

17. GENTIANOPSIS Ma, Acta Phytotax. Sin. 1(1): 7. 1951.

□扁蕾属 bian lei shu

*Crossopetalum* Roth; *Gentiana* sect. *Crossopetalae* Froelich ex Grisebach; *Gentiana* subgen. *Eublephis* Rafinesque.

Herbs annual, biennial [or perennial]. Roots slender, fibrous. Stems subquadrangular. Flowers terminal, solitary, 4-merous; flower bud slightly flattened, 4-angled. Calyx tubular-campanulate, with triangular discontinuous intracalycular membranes, 2 outer calyx lobes narrower than and basally overlapping 2 inner lobes. Corolla tubular-campanulate to funnellform, lobes frequently toothed to fringed, plicae absent. Nectaries on corolla tube. Stamens inserted on corolla tube; anthers yellow. Capsules 2-valved, many seeded. Seeds angular-papillate.

Twenty-four species: North America, Asia, Europe; five species in China.

- 1a. Calyx lobes usually with inner lobe shorter than outer; stem leaf blades linear to narrowly lanceolate.
  - 2a. Flowers 5–10 cm; corolla lobes 2–3 × 1–1.5 cm; stem leaf margin slightly revolute, not ciliate ..... 4. *G. grandis*
  - 2b. Flowers 2.5–5 cm; corolla lobes 0.6–1.2 × 0.6–0.8 cm; stem leaf margin not revolute, slightly ciliate ..... 5. *G. barbata*
- 1b. Calyx lobes equal or subequal in length; stem leaf blades lanceolate, elliptic-lanceolate, ovate-lanceolate, triangular-lanceolate, elliptic, or oblong.
  - 3a. Calyx ca. 1/2 as long as corolla; corolla lobes basally lacinate-fringed ..... 1. *G. paludosa*
  - 3b. Calyx ca. 2/3 as long as corolla; corolla lobes not fringed.
    - 4a. Corolla blue; stem leaf blades elliptic to ovate-elliptic, base cuneate ..... 2. *G. contorta*
    - 4b. Corolla yellow; stem leaf blades oblong, base subamplexicaul ..... 3. *G. lutea*

1. **Gentianopsis paludosa** (Munro ex J. D. Hooker) Ma, Acta Phytotax. Sin. 1(1): 11. 1951.

湿生扁蕾 shi sheng bian lei

Annuals 3.5–40 cm tall. Stems ascending to erect. Basal leaves 3–5 pairs; petiole flattened, to 6 mm; leaf blade spatulate, 0.4–3 cm × 2–9 mm, base cuneate, margin scabrous, apex rounded, veins 1–3. Stem leaves 1–4 pairs, sessile, lanceolate to oblong, 0.5–5.5 cm × 2–14 mm, base and apex obtuse, margin scabrous, veins 1–3. Pedicel erect, 1.5–30 cm, elongated in fruit. Calyx 1–3.5 cm; lobes subequal; outer lobes narrowly triangular, 5–12 mm; inner lobes ovate, 4–10 mm; all lobes with margin membranous, apex acute, midvein strong and keeled. Corolla blue or yellowish white to yellow, sometimes pale yellow at base, broadly tubular, 1.6–6.5 cm; lobes broadly oblong, 1.2–1.7 cm, apex rounded, margin lacinate-fringed basally. Nectaries suborbicular, nodding. Filaments 1–1.5 cm; anthers ellipsoid, 2–3 mm. Style 3–4 mm. Capsules narrowly ellipsoid, as long as to longer than corolla; gynophore long. Seeds blackish, ellipsoid to subglobose, 0.8–1 mm in diam. Fl. and fr. Jul–Oct.

1100–4900 m. Gansu, Hebei, W Hubei, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Nepal, Sikkim].

- 1a. Stems branched throughout; stem leaf blades ovate-lanceolate to triangular-lanceolate ..... 1b. var. *ovatodeltoidea*
- 1b. Stems branched from base; stem leaf blades oblong to elliptic-lanceolate.
  - 2a. Corolla blue ..... 1a. var. *paludosa*
  - 2b. Corolla yellowish white to yellow ..... 1c. var. *alpina*

1a. **Gentianopsis paludosa** var. **paludosa**

湿生扁蕾 (原变种) shi sheng bian lei (yuan bian zhong)

*Gentiana detonsa* Rottbøll var. *paludosa* Munro ex J. D. Hooker, Hooker's Icon. Pl. 9: t. 857. 1852; *G. detonsa* var. *nana* Ling; *G. detonsa* var. *stracheyi* C. B. Clarke; *Gentianopsis longistyla* Ma.

Stem branched from base. Stem leaf blades elliptic-lanceolate to oblong. Corolla blue, sometimes pale yellow at base.

Beside streams, meadow slopes, forests; 1100–4900 m. Gansu, Hebei, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Nepal, Sikkim].

1b. **Gentianopsis paludosa** var. **ovatodeltoidea** (Burkill) Ma in T. N. Ho, Acta Biol. Plateau Sin. 1: 42. 1982.

卵叶扁蕾 luan ye bian lei

*Gentiana detonsa* Rottbøll var. *ovatodeltoidea* Burkill, J. Proc. Asiat. Soc. Bengal 2: 319. 1906; *Gentianella scabro-marginata* Harry Smith.

Stem branched throughout. Stem leaf blades ovate-lanceolate to triangular-lanceolate. Corolla blue, sometimes pale yellow at base.

• Meadows on hills, wet places, forests; 1100–3000 m. Gansu, Hebei, W Hubei, Nei Mongol, Qinghai, Shaanxi, Shanxi, Sichuan, NW Yunnan.

1c. **Gentianopsis paludosa** var. **alpina** T. N. Ho, Acta Biol. Plateau Sin. 1: 41. 1982.

高原扁蕾 gao yuan bian lei

Stem branched from base. Stem leaf blades oblong to elliptic-lanceolate. Corolla pale yellow-white to yellow.

• Stream banks, swamps, alpine meadows, forests; 2800–4000

m. Qinghai, Xizang.

**2. *Gentianopsis contorta*** (Royle) Ma, Acta Phytotax. Sin. 1(1): 14. 1951.

回旋扁蕾 *hui xuan bian lei*

*Gentiana contorta* Royle, Ill. Bot. Himal. Mts. 1: 278. 1835; *G. yamatsutae* Kitagawa; *Gentianopsis contorta* var. *wui* Ma.

Annuals 8–35 cm tall. Stems usually dark purple, erect, branched apically. Basal leaves short petiolate; leaf blade spatulate to obovate, 0.5–1.5 cm × 4–7 mm, base narrowed, margin ciliolate, apex rounded, midvein distinct. Stem leaves 2–6 pairs, sessile, elliptic to ovate-elliptic, 0.8–3 cm × 4–10 mm, base cuneate, margin ciliolate, apex obtuse to rounded, midvein distinct. Pedicel erect, (1–)2–3(–8.5) cm. Calyx 2–3 cm; lobes subequal, margin membranous; outer lobes lanceolate, 5–11 mm, apex subacuminate; inner lobes ovate-triangular to triangular, 4–10 mm, apex acute. Corolla blue to dark blue, tubular-funnelform, 2.5–5 cm × 6–10 mm; lobes elliptic, 5–13 × to 7 mm, apex rounded and sometimes crenulate, margin not fringed. Filaments to 1.5 cm; anthers ellipsoid, ca. 2 mm. Style short. Capsules cylindrical, as long as corolla; gynophore to 1.3 cm. Seeds brown, subglobose. Fl. and fr. Aug–Oct.

Slopes, forests; 1900–3600 m. Guizhou, Liaoning, Qinghai, Sichuan, Xizang, Yunnan [Japan, Nepal].

**3. *Gentianopsis lutea*** (Burkill) Ma, Acta Phytotax. Sin. 1(1): 13. 1951.

黄花扁蕾 *huang hua bian lei*

*Gentiana detonsa* Rottbøll var. *lutea* Burkill, J. Proc. Asiat. Soc. Bengal 2: 319. 1906.

Annuals 10–30 cm tall. Stems usually dark purple, erect, simple or apically branched. Basal leaves short petiolate; leaf blade spatulate to obovate-spatulate, 0.7–1.5 cm × 3–8 mm, base narrowed, apex obtuse to rounded. Stem leaves sessile, oblong, 1.2–4 × 0.3–1 cm, base rounded and subamplexicaul, apex obtuse, midvein distinct. Pedicel erect, to 5 cm, subquadrangular. Calyx 2–2.5 × ca. 1.2 cm; lobes subequal, 6–7 mm, with strong keeled ridges outside; outer lobes triangular-lanceolate to triangular, ca. 5 mm wide, apex acute; inner lobes ovate-triangular, to 7 mm wide, apex obtuse. Corolla pale yellow, broadly tubular, 3–4 × ca. 1 cm; lobes oblong, ca. 1 cm, margin not fringed, apex rounded and denticulate. Nectaries oblong. Filaments flattened, to 1.5 cm; anthers ellipsoid, ca. 3 mm. Style short. Capsules narrowly ellipsoid, as long as corolla; gynophore present. Seeds ellipsoid, ca. 0.5 mm. Fl. and fr. Sep–Oct.

• Gravel slopes; ca. 2300 m. Yunnan (Kunming Shi).

**4. *Gentianopsis grandis*** (Harry Smith) Ma, Acta Phytotax. Sin. 1(1): 9. 1951.

大花扁蕾 *da hua bian lei*

*Gentiana grandis* Harry Smith, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 63: 100. 1926.

Annuals or biennials 25–50 cm tall. Stems erect, to 5 mm in diam., usually branched from base. Basal leaves crowded, short petiolate; leaf blade spatulate to elliptic, 0.5–1.5 cm × 5–8 mm, base narrowed, apex obtuse, midvein distinct. Stem leaves 3–6 pairs, sessile, narrowly lanceolate, 4–8 cm × 3–6 mm, margin slightly revolute, apex acute, midvein distinct. Pedicel erect, 5–16 cm, subquadrangular. Calyx narrowly funnelform, 3.5–7 cm; outer lobes linear-lanceolate, 2.5–5 cm, apex caudate; inner lobes triangular-lanceolate, 1.5–2.5 cm, apex acute; all lobes with margin broadly membranous. Corolla blue, sometimes pale yellow basally, funnelform, 5–10 × 1–1.7 cm; lobes elliptic, 2–3 × 1–1.5 cm, apex obtuse and crenulate, margin long lacinate-fringed basally. Nectaries suborbicular. Filaments 1.7–2.1 cm; anthers narrowly ellipsoid, ca. 3 mm. Style linear, 3–5 mm. Capsules as long as corolla; gynophore present. Seeds brown, ellipsoid, ca. 1 mm. Fl. and fr. Jul–Oct.

• Stream and river banks in valleys, hillsides; 2000–4100 m. SW Sichuan, NW Yunnan.

**5. *Gentianopsis barbata*** (Froelich) Ma, Acta Phytotax. Sin. 1(1): 8. 1951.

扁蕾 *bian lei*

Annuals or biennials 8–40 cm tall. Stems erect, subterete, striate, branched apically. Basal leaves short petiolate; leaf blade spatulate to oblanceolate, 7–10 × 4–10 mm, base narrowed, apex obtuse, midvein distinct. Stem leaves 3–10 pairs, sessile, linear to narrowly lanceolate, 1.5–8 cm × 3–9 mm, margin slightly ciliolate, apex acuminate, midvein distinct. Pedicel erect, to 15 cm, elongated in fruit, subterete, striate. Outer calyx lobes 7–20 mm; inner calyx lobes 6–12 mm. Corolla tubular-funnelform, 2.5–5 × ca. 1.2 cm; lobes elliptic, 6–12 × 6–8 mm, margin short lacinate-fringed basally, apex rounded, denticulate, and mucronate. Nectaries suborbicular, nodding. Filaments 0.8–1.2 cm; anthers narrowly ellipsoid, ca. 3 mm. Style linear, 1–1.5 mm. Capsules as long as corolla, on a short gynophore. Seeds brown, ellipsoid, ca. 1 mm. Fl. and fr. Jul–Sep.

700–4700 m. Gansu, Guizhou, Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Xinjiang, Xizang, Yunnan [Japan, Kazakhstan, Kyrgyzstan, Mongolia, Russia].

- 1a. Basal leaves withered at anthesis; calyx slightly shorter to equaling corolla, 6–10 mm in diam.; outer lobes linear-lanceolate, inner lobes ovate-lanceolate ..... 5a. var. *barbata*
- 1b. Basal leaves forming a well-developed rosette at anthesis; calyx ca. 1/2 as long as corolla, 3–4 mm in diam.; all lobes linear-subulate.
  - 2a. Corolla lobes pale blue to blue ..... 5b. var. *stenocalyx*
  - 2b. Corolla lobes pale yellow ..... 5c. var. *albiflavida*

**5a. *Gentianopsis barbata* var. *barbata***

扁蕾 (原变种) *bian lei* (*yuan bian zhong*)

*Gentiana barbata* Froelich, *Gentiana* 114. 1796;  
*Gentianopsis barbata* var. *sinensis* Ma.

Calyx slightly shorter to equaling corolla, 6–10 mm in diam., outer lobes linear-lanceolate, inner lobes ovate-lanceolate. Corolla pale blue to blue, basally pale yellow.

Beside streams, meadows, scrub, forests; 700–4400 m. Gansu, Guizhou, Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Xinjiang, Yunnan [Japan, Kazakhstan, Kyrgyzstan, Mongolia, Russia].

**5b. *Gentianopsis barbata* var. *stenocalyx*** H. W. Li in T. N. Ho, *Acta Biol. Plateau Sin.* 1: 40. 1982.

细萼扁蕾 xi e bian lei

Calyx ca. 1/2 as long as corolla, 3–4 mm in diam., lobes linear-subulate. Corolla pale blue to blue, basally pale yellow.

• River banks, beside streams, shady slopes, forest margins; 3300–4700 m. Qinghai, NW Sichuan, Xizang.

**5c. *Gentianopsis barbata* var. *albiflvida*** T. N. Ho, *Acta Biol. Plateau Sin.* 1: 41. 1982.

黄白扁蕾 huang bai bian lei

Calyx ca. 1/2 as long as corolla, 3–4 mm in diam., lobes linear-subulate. Corolla pale yellow.

• Swamp meadows, meadow slopes, *Juniperus* forests; 3200–4100 m. Qinghai.

