

10. HALOPHILA Thouars, Gen. Nov. Madagasc. 2. 1806.

喜盐草属 xi yan cao shu

Herbs, submerged marine. Stems slender, easily breaking, creeping, branched, rooting at nodes, with 2 scales at each node. Leaves usually opposite or binate, usually petiolate, margin entire or serrulate. Plants dioecious or monoecious; flowers unisexual. Spathes 2-valved, sessile, usually 1-flowered. Male flowers pedicellate; perianth segments 3; stamens 3, alternate with perianth segments, filament absent; anthers 2–4-theous, extrorse; pollen moniliform. Female flowers sessile or subsessile; ovary with an apical beak; beak expanded at apex into 3 minute perianth lobes; ovules 2 to numerous; styles (2 or)3–5, threadlike. Fruit with beak at apex; pericarp membranous. Seeds few to many, globose or subglobose.

About nine species: along the coasts of the W Indian and S Pacific Oceans; four species in China.

- 1a. Lateral shoots 1–1.5 cm, each with 6–10 leaves; leaves narrowly elliptic to lanceolate, without cross veins 4. *H. beccarii*
1b. Lateral shoots shorter than 1 cm, each with only 1 pair of leaves; leaves ovate to elliptic, with 3–25 pairs of cross veins.
2a. Leaves 0.5–1.2 cm, cross veins in 3–8 pairs and diverging from midvein at an angle of 70–90° 3. *H. minor*
2b. Leaves 1–4 cm, cross veins in 6–25 pairs and diverging from midvein at an angle of 45–60°.
3a. Leaves 1–4 cm, entire and smooth, cross veins in 12–25 pairs 1. *H. ovalis*
3b. Leaves 1–2.2 cm, margin finely serrulate, pubescent on both surfaces, cross veins in 6–9 pairs 2. *H. decipiens*

1. *Halophila ovalis* (R. Brown) J. D. Hooker, Fl. Tasman. 2: 45. 1858.

喜盐草 xi yan cao

Caulinia ovalis R. Brown, Prodr. 339. 1810; *Halophila euphlebica* Makino; *H. hawaiiiana* Doty & B. C. Strong; *Kerneria ovalis* (R. Brown) Schultes & J. H. Schultes.

Creeping stems elongated, internodes 1–5 cm; scales orbicular to obovate, keeled, 4–5.5 × 3–3.5 mm, membranous, transparent; lateral shoots scarcely developed. Leaves 1-paired at each node; petiole 1–4.5 cm; leaf blade transparent, oblong-elliptic or ovate, 1–4 × 0.5–2 cm, entire, with 12–16(–25) pairs of cross veins running from midvein to intramarginal veins and diverging from midvein at an angle of 45–60°. Male spathes broadly lanceolate, ca. 4 mm; perianth segments elliptic, ca. 4 mm. Female spathes broadly lanceolate, with a neck at apex, inner one enclosed within outer one; ovary slightly triangular; styles long, slender; stigmas 3, 2–3 cm. Fruit ellipsoid-globose, 3–4 mm in diam.; beak 4–5 mm. Seeds numerous, ca. 1 mm. Fl. Nov–Dec. $2n = 18$.

Submerged in shallow seas. Guangdong, Hainan, Taiwan [India, Indonesia (Java), Japan, Malaysia, Myanmar, New Guinea, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Africa, SW Asia, Australia; Red Sea to W Pacific Ocean].

2. *Halophila decipiens* Ostenfeld, Bot. Tidsskr. 24: 260. 1902.

毛叶喜盐草 mao ye xi yan cao

Creeping stems with internodes 1–3.2 cm; scales membranous, transparent. Petiole 1–2 cm; leaf blade oblong-elliptic, 10–22 × 3–7 mm, midvein prominent, with 1 diverging pair of intramarginal veins at base, with 6–9 pairs of cross veins. Plants monoecious. Spathes ovate, 3–3.5 mm, with abaxial hairs. Ovary ca. 1.4 mm; styles short, ca. 2 mm; stigmas 3. Fruit globose, ca. 2.5 × 1.5 mm. Seeds 10–15(–30), globose, 0.4–0.6 mm.

Submerged in shallow seas. Taiwan [Bangladesh, India, Indonesia, Myanmar, Sri Lanka, Thailand, Vietnam; Africa, Australia, Cen-

tral and South America; tropical and subtropical seas of Caribbean, Indian Ocean, and Pacific Ocean].

3. *Halophila minor* (Zollinger) Hartog, Fl. Males., Ser. 1, Spermat. 5: 410. 1957.

小喜盐草 xiao xi yan cao

Lemnopsis minor Zollinger, Syst. Verz. 1: 75. 1854; *Halophila lemnopsis* Miquel, nom. illeg. superfl.; *H. ovalis* (R. Brown) J. D. Hooker var. *minor* (Zollinger) Ascherson.

Creeping stems with internodes 1–3 cm; scales transparent, suborbicular or elliptic, 2–4 mm, membranous; lateral shoots scarcely developed. Leaves 1-paired at each node; petiole 0.5–3.5 cm; leaf blade transparent, narrowly elliptic or ovate, 5–12 × 3–5 mm, entire, with 3–8 pairs of cross veins running from midvein to intramarginal veins and diverging from midvein at an angle of 70–90°. Male spathes ovate or suborbicular, ca. 3 mm, keeled; perianth segments transparent, ca. 2.5 mm. Female spathes lanceolate, with a neck at apex, inner one enclosed within outer one; ovary ovoid, 1–2 mm; styles elongated; stigmas 3, 0.6–1.7 cm. Fruit ovoid or globose, 2–4 mm; beak 2–6 mm. Seeds ca. 20, ca. 0.5 mm in diam.

Submerged in shallow seas. Guangdong, Hainan, Taiwan [India, Indonesia (Java), Japan, Malaysia, New Guinea, Philippines, Thailand, Vietnam; Africa].

4. *Halophila beccarii* Ascherson, Nuovo Giorn. Bot. Ital. 3: 302. 1871.

贝克喜盐草 bei ke xi yan cao

Creeping stems with internodes 1–2 cm; scales membranous, transparent, outer one 2–3 × 2–2.5 mm, inner one 4–6 × 4–4.5 mm; lateral shoots erect, 1–1.5 cm. Leaves 6–10 at apex of each lateral shoot; petiole 1–2 cm; leaf blade narrowly elliptic or lanceolate, 6–11 × 1–2 mm, midvein prominent, with 1 diverging pair of intramarginal veins at base, without cross veins, sheath to 3–4 mm, margin entire. Plants dioecious. Spathes oblong or lanceolate, ca. 2.5 mm, keeled. Ovary ca. 1 mm; styles elongated; stigmas 2 or 3. Fruit ovoid, 0.5–1.5 mm,

Fl. China 23: 101–102. 2010.

beaked. Seeds 2–4, small.

Submerged in shallow seas. Guangdong, Hainan, Taiwan [Borneo, India, Malaysia, Myanmar, Philippines, Sri Lanka, Vietnam].

Fl. China 23: 101–102. 2010.