

8. CRAWFURDIA Wallich, Tent. Fl. Nepal. 63. 1826.

蔓龙胆属 man long dan shu

Gentiana sect. *Protocrawfordia* Harry Smith.

Perennials, twining or rarely erect. Leaves opposite. Inflorescences terminal and axillary, 1- or 2-flowered or in cymes. Flowers 5-merous. Calyx tube 10-veined. Corolla tubular, funnelform, or campanulate; plicae present. Stamens inserted on corolla tube, symmetric, equal. Nectaries 5 at ovary base. Ovary 1-locular; ovules many. Fruit a capsule, many seeded. Seeds compressed, wings discoid.

Sixteen species: Bhutan, China, India, Myanmar, Sikkim; 14 species in China.

- 1a. Calyx lobes connate at base into a cupular limb.
 - 2a. Calyx lobes ovate, 5–10 × 5–6 mm; corolla 4–5 cm, lobes 4–6 × ca. 5 mm 2. *C. campanulacea*
 - 2b. Calyx lobes ovate-triangular, 3–5 × ca. 1.5 mm; corolla ca. 3 cm, lobes ca. 3 × 3–4 mm 3. *C. tsangshanensis*
- 1b. Calyx lobes not connate at base into a cupular limb.
 - 3a. Calyx tube with intracalycular membranes at apex.
 - 4a. Corolla 5–8.5 cm.
 - 5a. Stems dark purple spotted 4. *C. maculaticaulis*
 - 5b. Stems not dark purple spotted.
 - 6a. Corolla 6–8.5 cm, lobes 1–1.7 cm; plicae broadly triangular; fruiting gynophore less than 0.5 cm 1. *C. angustata*
 - 6b. Corolla ca. 5 cm, lobes ca. 0.3 cm; plicae semiorbicular to truncate; fruiting gynophore 3–4 cm 6. *C. sessiliflora*
 - 4b. Corolla 2–4.5 cm.
 - 7a. Calyx lobes reflexed 5. *C. pricei*
 - 7b. Calyx lobes not reflexed.
 - 8a. Plants with fleshy rhizomes; leaf blade ovate; petiole 5–7 mm 7. *C. speciosa*
 - 8b. Plants without fleshy rhizomes; leaf blade lanceolate to ovate-lanceolate; petiole to 3 mm 8. *C. tibetica*
 - 3b. Calyx tube without intracalycular membranes at apex.
 - 9a. Leaf blade densely hirsute 9. *C. puberula*
 - 9b. Leaf blade glabrous or sparsely hirsute along veins.
 - 10a. Corolla 2–3.5 cm.
 - 11a. Upper leaf blades lanceolate, ca. 1 cm wide; calyx tube longer than lobes; corolla 3–3.5 cm 10. *C. delavayi*
 - 11b. Upper leaf blades ovate-lanceolate to ovate, 2–3 cm wide; calyx tube as long as lobes; corolla 2–2.5 cm 11. *C. gracilipes*
 - 10b. Corolla more than 3.5 cm.
 - 12a. Calyx lobes spatulate, apex obtuse; corolla funnelform, lobes ca. 6 mm 14. *C. semialata*
 - 12b. Calyx lobes lanceolate, apex acute; corolla campanulate, lobes 2–4 mm.
 - 13a. Leaf blade glabrous; petiole 1–2 cm 12. *C. dimidiata*
 - 13b. Leaf blade abaxially hirsute along veins; petiole to 0.3 cm 13. *C. crawfordioides*

1. *Crawfordia angustata* C. B. Clarke in J. D. Hooker, Fl. Brit. India 4: 106. 1883.

大花蔓龙胆 da hua man long dan

Crawfordia trailliana Forrest; *Gentiana helenii* C. Marquand.

Stems twining, terete, glabrous, internodes 6–17 cm. Petiole 0.5–1 cm, slender; leaf blade elliptic to ovate, 4–7 × 2–4 cm, leathery, base rounded, margin entire, apex acuminate and caudate, veins 3–5. Inflorescences 1-flowered or cymes. Pedicel 1–15 cm; bractlets 1–3 pairs, lanceolate. Calyx sometimes pale purple, tubular; tube 2–2.5 cm, entire or rarely split on 1 side, apex with intracalycular membranes; lobes spreading to recurved, ovate-triangular to triangular, 3–4 × 2–3 mm. Corolla pale purple, funnelform, 6–8.5 cm; lobes ovate-triangular, 1–1.7 cm × 6–12 mm, apex acuminate; plicae broadly triangular, 2–4 × ca. 5 mm, oblique, margin

irregularly crenulate. Stamens inserted at middle of corolla tube; filaments linear-subulate, 1.5–1.8 cm; anthers ellipsoid, 5–7 mm. Nectaries ovate. Style linear, 2.5–3 cm; stigma lobes linear. Capsules ellipsoid, ca. 3 cm; gynophore less than 5 mm. Seeds light brown, triquetrous, 2–2.5 mm, broadly winged along edges. Fl. and fr. Oct-Dec.

Meadow slopes, scrub, scattered forests in valleys; 1500–2800 m. SE Xizang, NW Yunnan [India, Myanmar].

2. *Crawfordia campanulacea* Wallich & Griffith ex C. B. Clarke in J. D. Hooker, Fl. Brit. India 4: 106. 1883.

云南蔓龙胆 yun nan man long dan

Crawfordia bulleyana Forrest.

Stems twining, stout, terete, internodes 10–20 cm. Petiole 1–3 cm, slender; leaf blade elliptic, ovate, or broadly

ovate, 5–10 × 2–5 cm, leathery, base rounded to truncate, margin crenulate, apex acuminate and caudate. Inflorescences 2-flowered or cymes. Pedicel 2–9 cm; bractlets absent, rarely 1–3 pairs and foliose. Calyx tubular; tube 1.2–1.7 cm, entire, rarely split on 1 side, apex with intracalycular membranes; lobes erect, ovate, 5–10 × 5–6 mm, base connate into a cupular limb. Corolla blue to purple, campanulate, 4–5 cm; lobes ovate, 4–6 × ca. 5 mm, apex acute; plicae semiorbicular to truncate, ca. 1 × 3–4 mm, margin erose. Stamens inserted just below middle of corolla tube; filaments linear-subulate, ca. 1.5 cm; anthers sagittate, 3–4 mm. Nectaries ovate. Style short, linear, ca. 6 mm including stigma lobes; stigma lobes linear. Capsules ellipsoid to obovoid, compressed, 2–3 cm, included in corolla to slightly exerted; gynophore 2–2.5 cm. Seeds dark brown, discoid, ca. 2 mm in diam., broadly winged. Fl. and fr. Oct–Dec.

- Grassland slopes, forests; 1800–3400 m. NW Yunnan.

3. *Crawfordia tsangshanensis* C. J. Wu, Bull. Bot. Res., Harbin 4(3): 135. 1984.

仓山蔓龙胆 *cang shan man long dan*

Rhizomes stout. Stems twining, terete, striate, internodes 5–14 cm. Basal leaves several pairs; leaf blade scalelike, less than 1 cm. Middle to upper stem leaves sessile or with petiole to ca. 2 mm; leaf blade ovate to broadly ovate, 3–7 × 2–4.5 cm, leathery, base rounded, margin scabrous and ciliate, apex acuminate and caudate, veins 5–7. Inflorescences 2-flowered or cymes. Pedicel 1–8 cm; bractlets ovate, 1–2 cm. Calyx campanulate; tube ca. 1 cm, split on 1 side from apex to middle, narrowly winged along veins, apex with a transparent intracalycular membrane; lobes ovate-triangular, 3–5 × ca. 1.5 mm, base connate into a cupular limb, apex caudate. Corolla pale blue-purple, campanulate, ca. 3 cm; lobes ovate-triangular, ca. 3 × 3–4 mm, apex acute; plicae truncate, ca. 2 mm wide, margin entire or erose. Stamens inserted at basal part of corolla tube; filaments subulate, 1–1.2 mm; anthers sagittate, ca. 2 mm. Nectaries elliptic, ca. 1.2 mm. Gynophore ca. 7 mm, stout. Style cylindrical, ca. 2 mm; stigma lobes linear. Immature capsules ellipsoid, compressed, ca. 1.6 cm, included in corolla. Seeds ellipsoid, ca. 2 mm, broadly winged. Fl. and fr. Oct–Nov.

- Grassland slopes; 2900–3300 m. NW Yunnan.

4. *Crawfordia maculatacaulis* C. J. Wu, Bull. Bot. Res., Harbin 4(3): 133. 1984.

斑茎蔓龙胆 *ban jing man long dan*

Rhizomes stout. Stems with dark purple spots, twining, to 5 mm in diam., terete, striate, internodes 12–20 cm. Petiole (0.5–)1–1.5 cm, slender; leaf blade elliptic to ovate, 7–13 × 2–6 cm, leathery, abaxially slightly green, adaxially green, base rounded, margin crenulate, apex acuminate and caudate, veins 3–5. Cymes many flowered; peduncle 1–13 cm. Pedicel 1–12 cm; bractlets usually present, lanceolate, to 1 cm. Calyx campanulate; tube 1.1–1.5 cm, with a transparent intracalycular membrane at apex; lobes lanceolate, 0.7–1.3 cm

× 1–2 mm, apex acute. Corolla purple, campanulate, ca. 5 cm; lobes ovate-triangular, slightly oblique, 5–7 × 5–7 mm, apex acute; plicae semiorbicular to truncate, oblique, ca. 3 mm, margin crenulate. Stamens inserted at middle of corolla tube; filaments subulate, ca. 1.5 cm; anthers narrowly ovoid, ca. 3.5 mm. Nectaries ovate. Style short, ca. 5 mm including linear stigma lobes. Capsules brown, ellipsoid, compressed, ca. 2 cm, included in corolla; gynophore ca. 2 cm. Seeds light brown, discoid, ca. 2 mm in diam. Fl. and fr. Oct–May.

- Forest slopes, scrub, in valleys; 1000–1800 m. W Guangxi, S Yunnan.

5. *Crawfordia pricei* (C. Marquand) Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

福建蔓龙胆 *fu jian man long dan*

Gentiana pricei C. Marquand, Bull. Misc. Inform. Kew 1931: 75. 1931.

Root tubers cylindrical, fleshy. Stems twining, terete, striate, internodes 4–21 cm. Lowermost leaves several pairs; leaf blade scalelike, triangular. Stem leaves sessile or with petiole 3–8 mm, hirsute and glandular; leaf blade lanceolate, ovate-lanceolate, or ovate, rarely broadly ovate, 4–11(–15) × 2–5 (–9) cm, leathery, abaxially densely hirsute and glandular along veins, base rounded, margin crenulate, apex acuminate, veins 3–5. Inflorescences cymes, rarely 1-flowered; peduncle to 15 cm. Pedicel 1–9 cm; bractlets usually present, lanceolate, 6–9 mm. Calyx tubular; tube 1–1.5 cm, entire, apex with a transparent intracalycular membrane; lobes reflexed, lanceolate to triangular, 1–4(–7) × 1–1.5(–2) mm, apex acute. Corolla white, pink, or pale purple, campanulate, ca. 4 cm; lobes ovate-triangular, 3–4 × 4–5 mm, apex acute; plicae semiorbicular to truncate, 1–2.5 × 3–4 mm, margin crenulate. Stamens inserted just below middle of corolla tube; filaments linear-subulate, ca. 1.2 cm; anthers ellipsoid, 3–4 mm. Nectaries narrowly ovate. Style short, ca. 8 mm including linear stigma lobes. Capsules light brown, ellipsoid, compressed, ca. 2 × 1 cm, included in corolla to slightly exerted; gynophore 2–3 cm. Seeds brown, discoid, ca. 2 mm in diam., broadly winged. Fl. and fr. Oct–Dec.

- Grassland slopes, scrub in valleys, dense forests; 400–2000 m. W Fujian, N Guangdong, N Guangxi, S Hunan.

6. *Crawfordia sessiliflora* (C. Marquand) Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

无柄蔓龙胆 *wu bing man long dan*

Gentiana sessiliflora C. Marquand, Bull. Misc. Inform. Kew 1931: 76. 1931.

Stems twining, terete, striate, lower internodes 2–4 cm, upper internodes 5–13 cm. Stem leaves larger toward apex; lowermost leaves sessile, ovate, 1–1.5 cm, abaxially hirsute; middle leaves subsessile, ovate, 3–6 × 1–3.5 cm, leathery, base rounded, apex acuminate to acute; upper leaves short petiolate, lanceolate to ovate-lanceolate, 5–7 × 1–1.5 cm, abaxially papillate along veins, base rounded, margin crenulate, apex acuminate, veins 3–5. Inflorescences

1-flowered, rarely cymes. Pedicel 1–10 cm, slender. Calyx sometimes pale purple, tubular, 1.5–2 cm; tube apex with a transparent intracalycular membrane, entire or less often split on 1 side, usually densely hirsute along veins; lobes ovate-triangular to triangular, 3–9 × 2–5 mm, apex acute. Corolla purple, funnellform, ca. 5 cm; lobes broadly triangular, ca. 3 × 4 mm, apex acute; plicae semiorbicular to truncate, oblique, 3–4 × ca. 1 mm, margin erose. Stamens inserted at middle of corolla tube; filaments linear-subulate, 1.2–1.5 cm; anthers ellipsoid, 4–5 mm. Nectaries narrowly ovate. Style linear, ca. 4 mm; stigma lobes linear. Capsules ellipsoid, compressed, 2–3 × 1–1.5 cm, exserted from corolla; gynophore 3–4 cm. Seeds brown, discoid, ca. 3 mm in diam., broadly winged. Fl. and fr. Sep-Oct.

- Forest margins, coniferous forests; 2500–2900 m. W Sichuan.

7. *Crawfordia speciosa* Wallich, Tent. Fl. Nepal. 64. 1826.

穗序蔓龙胆 sui xu man long dan

Gentiana kingdonii C. Marquand; *Crawfordia wardii* C. Marquand.

Rhizomes yellow, divaricate, fleshy. Stems twining, terete, glabrous, internodes 5–13 cm. Petiole 5–7 mm; leaf blade ovate, 4–7 × (1.5–)2–3 cm, leathery, base rounded, margin crenulate, apex acuminate, veins 3–5. Inflorescences 1-flowered or cymes. Pedicel 1–6 cm; bractlets 1 pair, lanceolate, less than 10 × 2 mm. Calyx campanulate; tube 1–1.2 cm, apex with a transparent intracalycular membrane, entire or less often split on 1 side; lobes triangular, 2–3 × 1–1.5 mm, apex acute. Corolla blue-purple to purple, campanulate, 4–4.5 cm; lobes broadly ovate-triangular, ca. 3 × 5 mm, apex acute; plicae semiorbicular to truncate, oblique, ca. 1 × 3–4 mm, margin crenulate. Stamens inserted at middle of corolla tube; filaments linear-subulate, 1–1.3 cm; anthers sagittate, ca. 6 mm. Nectaries narrowly ovate. Style linear, ca. 8 mm including linear stigma lobes. Capsules dark brown, ellipsoid, compressed, 2–3 × ca. 1.2 cm, included in corolla to exserted; gynophore 1.5–3.5 cm. Seeds brown, discoid, ca. 1.5 mm in diam., broadly winged. Fl. and fr. Sep-Dec.

- Meadow slopes; 2900–4000 m. SE Xizang.

8. *Crawfordia tibetica* Franchet, Bull. Soc. Bot. France 46: 307. 1899.

四川蔓龙胆 si chuan man long dan

Gentiana khamensis C. Marquand.

Stems twining, terete, striate, internodes 5–8 cm. Leaves subsessile or petiole to ca. 3 mm; leaf blade lanceolate to ovate-lanceolate, ca. 6 × 1.5–2 cm, leathery, base rounded, apex acuminate, veins 3–5. Inflorescences 1-flowered or cymes. Pedicel 1–3.5 cm, slender; bractlets sometimes present, 1–3 pairs, lanceolate, to 5 mm. Calyx tubular; tube 1.3–1.5 cm, apex with a transparent intracalycular membrane, split on 1 side; lobes lanceolate, 2–3 × ca. 1 mm, apex acute. Corolla purple, campanulate, ca. 4 cm; lobes broadly

triangular, ca. 3 × 4 mm, apex acute; plicae semiorbicular to truncate, oblique, ca. 1 × 3 mm, margin entire. Stamens inserted at basal part of corolla tube; filaments linear-subulate, 1.3–1.4 cm; anthers ellipsoid, ca. 2.5 mm. Nectaries ovate. Style linear, ca. 8 mm; stigma lobes linear. Capsules ovoid, compressed, exserted from corolla; gynophore linear, ca. 2 cm. Seeds brown, discoid, broadly winged. Fl. Sep.

- Scrub, bamboo thickets; 3000–3600 m. W Sichuan.

9. *Crawfordia puberula* C. B. Clarke, J. Linn. Soc., Bot. 14: 442. 1875.

毛叶蔓龙胆 mao ye man long dan

Stems twining, terete, striate, internodes 10–12 cm. Petiole 0.5–1.5 cm, densely hirsute; leaf blade ovate-lanceolate, 4–8 × 2–3 cm, herbaceous, densely hirsute, base rounded to truncate, margin crenulate and ciliate, apex acuminate and caudate, veins 3. Inflorescences 1-flowered or cymes. Pedicel 1–4 cm, slender, sometimes sparsely hirsute. Calyx campanulate; tube 0.9–1.2 cm, entire or rarely split on 1 side; lobes lanceolate, 5–7 × 1–1.5 mm, apex acute. Corolla purple, campanulate, ca. 3.5 cm; lobes broadly triangular, oblique, ca. 2 × 4 mm, apex acute; plicae truncate, oblique, ca. 3 mm wide, margin crenulate. Stamens inserted just below middle of corolla tube; filaments linear-subulate, 1.1–1.3 cm; anthers ellipsoid, ca. 3 mm. Nectaries ovate. Style short, linear, ca. 7 mm including linear stigma lobes. Immature capsules ellipsoid, compressed, ca. 1.5 cm, included in corolla; gynophore ca. 1.3 cm. Fl. and fr. Aug-Oct.

- Forests; 3000–3200 m. SE Xizang [Bhutan, India, Sikkim].

10. *Crawfordia delavayi* Franchet, Bull. Soc. Bot. France 46: 306. 1899.

披针叶蔓龙胆 pi zhen ye man long dan

Gentiana fratri C. Marquand.

Stems twining, stout, terete, striate, lower internodes 1–3 cm, upper internodes 5–10 cm. Lower stem leaves many pairs; leaf blade ovate, 1–3 × 1–2 cm. Upper leaves sessile or petiole to less than 5 mm; leaf blade lanceolate, 4–6 × ca. 1 cm, base rounded, apex acuminate and caudate, veins 3–5. Inflorescences 1- or 2-flowered. Pedicel 1–4 cm, slender; bractlets sometimes present, lanceolate, ca. 10 × 1–3 mm. Calyx narrowly campanulate; tube (0.8–)1–1.2 cm, entire or less often split on 1 side; lobes linear-lanceolate, 2–6 mm, apex acute. Corolla pink, blue-purple, or purple, campanulate, 3–3.5 cm; lobes broadly triangular, 2–3 × ca. 4 mm, apex acute; plicae semiorbicular to truncate, ca. 1 × 2–3 mm, margin erose. Stamens inserted at middle of corolla tube; filaments linear-subulate, ca. 1 cm; anthers ellipsoid, 2–3 mm. Nectaries ovate. Style linear, ca. 5 mm including linear stigma lobes. Capsules brown, ellipsoid, compressed, 2–2.5 cm, included in corolla to exserted; gynophore 1.5–2 cm. Seeds brown, discoid, 2–2.5 mm in diam., broadly winged. Fl. and fr. Sep-Oct.

- Mixed forests, bamboo thickets; 3000–3600 m. NW Yunnan.

11. *Crawfordia gracilipes* Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 246. 1965.

细柄蔓龙胆 xi bing man long dan

Stems twining, to 3 mm in diam., terete, striate, internodes 4–13 cm. Lower stem leaves 3 to many pairs; leaf blade scalelike, ovate, to 1 cm. Middle to upper leaves sessile or petiole to ca. 3 mm; leaf blade ovate-lanceolate to ovate, 5–8 × 2–3 cm, leathery, sparsely hirsute or papillate along veins, base rounded, apex acuminate and caudate, veins 3–5. Inflorescences 1- (or 2)-flowered. Pedicel 2–9 cm, slender; bractlets sometimes present, small. Calyx campanulate; tube ca. 8 mm, entire or split on 1 side; lobes linear, 7–8 mm, apex acute. Corolla blue to blue-purple, campanulate, 2–2.5 cm; lobes broadly triangular, ca. 2 × 3 mm, apex acute; plicae semiorbicular to truncate, oblique, ca. 1 × 2 mm, margin erose. Stamens inserted at middle of corolla tube; filaments linear-subulate, 9–10 mm; anthers ellipsoid, ca. 2 mm. Nectaries ovate. Style short, ca. 4 mm including linear stigma lobes. Capsules brown, ellipsoid, compressed, 1–1.5 cm × ca. 6 mm, exserted from corolla; gynophore 2–2.5 cm, slender. Seeds brown, ellipsoid to ovoid, ca. 2.5 × 2 mm. Fl. and fr. Sep-Oct.

- Grassland slopes; ca. 3000 m. SE Xizang, NW Yunnan.

12. *Crawfordia dimidiata* (C. Marquand) Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

半侧蔓龙胆 ban ce man long dan

Gentiana dimidiata C. Marquand, Bull. Misc. Inform. Kew 1931: 77. 1931.

Stems twining, terete, striate, internodes 10–13 cm. Petiole 1–2 cm; leaf blade ovate-lanceolate to ovate, 4–6 × 2–3 cm, leathery, base rounded, apex acuminate, veins 3–5. Inflorescences 2-flowered or cymes. Pedicel 0.5–3.5 cm, slender. Calyx campanulate; tube 1.2–1.4 cm, membranous, split on 1 side; lobes lanceolate, ca. 6 × 1 mm, apex acute. Corolla pale purple to blue, campanulate, ca. 4 cm; lobes broadly triangular, 3–4 × 4–5 mm, apex acute; plicae semiorbicular to truncate, oblique, 3–4 mm wide, margin erose. Stamens inserted at middle of corolla tube; filaments linear-subulate, 1.2–1.5 cm; anthers sagittate, ca. 4 mm. Nectaries ovate. Ovary narrowly ellipsoid, 1–1.2 cm; gynophore ca. 1 cm. Style linear, ca. 7 mm including linear stigma lobes. Fl. Sep.

Grassland slopes, scrub, bamboo thickets; 3000–3400 m. SE Xizang, NW Yunnan [Myanmar].

13. *Crawfordia crawfordioides* (C. Marquand) Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

裂萼蔓龙胆 lie e man long dan

Roots dark brown. Rhizomes light brown, 2–3 mm in diam. Stems sometimes dark purple, twining, terete, striate, internodes 4–13 cm. Leaves sessile or petiole to ca. 3 mm;

leaf blade ovate to cordate, sometimes orbicular toward stem base, 3–6(–9) × 1.5–3.5(–4) cm, leathery, sparsely hirsute along veins, base rounded to truncate, apex acuminate and caudate, veins 3–5. Flowers solitary. Pedicel less than 0.5 cm or to 6 cm. Calyx dark purple, campanulate; tube 1.2–1.4 cm, split on 1 side or rarely entire; lobes lanceolate, 3–5 × 1–2 mm, apex acute. Corolla purple, campanulate, 3.5–4(–5) cm; lobes ovate-triangular, ca. 2 × 5 mm, apex acute; plicae truncate, ca. 1.5 × 5 mm, margin crenulate. Stamens inserted at middle of corolla tube; filaments linear-subulate, 1–1.3 cm; anthers ellipsoid, 2–3 mm. Nectaries ovate. Style short, ca. 6 mm including linear stigma lobes. Capsules brown, ellipsoid, compressed, ca. 2.2 cm; gynophore ca. 1.5 cm, slender. Seeds dark brown, discoid, ca. 2 mm in diam., broadly winged. Fl. and fr. Aug-Oct.

- 1700–3900 m. SE Xizang, NW Yunnan.

- 1a. Pedicel to 6 cm 13a. var. *crawfordioides*
- 1b. Pedicel less than 0.5 cm 13b. var. *iochroa*

13a. *Crawfordia crawfordioides* var. *crawfordioides*

裂萼蔓龙胆 (原变种) lie e man long dan (yuan bian zhong)

Gentiana crawfordioides C. Marquand, Bull. Misc. Inform. Kew 1931: 72. 1931.

Flowering pedicel to 6 cm.

- Meadows, *Abies* forests, bamboo thickets; 2100–3900 m. SE Xizang, NW Yunnan.

13b. *Crawfordia crawfordioides* var. *iochroa* (C. Marquand) C. J. Wu, Fl. Reipubl. Popularis Sin. 62: 286. 1988.

根茎蔓龙胆 gen jing man long dan

Gentiana iochroa C. Marquand, Bull. Misc. Inform. Kew 1931: 74. 1931.

Flowers sessile or pedicel less than 0.5 cm.

- Grassland slopes, forest margins, forests; 1700–3100 m. SE Xizang, NW Yunnan.

14. *Crawfordia semialata* (C. Marquand) Harry Smith, Notes Roy. Bot. Gard. Edinburgh 26: 244. 1965.

直立蔓龙胆 zhi li man long dan

Gentiana semialata C. Marquand, Bull. Misc. Inform. Kew 1931: 75. 1931; *G. curviflora* C. Marquand.

Stems erect not twining, 20–25 cm tall, 4-angled, striate. Stem leaves short petiolate; leaf blade ovate to subcordate, 1–3 × 0.7–1.8 cm, leathery, base rounded, apex acuminate. Flowers sessile. Calyx tube ca. 1 cm, entire; lobes spatulate, 6–7 mm, apex obtuse. Corolla purple, funnellform, ca. 5 cm; lobes triangular, ca. 6 × 7 mm, apex acute; plicae truncate, margin erose. Filaments linear-subulate, 1–1.2 cm; anthers 6–7 mm. Gynophore as long as ovary. Fl. Aug-Oct.

- Hillsides; 2700–3600 m. SW and W Sichuan.

