

13. GAGEA Salisbury, *Ann. Bot. (König & Sims)* 2: 555. 1806.

顶冰花属 *ding bing hua shu*

Chen Xinqi (陈心启 *Chen Sing-chi*); Nicholas J. Turland

Szechenyia Kanitz.

Herbs perennial, small, bulbiferous. Bulbs ovoid to globose, covered with a tunic, distally sometimes with a collar of persistent leaf bases, basally sometimes with bulbels. Stem usually simple. Leaves basal or also cauline, linear or filiform. Inflorescence usually umbellate, corymbose, or racemose, less often reduced to a solitary flower, basally usually subtended by a bract; bracteole 1. Flowers bisexual. Tepals 6, free, in 2 whorls, yellow or yellow-green, very rarely white or other color, persistent, ± indurescent and accrescent in fruit. Stamens 6, equal or 3 longer; filaments filiform or proximally widened and flat; anthers basifixed. Ovary 3-loculed; ovules many per locule. Style usually rather long; stigma capitate or 3-lobed. Fruit a capsule, 3-angled, loculicidal, surrounded by enlarged, persistent tepals. Seeds many, globose to flat.

About 90 species: temperate regions of N Africa, Asia and Europe, mainly in C Asia and the Mediterranean region; 17 species (one endemic) in China.

- 1a. Leaves 1 or 2 basal only; leafy bract (floral leaf) subtending inflorescence 1, sometimes with extra, much smaller bracts; seeds globose or ovoid-globose, rarely flat.
 - 2a. Leaves semiterete, fistulose 4. *G. fragifera*
 - 2b. Leaves flat, not fistulose.
 - 3a. Bulb without bulbel at base.
 - 4a. Leaves filiform, less than 1 mm wide; seeds flat 5. *G. divaricata*
 - 4b. Leaves linear or narrowly so, 2–10 mm wide; seeds globose.
 - 5a. Leaves not falcate, 3–10 mm wide, not keeled abaxially 6. *G. nakaiana*
 - 5b. Leaves falcate, 2–3 mm wide, keeled abaxially 7. *G. fedtschenkoana*
 - 3b. Bulb usually with 1 to many bulbels within or around tunic base.
 - 6a. Bulbel 1, lateral, within tunic 3. *G. filiformis*
 - 6b. Bulbels many, within or around tunic.
 - 7a. Bulbels arranged in a ring, surrounding tunic base; style nearly as long as ovary 1. *G. granulosa*
 - 7b. Bulbels crowded, sublateral, within tunic; style much longer than ovary 2. *G. terraccianoana*
- 1b. Leaves 1 or 2 basal and 2–5 cauline; seeds flat, rarely polyhedral.
 - 8a. Seeds polyhedral.
 - 9a. Tepals yellow adaxially, yellowish green abaxially 16. *G. tenera*
 - 9b. Tepals yellowish white or whitish adaxially, pale yellow-green abaxially 17. *G. ova*
 - 8b. Seeds flat.
 - 10a. Stigma deeply 3-lobed, lobes more than 1 mm 8. *G. pauciflora*
 - 10b. Stigma capitate or slightly 3-lobed, lobes very short, less than 1 mm.
 - 11a. Bulblets present in axils of cauline leaves, globose.
 - 12a. Bulb with a collar of persistent leaf bases distally 9. *G. jaeschkei*
 - 12b. Bulb without a collar of persistent leaf bases distally.
 - 13a. Leaves filiform, less than 1 mm wide; bulblets in axils of all cauline leaves 10. *G. bulbifera*
 - 13b. Leaves narrowly linear, 1–2 mm wide; bulblets only in axils of proximal cauline leaves 11. *G. stepposa*
 - 11b. Bulblets not present in axils of cauline leaves.
 - 14a. Tepals 1.4–1.8 cm; basal leaves not overtopping inflorescence 15. *G. neopopovii*
 - 14b. Tepals 0.8–1.2 cm; basal leaves overtopping inflorescence.
 - 15a. Basal leaves nearly 2 × as long as stem 13. *G. altaica*
 - 15b. Basal leaves slightly longer than stem.
 - 16a. Basal leaves 1 or 2; bulbs without bulbels at base; plants 3–6 cm tall 14. *G. olgae*
 - 16b. Basal leaf always 1; bulbs with several to many bulbels at base; plants 5–15(–30) cm tall 12. *G. albertii*

1. *Gagea granulosa* Turczaninow, *Bull. Soc. Imp. Naturalistes Moscou* 27(2): 112. 1854.

粒鳞顶冰花 *li lin ding bing hua*

Plants to 20 cm tall. Bulb ovoid, 4–7 mm in diam.; tunic brown, submembranous; bulbels numerous, arranged in a ring

around tunic base. Leaves basal only, usually 1, narrowly linear, 20–24 cm × 2–5 mm, conspicuously parallel veined. Inflorescence usually 2–4-flowered, umbellate. Floral leaf lanceolate, slightly longer than inflorescence, 4–8 mm wide. Pedicel glabrous or sparsely pubescent. Tepals yellow adaxially, yellowish abaxially, narrowly elliptic-linear or linear-lanceolate,

9–11 × 1.5–2 mm. Stamens 4–6 mm. Style nearly as long as ovary; stigma capitate, scarcely lobed. Seeds globose. Fl. Jun.

Coniferous forests, thickets, moist grasslands; 1300–2000 m. N and W Xinjiang [Kazakstan, Mongolia, Russia; Europe].

2. *Gagea terraccianoana* Pascher, Repert. Spec. Nov. Regni Veg. 2: 58. 1906.

小顶冰花 xiao ding bing hua

Gagea japonica Pascher; *G. nipponensis* Makino; *G. vaginata* Pascher (1906), not Popov ex Goloskokov (1955).

Plants 4–15 cm tall. Bulb ovoid or ovoid-globose, 4–7 mm in diam.; tunic brown-yellow or black-brown; bulbels 1 to numerous, crowded within tunic, narrowly ovoid. Leaves basal only, 1, narrowly linear, 5–18 cm × 1–3 mm. Inflorescence usually 2–5-flowered, umbellate. Floral leaf lanceolate to linear-lanceolate, shorter than or equaling inflorescence, 2–5 mm wide, sometimes laxly hairy on basal margin or pilose. Pedicels unequal, pilose or glabrous. Tepals yellow adaxially, yellowish green abaxially, sometimes slightly tinged with dull purple-red, linear, linear-lanceolate, or narrowly ovate, 6–11 × 1–2 mm, sometimes pilose abaxially and proximally, with a sacciform projection at base. Stamens 3–8 mm; filaments flat at base. Style 1.5–4 × as long as ovary. Capsule obovoid or subglobose, 1/4–1/2 as long as persistent tepals. Seeds globose. Fl. and fr. Mar–May.

Forest margins, thickets, mountain grasslands; near sea level to 2300 m. Gansu, Hebei, Heilongjiang, Jilin, Liaoning, Qinghai, Shaanxi, Shanxi [Korea, Mongolia, Russia].

Records of *Gagea hiensis* Pascher from China (e.g., in FRPS) are referable to *G. terraccianoana*.

3. *Gagea filiformis* (Ledebour) Karelin & Kirilov, Bull. Soc. Imp. Naturalistes Moscou 14: 751 [“851”]. 1841.

林生顶冰花 lin sheng ding bing hua

Ornithogalum filiforme Ledebour, Fl. Altaic. 2: 30. 1830; *Gagea minuta* Grossheim; *G. nigra* L. Z. Shue; *G. pseudo-rubescens* Pascher; *G. sacculifera* Regel.

Plants 5–10 cm tall. Bulb ovoid-globose, 4–9 mm in diam.; tunic bright brown or chestnut brown, submembranous; bulbel 1, within tunic, small. Leaves basal only, 1, narrowly linear, 5–13 cm × 2–4(–8) mm. Inflorescence (1–)3–7(or more)-flowered, umbellate or corymbose. Floral leaf linear-lanceolate, equaling or slightly longer than inflorescence, 3–8 mm wide, glabrous or pilose; bracteoles pubescent. Tepals yellowish adaxially, yellow-green abaxially, ca. 8 mm, sometimes slightly saccate at base. Pedicel glabrous or pilose. Stamens 4.5–6 mm; filaments ca. 4 mm. Style slightly longer than ovary; stigma capitate, scarcely lobed. Capsule obovoid, 3-angled, 1/5–2/5 as long as enlarged, persistent tepals. Seeds red-brown, ovoid-globose, ca. 1.5 × 1 mm. Fl. and fr. Apr–May.

Forests, thickets, meadows, grasslands, dry slopes, plains, deserts; near sea level to 2300 m. N and W Xinjiang [Afghanistan, Kazakstan, Mongolia, Pakistan, Russia].

4. *Gagea fragifera* (Villars) E. Bayer & G. López, Taxon 38: 643. 1989.

钝瓣顶冰花 dun ban ding bing hua

Ornithogalum fragiferum Villars, Hist. Pl. Dauph. 2: 270. 1787; *Gagea emarginata* Karelin & Kirilov.

Plants 8–15 cm tall. Bulb ovoid-globose, 5–8 mm in diam.; tunic brown-yellow, papery; bulbels absent. Leaves basal only, 1 or 2, semiterete, fistulose, 7–20 cm × 3–4 mm. Inflorescence usually 3–5-flowered, umbellate. Floral leaf broadly lanceolate, slightly shorter than or equaling inflorescence, 6–10 mm wide. Pedicels unequal, pilose. Tepals yellow adaxially, yellow-green abaxially, narrowly oblong, 1–2 cm × 3–4 mm, apex obtuse or emarginate. Stamens 5–10 mm. Style nearly as long as ovary. Capsule obovoid, trigonous, ca. 1/2 as long as enlarged, persistent tepals. Seeds globose. Fl. and fr. Apr–May.

Meadows, moist places on forest margins, river flats; 1600–2300 m. W Xinjiang [Kazakstan, Mongolia, Russia (Siberia)].

The name *Gagea fistulosa* Ker Gawler, based on *Ornithogalum fistulosum* Ramond ex de Candolle, has been used for this species. However, both names are nomenclaturally superfluous and therefore illegitimate because when originally published they included in synonymy the earlier name *O. bohemicum* Zauschner (currently *G. bohemia* (Zauschner) Schultes & J. H. Schultes).

5. *Gagea divaricata* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 510. 1880.

叉梗顶冰花 cha geng ding bing hua

Plants ca. 5 cm tall. Bulb ovoid, 6–9 mm in diam.; tunic pale brown or yellowish brown, scarious, breaking up into fibers; bulbels absent. Leaves basal only, 1, filiform or very narrowly linear, 5–8 cm × ca. 1 mm, glabrous. Inflorescence (1 or) 2–5-flowered. Floral leaf linear-lanceolate, longer than inflorescence, 1–1.5 mm wide, base sheathed, pilose, margin ciliate. Tepals yellow, with green band along midvein abaxially, linear or broadly lanceolate, 8–10 × 1.5–2 mm, apex mucronate. Pedicel glabrous, 18–28 mm, recurved in young fruit, erect at maturity. Stamens 4–5 mm. Style slightly longer than ovary; stigma capitate, scarcely lobed. Seeds flat. Fl. Apr.

Deserts, sandy places; near sea level to 1000 m. W Xinjiang [Kazakstan, Uzbekistan].

6. *Gagea nakaiana* Kitagawa, Lin. Fl. Manshur. 136. 1939.

顶冰花 ding bing hua

Gagea coreana Nakai, Bot. Mag. (Tokyo) 46: 603. 1932, not H. Léveillé (1910); *G. coreanica* Koidzumi; *G. lutea* (Linnaeus) Ker Gawler var. *nakaiana* (Kitagawa) Q. S. Sun.

Plants 15–20 cm tall. Bulb ovoid-globose, 5–10 mm in diam.; tunic brown-yellow; bulbels absent. Leaves basal only, 1, narrowly linear, 1.5–22 cm × 3–10 mm, gradually tapering from middle to base, glabrous. Inflorescence 3–5-flowered, umbellate. Floral leaf lanceolate, nearly as long as inflorescence, 4–6 mm wide. Pedicels unequal, glabrous. Tepals yellow, linear or narrowly lanceolate, 9–12 × ca. 2 mm. Stamens 6–8 mm; filaments flat basally. Style 1.5–2 × as long as ovary; stigma inconspicuously 3-lobed. Capsule ovoid to obovoid, ca. 2/3 as long as enlarged, persistent tepals. Seeds globose. Fl. and fr. Mar–Apr. $2n = 48$.

Forests, thickets, grasslands. Heilongjiang, Jilin, Liaoning [India,

Japan, Korea, Nepal, Pakistan, Russia, Sikkim].

Records of *Gagea lutea* (Linnaeus) Ker Gawler from China (e.g., in FRPS) are referable to *G. nakaiana*.

7. *Gagea fedtschenkoana* Pascher, Repert. Spec. Nov. Regni Veg. 1: 190. 1905.

镰叶顶冰花 *lian ye ding bing hua*

Plants dark green, 4–10 cm tall. Bulb usually ovoid, 6–10 mm in diam.; tunic brown-yellow, subleathery; bulbels absent or occasionally 1 or 2. Leaves basal only, 1, narrowly linear, falcate, 7–16 cm × 2–3 mm, keeled abaxially. Inflorescence 2–5-flowered, umbellate or corymbose. Floral leaf narrowly lanceolate, usually longer than inflorescence, 2–4 mm wide, margin ciliate near base. Pedicels unequal, glabrous or pilose. Tepals pale yellow adaxially, tinged with green or dull purple abaxially, linear or narrowly oblong, 8–12 × ca. 2 mm. Stamens, 6–8 mm. Style ca. 2 × as long as ovary. Capsule obovoid, trigonous, ca. 1/2 as long as enlarged, persistent tepals. Seeds globose. Fl. and fr. Apr–May.

Meadows, forest margins, thickets, steppes; near sea level to 2500 m. N Xinjiang [Kazakstan, Mongolia, Russia].

8. *Gagea pauciflora* (Turczaninow ex Trautvetter) Ledebour, Fl. Ross. 4: 143. 1852.

少花顶冰花 *shao hua ding bing hua*

Plecostigma pauciflorum Turczaninow ex Trautvetter, Pl. Imag. Descr. Fl. Russ. 8. 1844; *Gagea lloydoides* (Kanitz) Pascher; *G. provisa* Pascher; *Lloydia szechenyiana* Engler; *Szechenyia lloydoides* Kanitz.

Plants 8–28 cm tall. Bulb narrowly ovoid; tunic brownish, distally with a short collar of persistent leaf bases. Stem ± puberulent. Leaves basal and cauline; basal leaf 1, 10–25 cm × 1–1.5 mm, laxly puberulent on margin and veins; cauline leaves usually 1–3, basal one 6–7 cm. Inflorescence 1–3-flowered, racemose. Tepals green-yellow, linear, 0.9–2(–2.5) cm × 3–5 mm. Stamens 5–10 mm. Style 2.5–3.5 mm, nearly as long as ovary; stigma deeply 3-lobed; lobes usually more than 1 mm. Capsule subobovoid, 7–16 × 6–10 mm, 1/2–3/5 as long as enlarged, persistent tepals. Seeds flat. Fl. Apr–Jun, fr. Jun–Jul.

Grassy slopes, wastelands, dunes; 400–4100 m. Gansu, Hebei, Heilongjiang, Nei Mongol, Qinghai, Shaanxi, Xizang [Mongolia, Russia].

9. *Gagea jaeschkei* Pascher, Sitzungsber. Deutsch. Naturwiss.-Med. Vereins Böhmen “Lotos” Prag, 52: 128. 1904.

高山顶冰花 *gao shan ding bing hua*

Gagea pamirica Grossheim.

Plants 3–5 cm tall. Bulb narrowly ovoid, 4–6 mm in diam.; tunic yellow-brown, distally with a collar of persistent leaf bases, partly surrounded by roots; bulbels very inconspicuous or absent. Stem pubescent. Leaves basal and cauline; basal leaf 1, narrowly linear, 5–7 cm × 1.5–2 mm, keeled abaxially; cauline leaves 5 or 6, ± with bulblets in axils. Inflorescence 1-flowered. Pedicel pubescent. Tepals yellow adaxially, dull purple abaxially, ovate-lanceolate or narrowly elliptic, 8–10 × 2–3 mm. Stamens 6–8 mm; filaments basally flat, nearly as long as

anthers. Style equaling ovary; stigma slightly 3-lobed. Seeds flat. Fl. Jun.

Alpine steppes, moist places; 4100–4600 m. SW Xinjiang (Taxkorgan Tajik Zizhixian) [Afghanistan, Kazakstan, Pakistan; SW Asia].

10. *Gagea bulbifera* (Pallas) Salisbury, Ann. Bot. (König & Sims) 2: 557. 1806.

腋球顶冰花 *ye qiu ding bing hua*

Ornithogalum bulbiferum Pallas, Reise Russ. Reich. 2: 736. 1773.

Plants 4–6 cm tall. Bulb ovoid, 3–6 mm in diam.; tunic brown, surrounded by numerous roots. Stem gray-white pubescent or glabrescent in fruit. Leaves basal and cauline; basal leaves usually 2, filiform, 3–7 cm × 0.5–0.8 mm; cauline leaves (2 or)3–5. Inflorescence (1 or)2–4-flowered, racemose. Tepals yellow adaxially, green abaxially, narrowly oblong or linear-spatulate, 6–9 × 1.5–2 mm. Stamens 4–7 mm. Style ca. 2 × as long as ovary. Capsule oblong, 3-angled, 4–6 × 2–3 mm. Seeds flat. Fl. and fr. Apr. $2n = 24$.

Steppes on hillsides, dry grassy slopes; 600–1200 m. Xinjiang (Tian Shan) [India, Kazakstan, Russia].

11. *Gagea stepposa* L. Z. Shue in F. T. Wang & Tang, Fl. Reipubl. Popularis Sin. 14: 282. 1980.

草原顶冰花 *cao yuan ding bing hua*

Plants 4–6 cm tall. Bulb ovoid, 3–5 mm in diam.; tunic brown, papery, not surrounded by roots; bulbels occasionally present. Stem gray-white pubescent. Leaves basal and cauline; basal leaves 2, usually narrowly linear, 3–8 cm × 1–2 mm, keeled abaxially; cauline leaves 3–5, narrowly linear-lanceolate, proximal 1 or 2 each with a globose bulblet in axil. Inflorescence 1- or 2-flowered. Tepals orange-yellow adaxially, dark purple abaxially, narrowly elliptic, 8–12 × 3–4 mm. Stamens 6–9 mm; filaments 5–7 mm; anthers oblong, 1/4–1/3 as long as filaments. Style equaling or slightly longer than ovary; stigma capitate. Seeds flat. Fl. and fr. Apr–May.

• Dry slopes; 1100–2300 m. N Xinjiang.

12. *Gagea albertii* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 512. 1880.

毛梗顶冰花 *mao geng ding bing hua*

Plants 5–15 cm tall. Bulb ovoid, 4–7 mm in diam.; tunic brownish yellow or pale gray, papery, distally with a collar of persistent leaf bases 1–5 cm, not surrounded by numerous roots; bulbels 1 to several, within tunic. Stem gray-white pubescent proximally. Leaves basal and cauline; basal leaf 1, filiform or narrowly linear, 8–20 cm × 1–1.5(–2) mm, margin involute; cauline leaves 1–3. Inflorescence (1 or)2- or 3(–5)-flowered, subcorymbose or racemose. Pedicel pubescent. Tepals pale yellow adaxially, greenish yellow abaxially, narrowly elliptic or narrowly oblong, 0.9–1.5 cm × 2–4 mm. Stamens 6–10 mm; filaments much longer than anthers; anthers ca. 2 mm. Style slightly longer than ovary; stigma slightly 3-lobed. Capsule oblong, 3-angled, ca. 2/3 as long as persistent tepals. Seeds flat. Fl. and fr. Apr–May.

Deserts on hillsides, steppes; 400–1100 m. N Xinjiang [Kazakhstan].

13. *Gagea altaica* Schischkin & Sumnevitz, Sist. Zametki Mater. Gerb. Krylova Tomsk. Gosud. Univ. Kuybysheva 8: 1. 1929 [“1928”].

阿尔泰顶冰花 a er tai ding bing hua

Plants 5–12 cm tall. Bulb ovoid, 4–6 mm in diam.; tunic grayish brown, distally with a collar of persistent leaf bases 1–2 cm. Stem glabrous or shortly hairy. Leaves basal and cauline; basal leaf 1, narrowly linear or subfiliform, equaling or much longer than stem; cauline leaves 1–3. Inflorescence 1- or 2-flowered, very rarely more flowers in a corymbose raceme. Tepals golden yellow adaxially, greenish brown abaxially, oblong or oblong-ovate, 1–1.2 cm × 2.5–4.5 mm. Stamens 7–9 mm; filaments much longer than subglobose anthers. Seeds flat. Fl. Apr.

Desert steppes, dry slopes. N Xinjiang [Kazakhstan, Russia].

14. *Gagea olgae* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 3(2): 292. 1875.

乌恰顶冰花 wu qia ding bing hua

Plants 3–6 cm tall. Bulb ovoid, 4–5 mm in diam.; tunic brown, reticulate veined, distally with a collar of persistent leaf bases 1–1.5 cm; bulbels absent. Stem grayish white pubescent, particularly proximally. Leaves basal and cauline; basal leaves 1 or 2, filiform-linear, 4–8 cm × 0.6–1 mm, keeled abaxially, margin involute; cauline leaves 2 or 3, margin ciliate. Inflorescence 1- or 2-flowered. Tepals yellow adaxially, dark purple abaxially, linear or narrowly oblong, 8–10 × ca. 2 mm. Stamens 6–7.5 mm; filaments ca. 2 × as long as oblong anthers. Style slightly longer than ovary; stigma capitate, scarcely 3-lobed. Seeds flat. Fl. May.

Alpine steppes, hillsides along ravines. ?SW Xinjiang (Wuqia Xian) [Afghanistan, India, Kazakhstan, Pakistan, Uzbekistan].

The presence of this species in China requires confirmation.

15. *Gagea neopopovii* Goloskokov, Bot. Mater. Gerb. Inst. Bot. Akad. Nauk Kazahsk. SSR 9: 8. 1975.

新疆顶冰花 xin jiang ding bing hua

Gagea vaginata Popov ex Goloskokov, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 17: 87. 1955, not Pascher (1906); *G. subalpina* L. Z. Shue.

Plants 8–12 cm tall. Bulb narrowly ovoid, 5–7 mm in diam.; tunic membranous, brownish, distally with a collar of persistent leaf bases; bulbels absent. Leaves basal and cauline; basal leaf 1, narrowly linear, 10–12 cm × 1–2 mm, distally slightly falcate; cauline leaves 3 or 4, margin ciliate. Inflorescence 1(or 2)-flowered. Pedicel glabrous. Tepals yellow adaxially, dark purple-red abaxially, narrowly oblong or linear, 1.4–1.8 cm × 3–5 mm. Stamens 0.9–1.2 cm. Style ca. 2 × as long as ovary; stigma slightly 3-lobed. Seeds flat. Fl. Apr.

Alpine steppes, meadows. Xinjiang (Tian Shan) [Kazakhstan].

16. *Gagea tenera* Pascher, Sitzungsber. Deutsch. Naturwiss.-Med. Vereins Böhmen “Lotos” Prag 52: 128. 1904.

细弱顶冰花 xi ruo ding bing hua

Plants 6–15 cm tall. Bulb ovoid-globose or globose, 5–8 mm in diam.; tunic dark brown, subleathery; bulbels several, within tunic, narrowly ovoid. Leaves basal and cauline; basal leaf 1, filiform, 9–15 cm × 1.5–2.5 mm; cauline leaves 2 or 3, proximal 2 narrowly lanceolate, 2–4 cm × 3–4 mm, basally slightly amplexicaul. Inflorescence 2- or 3(–5)-flowered, corymbose. Pedicel glabrous. Tepals yellow adaxially, yellowish green abaxially, narrowly oblong or narrowly elliptic-linear, 8–12 × 2.5–3 mm. Stamens 6–9 mm. Style slightly longer than ovary; stigma slightly 3-lobed. Seeds polyhedral. Fl. Apr. $2n = 36$.

Steppes on hillsides. ?Xinjiang (Tian Shan) [Kazakhstan, Russia].

The presence of this species in China requires confirmation.

17. *Gagea ova* Stapf, Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl. 50(2): 16. 1885.

多球顶冰花 duo qiu ding bing hua

Plants 5–10(–15) cm tall. Bulb ovoid, 4–7 mm in diam.; tunic black-brown, leathery; bulbels many, crowded within tunic. Leaves basal and cauline; basal leaf 1, filiform, semi-terete, 7–15 cm × 0.5–0.8 mm; cauline leaves 2 or 3, usually with a floral shoot in axil. Inflorescence 2–6-flowered, resembling a dichasium. Pedicel glabrous or slightly pilose. Tepals white or yellowish white adaxially, pale yellow-green abaxially, narrowly oblong, 5–9 × 1.5–2 mm. Stamens 4–7 mm; filaments much longer than elliptic anthers. Style ca. 2 × as long as ovary; stigma capitate, scarcely lobed. Capsule obvoid, ca. 1/2 as long as persistent tepals. Seeds polyhedral. Fl. and fr. Apr–May. $2n = 48$.

Desert steppes, plains, dry slopes; near sea level to 1200–2000 (–?4600) m. Xinjiang [Afghanistan, Kazakhstan, Tajikistan; SW Asia].

