

## 10. INCARVILLEA Jussieu, Gen. Pl. 138. 1789.

角蒿属 jiao hao shu

*Amphicome* Royle, *Neidzwedzka* B. Fedtschenko.

Herbs erect or prostrate, annual or perennial, with stems or stemless. Leaves simple or 1–3-pinnately divided. Inflorescences racemose, terminal. Calyx campanulate, teeth 5, triangular, rarely enlarged into glands at base. Corolla red or yellow, funneliform, ± bilabiate; lobes rounded, spreading. Stamens 4, didynamous, included; anthers divergent, glabrous, spurred at base. Disc annular. Ovary sessile, 2-locular; ovules numerous, 1- or 2-rowed on each placenta. Stigma compressed, flabellate, 2-lobed. Capsule dehiscing loculicidally, long terete, erect or curved, acuminate, sometimes 4–6-angular. Seeds minute, compressed, laterally with or surrounded by transparent and membranous wings or filiform hairs.

About 16 species: Afghanistan, Bhutan, China, India, Kashmir, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Tajikistan, Turkmenistan, Uzbekistan; 12 species in China.

- 1a. Leaves simple, margin crenate ..... 5. *I. forrestii*
- 1b. Leaves pinnately divided or compound, margin entire or serrate.
  - 2a. Leaves 2- or 3-pinnately divided.
    - 3a. Plants with stems; leaves alternate; pedicel 1–5 mm; calyx ca. 5 mm, teeth subulate, base enlarged into glands ..... 1. *I. sinensis*
    - 3b. Plants stemless; leaves basal; pedicel 5–15 mm; calyx 10–15 mm, teeth triangular, base not enlarged into glands ..... 2. *I. dissectifoliola*
  - 2b. Leaves 1-pinnately compound or divided.
    - 4a. Plants 1–2 m tall, with a distinct stem.
      - 5a. Calyx teeth subulate; capsule leathery, terete; anthers pubescent; seeds filiform pubescent at both ends; bracts ca. 3 mm ..... 4. *I. arguta*
      - 5b. Calyx teeth triangular-lanceolate or semirounded; capsule subwoody, ± angled; anthers glabrous; seeds winged; bracts (5–)10–25 mm.
    - 6a. Plants pale brown pubescent; flowers yellow; leaves divided ..... 8. *I. lutea*
    - 6b. Plants glabrous; flowers red or rose; leaves compound.
      - 7a. Calyx teeth semirounded or truncate, mucronate; lateral leaflets 3–4 cm wide ..... 6. *I. altissima*
      - 7b. Calyx teeth broadly triangular, acute; lateral leaflets ca. 2 cm wide ..... 7. *I. beresowskii*
  - 4b. Plants 0.1–0.4 m tall, stemless or short stemmed.
    - 8a. Leaves pinnately lobed, margin irregularly lobed or parted; calyx teeth subulate, base enlarged into glands ..... 3. *I. potaninii*
    - 8b. Leaves usually pinnately compound, margin entire or serrate; calyx teeth triangular or long ovate, base not enlarged into glands.
      - 9a. Leaflets entire; plants short stemmed ..... 12. *I. compacta*
      - 9b. Leaflets serrate; plants stemless.
        - 10a. Leaflets scabrous; plants 10–20 cm tall ..... 11. *I. younghusbandii*
        - 10b. Leaflets glabrous; plants 20–40 cm tall.
          - 11a. Lateral leaflets 4–11 pairs, long elliptic-lanceolate; base obtuse to subrounded; corolla ca. 6.5 cm; style ca. 3 cm ..... 9. *I. delavayi*
          - 11b. Lateral leaflets 2–4(–8) pairs, ovate to ovate-lanceolate, base cordate or broadly cuneate; corolla 7–10 cm; style 5–7 cm ..... 10. *I. mairei*

### 1. Incarvillea sinensis Lamarck, Encycl. 3: 243. 1789.

角蒿 jiao hao

Herbs annual or perennial, with branched stems, ca. 80 cm tall. Roots subwoody, branched. Leaves alternate, not clustered at stem base, 2- or 3-pinnately divided. Inflorescences sparsely racemose, ca. 20 cm; bractlets green, linear, 3–5 mm. Pedicel 1–5 mm. Calyx green with purple-red, campanulate, ca. 5 × 5 mm, teeth subulate, base enlarged into glands. Corolla campanulate-funneliform, ca. 4 × 2.5 cm, constricted into tubular base; lobes rounded. Stamens inserted at base of corolla tube; anthers adherent. Style pale yellow.

Capsule pale green, narrowly terete, 3–6(–10) cm, ca. 5 mm in diam., apex caudate-acuminate. Seeds compressed globose, ca. 2 mm in diam., surrounded by transparent and membranous wings, apex incised.

• Slopes, fields; 500–2500(–3900) m. W Gansu, Hebei, Heilongjiang, Henan, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, SE Xizang, NW Yunnan.

- 1a. Flowers pale rose or pale red, sometimes purple ..... 1a. var. *sinensis*
- 1b. Flowers pale yellow ..... 1b. var. *przewalskii*

**1a. *Incarvillea sinensis* var. *sinensis***

角蒿(原变种) jiao hao (yuan bian zhong)

*Incarvillea sinensis* subsp. *variabilis* (Batalin) Grierson; *I. variabilis* Batalin.

Leaves variable in shape; flowers pale rose, pale red, or purple. Fl. May–Sep, fr. Oct–Nov.  $2n = 22$ .

• Slopes, fields; 500–2500(–3900) m. W Gansu, Hebei, Heilongjiang, Henan, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, N Sichuan, SE Xizang, NW Yunnan.

**1b. *Incarvillea sinensis* var. *przewalskii* (Batalin) C. Y. Wu & W. C. Yin in C. Y. Wu, Fl. Reipubl. Popularis Sin. 69: 36. 1990.**

黄花角蒿 huang hua jiao hao

*Incarvillea variabilis* var. *przewalskii* Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 14: 180. 1895; *I. sinensis* subsp. *variabilis* f. *przewalskii* (Batalin) Grierson.

Flowers pale yellow. Fl. Jul–Sep.

• Slopes; 2000–2600 m. Gansu, Qinghai, Shaanxi, NW Sichuan.

**2. *Incarvillea dissectifoliola* Q. S. Zhao, Acta Phytotax. Sin. 26: 78. 1988.**

裂叶波罗花 lie ye bo luo hua

Herbs perennial, stemless. Rhizome fleshy, robust. Leaves basal, 2-pinnatisect; rachis 20–30 cm, 1-sulcate, puberulent; leaflets 7 or 8 pairs, 3–6 × 2–3 cm, sessile, divided into 3 or 4 segments on each side, puberulent, margin crenate. Scape 30–50(–80) cm, 10-sulcate; raceme 5–8-flowered; bracts lanceolate, 1–1.2 cm; bractlets linear to lanceolate, 3–5 mm. Pedicel 0.5–1.5 cm. Calyx broadly campanulate, 1–1.5 cm, 5-veined; lobes triangular, ca. 7 × 8 mm, reflexed mucronate, puberulent. Corolla narrowly funnelform; tube purple outside, ca. 4 cm, ca. 5 mm wide at base, ca. 1.5 cm wide distally; lobes 5, subrounded, purplish, ca. 1.2 cm in diam. Filaments inserted at base of corolla tube. Ovary glabrous. Stigma flabellate. Fruit not known. Fl. Jun.

• Slopes; ca. 3000 m. Sichuan.

**3. *Incarvillea potaninii* Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 492. 1892.**

聚叶角蒿 ju ye jiao hao

Herb perennial, 20–25 cm tall, with stems. Leaves alternate, usually clustered at stem base, 1-pinnately divided; leaf rachis ca. 6 cm; leaflets 3–7, ovate, unequal, ca. 2 cm × 5–10 mm, margin irregularly lobed or parted. Inflorescences racemose, terminal; peduncle 8–15 cm. Pedicel 2–5 mm. Calyx campanulate, 4–5 × 4–5 mm; teeth subulate, base enlarged into glands, ca. 4 mm. Corolla red, funnelform, 4–4.5 cm, ca. 1 cm in diam., base constricted into a tube ca. 3 mm in diam.; lobes rounded, patent, ca. 1.2 × 1.5 cm, margin ciliate. Staminate ca. 1 cm, apex enlarged. Capsule terete, 5–6 cm × ca. 5 mm, apex acuminate. Seeds ovoid to subglobose, ca. 4.5 × 2.5 mm; wings 1.5–2 mm, membranous.

Slopes. Nei Mongol [Mongolia].

**4. *Incarvillea arguta* (Royle) Royle, Ill. Bot. Himal. Mts. 296. 1836.**

两头毛 liang tou mao

Herbs perennial, to 1.5 m tall. Leaves alternate, 1-pinnately compound, not clustered at stem base, ca. 15 cm; leaflets 5–11, ovate-lanceolate, 3–5 × 1.5–2 cm, pale green and glabrous abaxially, dark green and pubescent adaxially, base broadly cuneate, unequal, margin serrate, apex long acuminate. Inflorescences racemose; bracts subulate, ca. 3 mm; bractlets less than 1.5 mm. Calyx campanulate, 5–8 mm; teeth subulate, 1–4 mm, base subtriangular, not enlarged into glands. Corolla pale red or purple-red, campanulate-funnelform, ca. 4 × 2 cm; tube 1.8–2.2 cm. Stamens adherent; anthers divergent. Capsule linear, terete, leathery, ca. 20 cm. Seeds numerous, minute, acute and filiform pubescent at both ends. Fl. Mar–Jul, fr. Sep–Dec.

Slopes, thickets; 1400–2700(–3400) m. Gansu, W and NW Guizhou, SW Sichuan, Xizang, N Yunnan [India, Nepal].

1a. Inflorescences 6–20-flowered; pedicel 8–25 mm; bractlets borne at pedicel base 4a. var. *arguta*

1b. Inflorescences 4–10-flowered; pedicel 2–4 cm; bractlets borne at ca. middle of pedicel ..... 4b. var. *longipedicellata*

**4a. *Incarvillea arguta* var. *arguta***

两头毛(原变种) liang tou mao (yuan bian zhong)

*Amphicome arguta* Royle, Ill. Bot. Himal. Mts. t. 72.

1835; *Incarvillea arguta* var. *daochengensis* Q. S. Zhao; *I. diffusa* Royle.

Inflorescences 6–20-flowered; bractlets borne at base of pedicel. Pedicel 0.8–2.5 cm. Fl. Mar–Jul, fr. Sep–Dec. Slopes, thickets; 1400–2700(–3400) m. Gansu, W and NW Guizhou, SW Sichuan, Xizang, N Yunnan [India, Nepal].

The whole plant is used medicinally for the treatment of injuries.

**4b. *Incarvillea arguta* var. *longipedicellata* Q. S. Zhao, J. Sichuan Univ. (Nat. Sci.) 4: 94. 1983.**

长梗两头毛 chang geng liang tou mao

Inflorescences terminal, 4–10-flowered; bractlets borne at ca. middle of pedicel. Pedicel 3–4 cm. Calyx teeth margin not ciliate. Fl. May–Jul, fr. Sep–Dec.

• Sichuan, Xizang.

**5. *Incarvillea forrestii* Fletcher, Notes Roy. Bot. Gard. Edinburgh 18: 310. 1935.**

单叶波罗花 dan ye bo luo hua

Herbs perennial, 15–30(–60) cm tall, glabrescent.

Leaves alternate, simple; petiole 2–5(–15) cm; leaf blade ovate-elliptic, 6–8(–20) × 3–6(–15) cm, papery, base and apex subrounded, margin crenate; lateral veins 7–9 on each side of midrib. Inflorescences racemose, 6–12-flowered, terminal; peduncle 2–4 cm; bracts 5–12 mm. Pedicel 5–10 mm. Calyx campanulate, 1.4–2 cm; teeth 2–4 × 7–10 cm, apex acute. Corolla red, ca. 5.5 × 3 cm; tube 4.5–5 cm, purple-red striate and spotted adaxially; lobes rounded, 1.4–1.8 × 1.8–2.2 cm. Capsule lanceolate, compressed, 4-angled, 4–6(–9) cm

× 5–7 mm, apex acuminate. Seeds ovoid, 5–6 × 3–4 mm; wing ca. 1 mm wide. Fl. May–Jul, fr. Aug–Nov.  
• Grassland, thickets; 3000–3500 m. SW Sichuan, NW Yunnan.

**6. *Incarvillea altissima*** Forrest, Notes Bot. Gard. Edinburgh 13: 164. 1921.

高波罗花 gao bo luo hua

Herbs perennial, ca. 2 m tall, glabrous. Leaves 1-pinnately compound, 7–8 cm; lateral leaflets elliptic, 5–7 × 3–4 cm, margin serrate. Inflorescences racemose, terminal, 10–30-flowered, ca. 65 cm; bracts linear, 1.2–2.5 cm; bractlets linear. Pedicel 5–10 mm. Calyx campanulate, 1.5–1.7 cm; teeth 2–2.5 × 5–6 mm, rounded to truncate, apex mucronate. Corolla pale red, 5–5.5 cm; lobes rounded or emarginate, 1.6–1.8 × 2.5–2.8 cm, glandular pubescent. Staminode ca. 1.5 mm. Capsule long horned, ca. 6 cm, 4-angular, apex acuminate. Seeds broadly ovoid, 4.5–5 × 3.5–4 mm, brown, surrounded by a membranous wing 1–2 mm wide. Fl. Jun–Aug.

• Thickets, forests; 2100–2800 m. SW Sichuan, C Xizang, N and W Yunnan (Lijiang, Yongping, Yongshan).

**7. *Incarvillea beresowskii*** Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 14: 181. 1895.

四川波罗花 si chuan bo luo hua

*Incarvillea longiracemosa* Sprague; *I. lutea* Bureau & Franchet subsp. *longiracemosa* (Sprague) Grierson; *I. wilsonii* Sprague.

Herbs perennial, ca. 1 m tall, glabrous. Leaves 1-pinnately compound; lateral leaflets 3–6 pairs, long elliptic, 6–7 × ca. 2 cm, base oblique; terminal leaflets elliptic, 2–7 × 1–3.2 cm, entire or serrate. Inflorescences racemose, terminal, more than 17-flowered, ca. 53 cm; bracts 0.5–1.5 cm, lanceolate; bractlets linear. Pedicel 5–10 mm. Calyx campanulate, yellow-green, 1.5(–3.0) × 0.8–1.5 cm; teeth broadly triangular, ca. 4 × 4–7 mm, apex acute. Corolla rose or red, patent; tube 3.5–5 cm, base constricted; lobes ovate, ca. 2 × 1.4–2.5 cm. Filaments yellow-green; anthers yellow. Style long, pale yellow; stigma compressed, 2-lobed. Capsule 4-angled, 8–10 × 1–1.3 cm, dehiscing by 2 leathery valves, apex acute. Seeds pale brown, ca. 4.5 × 3 mm, surrounded by a wing ca. 1 mm, puberulent. Fl. May–Jul, fr. Jul–Oct.

• Slopes; 2100–3000(–4200) m. NW Sichuan, Xizang (W to Lhasa).

**8. *Incarvillea lutea*** Bureau & Franchet, J. Bot. (Morot) 5: 137. 1891.

黄波罗花 huang bo luo hua

*Incarvillea principis* Bureau & Franchet.

Herbs perennial, ca. 1 m tall, pale brown pubescent. Roots fleshy, 1–2 cm in diam. Leaves 1-pinnately divided, mostly borne below middle of stem, 12–27 cm;

lateral leaflets 6–9 pairs, sessile, elliptic-lanceolate, 5–9 × 1.5–3 cm, margin serrate, pubescent on veins.

Inflorescences racemose, 5–12-flowered; bractlets linear, 1–1.5 cm. Pedicel 5–10 mm. Calyx campanulate, green with purple spots, veins dark purple, 1.5–3 cm; teeth broadly triangular, 5–10 mm, apex acute. Corolla yellow, purple spotted and striate at base, 5–6(–8) cm, mouth ca. 3 cm in diam.; tube ca. 4 cm; lobes rounded, 1.5–2 × 2–2.5 cm, glandular. Staminode ca. 1 mm; filaments and anthers pale yellow. Capsule pale brown, lanceolate, ca. 10 × 1.3–1.5 cm, 6-angled, woody, apex acuminate. Seeds pale yellow-brown, ovoid or globbose, 4–4.5 × 3–4.5 mm, apex rounded or emarginate, usually gray pubescent; wings ca. 1 mm wide. Fl. May–Aug, fr. Sep–Nov.

• Forests, slopes, grasslands; 2000–3400 m. W Sichuan, C Xizang, NW Yunnan.

**9. *Incarvillea delavayi*** Bureau & Franchet, J. Bot. (Morot) 5: 138. 1891.

红波罗花 hong bo luo hua

Herbs perennial, stemless, ca. 30 cm tall, glabrous. Leaves basal, 1-pinnately divided, 8–25 cm; leaf rachis ca. 20 cm; lateral leaflets 4–11 pairs, elliptic-lanceolate, 4–7 × 1–3 cm, glabrous, base obtuse to subrounded, margin serrate, apex acuminate; terminal leaflets 1.5–3.5 × 1–2.5 cm, subsessile. Inflorescences racemose, 2–6-flowered, terminal; peduncle ca. 30 cm; bracts ca. 1 cm; bractlets ca. 5 mm. Pedicel 0.5–1.5 cm. Calyx campanulate, 1.3–2 cm; teeth 5–7 × 5–7 mm, apex caudate-acuminate. Corolla red, campanulate, ca. 6.5 × 3.5 cm; tube ca. 5 cm; lobes semirounded, spreading. Filaments ca. 2.5 cm; anthers ovoid, versatile. Style ca. 3 cm; stigma compressed, flabellate. Capsule gray-brown, 4-angled, 5–7.5 cm, woody. Seeds broadly ovoid, glabrous on 1 side, pubescent on another, ca. 5 × 3–4 mm. Fl. Jul. 2n = 18, 22.

• Grasslands, slopes; 2400–3900 m. W Sichuan, NW Yunnan.

**10. *Incarvillea mairei*** (H. Léveillé) Grierson, Notes Roy. Bot. Gard. Edinburgh 23: 341. 1961.

鸡肉参 ji rou shen

Herbs perennial, stemless, 30–40 cm. Leaves basal, 1-pinnately compound; lateral leaflets 2–8 pairs, ovate to ovate-lanceolate, glabrous, base slightly cordate to broadly cuneate, margin serrate, apex obtuse to acuminate. Inflorescences racemose, 2–4-flowered, subterminal; peduncle subequalling or much longer than pedicels; bractlets linear, ca. 1 cm. Calyx campanulate, ca. 2.5 cm; teeth triangular, apex acuminate. Corolla purple-red or pale red, 7–10 × 5–7 cm; tube 5–6 cm; lobes rounded. Anthers adherent and surrounding style, strongly divergent. Style 5–7 cm; stigma flabellate, thin membranous, 2-lobed. Capsule conical, 6–8 × ca. 1 cm, indistinctly striate. Seeds broadly ovoid, numerous. Fl. May–Aug, fr. Jul–Nov.

Slopes, roadsides, grasslands, forests; 2400–4500 m. Qinghai, Sichuan, SE and E Xizang, NW and SW Yunnan [Bhutan, Nepal].

- 1a. Peduncle subequalling pedicel 10c. var. *grandiflora*
- 1b. Peduncle much longer than pedicel.
  - 2a. Lateral leaflets 2 or 3 pairs .... 10a. var. *mairei*
  - 2b. Lateral leaflets 4–8 pairs 10b. var. *multifoliolata*

**10a. *Incarvillea mairei* var. *mairei***

鸡肉参(原变种) ji rou shen (yuan bian zhong)

*Tecoma mairei* H. Léveillé, Cat. Pl. Yun Nan 20. 1915; *Incarvillea compacta* Maximowicz var. *brevipes* (Sprague) Wehrhahn; *I. grandiflora* Bureau & Franchet var. *brevipes* Sprague; *I. racemosa* Q. S. Zhao.

Lateral leaflets 2 or 3 pairs, margin serrate, apex obtuse. Peduncle ca. 22 cm. Pedicel 1–3 cm. Fl. May–Jul, fr. Sep–Nov.

• Slopes, roadsides; 2400–4500 m. W Sichuan, E Xizang, N and NW Yunnan.

**10b. *Incarvillea mairei* var. *multifoliolata* (C. Y. Wu & W. C. Yin) C. Y. Wu & W. C. Yin in W. T. Wang, Fl. Reipubl. Popularis Sin. 69: 45. 1990.**

多小叶鸡肉参 duo xiao ye ji rou shen

*Incarvillea mairei* var. *mairei* f. *multifoliolata* C. Y. Wu & W. C. Yin in C. Y. Wu, Fl. Yunnan. 2: 271. 1979.

Leaflets 4–8 pairs, ovate-lanceolate, margin serrulate to subentire, apex acuminate. Peduncle much longer than pedicels. Fl. Jun–Aug, fr. Aug–Oct.

• Forests, slopes, grasslands; 3200–4200 m. NW Sichuan, NW Yunnan.

**10c. *Incarvillea mairei* var. *grandiflora* (Wehrhahn) Grierson, Notes Roy. Bot. Gard. Edinburgh 23: 344. 1961.**

大花鸡肉参 da hua ji rou shen

*Incarvillea compacta* Maximowicz var. *grandiflora*

Wehrhahn, Die Garten-Stauden 2: 947. 1931; *I. grandiflora* Bureau & Franchet (1891), not Poiret (1821), not Sprengel (1827).

Peduncle subequalling pedicels. Fl. Jun–Jul, fr. Jul–Sep.

Slopes, grasslands; 2500–3700 m. Qinghai, Sichuan, SE Xizang, NW Yunnan (Lijiang, Zhongdian) [Bhutan, Nepal].

**11. *Incarvillea younghusbandii* Sprague, Bull. Misc. Inform. Kew 1907: 320. 1907.**

藏波罗花 zang bo luo hua

Herbs 10–20 cm tall, stemless. Roots fleshy, 6–11 mm in diam. Leaves basal, 1-pinnately compound; leaf axis 3–4 cm; lateral leaflets 2–5 pairs, sessile, ovate-elliptic, 1–2 × ca. 1 cm, scabrous, margin serrate; terminal leaflet ovate-rounded to rounded, 3–5(–7) × 3–5(–7) cm, base cordate, apex obtuse or rounded. Inflorescences short racemose, 3–6-flowered or solitary. Pedicel 6–9 mm. Calyx campanulate, 0.8–1.2 cm, glabrous; teeth 5, unequal, smooth, 5–7 mm. Corolla funnelform, 4–7 cm; tube orange-yellow, ca. 3 mm at base, upward ca. 8 mm in diam.; lobes patent, rounded. Anthers versatile, connective with a basal spur ca. 1 mm. Ovules 1- or 2-rowed on each placenta. Stigma flabellate, 2-lobed. Capsule subwoody, strongly curved, 3–4.5 cm, 4-angled. Seed nearly black, ellipsoid, ca. 5 × 2.5 mm,

concave on 1 side, convex on another, surrounded by wings, scaly. Fl. May–Aug, fr. Aug–Oct.

• Gravel, slopes, thickets; 4000–5500 m. Qinghai, Xizang.

**12. *Incarvillea compacta* Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg 27: 521. 1881.**

密生波罗花 mi sheng bo luo hua

*Incarvillea bonvalotii* Bureau & Franchet.

Herbs perennial, 20–30 cm tall. Roots fleshy, conical, 15–23 cm. Leaves 1-pinnately compound, clustered at stem base, 8–15 cm; lateral leaflets 2–6 pairs, ovate, 2–3.5 × 1–2 cm, base rounded, apex acuminate; terminal leaflets ovate-rounded, entire. Inflorescences densely racemose, clustered at stem apex; bracts 1.8–3 cm.

Pedicel 1–4 cm, linear. Calyx green or purple-red, with dark purple spots, campanulate, 1.2–1.8 cm; teeth triangular, 6–12 × 5–7 mm. Corolla red or purple-red, 3.5–4 × ca. 2 cm; tube purple striate adaxially, purple and with black spots abaxially; lobes rounded, apex emarginate, with glands. Stamens inserted at base of corolla tube; anthers adherent; staminode small, curved. Ovules 2-rowed in each locule. Style ca. 4 cm; stigma flabellate. Capsule narrowly lanceolate, acute at both ends, distinctly 4-angled, ca. 11 × 1 cm. Fl. May–Jul, fr. Aug–Dec.

• Slopes, thickets, grasslands; 2600–4100 m. S Gansu, Qinghai, SW Sichuan, Xizang (W to Lhasa), NW Yunnan.

