

## 6. PHOENIX Linnaeus, Sp. Pl. 2: 1188. 1753.

刺葵属 ci kui shu

Stems solitary or clustered, short and subterranean to large and aerial, usually rough with very close nodes, often covered with persistent leaf bases. Leaves 8–50, pinnate; leaf sheaths open; pinnae induplicate, regularly or irregularly arranged and then spreading in different planes, at base of leaf modified into short, stout, sharp spines (acanthophylls). Plants dioecious. Inflorescences usually branched to 1 order, borne among leaves; peduncle bearing a prophyll, other bracts much reduced; rachillae often borne in groups or spirals along inflorescence rachis; flowers small, simple, unisexual; male flowers with 6(–9) stamens. Fruits variously colored black or brown, obovoid, oblong, or ellipsoid, usually 1-seeded; mesocarp fleshy, thick and sweet tasting in date palm but thin and bitter in other species; endosperm homogeneous, rarely ruminant; germination remote; eophylls undivided.

Fourteen species: from the Canary Islands across Africa, the Mediterranean, and SW Asia to just reaching the Philippines; three species (one introduced) in China.

In addition to species no. 1 below, *Phoenix canariensis* Chabaud (Prov. Agric. Hort. III. 19: 293. 1882; 加拿利海枣 jia na li hai zao) is cultivated in China. It is native to the Canary Islands.

Records of *Phoenix sylvestris* (Linnaeus) Roxburgh from China (e.g., FRPS 13(1): 8. 1991) were presumably based on misidentifications.

- 1a. Pinnae regularly arranged and spreading in same plane; pinnae with persistent scales on abaxial surface of midrib ..... 3. *P. roebelenii*
- 1b. Pinnae irregularly arranged and spreading in different planes; pinnae without persistent scales on abaxial surface of midrib.
  - 2a. Stems short and subterranean or to 5 m tall ..... 2. *P. loureiroi*
  - 2b. Stems tall and aerial, to 30 m tall ..... 1. *P. dactylifera*

### 1. *Phoenix dactylifera* Linnaeus, Sp. Pl. 2: 1188. 1753.

海枣 hai zao

Stems solitary or clustered and then with few shoots, to 30 m tall, to 50 cm in diam., rough with persistent, diamond-shaped leaf bases. Leaves 3–5 m; sheath and petiole to 1 m; rachis 1–2 m; acanthophylls many per side of rachis; pinnae to 200 per side of rachis, linear, irregularly arranged and spreading in different planes; middle pinnae to 40 × 2 cm. Male inflorescences erect, to 1 m, with many rachillae, these ca. 30 cm; female inflorescences erect, becoming pendulous, to 2 m, with to 150 rachillae, these to 40 cm. Fruits variable in shape, usually oblong, to 7 × 3 cm, brown or black; endosperm homogeneous.

Cultivated. Fujian, Guangdong, Guangxi, Yunnan [widely cultivated throughout N Africa, SW Asia, and parts of S Asia].

### 2. *Phoenix loureiroi* Kunth, Enum. Pl. 3: 257. 1841 [“*loureirii*”].

刺葵 ci kui

*Phoenix pusilla* Loureiro, Fl. Cochinch. 2: 614. 1790, not Gaertner (1788); *P. hanceana* Naudin; *P. hanceana* var. *formosana* Beccari; *P. hanceana* var. *philippinensis* Beccari; *P. humilis* Royle ex Beccari (1890), not (Linnaeus) Cavanilles (1793); *P. humilis* var. *hanceana* (Naudin) Beccari; *P. humilis* var. *loureiroi* (Kunth) Beccari; *P. humilis* var. *pedunculata* (Griffith) Beccari; *P. humilis* var. *robusta* Beccari; *P. loureiroi* var. *humilis* S. Barrow; *P. loureiroi* var. *pedunculata* (Griffith) Govaerts; *P. ouseleyana* Griffith; *P. pedunculata* Griffith; *P. pygmaea* Raeuschel; *P. robusta* (Beccari) J. D. Hooker.

Stems solitary or clustered, 1–6 m tall, 20–40 cm in diam., sometimes short and subterranean, rough with persistent, diamond-shaped leaf bases. Leaves to 2 m; sheath and petiole to 40 cm; rachis 1–2 m; acanthophylls ca. 15 per side of rachis; pinnae 40–130 per side of rachis, linear, irregularly arranged and spreading in different planes; middle pinnae 20–50 × 1–4 cm. Male inflorescences erect, to 65 cm, with to 30 rachillae, these ca. 10 cm; female inflorescences erect, becoming arched, to 2 m, with to 40 rachillae, these to 40 cm. Fruits black, blue-black, or dark purple, ovoid to obovoid, to 1.8 × 0.9 cm; endosperm homogeneous.

Open forests, *Pinus* forests, open grassy areas, dunes, often on steep slopes, persisting in disturbed areas and in places subject to burning; below 1700 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Laos, Myanmar, Nepal, Pakistan, Philippines, Thailand, Vietnam].

The leaves are woven into various domestic items, especially mats and brooms, or used for thatching.

Two varieties are sometimes recognized. The one occurring in China, *Phoenix loureiroi* var. *loureiroi*, has pinnae with a thin brown line along the margins, which is lacking in *P. loureiroi* var. *pedunculata*, restricted to the Indian subcontinent. The FRPS record (13(1): 7. 1991) of *Phoenix acaulis* Roxburgh from China was probably based on a misidentification of *P. loureiroi*.

### 3. *Phoenix roebelenii* O’Brien, Gard. Chron., ser. 3, 6: 475. 1889.

江边刺葵 jiang bian ci kui

Stems clustered (solitary in cultivated plants), 1–3 m tall, to 10 cm in diam., straight or twisted, rough with persistent, diamond-shaped leaf bases. Leaves to 2 m; sheath and petiole to 50 cm; rachis 1–2 m; acanthophylls ca. 12 per side of rachis;

pinnae 25–50 per side of rachis, linear, regularly arranged and spreading in same plane, with persistent scales on abaxial surface of midrib; middle pinnae 20–40 × ca. 1.5 cm. Male inflorescences pendulous, 30–60 cm, with to 20 rachillae, these 7–20 cm; female inflorescences erect, to 35 cm, with to 50 rachillae. Fruits orange-brown or purple-brown, obovoid, to 1.8 × 0.7 cm; endosperm homogeneous.

Scattered localities on rocky riverbanks or cliffs, sometimes with stems submerged, especially along the Lancang Jiang and Nu Jiang, at low elevations. Yunnan [Laos, Myanmar, Thailand, Vietnam].

This species is widely planted as an ornamental.

