

2. STUCKENIA Börner, Bot.-Syst. Not. 258. 1912.

莼齿眼子菜属 *bi chi yan zi cai shu*

Plants perennial, in fresh to saline water, totally submerged. Rhizomes present; turions absent or occasionally present; tubers absent or present. Stems elongate, terete. Stipules not tubular, adnate to base of leaf blades for 2/3 or more length of stipule, extending past adnate as free ligule. Leaves alternate, sessile, opaque, linear, channeled, turgid, veins 1–5, base acute, margin entire, apex obtuse to acute. Inflorescences spikes, submersed, capitate or cylindrical; peduncles flexible, not projecting inflorescence above water surface. Pistils 4. Fruit abaxially rounded, beaked or not, turgid. Embryo with less than 1 full coil. $x = 13$.

Seven species: cosmopolitan; four species in China.

- 1a. Leaf sheaths connate, tubular toward base at least when young, appearing as a closed ellipse when transversely dissected.
 - 2a. Fruit (2.7–)2.9–3.3 mm; leaves narrowly linear, 0.7–2.4 mm wide, apex obtuse or rounded; leaf sheaths on vegetative branches 0.8–3.5 mm in diam. 1. *S. amblyophylla*
 - 2b. Fruit 1.9–2.6(–3) mm; leaves mostly filiform, 0.2–1.2(–1.6) mm wide, apex obtuse or bifurcate; leaf sheaths on vegetative branches 0.3–1.8 mm in diam. 2. *S. filiformis*
- 1b. Leaf sheaths convolute, appearing as a short spiral when transversely dissected.
 - 3a. Leaves dark green or mostly conspicuously dark brown to blackish when dried, older ones discolored, creamy whitish or grayish to bright white, hyaline edges of leaf sheaths creamy yellowish, markedly contrasting with dark sheaths; plants unbranched or moderately to richly branched near base and sparingly so above; leaf blades on main stem sheaths 80–260 mm, occasionally recurved toward apex, sometimes even twisted spirally when dried, apex obtuse to rounded 3. *S. pamirica*
 - 3b. Leaves usually olive-green to dark green, sometimes brownish green to light brown, rarely brown but then leaf blade less than 80 mm and plants richly branched above, hyaline edges of leaf sheaths greenish to pale brownish, not conspicuously contrasting with sheaths; plants usually richly branched throughout or only above; leaf blades on main stem sheaths 18–120 mm, mostly \pm straight, only rarely recurved toward apex when dried, apex mostly acute to acuminate, occasionally obtuse or rounded with short mucro 4. *S. pectinata*

1. *Stuckenia amblyophylla* (C. A. Meyer) Holub, Preslia 68: 364. 1997.

钝叶菹草 *dun ye zu cao*

Potamogeton amblyophyllus C. A. Meyer, Beitr. Pflanzenk. Russ. Reiches 6: 10. 1849.

Plants perennial, submerged. Rhizome branched, terete, 1–1.5 mm in diam., with apical dormant buds. Stems moderately branched at base. Stipules partly fused with leaf base and sheathing stem; sheaths 0.6–4 cm, on vegetative branches 0.8–3.5 mm in diam., herbaceous, connate, tubular toward base at least when young, appearing as a closed ellipse when transversely dissected, persistent; leaves sessile, filiform, 5–10 cm \times 0.7–2.4 mm, 3-veined, apex obtuse to rounded. Spikes terminal, with 4–6 whorls of opposite flowers, lowermost whorl shortly distant from upper whorls; peduncles filiform, 1–22 cm. Carpels 4. Fruit (2.7–)2.9–3.3 \times ca. 2 mm, abaxial keel indistinct, obtuse, beak recurved. Fl. and fr. Jul–Oct.

Ponds, lakes, marshes, swamps. Qinghai, Xinjiang, Xizang, Yunnan [Afghanistan, Kazakhstan, Kyrgyzstan, Russia, Tajikistan; SW Asia].

2. *Stuckenia filiformis* (Persoon) Börner, Fl. Deut. Volk, 713. 1912.

丝叶眼子菜 *si ye yan zi cai*

Potamogeton filiformis Persoon, Syn. Pl. 1: 152. 1805; *Coleogeton filiformis* (Persoon) Les & R. R. Haynes; *P. ap-*

planatus Y. D. Chen; *P. filiformis* var. *applanatus* (Y. D. Chen) Q. Y. Li; *P. rostratus* Hagström.

Plants perennial, submerged. Rhizome terete, slender, with apical dormant buds. Stems slender, terete to compressed, ca. 0.5 mm in diam., sparsely to densely branched at base. Stipules partly fused with leaf base and sheathing stem; sheaths 0.6–4 cm, on vegetative branches 0.3–1.8 mm in diam., connate, tubular toward base at least when young, appearing as a closed ellipse when transversely dissected, persistent; leaves sessile, filiform, 3–18 cm \times 0.2–1.2(–1.6) mm, 3-veined, lateral veins inconspicuous, with air channels bordering midvein, apex obtuse to bifurcate. Spikes terminal, with 3–6 whorls of opposite flowers, markedly distant even at anthesis; peduncles 4–20 cm, slender. Carpels 4. Fruit obovoid, 1.9–2.6(–3) mm, abaxial keel indistinct, obtuse, beak very short, verruciform. Fl. and fr. Jul–Oct. $2n = 78$.

Lakes, ponds, marshes. Gansu, Nei Mongol, Qinghai, Shaanxi, Sichuan, Xizang, Yunnan [Afghanistan, Bhutan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, Uzbekistan; SW Asia, Europe, North and South America].

3. *Stuckenia pamirica* (Baagøe) Z. Kaplan, Folia Geobot. 43: 194. 2008.

长鞘菹草 *chang qiao zu cao*

Potamogeton pamiricus Baagøe, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1903: 182. 1903; *P. recurvatus* Hag-

ström.

Plants perennial, submerged. Rhizomes terete, slender to robust. Stems terete, slender. Stipules partly fused with leaf base and sheathing stem; sheaths 1.8–5 cm, convolute, appearing as a short spiral when transversely dissected, usually dark green to blackish with creamy yellowish to whitish margins; ligule whitish, 1–2.3 cm, persistent; leaves sessile, dark green or mostly conspicuously dark brown to blackish when dried, older ones discolored, creamy whitish or grayish to bright white, blade occasionally recurved at top, linear, 7–26 cm × 0.3–1.7 mm, 3-veined, with air channels bordering midvein, apex obtuse. Spikes terminal, with 4–6 whorls of opposite flowers; peduncles 2.5–3.5 cm. Fruit obovoid, 3.5–4.2 × ca. 2 mm, abaxial keel obtuse, with a very short, verruciform or cusped beak.

Submersed in lakes. Qinghai, Xizang [Kyrgyzstan, Tajikistan].

The species here called *Stuckenia pamirica* was generally treated under the name *Potamogeton recurvatus*. The name *P. pamiricus* was widely misapplied to broad-leaved forms of *S. filiformis*, and for this reason, all records in the literature are doubtful.

4. *Stuckenia pectinata* (Linnaeus) Börner, Fl. Deut. Volk, 713. 1912.

莼齿眼子菜 bi chi yan zi cai

Potamogeton pectinatus Linnaeus, Sp. Pl. 1: 127. 1753; *Coleogeton pectinatus* (Linnaeus) Les & R. R. Haynes; *P. bracteatus* Y. D. Chen; *P. erhaiensis* Y. D. Chen; *P. interruptus* Kitaibel; *P. intramongolicus* Y. C. Ma; *P. leptanthus* Y. D. Chen; *P. miniatus* Y. D. Chen; *P. nanus* Y. D. Chen; *P. pectinatus* var. *diffusus* Hagström; *P. pectinatus* var. *interruptus* (Kitaibel) Ascherson.

Plants perennial, submerged. Rhizome slender to robust, terete, usually developing apical buds. Stems sparsely to densely branched, filiform to slender, terete, 0.5–4 mm in diam. Stipules partly fused with leaf base and sheathing stem; sheaths 1–6.5 cm, convolute, appearing as a short spiral when transversely dissected, persistent, usually green with greenish to pale brownish margins; leaves sessile, usually olive-green to dark green, mostly ± straight, filiform to linear, 2–12 cm × 0.2–4 mm, 3–5-veined, lateral veins inconspicuous, usually with air channels bordering midvein, apex acuminate to acute, occasionally obtuse or rounded with short mucro. Spikes cylindric, 1–6 cm, with 3–7 whorls of opposite flowers, contiguous at first, later inconspicuously or conspicuously distant; peduncles elongated, slender, ca. as thick as stem. Carpels 4. Fruit obovoid, 3.4–4.2 mm, abaxial keel indistinct, with short beak. Fl. and fr. May–Oct. $2n = 78$.

Submerged in fresh water or brackish lakes, ponds, rivers, channels, and marshes. Anhui, Fujian, Gansu, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Jiangsu, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xinjiang, Xizang, Yunnan, Zhejiang [Afghanistan, Bangladesh, India, Indonesia (Sumatra), Japan, Kazakhstan, Korea, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Russia, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan; Africa, SW Asia, Australia, Europe, North and South America, Pacific islands].

Stuckenia pectinata is an extremely polymorphic species with nu-

merous forms depending on geographical and ecological circumstances.

Fl. China 23: 114–115. 2010.