

## PEDALIACEAE

胡麻科 hu ma ke

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Herbs annual or perennial, rarely shrubs or trees, sometimes with swollen stems. Leaves opposite, sometimes alternate on upper part of stem, densely covered with 4-merous mucilaginous glands; stipules absent. Flowers zygomorphic, solitary, axillary, rarely in few-flowered cymes. Pedicel with extrafloral nectaries. Calyx (4 or)5-parted. Corolla bilabiate or obscurely so; lobes 5, imbricate. Stamens 4 and didynamous, sometime 2; staminodes usually 1; anthers 2-locular, dehiscing longitudinally. Disc fleshy. Ovary superior or rarely inferior, 2- or 4-locular; placentation axile; ovules 2 to numerous, anatropous. Style filiform; stigma 2-lobed. Fruit dehiscent or indehiscent, winged or usually with horns or hooks. Seeds 1 to many in each locule.

About 13 or 14 genera and 62–85 species: primarily tropical and subtropical parts of the Old World, especially Africa; two genera and two species in China.

Tao Deding. 1990. Pedaliaceae. *In*: Wang Wentsai, ed., *Fl. Reipubl. Popularis Sin.* 69: 63–66.

1a. Plants terrestrial; fertile stamens 4; ovary superior; fruit dehiscent, 2- or 4-valved capsule ..... 1. *Sesamum*

1b. Plants aquatic; fertile stamens 2; ovary inferior; fruit indehiscent ..... 2. *Trapella*

### 1. *SESAMUM* Linnaeus, *Sp. Pl.* 2: 634. 1753.

胡麻属 hu ma shu

Plants terrestrial, annual or perennial herbs, rarely shrubs. Leaves entire or digitate. Flowers solitary. Pedicel short. Calyx deciduous or persistent. Corolla white, pink, to purple, obliquely campanulate, obscurely bilabiate; lowest lobe longest. Disc glandular. Ovary 2-locular, divided by a false septum almost to apex. Ovules numerous, uniseriate in each locule. Fruit a longitudinally dehiscing capsule, oblong to obconical, 4-sulcate, beaked. Seeds obovate, compressed, winged, fringed, or rarely smooth; testa smooth or rugose.

Twenty-one species: primarily in Africa, India, and Sri Lanka; one species in China.

#### 1. *Sesamum indicum* Linnaeus, *Sp. Pl.* 2: 634. 1753.

芝麻 zhi ma

*Sesamum orientale* Linnaeus.

Herbs annual, erect, to 1.2 m tall. Stems branched or unbranched, 4-angled, finely pubescent to glabrescent. Leaves opposite or alternate; petiole 3–11 cm on lower leaves; leaf blade lanceolate to ovate, variously 3-parted, 4–20 × 2–10 cm; upper stem leaves oblong to linear-lanceolate, 0.5–2.5 cm wide, base cuneate, margin entire. Flowers white, pink, or mauve-pink with darker markings. Calyx persistent. Corolla 1.5–3.3 cm. Capsule narrowly oblong, rounded at base, 1.5–3 cm × 6–7 mm; beak broad, short. Seeds horizontally arranged, double fringe conspicuous; testa white, brown, or black when ripe, smooth.  $2n = 26^*$ .

Widely cultivated in China as a crop for seed oil; origin uncertain, cultivated worldwide, especially in tropical countries.

### 2. *TRAPELLA* Oliver in J. D. Hooker, *Icon. Pl.* 14: pl. 1595. 1887.

茶菱属 cha ling shu

Herbs aquatic. Floating leaves triangular-rounded to cordate, submersed ones lanceolate. Flowers solitary, axillary, mostly submersed and cleistogamous. Calyx teeth 5; tube adnate to ovary. Corolla funnellform, bilabiate; lowest lobe longest, upper 2 forming inconspicuous lip. Stamens 2, included, basally adnate to corolla tube. Ovary inferior, 2-locular, 1 locule reduced, another with 2 ovules. Stigma 2-lobed. Fruiting pedicel nodding. Fruit indehiscent, narrow and long, with 5 hooklike or spiny appendages below calyx lobes, sometimes with 3–5 longitudinal wings. Seeds 1.

One or two species: China, Japan, Korea, Russia (Far East); one species in China.

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The genus is sometimes placed in its own family (Trapellaceae, especially if Martyniaceae is separated from the Pedaliaceae).

**1. *Trapella sinensis*** Oliver in J. D. Hooker, Icon. Pl. 14: pl. 1595. 1887.

茶菱 cha ling

Rhizomes horizontal. Stems green, slender, to 60 cm. Leaves opposite, glabrous adaxially, pale purple-red abaxially; petiole 1.5–3 cm; floating leaves 2.5–3 cm wide, apex obtuse-acute; submersed leaves 3–5 cm × 5–7 mm. Pedicel 1–3 cm, elongated at anthesis. Calyx teeth ca. 2 mm, persistent. Corolla pale red, 1–3 × 2–3.5 cm; lobes rounded. Filaments ca. 1 cm; anthers 2-locular, spreading. Fruit with 3 hooklike appendages to 7 cm and 2 erect spines 0.3–2 cm. Fl. Jun.  $2n = 50$ .

Ponds, lakes; to 300 m. Anhui, Fujian, Guangxi, Hebei, Heilongjiang, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning [Japan, Korea, Russia (Far East)].