

10. TRILLIUM Linnaeus, Sp. Pl. 1: 339. 1753.

延龄草属 *yan ling cao shu*

Liang Songyun (梁松筠 Liang Song-jun); Victor G. Soukup

Herbs perennial, usually with stout rhizome. Stem erect, simple, basally with a few brown, scalelike sheaths. Leaves 3, in a terminal whorl, sessile or shortly petiolate, rhombic-orbicular to ovate, with 3 or 5 main veins and anastomosing veinlets. Flowers bisexual, solitary, terminal, pedunculate. Tepals 6, in 2 whorls, free; outer ones usually green, persistent; inner ones petaloid, rose purple to white, slightly narrower than outer, withering or deciduous after anthesis. Stamens 6; filaments short; anthers basifixed, linear, with very short connective. Ovary ovoid to globose, 3-loculed; ovules several to many per locule. Style short, deeply 3-lobed often to base. Fruit a berry, globose to ovoid. Seeds several to many, ovoid, small.

About 46 species: Bhutan, China, India, Japan, Korea, Myanmar, Nepal, Russia, Sikkim; North America; four species (one endemic) in China.

- 1a. Stems tufted; leaves sessile; inner tepals elliptic or obovate.
 - 2a. Anthers 7–8 mm, longer than filaments 1. *T. kamschaticum*
 - 2b. Anthers 3–4 mm, shorter than or equaling filaments 2. *T. tschonoskii*
- 1b. Stem solitary; leaves shortly petiolate; inner tepals linear-lanceolate or linear.
 - 3a. Outer tepals similar in shape and size to inner ones, 1.5–2 mm wide; peduncle 2–3 mm 3. *T. govianianum*
 - 3b. Outer tepals quite different in shape and size from inner ones, 10–12 mm wide; peduncle 12–14 cm 4. *T. taiwanense*

1. *Trillium kamschaticum* Pallas ex Pursh, Fl. Amer. Sept. 1: 245. 1814.

吉林延龄草 *ji lin yan ling cao*

Plants 35–50 cm tall. Rhizome stout, abbreviated. Stems tufted. Leaves sessile, broadly rhombic-orbicular or ovate-orbicular, 10–17 × 7–17 cm. Peduncle 1.5–4 cm. Flowers 3–5 cm wide. Outer tepals green, broadly lanceolate to oblong-lanceolate, 3–3.5 × 0.7–1.2 cm; inner ones white, elliptic or obovate, 3–3.8 × 1–1.6 cm. Stamens ca. 2/5 as long as tepals; filaments 3–4 mm; anthers usually 7–10 mm, with slightly convex connective apically. Ovary subconical-ovoid; stigma rather thick. Berry ovoid-globose, 1.8–2.8 cm in diam. Fl. Jun, fr. Aug. $2n = 10^*$, 24.

Forests, forest margins, moist places; 500–1400 m. Jilin [Japan, Korea, Russia (Siberia); North America].

2. *Trillium tschonoskii* Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg 29: 218. 1884.

延龄草 *yan ling cao*

Trillium morii Hayata; *T. tschonoskii* var. *himalaicum* H. Hara; *T. tschonoskii* f. *morii* (Hayata) Yamamoto; *T. tschonoskii* var. *morii* (Hayata) Masamune.

Plants 15–50 cm tall. Rhizome stout, abbreviated. Stems tufted. Leaves sessile, rhombic-orbicular to broadly rhombic, 6–15 × 5–15 cm. Peduncle 1–4 cm. Flowers 3–4 cm wide. Outer tepals green, narrowly ovate to ovate-lanceolate, 1.5–2 cm × 5–9 mm, herbaceous; inner ones white, rarely pale purple, ovate-lanceolate, 1.5–2.2 cm × 4–6(–10) mm. Stamens ca. 2/5 as long as tepals; filaments 4–5 mm; anthers 3–4 mm, with slightly convex connective apically. Ovary conical-ovoid, 7–9 × 5–7 mm; stigma rather thick. Berry black-purple, globose, 1.5–1.8 cm in diam., many seeded. Fl. Apr–Jun, fr. Jul–Aug. $2n = 20$.

Forests, moist places along ravines, shady and rocky places on hillsides; 1000–3200 m. Anhui, Fujian, Gansu, Hubei, Shaanxi, Sichuan,

Taiwan, Xizang, Yunnan, Zhejiang [Bhutan, Japan, Korea, Myanmar, Sikkim].

This is a vulnerable species in China.

3. *Trillium govianianum* Wallich ex Royle, Ill. Bot. Himal. Mts. 1: 384. 1839.

西藏延龄草 *xi zang yan ling cao*

Trillidium govianianum (Wallich ex Royle) Kunth.

Plants 12–20 cm tall. Rhizome creeping, slightly elongate, terete, 8–10 mm thick. Stem solitary. Leaves shortly petiolate, ovate or ovate-cordate, 4–6 × 2.2–4 cm. Peduncle 2–3 mm. Flowers 2–2.5 cm wide. Outer tepals green, linear or linear-lanceolate, 1–1.2 cm × 1.5–2 mm; inner ones purple-red, very similar to outer ones in shape, 1.1–1.5 cm × ca. 1 mm. Stamens ca. 1/4 as long as tepals; filaments ca. 2 mm; anthers ca. 1.5 mm. Ovary purple-red, ovoid-globose, 5–6 × 4–5 mm. Fl. May–Jun.

Forests; ca. 3200 m. S Xizang (Dinggyê Xian) [Bhutan, India, Nepal, Sikkim].

4. *Trillium taiwanense* S. S. Ying, J. Jap. Bot. 64: 154. 1989.

台湾延龄草 *tai wan yan ling cao*

Plants 15–20 cm tall. Rhizome creeping, subterete, stout, 2–35 cm. Stem solitary. Leaves shortly petiolate, ovate or broadly ovate, 7–9 × 4.5–5.5 cm. Peduncle 12–14 cm. Flowers 3–5 cm wide. Outer tepals green, ovate-lanceolate or elliptic-lanceolate, 3.2–3.5 × 1–1.2 cm; inner ones linear or broadly linear, 1.4–1.9 cm × 1–1.5 mm. Stamens short; filaments 2–3 mm; anthers 1–1.5 mm. Ovary depressed ovoid, 5.5–6.5 × 2.5–4 mm; stigma 3-lobed. Fl. Jun.

- 1600–1700 m. E Taiwan (Hualian Shi).

