

4. **OSTRYA** Scopoli, Fl. Carniol. 414. 1760, nom. cons.

铁木属 tie mu shu

Trees deciduous; bark scaly, rough. Buds ovoid, with many overlapping scales. Leaves irregularly and doubly serrate, sometimes lobulate. Male inflorescence pendulous, clustered at apex of branchlets, slender, naked during winter; bracts overlapping, each subtending 1 flower; perianth absent; stamens 3–14; filaments 2-cleft at apex, inserted at base of bracts; anthers each with 2 separate locules, pubescent at apex. Female inflorescence terminal, racemose; flowers paired; bracts overlapping, saccate, inflated, membranous, with reticulate veins and rigid hairs at base, usually lobed at apex; calyx adnate to ovary. Nutlet narrowly oblong, narrowly ovoid, ovoid-ellipsoid, or obovoid, ribbed, completely enclosed in bracts.

About 8 species: China, Japan, Korea; Europe, North America; five species (four endemic) in China.

- 1a. Bracts narrowly elliptic or obovate-lanceolate, (20–)25–26 mm, constricted into a stipe at base; female inflorescence loosely racemose ..... 1. *O. rehderiana*
- 1b. Bracts elliptic, ovate-oblong, or obovate-oblong, 1.5–2.5 mm, not constricted into a stipe at base; female inflorescence densely racemose.
  - 2a. Leaves with 10–15 lateral veins 5–10 mm apart on each side of midvein ..... 2. *O. japonica*
  - 2b. Leaves with 14–25 lateral veins 3–5 mm apart on each side of midvein.
    - 3a. Leaves ovate, acuminate at apex, with 14–20 lateral veins on each side of midvein; bracts elliptic, 1.5–2.4 cm; nutlet obovoid, densely pubescent ..... 3. *O. trichocarpa*
    - 3b. Leaves ovate-lanceolate or oblong-lanceolate, caudate or caudate-acuminate at apex, with 18–25 lateral veins on each side of midvein; bracts narrowly elliptic or ovate-oblong, 1.5–2 cm; nutlet ovoid-ellipsoid, glabrous.
    - 4a. Leaves densely pubescent adaxially, cordate, subrounded, or rarely broadly cuneate at base, lateral veins 18–25 on each side of midvein; bracts narrowly elliptic, 10–15 × 5–6 mm ..... 4. *O. multinervis*
    - 4b. Leaves sparsely pilose adaxially, broadly cuneate or rarely subrounded at base, lateral veins 18–20 on each side of midvein; bracts ovate-elliptic, 15–20 × 7–9 mm ..... 5. *O. yunnanensis*

1. ***Ostrya rehderiana*** Chun, J. Arnold Arbor. 8: 19. 1927.

天目铁木 tian mu tie mu

Trees to 15 m tall; bark gray, rough. Branchlets brown-gray, slender, sericeous-pubescent when young, becoming glabrous and intensely purplish. Petiole 3–5 mm, densely pubescent; leaf blade elliptic-oblong or narrowly oblong, 3–10 × 1.8–4 cm, abaxially sparsely pubescent and hirtellous, densely pubescent along midvein, adaxially glabrous except pubescent along midvein, base subrounded or broadly cuneate, margin irregularly and doubly sharply serrate, sometimes setiform serrate, apex acuminate or caudate-acuminate; lateral veins 13–16 on each side of midvein, 4–7 mm apart. Female inflorescence loosely racemose, 2–3 cm; peduncle 1.5–2 cm, densely pubescent, bracts obovate-elliptic or obovate-lanceolate, saccate, 2–2.6 cm × 6–8 mm, membranous, minutely pubescent along veins and reticulate veins, base constricted into a stipe, setose, apex rounded, apiculate. Nutlet red-brown, narrowly oblong, 7–10 × 2.5–3 mm, shiny, glabrous, obscurely ribbed. Fl. May–Jun, fr. Jul–Aug.

• Subtropical forests; 200–400 m. NW Zhejiang (Tianmu Shan). This species is endangered; only one tree is known at a roadside.

2. ***Ostrya japonica*** Sargent, Garden and Forest 6: 383. 1893.

铁木 tie mu

*Ostrya liana* Hu.

Trees to 20 m tall; bark dark gray. Branchlets gray-brown, densely pubescent when young, glabrescent. Petiole 1–1.5 cm, densely pubescent; leaf blade ovate or ovate-lanceolate, 3.5–12 × 1.5–5.5 cm, abaxially densely pubescent, glabrescent, bearded in axils of lateral veins, adaxially pilose especially along midvein, base subrounded, cordate, obliquely cordate, or broadly cuneate, margin irregularly and doubly serrate, apex acuminate; lateral veins 10–15 on each side of midvein, 5–10 mm apart. Female inflorescence racemose, 1.5–2.5 cm; peduncle 2–2.5 cm, densely pubescent; bracts overlapping, saccate, obovate-oblong or elliptic, 1–2 cm × 6–12 mm, membranous, glabrescent, base without a stipe, setose, apex apiculate; veins reticulate. Nutlet light brown, narrowly ovoid, 6–7 mm, shiny, glabrous, ribbed. Fl. May–Jul, fr. Jul–Sep.

Temperate forests; 1000–2800 m. S Gansu, Hebei, Henan, Hubei, Shaanxi, Sichuan [Japan, Korea].

The wood is hard and shiny, and is used in construction and making furniture.

3. ***Ostrya trichocarpa*** D. Fang & Y. S. Wang, Guihaia 3: 189. 1983.

毛果铁木 mao guo tie mu

Trees to 18 m tall; bark gray-brown. Branchlets purplish brown, densely yellow pilose when young.

Petiole 3–5 mm, densely brown-yellow pilose; leaf blade ovate or ovate-elliptic, 5–10.5 × 2.5–5 cm, abaxially gray-green, densely pubescent, adaxially sparsely pilose or glabrous, base subobliquely cordate, margin irregularly and doubly setiform serrate, apex acuminate; lateral veins 14–20 on each side of midvein, ca. 5 mm apart. Female inflorescence densely racemose, 4.5–8 × 2–3 cm; peduncle densely yellow-brown pilose; bracts elliptic, saccate, 1.5–2.4 × 1–1.5 cm, membranous, sparsely pubescent, base rounded, setose, apex acute; veins reticulate. Nutlet light brown, obovoid, 5.5–9 × 2.5–3.5 mm, densely pubescent, obscurely ribbed; persistent perianth more than 1.5–5 mm as long as nutlet, densely pubescent, toothed at apex. Fl. Apr–May, fr. Jun–Aug.

• Subtropical forests on limestone mountains; 800–1300 m. SW Guangxi.

**4. *Ostrya multinervis*** Rehder, J. Arnold Arbor. 19: 71. 1938.

多脉铁木 duo mai tie mu

Trees to 25 m tall; bark dark gray-brown, fissured. Branchlets purplish brown, sparsely appressed pilose. Petiole 4–7 mm, densely appressed pilose; leaf blade ovate-lanceolate or oblong-lanceolate, 4.5–12 × 2.5–4.5 cm, papery, abaxially densely pubescent, bearded in axils of lateral veins, adaxially sparsely pilose or glabrous except densely pubescent along midvein, base subcordate, subrounded, or broadly cuneate, margin irregularly and sharply setiform serrate, apex caudate or caudate-acuminate; lateral veins 18–25 on each side of midvein, 3–4 mm apart. Female inflorescence erect, racemose, 3–6 cm; peduncle 1.5–2.5 cm, sparsely appressed pilose; bracts narrowly elliptic, saccate, 1–1.5 cm × 5–6 mm, membranous, sparsely appressed pilose, base rounded, setose, apex acute; veins reticulate. Nutlet light brown, ovoid-ellipsoid, 5–7 × 2–3 mm, glabrous except villous at apex, ribbed. Fl. May–Jun, fr. Jul–Aug.

• Mixed forests; 600–1300 m. Guizhou, S Hunan (Xinning Xian; Junyun Shan), Jiangsu, SE Sichuan, Zhejiang.

**5. *Ostrya yunnanensis*** Hu ex P. C. Li, Acta Phytotax. Sin. 17(1): 87. 1979.

云南铁木 yun nan tie mu

Trees to 20 m tall; bark dark gray. Branchlets purplish brown, striate, densely pubescent, glabrescent. Petiole 5–10 mm, densely yellow tomentose; leaf blade lanceolate or oblong-lanceolate, 5–10 × 2–2.5 cm, abaxially densely yellow tomentose, bearded in axils of lateral veins, adaxially sparsely pilose, base cuneate, rarely subrounded, margin doubly mucronate serrate, apex caudate-acuminate; lateral veins 18–20 on each side of midvein, 4–5 mm apart. Female inflorescence erect, densely racemose, 4–6 cm; peduncle ca. 2 cm, densely yellow tomentose; bracts ovate-elliptic, saccate, 1.5–2 cm × 7–9 mm, membranous, appressed pilose, base rounded, setose, apex acute, mucronate; veins

reticulate. Nutlet light brown, ovoid-ellipsoid, 6–7 × ca. 3 mm, glabrous except villous at apex, ribbed. Fl. Jun–Jul, fr. Jul–Aug.

• Moist forests; ca. 2600 m. NW Yunnan (Luquan Xian).

Flora of China 4: 300–301. 1999.