

**127. PINALIA** Lindley, Orchid. Scelet. 14, 21, 23. 1826.

苹兰属 ping lan shu

Chen Xinqi (陈心启 Chen Sing-chi), Luo Yibo (罗毅波); Jeffrey J. Wood

*Eria* sect. *Hymeneria* Lindley; *E.* sect. *Urostachya* Lindley; *Hymeneria* (Lindley) M. A. Clements & D. L. Jones; *Urostachya* (Lindley) Brieger.

Herbs, epiphytic or terrestrial. Stems close together, elliptic in transverse section, of several equally or unequally enlarged internodes each covered by a semitransparent leaf-sheath, giving rise to a distinct venation on stem, with leaves on upper half or a few leaves near apex. Leaves linear, lanceolate, or narrowly elliptic, mostly leathery, without a distinct petiole. Inflorescences synanthous, axillary, erect or nodding, racemose, laxly to densely many flowered, leaving a pit on stem when shed, axis usually with small, scalelike brown hairs; floral bracts conspicuous and often large. Flowers widely opening or not, color very variable, small to medium-sized. Sepals densely to sparsely pubescent abaxially; dorsal sepal narrowly triangular or narrowly elliptic; lateral sepals triangular, ventrally broadened at base, attached to a long column foot to form a mentum. Petals similar in size and color to dorsal sepal; lip 3-lobed, hinged at base to column foot; disk usually adorned with papillose keels of various lengths and numbers, or without keels; anther cap easily detached; pollinia 8, clavate.

About 160 species: from NW Himalayas and NE India to Myanmar, S China, Vietnam, Laos, Thailand, the Malay Archipelago, NE Australia, and the Pacific islands; 17 species (six endemic) in China.

- 1a. Inflorescence secund ..... 1. *P. stricta*
- 1b. Inflorescence not secund, usually spirally arranged on axis.
  - 2a. Lip entire, simple.
    - 3a. Pseudobulbs often branching, branches 10–15 cm, 4–6-leaved; lip with 2 reddish brown basal blotches, disk with 2 short lamellae ..... 2. *P. copelandii*
    - 3b. Pseudobulbs not branching, 3–5-leaved; lip not as above.
      - 4a. Leaves ca. 1 cm wide; sepals ca. 3 mm; lip grooved, disk without keels ..... 3. *P. longlingensis*
      - 4b. Leaves 3.5–4.5 cm wide; sepals ca. 9 mm; lip with 2 dark red keels ..... 4. *P. ovata*
  - 2b. Lip 3-lobed.
    - 5a. Lip contiguously joined to column foot.
      - 6a. Inflorescence broadly cylindric, densely many flowered, usually 3–5 × 1.5–2.5 cm ..... 5. *P. spicata*
      - 6b. Inflorescence a laxly flowered cylindric raceme.
        - 7a. Pseudobulbs narrowly obovoid or clavate; leaves 3–6 × 1–2 cm; lip ± rhombic in outline ..... 6. *P. bipunctata*
        - 7b. Pseudobulbs cylindric; leaves 10–15 × 2.6–3 cm; lip broadly ovate in outline ..... 7. *P. conferta*
    - 5b. Lip attached by a hinge to column foot.
      - 8a. Pseudobulbs consisting of 1 or 2 distinct internodes.
        - 9a. Pseudobulbs 8–17 cm; leaves fleshy, 13–23 × ca. 2 cm; flowers yellowish brown; lip 5-lobed, disk thickened, strongly convex, with 3 transverse basal channels ..... 9. *P. pachyphylla*
        - 9b. Pseudobulbs 2.5–3.5 cm; leaves, flowers, and lip without above combination of characters.
          - 10a. Pseudobulbs cylindric, 0.2–0.5 cm in diam.; flowers 5–10 mm in diam.; lip mid-lobe warty-rugulose; disk with variable calli, usually with 2 basal calli; flowers pale cream-colored, lip with yellowish red markings ..... 8. *P. excavata*
          - 10b. Pseudobulbs ellipsoid, 1–1.5 cm in diam.; flowers ca. 3 mm in diam.; lip mid-lobe not warty-rugulose; disk with 4 or 5 slightly thickened veins; flowers greenish yellow ..... 10. *P. yunnanensis*
      - 8b. Pseudobulbs consisting of several internodes.
        - 11a. Pseudobulbs narrowly cylindric, 8–17 × 0.3–0.8 cm, coherent at base; sepals and petals pure white ..... 11. *P. graminifolia*
        - 11b. Pseudobulbs flasklike or ovoid, shorter and broader, stacked; sepals and petals variably colored.
          - 12a. Pedicel and ovary glabrous.
            - 13a. Pseudobulbs fusiform, sometimes bottle-shaped, sometimes compressed, 2–4 cm; leaves 4–10 cm ..... 12. *P. acervata*
            - 13b. Pseudobulbs narrowly ovoid or subcylindric, 0.8–2.5 cm; leaves (2–)3–6 cm ..... 13. *P. donnaiensis*
          - 12b. Pedicel and ovary pubescent or puberulent.
            - 14a. Plants small, 4–7 cm tall; leaves 3.5–5 × 0.5–0.7 cm; inflorescence 1–3-flowered; flowers white; sepals ca. 8 mm; lip ca. 7.5 × 4 mm, mid-lobe ovate, obtuse, thickly verruculose-rugose, disk with 2 short keels ..... 14. *P. szetschuanica*
            - 14b. Plants larger, 12–27 cm tall; leaves 10–25 × 0.8–2.5 cm; inflorescence

ca. 6- to many flowered; flowers, sepals, and lip without above combination of characters.

15a. Lip with 5 obscure keels on disk confluent below ..... 15. *P. quinquelamellosa*

15b. Lip with 3 keels on disk.

16a. Sepals and petals buff-yellow to greenish yellow with red veins and yellow apices; lip 8–10 × 7–8 mm ..... 16. *P. amica*

16b. Sepals and petals pure white; lip 3–7 × 2–5 mm ..... 17. *P. obvia*

**1. *Pinalia stricta*** (Lindley) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

鹅白苹兰 e bai ping lan

*Eria stricta* Lindley, Coll. Bot. ad t. 41b. 1826; *E. secundiflora* Griffith; *Mycaranthes stricta* (Lindley) Lindley.

Rhizome inconspicuous. Pseudobulbs clustered, cylindrical, 2–10 cm × 1–4 mm, slightly dilated toward apex, apex 2-leaved. Leaf blade lanceolate or oblong-lanceolate, 8–10 × 0.6–2 cm, acute; petiole ca. 6 mm. Inflorescences 1–3, subterminal, 8–10 cm, secund, densely many flowered; rachis and pedicel and ovary white cottony-hairy; floral bracts rhombic, ca. 1 mm, glabrous. Sepals densely white cottony-hairy abaxially; dorsal sepal ovate, ca. 2 × 1.5 mm, acute; lateral sepals ovate-triangular, ca. 2 × 2 mm, obtuse; mentum ca. 1 mm. Petals ovate, ca. 2 × 1.5 mm, glabrous, obtuse; lip subsquare-orbicular in outline, ca. 2 × 2 mm, distally shallowly 3-lobed; lateral lobes small; mid-lobe ± oblate, ca. 0.5 × 1–1.5 mm, obtuse-rounded; disk with 3 thickened lamellae from base to base of mid-lobe and a globose callus between 2 lateral lobes near mid-lobe base. Column ca. 1.5 mm, each side obtriangular-winged; foot ca. 2 mm. Capsule fusiform, ca. 5 × 3 mm, densely white cottony-hairy, shortly pedicellate. Fl. Nov–Feb, fr. Apr–May. *2n* = 40.

Lithophytic on rocks on shaded slopes or epiphytic on tree trunks along valleys; 800–1300 m. SE Xizang, SE Yunnan [Bhutan, NE India, Myanmar, Nepal, N Vietnam].

**2. *Pinalia copelandii*** (Leavitt) W. Suarez & Cootes, Orchideen J. 16(2): 70. 2009.

台湾苹兰 tai wan ping lan

*Eria copelandii* Leavitt, Philipp. J. Sci., C, 4: 203, 226. 1909; *E. formosana* Rolfe; *E. plicatilabella* Hayata; *E. tomentosiflora* Hayata.

Rhizome stout. Pseudobulbs often branched, branches cylindrical, 10–15 cm, often slightly dilated toward apex, apex of branch 4–6-leaved. Leaf blade lanceolate, 12–15 × 1.2–1.5 cm, base attenuate and articulate, apex subacute. Inflorescences 1 or 2, subterminal, usually pendulous, 7–13 cm, several to many flowered; rachis reddish brown tomentose; floral bracts recurved, green, elliptic to lanceolate, 6–8.5 mm, hairy at first, soon becoming glabrous, subacute. Flowers yellowish green, slightly tinged with reddish brown; pedicel and ovary 5–9 mm, reddish brown tomentose. Sepals tomentose abaxially; dorsal sepal narrowly elliptic, ca. 9 × 3.2 mm, obtuse; lateral sepals obliquely ovate, ca. 8.5 × 4.2 mm, obtuse; mentum short. Petals reddish brown, ovate-elliptic, ca. 7.5 × 2.5 mm, glabrous, obtuse; lip recurved, ovate, 3–4 × 1.8–2.5 mm, adaxially with 2 short lamellae, base with a colored blotch on either side, margin entire, apex mucronate. Column ca. 2 mm; foot ca. 2 mm. Fl.

Mar–Apr. *2n* = 38.

Epiphytic on tree trunks in forests; 200–1500 m. Taiwan [Philippines].

**3. *Pinalia longlingensis*** (S. C. Chen) S. C. Chen & J. J. Wood, **comb. nov.**

龙陵苹兰 long ling ping lan

Basionym: *Eria longlingensis* S. C. Chen, Acta Phytotax. Sin. 26: 238. 1988.

Pseudobulbs 3-leaved. Leaves not completely spreading at anthesis, shortly petiolate, suboblong or oblong-lanceolate, 6–8 × ca. 1 cm, apex acute or obtuse. Inflorescence solitary, subterminal, ca. 6 cm, many flowered, brownish tomentose; peduncle stout, slightly fleshy, glabrous; floral bracts ovate-lanceolate or ovate, 3–5 mm, ± glabrous, obtuse or acute. Flowers yellow, 3–4 mm in diam. Dorsal sepal oblong-elliptic, 3–3.5 × ca. 1.5 mm, glabrous, margin undulate, apex obtuse; lateral sepals nearly as long as dorsal sepal, ca. 4 mm wide, oblique, acute. Petals similar to dorsal sepal, but slightly smaller, glabrous, margin undulate, apex obtuse; lip ± flabellate, 2.5–3.5 mm wide, adaxially grooved, base narrowed into a claw ca. 3 mm, margin entire, apex obtuse and mucronate. Column ca. 0.8 mm, thick; foot 2–2.5 mm. Fl. Aug.

• Epiphytic on tree trunks; ca. 2000 m. SW Yunnan.

**4. *Pinalia ovata*** (Lindley) W. Suarez & Cootes, Orchideen J. 16(2): 71. 2009.

大脚筒 da jiao tong

*Eria ovata* Lindley, Edwards's Bot. Reg. 30: ad t. 29. 1844; *E. luchuensis* Yatabe; *E. nudicaulis* Hayata; *E. ovata* var. *retroflexa* (Lindley) Garay & H. R. Sweet; *E. retroflexa* Lindley; *Pinalia retroflexa* (Lindley) Kuntze.

Pseudobulbs tufted, cylindrical, usually 10–25 × 1–2 cm, 2–4-noded, apex 4- or 5-leaved. Leaves shortly petiolate, narrowly elliptic, 12–16 × 3.5–4.5 cm, apex obtuse. Inflorescence subterminal, ca. 15 cm, glabrous, densely many flowered; floral bracts yellow, narrowly elliptic, ca. 8 × 3.5 mm, acute. Flowers yellowish white; pedicel and ovary 4.5–6 mm. Dorsal sepal narrowly elliptic, ca. 9.5 × 2.7 mm, acute; lateral sepals obliquely narrowly ovate, ca. 9 × 3 mm, acute. Petals elliptic, ca. 8 × 2.4 mm, acuminate; lip triangular-ovate or rhombic-ovate in outline, ca. 3.5 × 2.3 mm, adaxially with 2 dark red keels running to near apex, strongly contracted at base, articulate with column foot, margin entire, apex acute. Column ca. 1.8 mm; foot very short. Fl. Jul. *2n* = 36, 38, 40, 44.

Epiphytic on tree trunks in forests; below 800 m. Taiwan [Indonesia, Japan (Ryukyu Islands), New Guinea, Philippines].

**5. *Pinalia spicata*** (D. Don) S. C. Chen & J. J. Wood, **comb.**

nov.

密花苹兰 mi hua ping lan

Basionym: *Octomeria spicata* D. Don, Prodr. Fl. Nepal. 31. 1825; *Eria convallarioides* Lindley; *E. convallarioides* var. *major* Lindley; *E. salwinensis* Handel-Mazzetti; *E. spicata* (D. Don) Handel-Mazzetti.

Pseudobulbs contiguous, cylindrical or fusiform, 3–16 × 0.5–1.5 cm, with 1 internode, distally 2–4-leaved. Leaves petiolate, elliptic or obovate-lanceolate, 5–22 × 1–4 cm, apex obtuse. Inflorescences 1–3, arising from near apex of pseudobulb, 3–5 cm, densely many flowered, with 2 basal sheaths; rachis, pedicel, and ovary densely rusty puberulent; floral bracts lanceolate, ca. 8 mm, glabrous, acuminate. Flowers white, lip apex yellow; pedicel and ovary 2–4 mm. Dorsal sepal elliptic, ca. 6 × 2.5 mm, obtuse-rounded; lateral sepals ovate-triangular, oblique, ca. 6 × 3.5 mm, acute. Petals elliptic, ca. 5 × 2 mm, obtuse-rounded; lip subrhombic in outline, ca. 5 × 5 mm, base narrowed into a claw, 3-lobed; lateral lobes perpendicular to mid-lobe, ovate-triangular; mid-lobe deltoid, ca. 1 × 1.5 mm, thickened, acuminate. Column ca. 2 mm, upper part slightly enlarged; foot ca. 3 mm. Capsule cylindrical, ca. 1.5 cm × nearly 3 mm. Fl. Jul–Oct.  $2n = 20 + 2B$ , 38, 40.

Epiphytic on trees on wooded slopes or lithophytic on rocks in valley forests; 800–2800 m. S and SE Xizang, S Yunnan [Bhutan, NE India, Myanmar, Nepal, Thailand, N Vietnam].

**6. *Pinalia bipunctata*** (Lindley) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

双点苹兰 shuang dian ping lan

*Eria bipunctata* Lindley, Edwards's Bot. Reg. 27(Misc.): 83. 1841; *E. eberhardtii* Gagnepain.

Rhizome inconspicuous. Pseudobulbs contiguous, narrowly obovoid or clavate, somewhat compressed, 3–4 cm × 8–12 mm, usually with 1 or 2 nodes, apex usually 4-leaved (only 1 or 2 persistent on old pseudobulb). Leaves shortly petiolate, obovate, obovate-elliptic, or elliptic, 3–6 × 1–2 cm, base attenuate, apex obtuse. Inflorescences often 2, arising from near apex of pseudobulb, arching, 3–4 cm, sparsely pubescent, sparsely 10- or more flowered; floral bracts reflexed, broadly elliptic, ca. 5 mm, acute. Flowers white, glabrous; pedicel and ovary ca. 5 mm, sparsely pubescent. Dorsal sepal broadly elliptic, ca. 5 × 2 mm, obtuse-rounded; lateral sepals oblong-elliptic, ca. 6 × 4 mm, acute; mentum ca. 3 mm. Petals oblong, ca. 4 × 1.5 mm, obtuse-rounded; lip rhombic in outline, ca. 4 × 4 mm, 3-lobed; lateral lobes perpendicular to mid-lobe, subtriangular, ca. 3 mm; mid-lobe subtriangular, ca. 1 × 1 mm, conspicuously thickened. Column ca. 2 mm (with anther cap); foot ca. 3 mm. Fl. Jul.

Epiphytic on tree trunks in forests; 1700–1800 m. S Yunnan [NE India, Thailand, Vietnam].

**7. *Pinalia conferta*** (S. C. Chen & Z. H. Tsi) S. C. Chen & J. J. Wood, **comb. nov.**

密苞苹兰 mi bao ping lan

Basionym: *Eria conferta* S. C. Chen & Z. H. Tsi, Acta Bot. Yunnan. 6: 383. 1984.

Rhizome stout. Pseudobulbs tufted, straight or slightly curved, cylindrical, with 3–5 nodes, ridged when dried, apex 3-leaved. Leaf blade oblong-obovate or narrowly elliptic, 10–15 × 2.6–3 cm, papery, apex acuminate; petiole ca. 1 cm. Inflorescence arising from upper part of pseudobulb, ca. 5 cm, many flowered, glabrous; rachis with stripes; floral bracts sometimes turning black, ovate-lanceolate or lanceolate, usually 1.4–1.6 cm, margin ciliate. Flowers white, ca. 2 mm in diam., apex of lip yellow; pedicel and ovary 1.5–3 mm, slightly pubescent. Dorsal sepal ovate-elliptic, 3–3.5 × ca. 2 mm, glabrous, acute; lateral sepals obliquely ovate, 3–3.5 × ca. 2.5 mm, glabrous. Petals subovate, slightly shorter than sepals, glabrous; lip broadly ovate in outline, 0.5–3 mm, base with a claw 0.7–0.9 mm, 3-lobed; lateral lobes subovate, ca. 0.8 mm, obtuse; mid-lobe triangular-ovate, similar in size to lateral lobes, fleshy, obtuse; disk with 3 veins, sometimes slightly thickened at base. Column 1.5–2 mm, stout, ca. 1.5 mm wide; foot ca. 0.5 mm. Fl. Jul.

• Epiphytic on trees. SE Xizang.

**8. *Pinalia excavata*** (Lindley) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

反苞苹兰 fan bao ping lan

*Eria excavata* Lindley, Gen. Sp. Orchid. Pl. 67. 1830; *E. flava* Lindley var. *rubida* Lindley; *E. sphaerochila* Lindley.

Rhizome rather short, stout. Pseudobulbs borne ca. 1 cm apart from each other, cylindrical, ca. 3 cm, consisting of 1 distinct internode, sheathing at base, apex 4- or 5-leaved. Leaf blade elliptic-obovate, 16–18 × 2–3.4 cm, base contracted into petiole, apex acute. Inflorescence arising from leaf axil, erect, 15–18 cm, reddish brown pubescent, sparsely few flowered; floral bracts lanceolate, 7–8 mm, abaxially brown pubescent, apex acuminate. Flowers white; pedicel and ovary 7–8 mm, brown pubescent; sepals and petals brown pubescent abaxially. Dorsal sepal subelliptic, ca. 9 × 3 mm, acute; lateral sepals falcate-lanceolate, ca. 9 × 4 mm, acute. Petals elliptic, ca. 6 × 2 mm, acute; lip suborbicular, nearly 5 mm, concave at base, 3-lobed from near base; lateral lobes ovate-triangular, small, obtuse, each with an erect callus adaxially; mid-lobe subreniform, ca. 4 × 5 mm, apex emarginate, warty-rugulose, with variable calli, usually 2-callose basally, sometimes with 5 flabellate, lamellate or thickened veins from base; central one extending to apex forming an apiculum. Column ca. 1 mm; foot incurved. Capsule cylindrical, 1–1.5 cm. Fl. Jun.  $2n = 34, 40$ .

Broad-leaved forests along valleys; 1700–2100 m. S and SE Xizang [Bhutan, NE India, Nepal].

**9. *Pinalia pachyphylla*** (Averyanov) S. C. Chen & J. J. Wood, **comb. nov.**

厚叶苹兰 hou ye ping lan

Basionym: *Eria pachyphylla* Averyanov, Turczaninowia 5(4): 77. 2002; *E. crassifolia* Z. H. Tsi & S. C. Chen (1994), not Ridley (1915).

Rhizome stout, densely covered with membranous sheaths. Pseudobulbs oblong, 8–17 × nearly 1 cm, 1-noded, young pseudobulb arising from near middle of an old pseudobulb,

apex 2–4-leaved. Leaves subsessile, oblong, 13–23 × ca. 2 cm, fleshy, base narrowed, articulate, apex acuminate. Inflorescence subterminal, ca. 24 cm, yellowish brown tomentose, many flowered; floral bracts lanceolate, 1.5–3 cm, both surfaces yellowish brown tomentose, apex acute. Flowers yellowish brown, ± fleshy; pedicel and ovary ca. as long as or shorter than floral bracts. Sepals densely yellowish brown tomentose abaxially; dorsal sepal oblong, 12–15 × 6–8 mm, 7-veined, slightly obtuse; lateral sepals subtriangular, 10–12 × 8–10 mm. Petals oblong, 12–13 × 4–5 mm, glabrous, 3-veined, obtuse; lip 5-lobed, 2 basal lobes ± auriculate; 2 lateral lobes conduplicate or sub-cylindric; mid-lobe recurved, oblong, truncate; disk thickened, strongly convex, adaxially papillate, near base with 3 transverse channels. Column ca. 4 mm, stout; foot ca. 5 mm. Fl. Apr–Jun.  $2n = 38$ .

Epiphytic on trees or lithophytic on rocks in forests; 600–1100 m. S Guangxi, SW Guizhou, S Yunnan [N Vietnam].

**10. *Pinalia yunnanensis*** (S. C. Chen & Z. H. Tsi) S. C. Chen & J. J. Wood, **comb. nov.**

滇南苹兰 dian nan ping lan

Basionym: *Eria yunnanensis* S. C. Chen & Z. H. Tsi, Acta Bot. Yunnan. 6: 381. 1984.

Pseudobulbs ellipsoid, 2.5–3 × 1–1.5 cm, 1- or 2-noded, usually with a smaller leaf near or above middle and 3 or 4 much larger leaves at apex; small leaf narrowly ovate, 1.5–6.5 cm; apical leaves narrowly oblong-lanceolate or lanceolate, (4–)8–16.5 × 0.6–1.4 cm, base attenuate into petiole 1–2 cm, apex acuminate. Inflorescences 1 or 2, subterminal, suberect, 4.5–7.5 cm, many flowered; rachis sparsely rusty puberulent; floral bracts reflexed, brown when dried, lanceolate, 4–5 mm, membranous. Flowers greenish yellow, ca. 3 mm in diam.; pedicel and ovary 1–1.5 mm. Dorsal sepal broadly ovate or ovate-elliptic, ca. 3 × 2 mm, glabrous, acuminate or obtuse; lateral sepals obliquely ovate, similar in size to dorsal sepal. Petals ovate or broadly ovate, ca. 2 × 1.5–1.8 mm, acute; lip ± cross-shaped in outline, 2–2.5 mm, base with a grooved claw 0.6–0.8 mm, 3-lobed; lateral lobes ± quadrate-flabellate, ca. 1 × 1 mm, margins undulate; mid-lobe oblong, ca. 1.2 × 1 mm; disk with 4 or 5 slightly thickened veins. Column ca. 0.7 mm; foot ca. 1.1 mm. Fl. Jul–Aug.

• Epiphytic on tree trunks in dense thickets; ca. 1500 m. S Yunnan.

**11. *Pinalia graminifolia*** (Lindley) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

禾颠苹兰 he yi ping lan

*Eria graminifolia* Lindley, J. Proc. Linn. Soc., Bot. 3: 54. 1858.

Rhizome short. Pseudobulbs densely arranged in a row on rhizome, cylindric, 8–17 cm × 3–8 mm, apex 5- or 6-leaved. Leaves sessile, elliptic or oblong-lanceolate, 5–16 × 0.8–3 cm, base contracted, apex acuminate or long acuminate. Inflorescences 1–3, subterminal, shorter than leaves, more than 10-flowered; rachis and ovary densely yellowish brown pubescent; floral bracts ovate, 5–10 mm, glabrous, long acuminate. Flow-

ers white, spotted with yellow on lip. Dorsal sepal oblong, 6–8 × ca. 2 mm, obtuse or acuminate; lateral sepals subfalcate, ca. 8 × 3 mm, acuminate. Petals narrowly oblong, 5–6 × ca. 2 mm, obtuse; lip obovate in outline, ca. 5 × 4 mm, 3-lobed from near middle; lateral lobes divaricate, oblong, apex reflexed; mid-lobe nearly oblate, rounded or acute, with a high central lamella from base to apical 2/3; disk with 3 thickened veins, lateral veins each with a triangular callus halfway. Column ca. 2 mm; foot ca. 2 mm. Capsule cylindric, ca. 1 cm × 3 mm. Fl. Jun–Jul, fr. Aug.  $2n = 38, 42$ .

Epiphytic on tree trunks or lithophytic on rocks in forests; 1600–2500 m. S and SE Xizang, NW to SE Yunnan [Bhutan, NE India, Myanmar, Nepal].

**12. *Pinalia acervata*** (Lindley) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

钝叶苹兰 dun ye ping lan

*Eria acervata* Lindley, J. Hort. Soc. London 6: 57. 1851; *E. poilanei* Gagnepain.

Pseudobulbs usually 2 or 3, or sometimes 8 closely and regularly arranged into a row, fusiform, sometimes bottle-shaped, sometimes compressed, 2–4 × 0.6–1.5 cm, apex 2–4-leaved. Leaves sessile, oblong-lanceolate, 4–10 × 0.8–2 cm, base attenuate, apex obtuse and slightly unequally 2-lobed. Inflorescences 1–3, subterminal, 3–6 cm, 4–7-flowered; rachis glabrous; floral bracts ovate or ovate-lanceolate, 0.5–1 cm, margin sparsely denticulate, apex long acuminate. Flowers white, sepals tinged green at apex, lip yellow; pedicel and ovary ca. 1 cm. Dorsal sepal narrowly ovate, ca. 6 × 2 mm, 5-veined, acuminate; lateral sepals falcate-lanceolate, ca. 7 × 5–6 mm, acuminate. Petals lanceolate, ca. 6 × 2 mm, obtuse; lip broadly cuneate in outline, ca. 7 × 6 mm, base attached to column foot at a right angle, 3-lobed; lateral lobes falcate-oblong, ca. 2 mm wide; mid-lobe orbicular, ca. 3 × 3 mm; disk with 3 keeled lamellae from base to middle of mid-lobe. Column ca. 3 mm; foot ca. 4 mm. Capsule narrowly cylindric, ca. 2.7 × 0.4 cm. Fl. Aug, fr. Sep.  $2n = 38, 40$ .

Epiphytic on tree trunks in open forests; 600–1500 m. SE Xizang, S Yunnan [Bhutan, Cambodia, NE India, Laos, Myanmar, Nepal, Thailand, Vietnam].

**13. *Pinalia donnaiensis*** (Gagnepain) S. C. Chen & J. J. Wood, **comb. nov.**

中越苹兰 zhong ye ping lan

Basionym: *Dendrobium donnaiense* Gagnepain, Bull. Mus. Natl. Hist. Nat., sér. 2, 21: 740. 1950; *Eria donnaiensis* (Gagnepain) Seidenfäden.

Rhizome stout, ca. 5 mm in diam. Pseudobulbs borne 4–9 mm apart on rhizome, narrowly ovoid or nearly cylindric, 0.8–2.5 cm × 3–6 mm, wrinkled when dried, with 3 or 4 leaves at or near apex. Leaf blade linear or narrowly elliptic-linear, (2–)3–6 × 0.6–1.4 cm, papery, base contracted into a short petiole, apex obtuse or sometimes obliquely apiculate. Inflorescence subterminal, 2–3 cm, 3–6-flowered; rachis nearly glabrous; floral bracts oblong-lanceolate to elliptic, 4–6 mm. Flowers white or reddish; pedicel and ovary 1–1.4 cm, nearly glabrous. Dor-

sal sepal narrowly elliptic, 7–9 × 3–3.5 mm; lateral sepals obliquely triangular-lanceolate, 6.5–7.5 × 2.5–3 mm. Petals narrowly elliptic, ca. 5 × 2 mm; lip subovate in outline, 5.5–6 mm, base contracted into a short claw, distally 3-lobed; lateral lobes subovate; mid-lobe broadly ovate, not thickened or fleshy, margin undulate; disk with 3 longitudinal lamellae running from near base to mid-lobe. Column 1–2 mm; foot 3–4 mm. Fl. Jun–Aug.

Epiphytic on trees in open forests or thickets; 1000–1500 m. S and SE Yunnan [Laos, Vietnam].

**14. *Pinalia szetschuanica*** (Schlechter) S. C. Chen & J. J. Wood, **comb. nov.**

马齿苹兰 ma chi ping lan

Basionym: *Eria szetschuanica* Schlechter, Repert. Spec. Nov. Regni Veg. Beih. 12: 348. 1922; *E. lochongensis* C. L. Tso.

Plants 4.5–7 cm tall. Pseudobulbs contiguous, regularly arranged in a row on rhizome, oblong, slightly curved, 1–3 cm × 5–10 mm, apex 2–4-leaved. Leaves shortly petiolate, oblong-lanceolate, 3.5–5 × 0.4–0.7 cm, base attenuate, apex obtuse. Inflorescences 1 or 2, subterminal, shorter than leaves, 1–3-flowered; peduncle ca. 2 cm, with small sheaths at base; rachis often brownish villous; floral bracts lanceolate, ca. 6 mm, acute. Flowers white, lip yellow; pedicel and ovary longer than floral bract, brown villous. Dorsal sepal elliptic, ca. 8 × 3 mm, obtuse; lateral sepals obliquely oblong, ca. 8 × 4 mm, obtuse. Petals obovate-oblong, ca. 8 × 2 mm; lip obovate, ca. 6 × 5 mm, base attenuate, 3-lobed; lateral lobes ± suborbicular, ca. 2.5 × 2.5 mm, obtuse-rounded; mid-lobe ovate, 2–3 × ca. 2 mm, ± thickened, adaxially papillate, obtuse; disk with 3 veins from base to base of mid-lobe. Column ca. 3 mm; foot ca. 3 mm. Capsule cylindrical, ca. 1.5 cm, brown villous. Fl. May–Jun.

• Lithophytic on rocks along valleys; ca. 2300 m. Guangdong, W Hubei, Hunan, Sichuan, Yunnan.

**15. *Pinalia quinquelamellosa*** (Tang & F. T. Wang) S. C. Chen & J. J. Wood, **comb. nov.**

五脊苹兰 wu ji ping lan

Basionym: *Eria quinquelamellosa* Tang & F. T. Wang, Contr. Inst. Bot. Natl. Acad. Peiping 2: 135. 1934.

Pseudobulbs contiguous, usually laterally compressed, oblong-ellipsoid, ca. 3.5 × 1.5 cm, slightly wrinkled, apex 3-leaved. Leaves sessile, narrowly oblong, 13–17 × ca. 1.4 cm, both surfaces ± scurfy-mealy, apex acute. Inflorescence ca. 12 cm, villous, laxly more than 20-flowered; floral bracts lanceolate, longer than pedicel and ovary, membranous, acuminate. Flowers glabrous; pedicel and ovary 6–8 mm, slender, pubescent. Dorsal sepal ligulate, ca. 7 × 2 mm, acuminate; lateral sepals falcate-ovate, ca. 6 × 3 mm, acute. Petals falcate, narrowly ligulate, ca. 6 × 1.5 mm, obtuse; lip subobovate, ca. 6 × 4 mm, with a sulcate claw at base, 3-lobed near middle; lateral lobes subovate-falcate, ca. 1.3 mm, acute; mid-lobe obovate, ca. 2 × 2.5 mm, obtuse; disk with 5 inconspicuous lamellae connate at base. Column ca. 3 mm. Fl. unknown.

• Lithophytic on rocks. Hainan.

**16. *Pinalia amica*** (H. G. Reichenbach) Kuntze, Revis. Gen. Pl. 2: 679. 1891.

粗茎苹兰 cu jing ping lan

*Eria amica* H. G. Reichenbach, Xenia Orchid. 2: 162. 1870; *E. andersonii* J. D. Hooker; *E. confusa* J. D. Hooker; *E. hypomelana* Hayata; *Pinalia andersonii* (J. D. Hooker) Kuntze; *P. confusa* (J. D. Hooker) Kuntze.

Pseudobulbs fusiform or cylindrical, 3.5–14 × 0.4–1.6 cm, apex 1–3-leaved. Leaf blade linear, oblong, or ovate-elliptic, 10–21 × 0.8–2.3 cm, base attenuate to short petiole or subsessile, apex acute. Inflorescences 1 or 2(–4), arising from middle or upper part of pseudobulb, rarely near base, suberect, 3–7 cm, sparsely 6–10-flowered; rachis with dense rusty hairs; floral bracts elliptic or elliptic-lanceolate, 8–12 × 3–5 mm, glabrous. Flowers: sepals and petals buff-yellow, with red veins and yellow apices, lip pink with bright yellow apex, lateral lobes and keels red; pedicel and ovary 1.5–2 cm, with dense rusty hairs. Sepals with rusty hairs; dorsal sepal oblong-lanceolate, ca. 10 × 2 mm, obtuse; lateral sepals obliquely ovate-triangular, ca. 10 × 4 mm, acuminate; mentum ca. 3 mm. Petals obovate-lanceolate, 8–9 × ca. 2 mm, acuminate; lip subobovate-elliptic in outline, ca. 8 × 6 mm, 3-lobed; lateral lobes incurved, ovate-elliptic, ca. 3 × 1.5 mm, obtuse; mid-lobe reniform, 3–4 × ca. 4.5 mm, fleshy except for middle part, apex emarginate; disk with 3 lamellae; central lamella extending to mid-lobe and thickened there, lateral 2 to near base of mid-lobe and thickened in apical half. Column ca. 4 mm (not including anther cap); foot ca. 3

mm. Capsule obovoid-cylindric, ca. 3 cm × 2–3 mm, with rusty hairs; fruiting pedicel 9–12 mm, hairy. Fl. Mar–Apr, fr. Jun.  $2n = 36, 38, 40$ .

Epiphytic on trees in forests; 800–2200 m. Taiwan, S Yunnan [Bhutan, Cambodia, India, Laos, Myanmar, Nepal, Thailand, Vietnam].

**17. *Pinalia obvia* (W. W. Smith) S. C. Chen & J. J. Wood, *comb. nov.***

长苞苹兰 chang bao ping lan

Basionym: *Eria obvia* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 8: 335. 1915.

Pseudobulbs ± tufted, fusiform, 4–6.5 × 1–1.4 cm, apex 3- or 4-leaved. Leaves sessile, elliptic or obovate-lanceolate, 5–20 × 1.5–3 cm, base attenuate, apex obtuse. Inflorescences 1–3, subterminal, many flowered; peduncle 3–4 cm; rachis with yellowish brown hairs or nearly glabrous; floral bracts lanceolate, 1–2 cm, long acuminate. Flowers white. Dorsal sepal lanceolate, 8–10 × 2–3 mm, obtuse; lateral sepals lanceolate, 7–9 × 3–5 mm, acuminate. Petals linear-lanceolate, 7–8 × 1–2 mm, acuminate; lip suboblong in outline, 3–7 × 3–5 mm, 3-lobed above middle; lateral lobes subovate, 1–2 mm, acute; mid-lobe oblong, 2–3 × 1–2 mm, rounded; disk with 3 lamellae, central lamella running to base of mid-lobe, lateral lamellae shorter but higher than central one. Column 2–4 mm; foot 2–4 mm. Capsule obovoid-cylindric, 1.5–2 cm. Fl. Apr–May, fr. Sep–Oct.

• Epiphytic on tree trunks in forests; 700–2000 m. W Guangxi, Hainan, S Yunnan.

