

# 1. RHIZOPHORA Linnaeus, Sp. Pl. 1: 443. 1753.

红树属 hong shu shu

Trees or shrubs, with aerial roots. Stipules reddish, sessile, leaflike, lanceolate. Leaves opposite or distichous; leaf blade glabrous, midvein extended into a caducous point, margin entire or serrulate near apex. Inflorescences axillary, dense cymes. Bracteoles forming a cup just below flower. Calyx tube adnate to ovary, persistent; lobes 5–8. Petals 4, lanceolate. Stamens 8–12; filaments much shorter than anthers or absent; anthers introrse, locules many, dehiscent by an adaxial valve. Ovary inferior, 2-loculed, apically partly surrounded by a disk, free part elongating after anthesis; style 1, sometimes very short; stigmas 4. Fruit brown, ovoid, ovoid-conic, or pyriform. Fertile seed 1 per fruit; germination viviparous; hypocotyl protruding to 78 cm before propagule falls.

Eight or nine species: tropics and subtropics; three species in China.

- 1a. Peduncle shorter than petiole, thick, on leafless stems; flowers 2 per inflorescence; bracteoles united, cup-shaped; petals glabrous ..... 1. *R. apiculata*
- 1b. Peduncle usually as long as petiole, slender, in leaf axil; flowers more than 2 per inflorescence; bracteoles united at base; petals pubescent.
  - 2a. Style 0.5–1.5 mm; anthers sessile ..... 2. *R. mucronata*
  - 2b. Style 4–6 mm; anthers on a short but distinct filament ..... 3. *R. stylosa*

## 1. *Rhizophora apiculata* Blume, Enum. Pl. Javae 1: 91. 1827.

红树 hong shu

*Rhizophora candelaria* Candolle.

Trees or shrubs, 3–6(–10) m tall. Bark gray, usually with vertical fissures. Stipules 4–8 cm. Petiole 1.5–3 cm, usually tinged reddish; leaf blade elliptic-oblong to sublanceolate, 7–16 × 3–6 cm, abaxial midvein reddish, base broadly cuneate, apex acute to apiculate. Inflorescences 2-flowered cymes; peduncle 0.7–1.0 mm. Flowers sessile. Calyx lobes ovate, concave, 1–1.4 cm, apex acute. Petals lanceolate, flat, 6–8 mm, membranaceous, glabrous, white. Stamens mostly 12, 4 adnate to base of petals, 8 adnate to sepals, 6–7.5 mm; anthers nearly sessile, apex apiculate. Ovary largely enclosed by disk, free part 1.5–2.5 mm; style ca. 1 mm. Fruit ca. 2.5 × 1.5 cm, apical half narrower. Hypocotyl cylindrical-clavate, ca. 3.8 × 1.2 cm, ± blunt before falling. Fl. and fr. all year.

Mangrove forests; sea level. S Guangxi, Hainan [Cambodia, India, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam; E Africa, N Australia, New Guinea, Pacific islands].

## 2. *Rhizophora mucronata* Lamarck ex Poirét, Encycl. 6: 189. 1804.

红茄冬 hong qie dong

*Rhizophora longissima* Blanco.

Trees, to 27(–30) m, d.b.h. to 70 cm. Stipules 5.5–8.5 cm. Petiole 2.5–4 cm; leaf blade broadly elliptic to oblong, 8.5–16 × 5–10 cm, base cuneate, apex ± blunt to ± acute. Inflorescences 2–4(–8)-flowered cymes; peduncle 2–5 cm. Flowers sessile. Calyx lobes ovate, 9–14 × 5–7 mm. Petals lanceolate, 7–9 mm, fleshy, partly embracing stamens, margins pilose. Stamens 8, 4 borne on base of petals, 4 borne on sepals, 6–8 mm; anthers sessile. Ovary emerging far beyond disk, free part elongate-conic, 2–3 mm; style 0.5–1.5 mm. Fruit dirty brownish green, elongate-ovoid, 5–7 × 2.5–3.5 cm, basally often tuberculate, apically slightly contracted. Hypocotyl cylindrical, 30–60 cm.  $2n = 36$ .

Mangrove forests; sea level. Taiwan [Cambodia, India, Indone-

sia, Japan (Ryukyu Islands), Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; E Africa, SW Asia, N Australia, Indian Ocean islands, New Guinea, Madagascar, Pacific islands].

## 3. *Rhizophora stylosa* Griffith, Not. Pl. Asiat. 4: 665. 1854.

红海兰 hong hai lan

*Rhizophora mucronata* Lamarck var. *stylosa* (Griffith) Schimper.

Trees, often less than 8 m tall. Bark reddish or pale gray, rough. Petiole 2–3 cm; leaf blade obovate, 6.5–11 × 3–4(–5.5) cm, base broadly cuneate, apex mucronate. Inflorescences 2- to many flowered; peduncle 1–5 cm. Pedicel 5–10 mm, terete; bracteoles brown, connate. Calyx lobes lanceolate to oblong-lanceolate, 9–12 × 3–5 mm. Petals to 1.2 cm, involute, margin densely villous. Stamens usually 8; filaments short but distinct; anthers 5–6 mm. Ovary emerging beyond disk, free part shallowly conic and less than 1.5 mm; style 4–6 mm; stigma lobes 2. Fruit green, conic, 2.5–3 × ca. 2 cm. Hypocotyl cylindrical, 30–40 cm, apex acute. Fl. and fr. autumn–winter.

Mangrove forests; sea level. S Guangdong, S Guangxi, N Hainan [Cambodia, Indonesia, Japan (Ryukyu Islands), Malaysia, Philippines, Vietnam; N Australia, New Guinea, Pacific islands].

RHIZOPHORACEAE