × 1.5–3 mm. Petals narrowly oblong, slightly falcate, 7–8 × 1–1.5 mm, apex acute; lip oblong-obovate, 6–7 × ca. 3 mm, base saccate, 3-lobed near middle; lateral lobes erect and loosely embracing column, linear, falcate, ca. 5 × 0.6 mm, apex obtuse; mid-lobe reflexed, oblong, 3.8–5 × 3–3.2 mm, margin undulate, apex subtruncate; disk with a yellow, longitudinally channeled, fleshy callus between lateral lobes and extending onto mid-lobe; callus ca. 3 mm. Column ca. 4 mm, slightly dilated at base. Fl. May–Jun.

• Humid and shaded places in forests; 2000–3000 m. C and S Taiwan.

5. *Oreorchis erythrochrysea* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 62: 252. 1925.

短梗山兰 *duan geng shan lan*

Plants 16–35 cm tall. Pseudobulbs broadly ovoid to suboblong, 0.8–2 × 0.7–1.3 cm, 2- or 3-noded, sometimes persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, dark green with longitudinal silvery stripes adaxially, narrowly elliptic to narrowly oblong-lanceolate, plicate, 7–14 × 1–2.3 cm, tapering at base into a distinct petiole-like stalk 2–4.5 cm, apex acuminate or acute. Inflorescence 12–35 cm, with 2 or 3 tubular sheaths below middle; rachis 3–11 cm, laxly to subdensely 8–25-flowered; floral bracts ovate-lanceolate, ca. 2 mm. Flowers yellow or greenish yellow, lip

cream-colored and with purple or chestnut spots; pedicel and ovary 3–5 mm. Sepals narrowly oblong, 6–8 × 1.5–2 mm, apex obtuse or acute; lateral sepals slightly smaller than dorsal sepal, often slightly oblique. Petals narrowly oblong-spatulate, slightly falcate, 5.5–6.5 × ca. 1.5 mm, apex obtuse; lip suboblong-obovate, ca. 5 × 3 mm, shortly clawed at base, 3-lobed below middle; lateral lobes subovate to sublinear, 0.8–1 × ca. 0.7 mm, apex acute; mid-lobe subsquare or broadly elliptic-obovate, 2.5–3 × ca. 3 mm, margin slightly undulate, apex rounded and slightly emarginate; disk with a pair of short lamellae between bases of lateral lobes; lamellae less than 1 mm. Column slightly arcuate, ca. 3 mm, relatively thick. Fl. May–Jul.

• Forests, thickets, grassy alpine slopes; 2200–3700 m. SW Sichuan, SE Xizang, NW and SW Yunnan.

6. *Oreorchis parvula* Schlechter, Repert. Spec. Nov. Regni Veg. 10: 483. 1912.

矮山兰 ai shan lan

Plants 8–16 cm tall. Pseudobulb oblong to ellipsoid, 1–2 × 0.8–1 cm, several noded. Leaf solitary, narrowly elliptic-lanceolate to narrowly oblong, plicate, 8–11 × 1.3–2 cm, gradually tapering at base into a petiole-like stalk 1–3 cm, apex acuminate. Inflorescence 7–16 cm, with 2 or 3 tubular sheaths below middle; rachis 2–4 cm, densely 7–12-flowered; floral bracts ovate-lanceolate or lanceolate, ca. 3 mm. Flowers yellow, outer surfaces of sepals chestnut and lip cream-colored with red-purple spots; pedicel and ovary 2–2.5 mm. Sepals narrowly oblong-lanceolate, 6–7 × 1.5–2 mm, apex obtuse; lateral sepals somewhat falcate. Petals ligulate-lanceolate, slightly falcate, 5–6 × ca. 1.5 mm, apex obtuse; lip obovate, ca. 5 × 2 mm, shortly clawed at base, 3-lobed below middle; lateral lobes ligulate, less than 1 mm, apex obtuse; mid-lobe subovate, 2–2.5 × 1.8–2 mm, margin slightly undulate, apex obtuse; disk with a pair of longitudinal lamellae at base and extending onto mid-lobe; lamellae ca. 2 mm. Column slightly arcuate, ca. 2.5 mm. Capsule ovoid, 5–8 mm. Fl. May–Jul.

• Forests, open grassy slopes; 3000–3800 m. SW Sichuan, NW Yunnan.

7. *Oreorchis angustata* L. O. Williams ex N. Pearce & P. J. Cribb, Edinburgh J. Bot. 54: 294. 1997.

西南山兰 xi nan shan lan

Plants 20–35 cm tall. Pseudobulbs pyriform-conic, 1–1.5 × 0.5–1 cm, several noded, sometimes persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, broadly lanceolate, plicate, ca. 19 × 2 cm, tapering at base into a petiole-like stalk ca. 6 cm, apex acute. Inflorescence 20–32 cm, with 2 tubular sheaths below middle; rachis 7–11 cm, laxly many flowered; floral bracts lanceolate, ca. 6 mm. Flower color not known; pedicel and ovary ca. 6 mm. Dorsal sepal lanceolate, ca. 5.5 × 1.2 mm, apex acute; lateral sepals lanceolate, slightly falcate, ca. 5 × 1.5 mm, apex subacute. Petals narrowly ovate-lanceolate, ca. 5 × 1.2 mm, apex subacute; lip oblong-ovate, ca. 4.5 × 2.2 mm, shortly clawed at base, 3-lobed near base; lateral lobes subovate, ca. 1.4 mm, apex obtuse-rounded; mid-lobe subobovate, ca. 3 × 2.2 mm, margin undulate, apex obtuse-rounded; disk with a pair of longitudinal

lamellae at base and extending onto mid-lobe; lamellae ca. 2 mm. Column slightly arcuate, clavate, ca. 3 mm. Fl. Jun.

• Grassy slopes, open rocky places; ca. 3000 m. SW Sichuan, NW Yunnan.

8. *Oreorchis foliosa* Lindley var. ***indica*** (Lindley) N. Pearce & P. J. Cribb, J. Orchid Soc. India 10: 5. 1996.

囊唇山兰 nang chun shan lan

Corallorhiza indica Lindley, J. Proc. Linn. Soc., Bot. 3: 26. 1858; *Oreorchis indica* (Lindley) J. D. Hooker; *Tainia gookanzenensis* Masamune.

Plants 18–36 cm tall. Pseudobulbs ovoid or subellipsoid, 0.7–1.2 × 0.5–1 cm, 2- or 3-noded, persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, narrowly elliptic or narrowly elliptic-lanceolate, plicate, 10–15 × 1.5–2.4 cm, tapering at base into a petiole-like stalk 2–3 cm, apex acute. Inflorescence 18–36 cm, with 2 or 3 tubular sheaths below middle; rachis 3–9.5 cm, laxly 4–10-flowered; floral bracts oblong-lanceolate, 2–3 mm. Flowers dark yellow with many purplish brown striations and spots, lip white with purplish red spots; pedicel and ovary 5–7 mm. Sepals narrowly oblong-obovate, 8–9 × 1–1.8 mm, apex acute; lateral sepals falcate. Petals narrowly ovate or narrowly ovate-lanceolate, falcate, 6–7 × ca. 2 mm, apex acute; lip obovate-oblong or broadly oblong, 6–8 × 4–5 mm, base clawed and conspicuously saccate, 3-lobed above middle or sometimes entire; lateral lobes variable, oblong to ovate, ca. 1.5 mm, apex obtuse, or absent altogether; mid-lobe subquadrate to suborbicular, ca. 4 × 4 mm, margin undulate, apex rounded and irregularly incised; disk without lamellae or calli. Column slightly arcuate, 5–6 mm, slender, base thickened. Capsule ovoid, ca. 15 × 6 mm. Fl. Sep. $2n = 42, 84$.

Forests, alpine meadows; 2500–3400 m. SW Sichuan, Taiwan, S Xizang, NW Yunnan [Bhutan, N India, Japan, Nepal].

The typical variety occurs in India and Nepal.

9. *Oreorchis nepalensis* N. Pearce & P. J. Cribb, Edinburgh J. Bot. 54: 315. 1997.

大花山兰 da hua shan lan

Plants 20–40 cm tall. Pseudobulbs oblong-ovoid to subquadrate, 1.5–2 × 0.8–1 cm, several noded, persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, lanceolate, plicate, 15–30 × 0.8–1.7 cm, with conspicuous veins, tapering at base into a petiole-like stalk 5–10 cm, apex acute. Inflorescence 17–35 cm, with 2 tubular sheaths below middle; rachis 5–12 cm, subdensely 9- to more than 20-flowered; floral bracts lanceolate, ca. 5 mm. Flowers brownish green or yellowish green, lip pale pink to white with purple spots; pedicel and ovary ca. 12 mm. Dorsal sepal linear-lanceolate, 15–16 × ca. 3 mm, apex subacute; lateral sepals broadly lanceolate, falcate, ca. 12 × 3 mm, apex acute. Petals oblong-lanceolate, ca. 13 × 3 mm, apex obtuse; lip obovate, 11–12 × ca. 6 mm, base long clawed, 3-lobed near middle; lateral lobes slightly incurved, oblong, ca. 4 × 1.2 mm, apex obtuse; mid-lobe ovate-elliptic, ca. 7 × 6 mm, margin undulate, apex rounded; disk with a pair of crescent-shaped lamellae between lateral lobes and extending to base of mid-lobe. Column ca. 8

mm, slightly dilated at base. Fl. May–Jun.

Scrub, damp open meadows. S Xizang [Nepal].

10. *Oreorchis nana* Schlechter, Acta Horti Gothob. 1: 151. 1924.

硬叶山兰 ying ye shan lan

Plants 8–16 cm tall. Pseudobulbs oblong to subovoid, 0.5–0.9(–1.5) × 0.4–0.6 cm, 2- or 3-noded, sometimes persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, ovate to narrowly elliptic, plicate, 2–4 × 0.8–1.5 cm, base subrounded or broadly cuneate and abruptly contracted into a distinct petiole-like stalk 1–3 cm, apex acuminate. Inflorescence 8–16 cm, with 2 or 3 tubular sheaths below middle; rachis 2.5–6 cm, subdensely (2–)5–14-flowered; floral bracts ovate-lanceolate, ca. 1 mm. Flowers white, outer surfaces of sepals and petals orange-yellow or green, rarely flushed chestnut, lip yellow with purple spots; pedicel and ovary 3–5 mm. Sepals narrowly oblong, 6–7 × 1.5–2 mm, apex obtuse or acute; lateral sepals somewhat falcate. Petals fusiform-oblong, 5.5–6.5 × ca. 2 mm, apex obtuse or acute; lip subobovate-oblong, 5–7 × ca. 2.5 mm, base shortly clawed or sometimes without a claw, 3-lobed below middle; lateral lobes incurved, narrowly oblong-ovate, ca. 0.8 × 0.5 mm, apex obtuse; mid-lobe obovate-elliptic, 3–4.5 × ca. 2.5 mm, margin slightly undulate, apex rounded; disk with a pair of short lamellae at base. Column slightly arcuate, 2–3 mm, thick. Fl. Jun–Jul.

• Alpine grasslands, forests, thickets, soil-covered rocks; 2500–4000 m. W Hubei, W Sichuan, NW Yunnan.

11. *Oreorchis oligantha* Schlechter, Acta Horti Gothob. 1: 152. 1924.

少花山兰 shao hua shan lan

Oreorchis rockii Schweinfurth.

Plants 8–20 cm tall. Pseudobulbs cylindrical to ovoid, 0.6–1 × ca. 0.5 cm, 2- or 3-noded, sometimes persisting and forming a chain of pseudobulbs connected by a short rhizome. Leaf solitary, narrowly elliptic, 1.8–4 × 0.8–1 cm, base rounded or cuneate and abruptly contracted into a distinct petiole-like stalk 1–2 cm, apex acuminate. Inflorescence 8–18 cm, with 2 or 3 tubular sheaths below middle; rachis 1.5–4 cm, laxly 1–3(or 4)-flowered; floral bracts ovate-deltoid, ca. 1 mm. Flowers purple, lip white to pale purple with purple spots; pedicel and ovary 3–5 mm. Sepals narrowly oblong, 12–15 × 2–2.8 mm, apex obtuse or acute; lateral sepals slightly falcate. Petals oblanceolate, 7–9 × ca. 2 mm, apex obtuse or acute; lip obovate-oblong, 8–10 × 5–6 mm, shortly clawed at base, 3-lobed below middle; lateral lobes slightly incurved, narrowly oblong-obovate, 1.5–2 × ca. 0.5 mm, apex obtuse; mid-lobe obovate-spatulate, ca. 6 × 5–6 mm, margin slightly undulate, apex rounded; disk with a pair of subelliptic lamellae at base. Column slightly arcuate, 4.5–6 mm, thick. Fl. Jun–Jul.

• Alpine grasslands, forests, thickets, soil-covered rocks; 3000–4000 m. S Gansu, W Sichuan, E Xizang, NW Yunnan.

