

## BIXACEAE

红木科 hong mu ke

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Shrubs or small trees. Young branches and leaves with peltate scales. Leaves alternate; stipules small, sheathing bud, fugacious; petiole swollen at base and apex; leaf blade simple, palmately veined. Inflorescence a terminal panicle. Flowers bisexual, actinomorphic. Sepals 5, free, imbricate, with basal, abaxial glands, fugacious. Petals 5, imbricate, large and conspicuous. Stamens many, free or slightly united at base; anthers oblong, with 2 inverted, U-shaped thecae, dehiscing by short, apical slits on bend. Ovary superior, 1-loculed; ovules many on 2 parietal placentas; style slender; stigmas 2-lobed. Fruit a capsule, loculicidally 2-valved, usually spiny. Seeds many; testa red, slightly fleshy; embryo large; cotyledons broad, incurved at apex; endosperm copious.

One genus and five species: native to tropical America; one species widely cultivated in tropical regions, including China.

Molecular data suggest that the genus *Diegodendron* Capuron, endemic to Madagascar, is related to *Bixa* and could be included within the Bixaceae.

Zhang Pengyun & Zhang Yaojia. 1990. Bixaceae. In: Li Hsiwen, ed., Fl. Reipubl. Popularis Sin. 50(2): 180.

### 1. BIXA Linnaeus, Sp. Pl. 1: 512. 1753.

红木属 hong mu shu

Morphological characters and geographic distribution are the same as those of the family.

#### 1. *Bixa orellana* Linnaeus, Sp. Pl. 1: 512. 1753.

红木 hong mu

Shrubs or small trees, evergreen, 2–5(–10) m tall. Branches brown, densely red-brown glandular hairy. Petiole erect, 2.5–5 cm, glabrous; leaf blade abaxially pale green, with resinlike gland dots, adaxially deep green, cordate-ovate or triangular-ovate, (5–)10–25 × (3.3–)5–13(–16.5) cm, palmately 5-veined, glabrous, base rounded or subtruncate, sometimes slightly cordate, margin entire, apex acuminate. Panicles robust, often flat-topped, 5–10 cm, densely red-brown scaly and glandular hairy; bracts caducous, leaving scalelike scars. Flowers 4–5 cm in diam.; pedicel 4–12 mm. Sepals obovate, 8–10 × ca. 7 mm, densely red-brown scaly, with glands at base. Petals bright pink, mauve, or white with pale red veins, obovate, (1–)1.5–3 ×

0.8–2 cm. Stamens many; anthers yellow, apically dehiscent. Capsule subglobose or ovoid, slightly laterally compressed, (1.4–)2–4.5 cm, usually densely purple-brown spiny, rarely smooth; spines 1–2 cm. Seeds numerous, red-brown, obovoid-angular, 4–5 mm.

Cultivated, tolerant of poor soils but intolerant of shade. Guangdong, Taiwan, Yunnan [native to tropical America; cultivated pantropically].

*Bixa orellana* is cultivated for the red, oil-soluble pigment, bixin, which is contained in the seed coat. It is used commercially as a food colorant and as a fabric dye. A paste prepared from the seeds is used as a skin paint (a common name is “lipstick tree”) and as a condiment. Other parts of the plant are widely used in tropical America for a variety of medicinal purposes.

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