

7. OLEA Linnaeus, Sp. Pl. 1: 7. 1753.

木犀榄属 mu xi lan shu

Tetrapilus Loureiro.

Trees or shrubs, evergreen, sometimes polygamodioecious. Leaves opposite, simple, petiolate; leaf blade entire or serrate. Inflorescences axillary or terminal panicles, sometimes racemes or umbels. Flowers small, bisexual or unisexual. Calyx small, campanulate, 4-lobed to subtruncate; lobes deltate or ovate, usually ciliate. Corolla with a short tube, 4-lobed; lobes shorter or longer than tube, usually valvate in bud, cucullate. Stamens 2(–4), inserted at base of corolla tube, included; filaments short or absent; anthers ovate, elliptic, or subrounded. Ovules 2 in each locule, pendulous. Style short or absent; stigma capitate or slightly 2-cleft. Fruit a drupe; endocarp thick and hard, sometimes papery. Seeds often 1; endosperm fleshy or bony; radicle short, upward.

More than 40 species: Africa, Asia, Europe, Australia and Pacific Islands; 13 species in China.

1a. Corolla deeply divided, lobes longer than corolla tube; leaf blade margin entire.

2a. Leaf blade with domatia in axils of primary veins and midrib abaxially 1. *O. paniculata*

2b. Leaf blade without domatia.

3a. Leaf blade densely lepidote abaxially 2. *O. europaea*

3b. Leaf blade not lepidote abaxially.

4a. Leaf blade margin strongly revolute, apex obtuse 3. *O. parvilimba*

4b. Leaf blade margin slightly revolute, apex acuminate to caudate-acuminate 4. *O. caudatilimba*

1b. Corolla lobes shorter than corolla tube; leaf blade margin entire or serrate.

5a. Branchlets, peduncles, and pedicels 4-angled 5. *O. tetragonoclada*

5b. Branchlets, peduncles, and pedicels terete or compressed.

6a. Leaf blade narrowly lanceolate, 7–8 × as long as broad 6. *O. neriifolia*

6b. Leaf blade not narrowly lanceolate, less than 4 × as long as broad.

7a. Pedicel 6–10 mm 7. *O. laxiflora*

7b. Pedicel less than 5 mm.

8a. Apex of leaf blade obtuse, rounded or acute, to slightly acuminate, base attenuate,
rarely broader 10. *O. tsoongii*

8b. Apex of leaf blade acuminate to caudate-acuminate, sometimes only slightly so,
base cuneate or obtuse.

9a. Leaves pilose to villous abaxially, especially on midrib and primary veins;
inflorescences densely villous 9. *O. rosea*

9b. Leaves glabrous abaxially; inflorescence glabrous or hairy, sometimes finely so.

10a. Leaves elliptic to elliptic-lanceolate, sometimes broadly so or ovate,
(3–)5–6(–9) × (1.2–)2.5–3(–4), apex usually short caudate-acuminate;
petiole puberulent 12. *O. brachiata*

10b. Leaves ovate-oblong to lanceolate or slightly oblanceolate, (6–)8–15(–23) ×
(2–)3–5(–8) cm, apex long acute-acuminate or acuminate, not shortly so;
petiole glabrous.

11a. Petiole 2–7 mm; inflorescences glabrous; fruit globose or subglobose,
1–1.5 cm in diam. 11. *O. guangxiensis*

11b. Petiole 5–10 mm; inflorescences pubescent; fruit ellipsoid to ovoid,
1.2–1.8 cm.

12a. Leaves oblong-elliptic, elliptic-lanceolate, ovate-oblong, to
slightly oblanceolate, apex acuminate or slightly so; fruit
ellipsoid, 1.4–1.8 cm 8. *O. hainanensis*

12b. Leaves lanceolate, apex long acute-acuminate; fruit narrowly
ovoid, 1.2–1.5 cm 13. *O. salicifolia*

1. *Olea paniculata* R. Brown, Prodr. 523. 1810.

腺叶木犀榄 xian ye mu xi lan

Linociera yunnanensis H. T. Chang; *Olea glandulifera* Desfontaines.

Trees 6–20 m. Branchlets compressed, glabrous. Petiole 1.5–3 cm, glabrous; leaf blade ovate-elliptic to elliptic-lanceolate, 8.5–18 × 3.5–6.5 cm, papery, minutely lepidote, with domatia in axils of primary veins and midrib abaxially, base cuneate, margin entire, apex acuminate to long acuminate; primary veins 8–11 on each side of midrib, slightly raised. Panicles terminal or axillary, 8–10 cm. Flowers bisexual. Pedicel 0–3 mm. Calyx ca. 1 mm. Corolla white; tube ca. 1 mm; lobes elliptic, 1.5–2 mm, obtuse. Drupe ripening yellow-brown, long ovoid, somewhat oblique, 1.2–1.5 cm × 6–7 mm. Fl. Apr–May, fr. Jul–Nov.

Moist ravines, open valleys; 1200–2400 m. Yunnan [India, Indonesia, Kashmir, Malaysia, Nepal, New Guinea, Pakistan, Sri Lanka; Australia].

2. *Olea europaea* Linnaeus, Sp. Pl. 1: 8. 1753.

木犀榄 mu xi lan

Trees or shrubs to 10 m, evergreen. Branchlets angular, along with petiole and leaf blade densely silvery-gray or rusty lepidote. Petiole 2–5 mm; leaf blade narrowly lanceolate to elliptic, rarely narrowly ovate, 1.5–10 × 0.5–2 cm, leathery, glabrous, base cuneate or attenuate, margin entire, apex acute to acuminate and mucronate to cuspidate; primary veins 5–11 on each side of midrib, obscure, somewhat raised adaxially. Panicles axillary or terminal, 2–4 cm. Flowers bisexual or functionally unisexual, subsessile. Calyx 1–1.5 mm. Corolla white, 2.5–4 mm; tube ca. 1 mm; lobes elliptic-oblong, involute, 1.5–3 mm. Drupe ellipsoid or subglobose, 0.7–4 cm. *2n* = 46.

- 1a. Abaxial surface of leaf blade silvery-grey lepidote; fruit large, 2–4 cm, mesocarp thick, fleshy 2a. subsp. *europaea*
- 1b. Abaxial surface of leaf blade somewhat rusty lepidote; fruit small, 7–9 mm, mesocarp somewhat fleshy but thin 2b. subsp. *cuspidata*

2a. *Olea europaea* subsp. *europaea*

木犀榄(原亚种) mu xi lan (yuan ya zhong)

Trees to 10 m. Branchlets and leaf blade abaxially densely silvery-gray lepidote. Leaf blades narrowly elliptic to elliptic, rarely narrowly ovate, 1.5–9 × 0.5–2 cm, apex acute to acuminate, mucronate. Panicles axillary or subterminal, 2–4 cm.

Flowers bisexual or functionally unisexual. Drupe ellipsoid, 2–4 cm, mesocarp thick and fleshy. Fl. Apr–May, fr. Jun–Sep.

Widely cultivated in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang. Probably originating in the Mediterranean region or SW Asia.

The fruit are used for oil and food.

2b. *Olea europaea* subsp. *cuspidata* (Wallich ex G. Don) Ciferri, L'Olivicoltura 19(5): 96. 1942.

锈鳞木犀榄 xiu lin mu xi lan

Olea cuspidata Wallich ex G. Don, Gen. Hist. 4: 49. 1837; *O. ferruginea* Royle.

Shrubs or small trees 3–10 m. Branchlets and leaf blade abaxially rusty lepidote. Leaf blade narrowly lanceolate to narrowly oblong-elliptic, 3–10 × 1–2 cm, apex acuminate, cuspidate. Panicles axillary, 1–4 × 1–2 cm. Flowers bisexual. Drupe broadly ellipsoid or subglobose, 7–9 × 4–6 mm, mesocarp somewhat fleshy, thin. Fl. Apr–Aug, fr. Aug–Nov.

Woods, along rivers; 600–2800 m. Yunnan [Afghanistan, India, Kashmir, Nepal, Pakistan; E and S Africa, SW Asia].

3. *Olea parvilimba* (Merrill & Chun) B. M. Miao, Fl. Reipubl. Popularis Sin. 61: 126. 1992.

小叶木犀榄 xiao ye mu xi lan

Linociera parvilimba Merrill & Chun, Sunyatsenia 5: 169. 1940.

Trees 12–15 m, glabrous. Branchlets somewhat compressed. Petiole 3–10 mm; leaf blade elliptic or oblong-elliptic, 3.5–9 × 1.2–3.2 cm, thick leathery, dotted with peltate scales, base attenuate, margin entire, strongly revolute, apex obtuse; primary veins 5–7 on each side of midrib, slightly impressed. Panicles terminal or nearly so, 1.5–2 cm. Flowers bisexual. Pedicel 1–1.5 mm. Calyx ca. 1 mm. Corolla yellow-green, ca. 2 mm; lobes long ovate, 1–1.3 mm, blunt. Drupe long ellipsoid, 1.2–1.4 cm × ca. 5.5 mm, ribbed when dry. Fl. Sep, fr. Sep–Dec.

* Woods at mountain summits; ca. 1000 m. Hainan.

4. *Olea caudatilimba* L. C. Chia, Acta Phytotax. Sin. 3: 339. 1954.

尾叶木犀榄 wei ye mu xi lan

Osmanthus polyneurus P. Y. Bai.

Trees 3–8 m. Branchlets slightly compressed, puberulent. Petiole 8–10 mm, pubescent; leaf blade lanceolate or oblong-elliptic, 5.5–9 × 2–3.5 cm, leathery, glabrous, base cuneate or broadly cuneate, margin entire, apex acuminate to caudate-acuminate and obtuse; primary veins 10–15 on each side of midrib, slender, nearly at right angles to midrib, slightly raised. Panicles axillary or terminal, 2.5–3 cm, few flowered, pubescent. Flowers bisexual. Pedicel 0–3 mm. Calyx 1.5–2 mm. Corolla yellowish, ca. 3 mm; lobes long ellip-

tic, ca. 2 mm, obtuse. Drupe long ellipsoid, 7–12 × 3.5–6.5 mm, sparsely lenticellate. Fl. Apr, fr. May–Jun.

* Rocky crevices of calcareous montane regions; ca. 1500 m. Yunnan.

5. *Olea tetragonoclada* L. C. Chia, Acta Phytotax. Sin. 3: 341. 1952.

方枝木犀榄 fang zhi mu xi lan

Shrubs 1.2–6 m. Branchlets, peduncles, and pedicels 4-angled, puberulent or pubescent. Petiole 1–3 mm, pubescent; leaf blade oblong-elliptic to lanceolate, 2.5–6 × 0.7–2 cm, leathery, usually puberulent, base broadly cuneate or obtuse, margin entire, apex obtuse or sometimes retuse; primary veins 7 or 8 on each side of midrib, obscure. Panicles axillary or terminal, 0.7–2 cm. Flowers bisexual. Pedicel 0–2 mm. Calyx ca. 1 mm, pubescent. Corolla yellowish, 2–2.5 mm; tube 1–1.5 mm; lobes ovate, 0.7–1 mm. Drupe pruinose, ellipsoid, 8–10 × 5–8 mm. Fl. May, fr. Dec.

* Thickets, dense forests, tops of calcareous mountains; 900–1000 m. Guangxi.

6. *Olea neriifolia* H. L. Li, J. Arnold Arbor. 25: 212. 1944.

狭叶木犀榄 xia ye mu xi lan

Shrubs 1.2–5 m, polygamodioecious. Branchlets terete. Petiole 3–8 mm, glabrous; leaf blade very narrowly lanceolate to narrowly elliptic, leathery, 5–11.5 × 0.7–1.3 cm, glabrous, base attenuate, margin entire, apex acuminate, rarely obtuse; primary veins obscure. Panicles axillary, 2–6 cm. Staminate flowers: pedicel slender, 0.5–1.5 mm; calyx ca. 0.5 mm; corolla white, 1.2–1.4 mm, lobes broadly ovate, ca. 0.4 mm, acute. Bisexual flowers: pedicel 1.5–2 mm; calyx ca. 0.7 mm; corolla white, becoming rose, 1.7–2 mm, lobes broadly ovate, 0.4–0.5 mm, acute. Drupe ripening yellow-brown, ellipsoid, 7–8 × 3–5 mm, ribbed. Fl. Mar–Sep, fr. Sep–Oct.

* Woods near streams at low elevations. Hainan.

The name *Linociera harmandii* Gagnepain has been incorrectly applied to this species (Merrill & Chun, Sunyatsenia 5: 168. 1940).

7. *Olea laxiflora* H. L. Li, J. Arnold Arbor. 25: 314. 1944.

疏花木犀榄 shu hua mu xi lan

Shrubs ca. 2.5 m, polygamodioecious, glabrous except for calyx. Branchlets subterete. Petiole 1–1.5 cm; leaf blade elliptic-oblong to lanceolate, 9–13 × 2.5–4 cm, leathery, abaxially densely dotted with peltate scales, base cuneate, margin entire, apex caudate-acuminate and with acumen to 2 cm; primary veins 8–12 on each side of midrib, somewhat impressed adaxially, raised abaxially. Panicles axillary, staminate ones slender, 4–7 cm. Staminate flowers: pedicel 6–10 mm; calyx 1–1.5 mm, lobes ciliate; corolla white, 3–3.5 mm, lobes ovate-orbicular, ca. 1 mm. Bisexual flowers and fruit not seen. Fl. Nov.

* Mixed woods; 1600–2200 m. Yunnan.

8. *Olea hainanensis* H. L. Li, J. Arnold Arbor. 25: 213. 1944.

海南木犀榄 hai nan mu xi lan

Tetrapilus hainanensis (H. L. Li) L. Johnson.

Shrubs or small trees 3–30 m, polygamodioecious, glabrous or only inflorescences sparsely pubescent. Branchlets subterete. Petiole 5–10 mm; leaf blade oblong-elliptic, elliptic-lanceolate, ovate-oblong, or slightly oblanceolate, 8–16 × 2.5–5.5 cm, leathery, base cuneate, margin irregularly sparsely serrate, often bluntly so, or subentire, apex acuminate; primary veins 7–9 on each side of midrib, impressed adaxially, raised abaxially. Panicles terminal or axillary, 2–7.5 cm. Flowers white or yellow. Pedicel 1–3 mm. Staminate flowers: calyx 0.5–1 mm, with sparse peltate scales; corolla 1.5–2.5 mm, lobes ovate-orbicular, 0.5–0.7 mm. Bisexual flowers: calyx 1–1.5 mm; corolla 2.5–3.5 mm, with peltate scales, lobes ovate-orbicular, 1–1.5 mm. Drupe purple-black or purple-red, ellipsoid, 1.4–1.8 cm × 7–9 mm, 8–10-ribbed when dry. Fl. Oct–Nov, fr. Nov–Apr.

* Woods of valleys and along streams; below 700 m. Guangdong, Hainan.

9. *Olea rosea* Craib, Bull. Misc. Inform. Kew 1911: 411. 1911.

红花木犀榄 hong hua mu xi lan

Linociera menghaiensis H. T. Chang; *Olea densiflora* H. L. Li.

Shrubs or small trees 2–15 m, polygamodioecious. Branchlets terete, densely pubescent. Petiole 0.5–1.5 cm, densely villous or glabrescent; leaf blade lanceolate to narrowly ovate-elliptic, 7–17.5 × 2–6.5 cm, leathery, villous abaxially especially on midrib and primary veins, or subglabrous but midrib puberulent adaxially, base cuneate, margin entire or sometimes irregularly sparsely serrate, apex acuminate to caudate-acuminate; primary veins 6–10 on each side of midrib, impressed adaxially, distinctly raised abaxially. Panicles terminal or axillary, densely villous, staminate ones 2.5–14 × 2.5–7 cm, bisexual ones 1.2–3(–10) cm. Staminate flowers: pedicel 0.5–2 mm, villous; calyx lobes 0.5–1 mm, villous; corolla yellow-white, drying rose, 1.5–2.5 mm, lobes suborbicular, 0.5–1 mm. Bisexual flowers: pedicel 0–2 mm; calyx as in staminate flowers; corolla 3–4 mm, lobes orbicular, 0.5–1 mm. Drupe ripening red-purple, long ellipsoid, 1.2–1.7 cm × 5–6 mm, drying obscurely ribbed. Fl. Feb–Sep, fr. Jul–Nov.

Moist and dense forests of valleys; 800–1800 m. Yunnan [Cambodia, Laos, Thailand, Vietnam].

10. *Olea tsoongii* (Merrill) P. S. Green, Kew Bull. 50: 338. 1995.

云南木犀榄 yun nan mu xi lan

Ligustrum tsoongii Merrill, Philipp. J. Sci. 21: 506. 1922; *Olea brevipes* L. C. Chia; *O. yuennanensis* Handel-Mazzetti; *O. yuennanensis* var. *xeromorpha* Handel-Mazzetti.

Shrubs or trees 3–15 m, polygamodioecious. Branchlets terete, finely pubescent to glabrescent. Petiole 3–10 mm, pubescent to finely puberulent; leaf blade oblanceolate, obovate-elliptic, elliptic, or elliptic-oblong, (3–)4–9(–14) × (1.5–)2–3(–6) cm, leathery, glabrous or puberulent along midrib especially near petiole, base attenuate, margin entire or finely serrate, teeth sharp and ca. 0.5 mm, apex acute to obtuse or rounded, often slightly acuminate; primary veins 5–7 on each side of midrib, often obscure. Inflorescences axillary, paniculate, 2–10 cm, puberulent to glabrescent. Flowers usually in subumbellate groups, white, yellowish, or red. Staminate flowers: pedicel 1–5 mm, slender, glabrous; calyx 1–1.5 mm; corolla 2–3.5(–4.5) mm, lobes broadly deltate, 0.5–1.2 mm. Bisexual flowers: pedicel 0–2 mm, stout; calyx as in staminate flowers; corolla 2–4.5 mm, lobes 0.5–1.5 mm. Drupe purple-black, ovoid-globose, long ellipsoid, or subglobose, 6–13 × 3–9 mm. Fl. Feb–Nov, fr. May–Dec.

* Forests or thickets; 800–2300 m. Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Yunnan.

The seed oil is used in food and industry.

Olea dioica Roxburgh, which does not occur in China, was recognized in FRPS on the basis of misidentified plants of *O. tsoongii*.

11. *Olea guangxiensis* B. M. Miao, Guihaia 5: 22. 1985.

广西木犀榄 *guang xi mu xi lan*

Shrubs or small trees 2–4 m, glabrous. Branchlets terete. Petiole 2–7 mm; leaf blade lanceolate or long elliptic, (6–)9–23 × (2.5–)3–8 cm, leathery, base cuneate, margin irregularly serrate or rarely entire, apex acuminate; primary veins 6–10 on each side of midrib, impressed adaxially, raised abaxially, arcuate near margin. Panicles axillary, 1.5–2 cm. Pedicel 1–2 mm. Calyx ca. 1.7 mm, dotted with peltate scales. Corolla ca. 2 mm; lobes long elliptic. Drupe blue or black, subglobose, 1–1.5 cm diam. Fl. May, fr. Aug–Dec.

* Dense and moist forests in valleys or on mountain tops. Guangdong, Guangxi, SE Guizhou.

12. *Olea brachiata* (Loureiro) Merrill, Lingnaam Agric. Rev. 2: 127. 1925.

滨木犀榄 *bin mu xi lan*

Tetrapilus brachiatus Loureiro, Fl. Cochinch. 2: 611. 1790.

Shrubs 1–9 m, polygamodioecious. Branchlets terete, finely puberulent. Petiole 3–5 mm, puberulent; leaf blade elliptic or elliptic-lanceolate, broadly so or ovate, (3–)5–6(–9) × (1.2–)2.5–3(–4) cm, leathery, glabrous except for midrib puberulent toward base adaxially, base cuneate, margin irregularly serrate in distal half, teeth sharp or blunt, ca. 0.5 mm, or rarely entire, apex acuminate to short caudate-acuminate; primary veins 5–7 on each side of midrib, usually obscure. Inflorescences axillary, paniculate, 0.5–3 cm, puberulent or glabrous. Flowers often in subumbellate groups. Bisexual flowers: pedicel 1–1.5 mm, pubescent or glabrescent; calyx ca. 1 mm, puberulent; corolla white, 2–2.5 mm,

lobes ovate-orbicular, 0.5–1 mm. Drupe ripening purple-black or blue-purple, globose, 5–7 mm in diam. Fl. Oct–Mar, fr. Jun–Aug.

Forests, thickets; below 700 m. Guangdong, Hainan [SE Asia].

13. *Olea salicifolia* Wallich ex G. Don, Gen. Hist. 4: 48. 1837.

喜马木犀榄 *xi ma mu xi lan*

Trees small, polygamodioecious. Branchlets subterete, glabrous. Petiole 5–10 mm; leaf blade lanceolate to elliptic-lanceolate, (7–)10–15(–23) × (2–)3–4.5(–7) cm, somewhat leathery, glabrous, base cuneate to broadly so or obtuse, margin entire, apex long acute-acuminate; primary veins 7–9 on each side of midrib, somewhat obscure. Panicles axillary, 4–12 cm, very finely pubescent. Pedicel 0–3 mm. Calyx 4-lobed, ca. 0.5 mm. Corolla 2.5–3 mm; lobes ca. 1 mm. Drupe narrowly ovoid, 1.2–1.5 cm × 5–7 mm. Fl. Jun, fr. Sep.

Woods on slopes; sea level to 1400 m. Xizang [India, Myanmar].

Olea gamblei C. B. Clarke was recognized in FRPS, but the record is based on misidentified plants of *O. salicifolia*.

