

9. **HYDRILLA** Richard, Mém. Cl. Sci. Math. Inst. Natl. France 1811(2): 9, 61, 76. 1814.

黑藻属 hei zao shu

Herbs, submerged. Stems elongated, branched. Leaves verticillate or lowermost opposite, sessile, linear to narrowly elliptic, margin serrate with 2 small, fringed nodal scales. Plants dioecious or monoecious; flowers unisexual, axillary. Male spathe subsessile, membranous, subglobose, with apical knob and corona of setae, 1-flowered; male flowers shortly pedicellate, free from spathe on water surface at anthesis; sepals 3, ovate or obovate, convex; petals 3, narrower than sepals; stamens 3. Female spathe tubular, sessile, bifid at apex, 1-flowered; sepals and petals similar to male ones; ovary cylindrical, attenuate into a filiform beak; styles (2 or)3; ovules few. Fruit cylindrical or linear.

One species: temperate to tropical regions.

1. Hydrilla verticillata (Linnaeus f.) Royle, Ill. Bot. Himal. Mts. 1: t. 376. 1839.

黑藻 hei zao

Leaves in whorls of 3–8, linear or narrowly strap-shaped, 0.7–1.7 cm × 1–4 mm, midvein distinct, margin conspicuously denticulate, apex acute. Male spathe green; sepals white, ca. 2.3 × 0.7 mm; petals reflexed, white or reddish, ca. 2 × 0.5 mm. Female spathe green; flowers similar to male ones. Fruit with 2–9 spinelike projections or smooth and without projections. Seeds (1 or)2–6. Fl. and fr. May–Oct. $2n = 16, 24$.

Ponds, running water. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shaanxi, Shandong, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Afghanistan, Bangladesh, Bhutan, India, Indonesia, Japan, Kazakhstan, Korea, Malaysia, Myanmar, Nepal, New Guinea, Pakistan, Philippines, Russia, Sri Lanka, Thailand, Vietnam; Africa, SW Asia, Australia, Europe; introduced in North America].

- 1a. Fruit with 2–9 spinelike projections;
seeds 2–6 1a. var. *verticillata*
1b. Fruit smooth, without spinelike
projections; seeds 1–3 1b. var. *roxburghii*

1a. Hydrilla verticillata var. **verticillata**

黑藻(原变种) hei zao (yuan bian zhong)

Serpicula verticillata Linnaeus f., Suppl. Pl. 416. 1782; *Elodea verticillata* (Linnaeus f.) F. Mueller; *Hydrilla dentata* Caspary; *Udora verticillata* (Linnaeus f.) Sprengel; *Vallisneria verticillata* (Linnaeus f.) Roxburgh.

Leaves 0.7–1.7 cm × 1–1.8 mm. Fruit with 2–9 spinelike projections. Seeds 2–6. $2n = 16$.

Ponds, running water. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shaanxi, Shandong, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Indonesia, Japan, Malaysia, Philippines; Australia, Europe].

1b. Hydrilla verticillata var. **roxburghii** Caspary, Jahrb. Wiss. Bot. 1: 494. 1858.

罗氏轮叶黑藻 luo shi lun ye hei zao

Leaves 0.7–1.3 cm × 3–4 mm. Fruit smooth, without spinelike projections. Seeds 1–3, usually without embryo. $2n = 24$.

Ponds, running water. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Malaysia, Philippines; Australia, Europe].

Fl. China 23: 100–101. 2010.