

141. **EPIGENEIUM** Gagnepain, Bull. Mus. Natl. Hist. Nat., sér. 2, 4: 593. 1932.

厚唇兰属 *hou chun lan shu*

Chen Xinqi (陈心启 Chen Sing-chi); Jeffrey J. Wood

*Sarcopodium* Lindley & Paxton (1850), not Ehrenberg ex Brongniart (1824).

Herbs, epiphytic or terrestrial. Rhizome aerial, creeping and climbing, terminating in a pseudobulb consisting of 1 internode; roots granulose. New shoot arising at base of pseudobulb, sometimes pendulous, covered with conspicuous imbricate chestnut or pale brown sheaths when young. Pseudobulbs usually short and conic, or ovoid, often quadrate, remote or less often contiguous, comprised of 1 internode, usually covered with brown sheaths when young, apex 1- or 2[or 3]-leaved. Leaves distal, shortly petiolate or sessile, oblong, obovate, or elliptic, fleshy, leathery, articulate. Inflorescences pseudoterminal, borne generally on most recent pseudobulb, but occasionally on an unflowered or previously flowered penultimate stem, slender, arising between or just below leaves, 1- to several flowered, usually racemose; floral bracts chestnut, usually much shorter than pedicel and ovary, membranous. Flowers long-lasting, resupinate, medium-sized to large, stellate. Sepals and petals free, narrowly elliptic, subequal. Dorsal sepal enclosing column; lateral sepals larger, oblique and adnate to column foot forming a short, conspicuous mentum. Petals long decurrent on mentum, usually slightly narrower; lip pandurate-oblong, rather narrow, 3-lobed; lateral lobes erect; mid-lobe spreading; disk with a callus lobulate or ridged at base, often of 2 longitudinal lamellae. Column short to rather long, with or without short stelia, foot long; rostellum subrotund, entire; pollinia 4 in 2 pairs (possibly sometimes only 2), waxy, naked, i.e., without caudicle or viscidium.

About 35 species: Bangladesh, China, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Thailand, Vietnam; 11 species (four endemic) in China.

The genus *Epigeneium* was monographed by Seidenfaden (Dansk Bot. Ark. 34(1): 1–104. 1980).

Reviewer L. Averyanov notes that *Epigeneium chapaense* Gagnepain (Bull. Mus. Natl. Hist. Nat., sér. 2, 4: 596. 1932), described from N Vietnam, also occurs in S China. However, the present authors could not substantiate this record because they found no relevant specimens.

- 1a. Pseudobulbs 1-leaved.
  - 2a. Lip rounded and apiculate or slightly emarginate at apex.
    - 3a. Lip with 2 keels in lower half united apically into a small transverse callus with 3 low keels in front and ± continuing to apex ..... 4. *E. nakaharae*
    - 3b. Lip bearing only 3 low keels restricted to middle ..... 5. *E. mimicum*
  - 2b. Lip conspicuously bilobed at apex.
    - 4a. Calli convergent; lateral sepals ca. 9 mm wide; lip epichile ca. 10 mm wide, distinctly wider than hypochile; leaves 2.8–4.6 cm ..... 3. *E. tsangianum*
    - 4b. Calli separate; lateral sepals 5–6 mm wide; lip and leaves without above combination of characters.
      - 5a. Leaves 1–2.3 cm; lip epichile ca. 11 mm wide, apex deeply bilobed; sepals and petals pale pink or reddish orange, lip white ..... 1. *E. fargesii*
      - 5b. Leaves 5–6 cm; lip epichile 8–9 mm wide, apex shallowly bilobed or notched; flowers dull purple to brown ..... 2. *E. clemensiae*
- 1b. Pseudobulbs 2-leaved.
  - 6a. Dorsal sepal 45–65 mm; leaves (6–)10–22.5 cm ..... 6. *E. amplum*
  - 6b. Dorsal sepal 15–32 mm; leaves 2.5–9.5 cm.
    - 7a. Petals 5–6 mm wide; sepals 22–32 mm; mid-lobe of lip subreniform to obscurely bilobed, emarginate ..... 7. *E. rotundatum*
    - 7b. Petals less than 4 mm wide; sepals 15–25 mm; mid-lobe not as above.
      - 8a. Disk with 3 indistinct keels and a distal callus ..... 8. *E. gaoligongense*
      - 8b. Disk with 3 prominent fleshy carinate lamellae, distal callus absent.
        - 9a. Lateral lobes of lip broad; mid-lobe of lip minutely mucronate to hooked aristate at apex ..... 9. *E. fuscescens*
        - 9b. Lateral lobes of lip narrow; mid-lobe of lip rounded at apex.
          - 10a. Lateral keels on disk most prominent, obliquely truncate apically, median keel very low ..... 10. *E. treutleri*
          - 10b. All keels similar in size and shape in upper half, before fusing in apical quarter, each one terminating in a 2-angled manner ..... 11. *E. Forrestii*

1. **Epigeneium fargesii** (Finet) Gagnepain, Bull. Mus. Natl. Hist. Nat., sér. 2, 4: 595. 1932.

1903; *Desmotrichum fargesii* (Finet) Kraenzlin; *Sarcopodium fargesii* (Finet) Tang & F. T. Wang.

单叶厚唇兰 *dan ye hou chun lan*

*Dendrobium fargesii* Finet, Bull. Soc. Bot. France 50: 374.

Rhizome creeping, 2–3 mm in diam., densely covered with chestnut tubular sheaths. Pseudobulbs borne ca. 1 cm apart on rhizome, prostrate below middle, subovate, ca. 10 × 3–5

mm, 1-leaved, with chestnut membranous sheaths at base. Leaf blade chestnut when dried, ovate or broadly ovate-elliptic, 1–2.3 × 0.7–1.1 cm, thickly leathery, base narrowed into short petiole or subsessile, apex rounded and retuse. Inflorescence flowered; peduncle ca. 1 cm, base with 2 or 3 membranous sheaths; floral bracts ovate, ca. 3 mm, membranous. Flowers not opening widely, sepals and petals pale pink or reddish orange, lip white; pedicel and ovary ca. 7 mm. Dorsal sepal ovate, ca. 10 × 6 mm, acute; lateral sepals obliquely ovate-lanceolate, ca. 15 × 6 mm, acute; mentum ca. 5 mm. Petals ovate-lanceolate, smaller than lateral sepals, acute; lip ± oblong-ovate in outline, ca. 2 × 1.1 cm, 3-lobed; lateral lobes erect; mid-lobe spreading, suboblate, deeply bilobed, margin ± undulate; disk with 2 longitudinal thickened keels, extending from base to base of mid-lobe, swollen distally. Column ca. 5 mm, stout; foot ca. 1.5 cm. Fl. mainly Apr–May.

Lithophytic on rocks along valleys, epiphytic on tree trunks in forests; 400–2400 m. S Anhui, N and W Fujian, Guangdong, Guangxi, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, C and SE Yunnan, S and SE Zhejiang [Bhutan, Thailand, ?N Vietnam].

**2. *Epigeneium clemensiae*** Gagnepain, Bull. Mus. Natl. Hist. Nat., sér. 2, 4: 595. 1932.

厚唇兰 hou chun lan

*Sarcopodium clemensiae* (Gagnepain) Tang & F. T. Wang.

Pseudobulbs usually slightly curved, narrowly ovoid, 10–20 × 4–5 mm, 1-leaved. Leaf blade obovate or obovate-lanceolate, (2.5–)5–6 × ca. 1.3 cm, base cuneate and contracted into short petiole. Inflorescence 1-flowered. Flower purplish brown, relatively thickly textured. Sepals ovate-oblong, ca. 14 × 5 mm; lateral sepals similar in size to dorsal sepal, oblique, subacute. Petals triangular-lanceolate, ca. 7 × 2–3 mm, acuminate; lip pandurate in outline, ca. 2 cm; epichile 8–9 mm wide, wider than or ca. as wide as hypochile, shallowly bilobed; disk with 2 rounded calli at base of epichile. Fl. Oct–Nov.

Epiphytic on tree trunks in dense forests; 1000–1300 m. NE Guizhou, Hainan, SE Yunnan [Laos, Vietnam].

**3. *Epigeneium tsangianum*** Ormerod, Taiwania 49: 97. 2004.

广西厚唇兰 guang xi hou chun lan

Rhizome terete, 15–26 cm, 1–1.5 mm in diam., occasionally branching. Pseudobulbs borne 2–10 mm apart, prostrate, subcylindric-fusiform, 10–15 × 3–5 mm, apex raised, mostly covered by a red-brown drying sheath, 1-leaved. Leaf blade erect, oblong-elliptic, 2.8–4.6 × 1–1.4 cm, stiffly leathery, entire to shortly and obtusely unequally bilobulate; petiole 2–4 mm. Inflorescence 1-flowered; peduncle 11–13.5 mm. Flowers unscented, dull purple to brown; pedicel and ovary 18.5–21 mm. Dorsal sepal ovate, ca. 8 × 5 mm, 7-veined, acute; lateral sepals obliquely ovate-elliptic, ca. 15 × 9 mm, 7-veined, acute; mentum ca. 9 mm. Petals oblong-ligulate, ca. 9 mm, ca. 3.5 mm wide at base, ca. 2.5 mm wide above, 3-veined, basally dilated, apex acute; lip ca. 19 × 10 mm, 3-lobed; hypochile obovate-cuneate, with 2 apical convergent, subdiscoid fleshy calli; lateral lobes short, ca. 3 mm wide, truncate; epichile broadly cordate-trapeziform, ca. 9 × 10 mm, apex deeply emarginate-bilobulate. Column ca. 3 mm, foot ca. 14.5 mm. Fl. Nov.

• Swampy thickets. Guangxi.

**4. *Epigeneium nakaharae*** (Schlechter) Summerhayes, Kew Bull. 12: 263. 1957 [*“nakaharae”*].

台湾厚唇兰 tai wan hou chun lan

*Dendrobium nakaharae* Schlechter, Repert. Spec. Nov. Regni Veg. 2: 169. 1906 [*“nakaharae”*]; *D. sanseiense* Hayata; *Epigeneium sanseiense* (Hayata) Summerhayes.

Rhizome creeping, with slender and curved roots. Pseudobulbs tufted on rhizome, nearly prostrate below middle and ascending above, ovoid-oblong, 13–30 × 6–10 mm, 1-leaved, with yellowish green or yellow scalelike sheaths at base. Leaf blade erect, elliptic to oblong-ovate, 2–5 × 0.9–1.5 cm, thickly leathery, base contracted, shortly petiolate, articulate, apex rounded and slightly emarginate. Inflorescence 1-flowered; peduncle short, with long sheaths; floral bracts ovate, 3–4 mm, acute. Flower with yellowish green sepals and petals, lip white, all tinged with purplish brown; pedicel and ovary 2–3 cm. Dorsal sepal ovate-lanceolate, 10–17 × 7–8 mm, acute; lateral sepals falcate-lanceolate, 12–19 × 6–8 mm, acute. Petals narrowly oblong, 12–18 × ca. 4 mm; lip pandurate in outline, 12–19 × 7–9 mm, 3-lobed; lateral lobes erect; mid-lobe orbicular or broadly obovate, 7–8 mm, apex rounded and apiculate or slightly emarginate; disk with 2 longitudinal lamellae adaxially. Column ca. 2 mm, foot 6–10 mm. Fl. Oct–Feb.

• Epiphytic on tree trunks in broad-leaved forests; 700–2400 m. Taiwan.

**5. *Epigeneium mimicum*** Ormerod, Taiwania 48: 139. 2003.

拟色厚唇兰 ni se hou chun lan

Rhizome creeping, terete, rooting, forming chains up to 8 cm, 1–1.5 mm in diam. Pseudobulbs prostrate, apex raised, covered by brown drying sheath, obliquely ellipsoid-fusiform, 1-leaved, up to 4 mm apart, 6–13 × 5–6 mm. Leaf blade erect, ovate-elliptic to elliptic, 1.1–2.4 × 0.7–1 cm stiffly leathery; petiole to 2 mm. Inflorescence subterminal, 1-flowered; peduncle ca. 4 mm. Flowers light red, or with greenish sepals and petals and lip with a red-brown mid-lobe and front of side lobes, lower half of lip greenish; pedicel and ovary terete, ca. 10 mm. Dorsal sepal ovate, ca. 6.5 × 4 mm, 5-veined, acute; lateral sepals broadly ovate-triangular, ca. 10 × 8 mm, 6-veined, acute; mentum 8–10 mm. Petals oblong-lanceolate, ca. 8 × 3 mm, 6-veined, acute; lip 3-lobed, ca. 13.5 × 7.5–8 mm; hypochile obovate, with 3 low longitudinal keels in center, ca. 10 mm, ca. 2 mm wide at base, apex 7.5–8 mm wide; mid-lobe transversely elliptic-reniform, ca. 4 × 7 mm, subacute. Column ca. 1 mm, ca. 3 mm wide below. Fl. Jun.

Epiphyte. ?Guangdong, S Guangxi (Shiwan Dashan) [Thailand].

**6. *Epigeneium amplum*** (Lindley) Summerhayes, Kew Bull. 12: 260. 1957.

宽叶厚唇兰 kuan ye hou chun lan

*Dendrobium amplum* Lindley, Gen. Sp. Orchid. Pl. 74. 1830; *Bulbophyllum amplum* (Lindley) H. G. Reichenbach; *Callista amplum* (Lindley) Kuntze; *C. coelogyne* (H. G. Reichen-

bach) Kuntze; *D. coelogyne* H. G. Reichenbach; *Epigeneium coelogyne* (H. G. Reichenbach) Summerhayes; *Katherinea ampla* (Lindley) A. D. Hawkes; *K. coelogyne* (H. G. Reichenbach) A. D. Hawkes; *Sarcopodium amplum* (Lindley) Lindley & Paxton; *S. coelogyne* (H. G. Reichenbach) Rolfe.

Rhizome 4–6 mm in diam., usually branched, covered with many tubular sheaths; sheaths chestnut, ca. 2 cm, papery. Pseudobulbs borne 3–14 cm apart from one another, golden yellow when dried, ovoid or elliptic, 20–50 × 7–20 mm, 2-leaved, enclosed in membranous sheaths. Leaf blade elliptic or oblong-elliptic, 6–22.5 × ca. 5.5 cm, leathery, base contracted into petiole ca. 3 cm, apex ± obtuse and retuse. Inflorescence much shorter than leaves, 1-flowered; peduncle 1.5–2 cm, enclosed in 2 sheaths; floral bracts 1–1.7 cm. Flowers spreading, yellowish green, spotted with deep brown, large; pedicel and ovary 4.5–5 cm. Dorsal sepal lanceolate, (35–)45–65 × ca. 8 mm, acute; lateral sepals falcate-lanceolate, ca. 45 × 11–15 mm, acute-acuminate. Petals lanceolate, ca. 14 × 6 mm, acute-acuminate; lip pandurate in outline, ca. 26 mm, 3-lobed; lateral lobes erect, small; mid-lobe subrhombic, ca. 6 mm, ca. as wide as or slightly wider than disk and lateral lobes, obtuse and mucronate; disk with 3 lamellae, median slightly longer. Column ca. 15 mm, stout, foot ca. 14 mm. Fl. Nov.  $2n = 40$ .

Lithophytic on rocks or epiphytic on tree trunks in forests or along streams; 1000–1900 m. S Guangxi, SE Xizang, SE to NW Yunnan [Bhutan, NE India, Myanmar, Nepal, Thailand, Vietnam].

**7. *Epigeneium rotundatum*** (Lindley) Summerhayes, Kew Bull. 12: 264. 1957.

双叶厚唇兰 shuang ye hou chun lan

*Sarcopodium rotundatum* Lindley, Fol. Orchid. 2(Sarcopodium): 2. 1853; *Bulbophyllum rotundatum* (Lindley) H. G. Reichenbach; *Callista rotundata* (Lindley) Kuntze; *Dendrobium rotundatum* (Lindley) J. D. Hooker; *Katherinea rotundata* (Lindley) A. D. Hawkes.

Rhizome many branched, covered with papery tubular sheaths ca. 1 cm. Pseudobulbs borne 3–11 cm apart on rhizome, often ± curved, ascending, narrowly ovoid, 20–30 × 4–7 mm, 2-leaved, with scalelike basal sheaths. Leaf blade oblong or elliptic, 6–9 × 1.5–2.5 cm, leathery, apex retuse; petiole 5–10 mm. Inflorescence 1-flowered; peduncle ca. 5 mm, enclosed in large membranous sheaths; floral bracts ovate, small, ca. 1 cm, membranous. Flowers yellowish brown; pedicel and ovary ca. 2 cm. Dorsal sepal ovate-lanceolate, 22–32 × ca. 7 mm, acute; lateral sepals lanceolate, 22–35 × 8–10 mm. Petals oblong-lanceolate, ca. 23 × 5–6 mm, acuminate; lip obovate-oblong in outline, ca. 20 mm, 3-lobed; lateral lobes subovate; mid-lobe ca. 11 mm wide, adaxially with a triangular thickened keel, margin thin, undulate, subreniform to obscurely bilobed, emarginate; disk with 3 lamellae, median much shorter. Column ca. 1 cm, foot ca. 1 cm. Fl. Mar–May.

Lithophytic on rocks or epiphytic on tree trunks in open forests or at forest margins; 1300–2500 m. Guangxi, SE Xizang, NW and SE Yunnan [Bhutan, NE India, Myanmar, Nepal].

**8. *Epigeneium gaoligongense*** H. Yu & S. G. Zhang, Novon 15: 495. 2005.

高黎贡厚唇兰 gao li gong hou chun lan

Rhizome creeping, 2–3 mm in diam., usually branching, densely covered with maroon sheaths when young. Pseudobulbs borne 3–9 cm apart on rhizome, narrowly ovoid to cylindrical-ovoid, 15–40 × 5–8 mm, 2-leaved, usually enclosed by sheaths at base. Leaf blade ovate-elliptic or elliptic, 2.5–7 × 1.2–2.8 cm, leathery, rigid, bilobulate; petiole 5–11 mm. Inflorescence terminating in a solitary flower, 2–3 cm, with 2 or 3 sterile basal bracts; peduncle 5–7 mm, enclosed in membranous sheaths; floral bract ovate, small, membranous. Flower ca. 3 cm in diam.; sepals and petals greenish, usually with obscure pale red-purple markings abaxially, lip greenish, densely spotted with red-purple; pedicel and ovary 1.5–2 cm. Dorsal sepal lanceolate, 18–23 × 5–6 mm, obscurely 5-veined; lateral sepals obliquely lanceolate-ovate, 15–19 × 9–10 mm, obscurely 7-veined. Petals linear-lanceolate, 15–21 × 1.5–2 mm, 1-veined; lip ovate-orbicular in outline, 10–15 × 14–20 mm, 3-lobed; lateral lobes erect-incurved, ovate, ca. 11 × 6 mm; mid-lobe broadly ovate, 8–10 × 8–10 mm, acute; disk with 3 indistinct keels and at their top a callus. Column 4–5 × 4–5 mm, stout, foot 5–7 mm. Fl. Jul–Sep.

• Lithophytic on rocks or epiphytic on tree trunks at forest margins; 2400–2600 m. W Yunnan (Lushui).

**9. *Epigeneium fuscescens*** (Griffith) Summerhayes, Kew Bull. 12: 262. 1957.

景东厚唇兰 jing dong hou chun lan

*Dendrobium fuscescens* Griffith, Not. Pl. Asiat. 3: 308. 1851; *Bulbophyllum fuscescens* (Griffith) H. G. Reichenbach; *Callista fuscescens* (Griffith) Kuntze; *Katherinea fuscescens* (Griffith) A. D. Hawkes; *Sarcopodium fuscescens* (Griffith) Lindley.

Rhizome ca. 4 mm in diam., often branching, densely covered with tubular sheaths. Pseudobulbs borne 4–6 cm apart from one another, narrowly ovoid, slightly curved, ca. 25 × 5 mm, 2(or 3)-leaved, covered with 2 or 3 chestnut sheaths. Leaf blade oblong, 3–6.5 × 1–1.9 cm, leathery, base sessile or with a short petiole, apex ± obtuse and slightly emarginate. Inflorescence 1-flowered; peduncle ca. 1 cm, base covered with sheaths; floral bracts much shorter than pedicel and ovary. Flowers pale brown; pedicel and ovary ca. 3 cm. Dorsal sepal ovate-lanceolate, 17–20 × ca. 5 mm, long acuminate; lateral sepals falcate-lanceolate, 21–24 × 5–10 mm, acuminate-caudate. Petals narrowly oblong or linear, 25–30 × 2.5–3 mm, acuminate-caudate; lip ovate-oblong in outline, ca. 15 mm, 3-lobed; lateral lobes erect, suboblong; mid-lobe elliptic, ca. 12 × 6 mm, often hooked aristate; disk with 3 lamellae, median shorter. Column ca. 7 mm, foot ca. 9 mm. Fl. Oct.

Lithophytic on damp rocks along valleys; 1300–2300 m. S Guangxi, SE Xizang, S and W Yunnan [Bhutan, NE India, Nepal].

**10. *Epigeneium treutleri*** (J. D. Hooker) Ormerod, Oasis 1(3): 3. 2000.

长爪厚唇兰 chang zhao hou chun lan

*Coelogyne treutleri* J. D. Hooker, Fl. Brit. India 5: 837. 1890; *Epigeneium yunnanense* Tang & Z. H. Tsi; *Pleione*

*trentleri* (J. D. Hooker) Kuntze.

Rhizome branching, densely covered with tubular membranous sheaths ca. 12 mm. Pseudobulbs borne 5–6.5 cm apart on rhizome, ascending, narrowly ovoid, 20–25 × 4–5 mm, 2-leaved, base covered with large sheaths, golden yellow when dried. Leaf blade oblong, 4–6.5 × 1.2–1.4 cm, leathery, subsessile or with petiole ca. 5 mm, apex obtuse and slightly emarginate. Inflorescence 1-flowered; peduncle ca. 1 cm, enclosed in 2 long sheaths; floral bracts subobovate, ca. 9 mm, membranous. Flowers purplish red; pedicel and ovary ca. 2.5 mm. Dorsal sepal lanceolate, 16–23 × 5–7 mm, acuminate; lateral sepals slightly obliquely lanceolate, nearly as long as dorsal sepal, base ca. 7 mm wide, apex acuminate. Petals linear, ca. 23 × 2.5 mm, acute; lip nearly obovate in outline, 14–16 mm, base with a claw ca. 5 mm, 3-lobed; lateral lobes erect, narrowly oblong, rounded; mid-lobe nearly orbicular, ca. 11 mm wide, apiculate; disk with 3 lamellae, outer most prominent and obliquely truncate, median shorter and very low. Column 1–1.2 cm, foot ca. 7 mm. Fl. Oct.

Epiphytic on tree trunks in dense forests; 1400–2400 m. NW Yunnan [India (Sikkim)].

**11. *Epigeneium forrestii*** Ormerod, *Taiwania* 52: 307. 2007.

双角厚唇兰 shuang jiao hou chun lan

Rhizome terete, 2–2.5 cm, ca. 2.5 mm in diam., occasionally branching, covered in tightly tubular sheaths. Pseudobulbs borne 6–9.5 cm apart, subcylindric-fusiform, 30–58 × 7–8 mm, 2-leaved. Leaf blade oblong-ligulate, 5–9.5 × 1.7–2.35 cm, subleathery, minutely and obtusely bilobed. Inflorescence 1-flowered; peduncle short, hidden by sheathing bracts ca. 2.5 cm. Flowers deep purplish maroon; pedicel and ovary terete, ca. 2.8 cm. Dorsal sepal broadly ovate-lanceolate, ca. 21.5 × 8 mm, subacute; lateral sepals broadly ovate-lanceolate, 20.5–25 × 9–

10 mm, acute; mentum ca. 9 mm. Petals linear-ligulate, 20–21 × 2.5–3 mm, acute; lip 20–22 mm, 3-lobed, medially with subsimilar laminate carinae terminating on base of epichile, outer 2 keels divided in lower 3/4 before fusing in apical quarter, apices biangulate; hypochile obdeltate-obcordate, ca. 8 mm medially, ca. 10.5 mm wide across lateral lobes, free portion of lateral lobes obliquely elliptic, ca. 3 mm medially, obtuse; epichile suborbicular, ca. 12 × 12.5–13 mm. Column subcylindric, 9–10 mm, foot 6–7 mm. Fl. Sep.

• Lithophytic, epiphytic on trees beside streams; 1800–1900 m. W Yunnan (N' mai Hka-Nu Jiang divide).

