19. GENTIANELLA Moench, Methodus 482. 1794.

假龙胆属  jia long dan shu

Aliopsis Omer & Qaiser; Aloitis Rafinesque.

Herbs annual, biennial [or perennial]. Leaves opposite [or whorled]. Flowers terminal, solitary or in cymes, 4- or 5-merous. Calyx without intracalycular membrane. Corolla tubular or funnelform, either without appendages or with a vascularized fringed scale across base of each lobe, plicae absent. Nectaries at base of corolla tube. Stamens inserted on corolla tube. Capsules 2-valved, many seeded. Seeds smooth to warty.

About 125 species: N and S temperate zones; nine species in China.

1a. Corolla lobes fimbriate at base; calyx lobes keeled; stem branched apically ................................................................. 9. G. acuta
1b. Corolla lobes glabrous at base; calyx lobes not keeled; stem branched from base.

2a. Flowers 5-merous.
   2b. Flowers 4-merous.

3a. Anthers blue; calyx lobe margins and midveins blackish; sinus between lobes cuneate .................................................. 8. G. azurea
3b. Anthers yellow; calyx lobe margins and midveins not blackish; sinus between lobes acute or rounded.
   4a. Stem leaf blades linear; corolla lobes apically obtuse .......................................................... 6. G. moorcroftiana
   4b. Stem leaf blades ovate-lanceolate to ovate; corolla lobes apically mucronate.
      5a. Plants 5–8 cm tall; stem densely purple pilose; leaves petiolate; calyx herbaceous, sinus between lobes acute .................................................. 1. G. gentianoides
      5b. Plants 10–45 cm tall; stem glabrous; leaves sessile; calyx membranous, sinus between lobes rounded ........................................ 2. G. turkestanorum

6a. Leaves sessile, blade base and apex attenuate .................................................. 7. G. angustiflora
6b. Leaves petiolate, blade base narrowed to abruptly contracted, apex obtuse to rounded.
   7a. Calyx lobes unequal in width; corolla lobes densely papillate outside ........................................ 3. G. anomala
   7b. Calyx lobes all similar in width; corolla lobes glabrous outside.
       8a. Calyx lobes spatulate, apically recurved; corolla purple ........................................ 4. G. arenaria
       8b. Calyx lobes elliptic to thomiboid, erect; corolla pale yellow ........................................ 5. G. pygmaea


密花假龙胆  mi hua jia long dan


Annuals 5–8 cm tall. Stems erect, branched from base, purple pilose. Basal leaves few, withered at anthesis. Stem leaf petiole flattened to 6 mm, ciliolate; leaf blade usually tinged purple, ovate, ca. 1.2 × 1.2 cm, base contracted, margin scabrous, apex obtuse, veins 3. Cymes axillary and terminal, many flowered, crowded. Flower 5-merous. Pedicel slender, 0.2–2 cm. Calyx 5–8 mm; lobes usually tinged purple, narrowly elliptic, 3.5–7 mm, sinus between lobes acute, margin scabrous, apex acuminate and ciliate, veins 1–3. Corolla pale blue, with white toward base, funnelform, 0.6–1.4 cm × 3.5–6 mm; lobes narrowly oblong, 3–7 mm, apex obtuse and mucronate. Nectaries 10, green. Stamens inserted at middle of corolla tube; filaments white, 3–6 mm, base decurrent into wings of corolla tube; anthers yellow, ellipsoid, 0.8–1.8 mm. Style linear, 3–6 mm; stigma lobes suborbicular. Capsules ovoid. Seeds light brown, subglobose, 0.3–0.4 mm in diam.; seed coat reticulate. Fl. and fr. Oct.-Nov.

* Grassland slopes, scrub, forests; 2700–4200 m. S Sichuan, NE and W Yunnan.


新疆假龙胆  xin jiang jia long dan


Annuals or biennials 10–45 cm tall. Stems erect, subquadrangular, branched from base. Leaves sessile, ovate-lanceolate to ovate, to 4.5 × 2 cm, base obtuse to rounded, margin usually revolute, apex acute, veins distinct. Cymes many flowered, crowded, each cyme subtended by 2 large ovate-lanceolate bracts. Flowers 5-merous, variable in size, terminal ones 2–3 × larger than others. Calyx tube 1.5–7(–9) mm, membranous; lobes linear to linear-elliptic, 2–10 × ca. 1 mm, unequal, sinus between lobes rounded, margin scabrous, apex acute and long apiculate, midvein distinct. Corolla pale blue, with dark blue veins, tubular to campanulate-tubular, 0.7–2 cm; lobes elliptic-triangular to elliptic, 3–7 mm, apex obtuse and mucronate. Nectaries 10, green, oblong. Stamens inserted at basal part of corolla tube; filaments white, ca. 7 mm, base decurrent into narrow wings of corolla tube; anthers yellow, ellipsoid, ca. 1.2 mm. Style linear; stigma lobes suborbicular. Gynophore 1.8–2.2 cm. Seeds light brown, subglobose, ca. 0.8 mm in diam.; seed coat reticulate. Fl. and fr. Jun-Jul.

Moist places around lakes, river banks, shady meadow slopes,

異萼假龍膽 yi e jia long dan


Annuals 1–5 cm tall. Stems erect, slender, simple or branched from base. Basal leaves withered at anthesis. Stem leaves with petiole flattened, 2–7 mm; leaf blade elliptic, ovate-oblong, or broadly ovate, 2–7 × 1.5–4 mm, base narrowed to abruptly contracted, apex obtuse to rounded. Inflorescences 1–to many flowered. Pedicel usually arcuate, narrowed to abruptly contracted, apex obtuse to rounded. Ovary ellipsoid, to 6 mm. Style linear; stigma lobes oblong. Fl. Oct. white, ca. 1.5 mm; anthers ellipsoid, ca. 0.5 mm. Ovary ovoid-ellipsoid, ca. 1.2 mm. Seeds dark brown, subglobose, 0.2–0.3 mm; seed coat reticulate. Fl. and fr. Jul-Aug.

Sandy slopes, sheltered limestone cliffs; 3400–4200 m. NW and S Sichuan, NW Yunnan.


紫红假龍胆 zi hong jia long dan


Annuals 2–4 cm tall; whole plant dark purple. Stems prostrate to ascending, striate, much branched from base. Leaves short petiolate; leaf blade spatulate to oblolly-spatulate, 5–9 × 1–1.3 mm including petiole, base narrowed, apex rounded, veins indistinct. Flowers terminal, solitary, 4-merous. Calyx 3–4.5 mm; lobes recurved, spatulate, base narrowed, apex subrounded, veins indistinct. Corolla purple, tubular, 5–5.5 × 3–4.5 mm; lobes oblong, 1.6–1.8 mm, apex subrounded. Nectaries 8. Stamens inserted at apical to middle part of corolla tube; filaments white, ca. 2 mm; anthers yellow, ovoid to ellipsoid, 0.2–0.3 mm. Style linear; stigma lobes linear. Capsules ovoid-ellipsoid, 6.5–7 mm. Seeds dark brown, subglobose, to 1 mm; seed coat reticulate. Fl. and fr. Jul-Sep.

• Sandy places on river banks, alpine rocky places; 3400–5400 m. Gansu, Qinghai, N Xizang.


矮假龍膽 ai jia long dan


Annuals 1–3 cm tall. Stems prostrate to ascending, striate, much branched from base. Leaves short petiolate; leaf blade spatulate to obovate, 3–9 × 1–1.2 mm including petiole, base narrowed, apex obtuse to rounded, veins indistinct. Flowers terminal, solitary, 4-merous. Pedicel ascending, to 2 cm. Calyx 3–4 mm; lobes erect, elliptic to rhomboid, base narrowed, apex subrounded, veins 3 and indistinct. Corolla pale yellow, tubular, 4.5–5.5 × 3–4 mm; lobes oblong, 2–2.5 mm, apex subrounded. Nectaries 8. Stamens inserted just above middle of corolla tube; filaments white, 1.5–2 mm; anthers yellow, ellipsoid, ca. 0.5 mm. Style linear; stigma lobes purple, suborbicular. Capsules ovoid-ellipsoid, 5.5–6 mm. Seeds dark brown, subglobose, 0.7–0.8 mm; seed coat reticulate. Fl. and fr. Jul-Aug.

Sandy slopes, alpine rocky places; 3600–5300 m. Qinghai, N Sichuan, Xinjiang, Xizang [India, Kyrgyzstan, Sikkim, Tajikistan].
decurrent basally into narrow wings of corolla tube; anthers yellow, ellipsoid, ca. 0.7 mm. Ovary sessile, ovoid-ellipsoid, ca. 5.5 mm. Style indistinct; stigma lobes suborbicular. Fl. Aug-Sep.

Roadsides, hillsides; 3400–3800 m. Xizang (Nyalam Xian) [Kashmir, Nepal].


黑边假龙胆 hei bian jia long dan


Annuals 2–25 cm tall. Stems ascending to erect, striate, branched from base. Basal leaves withered at anthesis. Stem leaves sessile, oblong, elliptic-lanceolate, or elliptic, 0.3–2.2 cm × 1–7 mm, base narrowed, margin scabrous, apex obtuse, midvein distinct. Cymes axillary and terminal, rarely 1-flowered. Flowers 5-merous. Pedicel to 4.5 cm. Calyx 4–9 mm; lobes linear-lanceolate, elliptic, or ovate-oblong, sinus between lobes cuneate, margin and midvein blackish, apex acute to obtuse. Corolla pale blue to blue, funnelform, 5–14 × 4.5–5.5 mm; lobes oblong, 2–6 mm, apex obtuse. Nectaries 10. Stamens inserted at middle of corolla tube; filaments 2–4.5 mm; anthers blue, ovoid to ellipsoid, 0.4–1 mm. Style linear; stigma lobes suborbicular. Capsules ovoid-ellipsoid, 0.6–1.5 cm. Seeds brown, ellipsoid, 1–1.2 mm; seed coat reticulate. Fl. and fr. Jul-Sep.

Grasslands on hillsides, alpine meadows, scrub, forests; 2200–4900 m. Gansu, Qinghai, NW Sichuan, Xinjiang, Xizang, NW Yunnan [Bhutan, Kazakhstan, Kyrgyzstan, Mongolia, Russia (Siberia)].


尖叶假龙胆 jian ye jia long dan

*Gentiana acuta* Michaux, Fl. Bor.-Amer. 1: 177. 1803;
*G. amarella* Linnaeus var. *fastigiata* Ling.

Annuals 25–35 cm tall. Stems erect, subquadrangular, branched apically. Basal leaves withered at anthesis. Stem leaves sessile, lanceolate to ovate-lanceolate, 1.5–3.5 cm × 3–10 mm, base obtuse to rounded, apex acute, veins abaxially 3–7. Inflorescences axillary and terminal, forming narrow panicles. Flowers 5- rarely 4-merous. Pedicel slender, 2–8 mm, subquadrangular. Calyx 5–9 mm; lobes narrowly lanceolate, keeled, 4–7 mm, apex acuminate. Corolla blue, tubular, 8–11 × ca. 3 mm; lobes oblong-lanceolate, 3–4 × ca. 1.5 mm, base of each lobe bearing 6 or 7 unequal vascular fimbriae, apex acute. Nectaries 8 or 10. Stamens inserted at middle of corolla tube; filaments ca. 2 mm, decurrent basally into narrow wings of corolla tube; anthers blue, ellipsoid, ca. 1 mm. Style indistinct; stigma lobes suborbicular. Capsules sessile, narrowly ellipsoid, 5–7 mm. Seeds brown, globose, 0.6–0.8 mm in diam.; seed coat warty. Fl. and fr. Aug-Sep.

Hillsides, wet meadows; below 1500 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shandong, Shanxi [Mongolia, E Russia; North America].