

9. PARAKMERIA Hu & W. C. Cheng, Acta Phytotax. Sin. 1: 1. 1951.

拟单性木兰属 ni dan xing mu lan shu

Micheliopsis H. Keng.

Trees, evergreen, glabrous, hermaphrodite or andro-dioecious. Twigs densely noded and bamboo nodelike; terminal vegetative buds dehiscing into 2 valves. Stipules not adnate to petiole. Leaves when young not folded and surrounded by young vegetative buds in bud; petiole without a stipular scar; leaf blade margin entire, bony, semitransparent, decurrent on petiole. Flowers terminal, solitary. Spathaceous bract 1, just basal to tepals. Tepals 9–12; outer 3 tepals nearly leathery and striated; tepals of inner 2 or 3 whorls subequal but gradually smaller inward, fleshy. Male flower: stamens 10–75, inserted on cylindrical torus; filaments short; connective exerted and forming a mucro; anthers filiform, thecae divergent, dehiscing introrsely; torus deciduous from peduncle after anthesis. Bisexual flower: stamens as in male flowers but fewer; gynophore conspicuous; carpels 10–20, connate when developed; ovules 2 per carpel. Fruit ellipsoid or obovoid, shape varied because of carpels partly undeveloped; fruiting stalks short, not elongated; mature carpels woody, dehiscing along dorsal sutures and apex. Seeds 1 or 2 per carpel, pendulous on a filiform elastic false ovule stalk; testa red or yellow; endotesta bony, with an apical hole.

Five species: China, N Myanmar; five species (three endemic) in China.

- 1a. Plants with bisexual flowers; tepals apiculate at apex.
 - 2a. Leaf blade leathery, rigid, deep green and glossy, elliptic, oblong-elliptic, or obovate-elliptic, secondary veins 7–13 on each side; tepals purplish red at base abaxially, obovate-spoon-shaped, 4–5 cm; fruit 5–7.5 cm 1. *P. nitida*
 - 2b. Leaf blade thinly leathery, adaxially green and glossy, narrowly ovate to narrowly elliptic, secondary veins 14–16 on each side; outer tepals pale yellow, obovate-oblong, 2.5–4 cm; fruit 2–2.5 cm 2. *P. kachirachirai*
- 1b. Plants andro-dioecious; tepals rounded or acuminate at apex.
 - 3a. Leaf blade thinly leathery, usually widest toward base from middle, ovate-oblong or ovate-elliptic, base broadly cuneate or suborbicular; outer tepals red abaxially; torus of male flowers rounded at apex 3. *P. yunnanensis*
 - 3b. Leaf blade leathery, usually widest at middle, base cuneate or narrowly cuneate; outer tepals pale yellow; torus of male flowers shortly mucronate or long acuminate at apex.
 - 4a. Leaf blade elliptic, narrowly elliptic, or obovate-elliptic, apex shortly acute or shortly acuminate, adaxially deep green, abaxially grayish green, glandular; torus of male flower shortly mucronate 4. *P. omeiensis*
 - 4b. Leaf blade obovate-elliptic or narrowly obovate-elliptic, apex acuminate, tips obtuse, adaxially green, abaxially pale green, not glandular; torus of male flower long acuminate at apex 5. *P. lotungensis*

1. Parakmeria nitida (W. W. Smith) Y. W. Law, Acta Phytotax. Sin. 34: 91. 1996.

光叶拟单性木兰 guang ye ni dan xing mu lan

Magnolia nitida W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 12: 212. 1920; *M. nitida* var. *robusta* B. L. Chen & Nooteboom.

Trees, to 30 m tall, to 1 m d.b.h., with bisexual flowers. Petiole 1–4 cm; leaf blade elliptic, oblong-elliptic, or rarely obovate-elliptic, 5.5–9.5 × 2–4 cm, leathery, adaxially deep green and glossy but reddish brown when young, secondary veins 7–13 on each side of midvein, base cuneate or broadly cuneate, apex acute to acuminate. Flowers fragrant. Tepals ca. 12; outer 3 tepals outside purplish red at middle, obovate-spoon-shaped, 4–5 × 2.3–2.5 cm; tepals of inner 3 whorls pale yellowish white, gradually smaller. Stamens 1–1.7 cm; connective exerted ca. 3 mm; anthers ca. 1 cm. Gynoecium green; styles red. Fruit green, ellipsoid-ovoid, 5–7.5 cm; testa bright yellow. Fl. Mar–May, fr. Sep–Oct.

Evergreen broad-leaved forests; 1800–2500 m. SE Xizang, NW Yunnan [N Myanmar].

2. Parakmeria kachirachirai (Kanehira & Yamamoto) Y. W. Law, Acta Phytotax. Sin. 34: 91. 1996.

恒春拟单性木兰 heng chun ni dan xing mu lan

Michelia kachirachirai Kanehira & Yamamoto, Icon. Pl. Formosan., Suppl. 2: 14 1926; *Magnolia kachirachirai* (Kanehira & Yamamoto) Dandy; *Micheliopsis kachirachirai* (Kanehira & Yamamoto) H. Keng.

Trees, to 20 m tall, to 1.2 m d.b.h., with bisexual flowers. Dry bark dark brown, smooth, massively scaly fissured when old. Petiole 0.5–2 cm; leaf blade narrowly ovate to narrowly elliptic, 6.5–12 × 2–3 cm, thinly leathery, secondary veins 14–16 on each side of midvein, base cuneate, apex acute to shortly acuminate. Peduncle 1–1.5 cm; spathaceous bract 1, brown, ca. 2.5 cm, glabrous. Tepals 9–12, in 3 or 4 whorls, pale yellow, obovate-oblong, 2.5–4 × 1–1.5 cm; tepals of innermost whorl usually smaller. Stamens 50–60, 1.4–1.8 cm; connective exerted and forming a mucro; anthers 1.2–1.5 cm. Gynophore 0.5–0.8 cm; gynoecium ovoid, 1.2–1.4 cm; carpels 9–18. Fruit long cylindrical, 2–2.5 × 1.2–1.5 cm. Seeds without testa flat, orbicular or reniform. Fl. Apr–May, fr. Oct–Nov.

- Evergreen broad-leaved forests; 500–1300 m. Taiwan.

This species is grown as an ornamental and used for timber.

3. Parakmeria yunnanensis Hu, Acta Phytotax. Sin. 1: 2. 1951.

云南拟单性木兰 yun nan ni dan xing mu lan

Magnolia yunnanensis (Hu) Nooteboom.

Trees, to 30 m tall, to 50 cm d.b.h., andro-dioecious. Bark grayish white, smooth and not fissured. Petiole 1–2.5 cm; leaf blade ovate-oblong to ovate-elliptic, 6.5–15(–20) × 2–5 cm, thinly leathery, abaxially pale green and adaxially green but both surfaces purplish red when young, secondary veins 7–15 on each side of midvein, reticulate veins conspicuous on both surfaces, base broadly cuneate to narrowly rounded, apex shortly acuminate to acuminate. Flowers fragrant. Male flower: tepals 12, in 4 whorls; outer tepals red, obovate, ca. 4 × 2 cm; tepals of inner 3 whorls white, narrowly obovate-spoon-shaped, 3–3.5 cm, fleshy, base tapering into claw; stamens ca. 30, ca. 2.5 cm; filaments ca. 1 cm, red; connective exerted and forming a ca. 1 mm mucro; anthers ca. 1.5 cm; torus rounded at apex. Bisexual flower: tepals as those of male flowers; stamens fewer than those of male; gynoecium green, ovoid. Fruit long ovoid, ca. 6 cm; mature carpels rhombic, dehiscent along dorsal sutures when matured. Seeds compressed, 6–7 × ca. 10 cm; testa red. Fl. May, fr. Sep–Oct. $2n = 114$.

Evergreen broad-leaved forests; 1200–1500 m. SE Xizang, Yunnan [N Myanmar].

4. *Parakmeria omeiensis* W. C. Cheng, Acta Phytotax. Sin. 1: 1. 1951.

峨眉拟单性木兰 e mei ni dan xing mu lan

Magnolia omeiensis (W. C. Cheng) Dandy.

Trees, to 25 m tall, to 40 cm d.b.h., andro-dioecious. Bark dark grayish. Petiole 1.5–2 cm; leaf blade elliptic, narrowly elliptic, or obovate-elliptic, 8–12 × 2.5–4.5 cm, leathery, glandular, abaxially pale grayish green, adaxially deep green and glossy, secondary veins 8–10 on each side of midvein, base cuneate to narrowly cuneate, apex shortly acuminate with an obtuse acumen. Male flower: tepals 12; outer 3 tepals pale yellow, oblong, 3–3.8 × 1–1.4 cm, thinner, apex rounded or obtuse; tepals of inner 3 whorls milky white, obovate-spoon-shaped, narrower and smaller, fleshy; stamens ca. 30, 2–2.2 cm; filaments dark red, 2–4 mm; connective dark red, exerted and forming a mucro; anthers 1–1.2 cm; torus apex mucronate. Bisexual flower: tepals same as those of male flowers; stamens 16–18; gynoecium ellipsoid, ca. 1 cm; carpels 8–12. Fruit obovoid, 3–4 cm. Seeds obovate, 6–8 mm in diam.; testa reddish brown. Fl. May, fr. Sep. $2n = 76^*$.

• Evergreen broad-leaved forests; 1200–1300 m. Sichuan (Emei Shan).

5. *Parakmeria lotungensis* (Chun & C. H. Tsoong) Y. W. Law, Acta Phytotax. Sin. 34: 91. 1996.

乐东拟单性木兰 le dong ni dan xing mu lan

Magnolia lotungensis Chun & C. H. Tsoong, Acta Phytotax. Sin. 8: 225. 1963; *M. nitida* W. W. Smith var. *lotungensis* (Chun & C. H. Tsoong) B. L. Chen & Nootboom; *Parakmeria lotungensis* var. *xiangxiensis* C. L. Pang & L. H. Yan.

Trees, to 30 m tall, to 30 cm d.b.h., andro-dioecious. Bark grayish white. Annual twigs green. Petiole 1–2 cm; leaf blade narrowly obovate-elliptic, obovate-elliptic, or narrowly elliptic, 6–11 × 2–3.5(–5) cm, leathery, abaxially pale green, adaxially green and glossy, secondary veins 9–13 on each side of midvein and conspicuously prominent on both surfaces when dry, base cuneate to narrowly cuneate, apex acuminate with an obtuse tip. Male flower: tepals 9–14; outer 3 or 4 tepals pale yellow, obovate-oblong, 2.5–3.5 × 1.2–2.5 cm; tepals of inner 2 or 3 whorls white; filaments purplish red; connective purplish red, exerted and forming a mucro; torus long sharply acuminate at apex and sometimes with a gynophore. Bisexual flower: tepals 10–35, same shape as those of male flowers but smaller; stamens 10–35; gynoecium green, ovoid; carpels 10–20 (sometimes 1–5 due to abortion, and flowers tending to be male). Fruit ellipsoid-ovoid or rarely obovoid, 3–6 cm. Seeds ellipsoid to ellipsoid-ovoid, 7–12 × 6–7 mm; testa red. Fl. Apr–May, fr. Aug–Sep. $2n = 114^*$.

• Forests; 700–1400 m. Fujian, Guangdong, Guangxi, SE Guizhou, Hainan, Hunan, Jiangxi, Zhejiang.

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