
枫属  feng shu

Trees or shrubs. Leaves mostly simple and palmately lobed or at least palmately veined, in a few species pinnately veined and entire or toothed, or pinnately or palmately 3–5-foliolate. Inflorescence corymbiform or umbelliform, sometimes racemose or large paniculate. Sepals (4 or)5, rarely 6. Petals (4 or)5, rarely 6, seldom absent. Stamens (4 or 5 or)8(or 10 or 12); filaments distinct. Carpels 2; ovules (1 or)2 per locule. Fruit a winged schizocarp, commonly a double samara, usually 1-seeded; embryo oily or starchy, radicle elongate, cotyledons 2, green, flat or plicate; endosperm absent. 2n = 26.

About 129 species: widespread in both temperate and tropical regions of N Africa, Asia, Europe, and Central and North America; 99 species (61 endemic, three introduced) in China.

Acer laceolatum Molliard (Bull. Soc. Bot. France 50: 134. 1903), described from Guangxi, is an uncertain species and is therefore not accepted here. The type specimen, in Berlin (B), has been destroyed. Up to now, no additional specimens have been found that could help clarify the application of this name.

Worldwide, Japanese maples are famous for their autumn color, and there are over 400 cultivars. Also, many Chinese maple trees have beautiful autumn colors and have been cultivated widely in Chinese gardens, such as Acer buergerianum, A. davidii, A. duplicatoserratum, A. griseum, A. pictum, A. tataricum subsp. ginnala, A. triflorum, A. truncatum, and A. wilsonii. In winter, the snake-bark maples (A. davidii and its relatives) and paper-bark maple (A. griseum) are eye-catching. Maple wood is used for furniture, interior beams in buildings, and wooden tools. The young leaves of A. tataricum subsp. ginnala can be used as a substitute for tea.

1a. Leaves compound.
   2a. Leaves palmatifoliolate, 5(–9) leaflets ................................................................. 12. A. sect. Pentaphylla
   2b. Leaves trifoliolate or pinnate.
      3b. Bud scales 2–4-paired; leaves pinnate or trifoliolate; inflorescence racemose, axillary from leafless buds; dioecious ................................................................. 14. A. sect. Negundo

1b. Leaves simple.
   4a. Inflorescence lateral from leafless buds.
      5a. Leaves entire, leathery, evergreen; inflorescence cymose-paniculate; stamens 4–12; nutlets slightly flat ................................................................................................................... 5. A. sect. Hyptiocarpa
      5b. Leaves lobed, papery, deciduous; inflorescence racemose; stamens 8; nutlets strongly convex .... 11. A. sect. Lithocarpa
   4b. Inflorescence terminal, or terminal and lateral, with leaves at base.
      6b. Inflorescence corymbose, racemose, or paniculate.
         7a. Leaf margin usually not serrate; petiole with white latex; nutlets usually flat .................... 1. A. sect. Platanoida
         7b. Leaf margin usually serrate; petiole without white latex; nutlets usually convex.
            8a. Shoots striped; bud scales 2-paired.
               9a. Axillary buds stalked; flowers 5-merous, bisexual (plants monoecious); nutlets slightly veined ................................................................. 5. A. sect. Macrantha
               9b. Axillary buds not stalked; flowers 4-merous, unisexual (plants dioecious); nutlets strongly convex and distinctly veined ......................................................... 6. A. sect. Arguta
            8b. Shoots not striped; bud scales 4- or more paired.
               10a. Buds scales always 4-paired, terminal buds usually absent ........................................ 2. A. sect. Palmata
               10b. Buds scales 5- or more paired.
                  11a. Leaf margin entire ....................................................................................... 3. A. sect. Oblonga
                  11b. Leaf margin coarsely serrate or biseri rate.
                     12a. Stamens 5; disk amphistaminal; nutlets flat .................................................. 4. A. sect. Pubescencia
                     12b. Stamens 8; disk extrastaminal; nutlets convex.
                        13a. Leaves 3- or 5-lobed, leaf margin coarsely serrate, blade usually broader than long; nutlets strongly convex; winter buds large, scales 10–14 ........... 7. A. sect. Acer
                        13b. Leaves slightly 3- or 5-lobed or unlobed, leaf margin serrate or biseri rate, blade oblong; nutlets slightly convex; winter buds small, scales 8–10 ........................................... 8. A. sect. Ginnala


桐状枫组 tong zhuang feng zu

Trees, andromonoecious. Branchlets gray or brownish yellow, green or purple-green and striped; bud with 5–8 pairs of imbricate scales. Leaves simple, usually 3- or 5-lobed or unlobed, lobes usually entire, sometimes undulate, rarely toothed; petioles

Fifteen species: China, Europe, Japan, Russia; 12 species (eight endemic) in China.

1a. Leaf blade 3-lobed, margin undulate; lobes obtuse........................................................................................................................................ 1. A. miaotaiense

1b. Leaf blade 3-, 5-, or 7-lobed, or unlobed, margin entire or rarely dentate; middle lobes usually acute or acuminate.

2a. Shoots gray or brownish yellow.

3a. Leaf blade 4–6 × 3–6 cm, usually 3-lobed, rarely undivided, suborbicular or ovate, base rounded or subcordate, margin entire or slightly sinuate, apex obtuse or acute, abaxially glabrous except slightly pubescent at vein axil ......................................................... 9. A. tenellum

3b. Leaf blade 7–13 × 5–20 cm, usually 3- or 7-lobed, base truncate or obtuse, apex acuminate, abaxially densely pubescent or glabrous.

4a. Leaves abaxially densely pubescent, usually 3-lobed, or unlobed when young ............................................................................. 10. A. fulvescens

4b. Leaves abaxially glabrous, usually 5-lobed; sometimes 3- or 7-lobed.

5a. Nutlets convex and thick; leaf base usually truncate, lobes sometimes dentate ........................................ 11. A. truncatum

5b. Nutlets flat and thin; leaf base rounded or cordate, lobes entire ........................................................................ 12. A. pictum

2b. Shoots green or purple-green.

6a. Nutlets slightly convex.

7a. Leaf blade 3- or 5-lobed ........................................................................................................................................ 6. A. shenkanense

7b. Leaf blade 5- or 7-lobed.

8a. Wing including nutlet 2–5 cm × 5–9 mm; leaves abaxially glabrous or slightly pubescent, base truncate or cordate .......................................................... 7. A. cappadocicum

8b. Wing including nutlet 3.5–4 cm × ca. 12 mm; leaves abaxially densely yellow-gray tomentose, base rounded ........................................................................ 8. A. tibetense

6b. Nutlets flat, thin.

9a. Leaves glabrous.

10a. Leaf blade unlobed or 3-lobed, 4–11 × 2.5–4(–8) cm, apex caudate-acuminate; nutlet including wing ca. 2.5 cm ........................................................................................................ 2. A. chunii

10b. Leaf blade 3- or 5-lobed, rarely unlobed, 10–20 × 4–26 cm, apex usually obtuse or acute; nutlet including wing (2.5–)3–4.5 cm ........................................................................................................ 3. A. amplum

9b. Leaves abaxially pubescent.

11a. Leaf blade usually 3-lobed or unlobed when young, base rounded or slightly cordate; nutlets conspicuously veined .................................................................................. 4. A. longipes

11b. Leaf blade usually 5- or 7-lobed, base truncate or cordate; nutlets not veined .................................................................................. 5. A. acutum


庙台枫 miao tai feng


Trees to 25 m tall. Bark brownish gray, rough. Branchlets glabrous; lenticels rounded; winter buds ellipsoid, scales 4. Leaves deciduous; petiole 6–7 cm, glabrous; leaf blade broadly ovate, (4–)7–9 × 5–8 cm, papery, abaxially pubescent, adaxially glabrous, primary veins 3–5, secondary veins 5–7 pairs, base cordate or subcordate, 3- or 5-lobed; lobes ovate, margin undulate, apex acute. Inflorescence terminal, corymbose-pediculate. Flowers yellow-green. Sepals 5, oblong, ca. 4 mm, margin ciliate. Petals 5, obovate-lanceolate, ca. as long as sepals. Stamens 8. Disk orbicular, margin 5-repand-lobed. Inflorescence coriaceous, glabrous; pedicel 3–6 mm; samara pubescent or rarely glabrous. Nutlets flat, ca. 8 mm in diam.; wing including nutlet 2–2.5 × 0.8–0.9 cm; wings spreading horizontally. Fl. May, fr. Sep.

- Mixed forests; 700–1600 m. SE Gansu, SW Henan, NW Hubei, S Shaanxi, Zhejiang.

This taxon is closely related to Acer miyabei Maximowicz; the bark, inflorescences, flowers, and fruit are very similar. For one of us (de Jong), A. miaotaiense is a subspecies of A. miyabei.


乳源枫 ru yuan feng

Trees ca. 7 m tall, glabrous. Bark dark brown. Branchlets dull brown, slender, minutely lenticellate. Leaves deciduous, long petiolate; petiole 3–7 cm, very slender; leaf blade abaxially pale green, adaxially bright green, drying brownish green, ovate, variable in size, larger ones 7–9 × 4–5 cm, smaller ones not exceeding 4 × 2.5 cm, papery, 3 principal veins slender, slightly prominent abaxially, obscure adaxially, lateral veins 3 or 4, slender, densely minutely reticulate on both surfaces, base rounded, margin entire and unlobed or 3-lobed, apex abruptly long acuminate with a long slender caudate-falcate acumen minutely aristate; 3-lobed leaf blade 10–11 × 7–8 cm; lateral lobes equal or unequal, very short to nearly obsolete, or obtuse to acute, or ovate-triangular and distinctly long caudate-acuminate. Flowers unknown. Inflorescence corymbose, few branched, apparently nodding, to 6 cm and ca. as broad, sessile or subsessile; peduncle when present not exceeding 3 mm. Samara reddish purple when immature; pedicels 2–3 cm, slender; wing subhorizontal, straight, obtuse, including nutlet 2–3 cm × 5–8 mm. Nutlets flattened, ovoid-oblong, ca. 10 × 6
Leaf blade usually entire and unlobed, rarely with 3-lobed leaves on same branchlet.

2a. Leaf blade 3-lobed, rarely unlobed; 3-lobed leaf blade oblong, 8–9 × 3.5–4 cm, base rounded, apex caudate-acuminate, lateral lobes extending laterally. Peduncles 10–11 × 7–26 cm, base nearly rounded; central lobe ovate, apex cuate-acuminate, lateral lobes triangular, apex acute; lateral lobes extending laterally. Peduncles 10–11 × 7–8 cm, in diam., spreading at obtuse angle.


Leaf blade 7–16 × 6–14 cm, base truncate or slightly cordate, usually 3-lobed, lobes oblong, margin slightly undulate, apex cuate; lateral lobes extending laterally. Peduncles ca. 5 mm. Wing including samara 2.5–3.5 cm × 6–8 mm, wings spreading at obtuse angle. Fl. Apr, fr. Sep. 2n = 26*.

- Forests, valleys; 1000–2000 m. S Anhui, Fujian, NW Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Yunnan, Zhejiang.

3a. Acer amplum subsp. amplum

Trees to 25 m tall, andromonoecious. Bark brownish, dark brown, or dark gray, smooth. Branchlets slender, glabrous; those of present year green or purplish green, those more than 2 years old gray or dark gray, lenticels rounded; winter buds purplish brown, subglobose or ovoid, glabrescent, scales 5 or 6 pairs. Leaves deciduous; petiole 4–14 cm, slender, glabrous or slightly puberulent near apex when young; leaf blade 7–26 × 5–25 cm, papery, abaxially light green, adaxially dark green or yellowish green, base rounded, subcordate, or truncate, 3- or 5-lobed or unlobed and entire, apex obtuse to cuate. Inflorescence terminal, coriaceous, sessile or with peduncles ca. 5 mm, or up to 3 cm, numerous flowered, glabrous. Pedicle 1–2 mm, glabrous. Sepals 5, oblance-ovate and emarginate near apex, 4.5–5.5 mm, glabrous, apex obtuse. Petals 5, slightly longer than sepals. Stamens 8, ca. 5 mm in staminate flowers, shorter in pistillate, glabrous. Disk amphistaminal, slightly lobed and glabrous. Ovary glabrous, style glabrous, and stigmas recurved. Nutlets compressed, flat; wing including nutlet 2.5–5.5 × 0.6–1.5 cm, wings spreading at obtuse, acute, or erect angle. Fl. Apr, fr. Sep.

- Evapotranspiration; 500–2500 m. S Anhui, Fujian, NW Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Yunnan, Zhejiang [Vietnam].

1a. Leaf blade usually entire and unlobed, rarely 2- or 3-lobed leaves on same branchlet; samara 5–5.5 cm ............. 3d. subsp. catalpifolium

1b. Leaf blade 3- or 5-lobed; samara 2.5–4.5 cm.

including nutlet 5–5.5 × ca. 1.4 cm, wings spreading at erect, fruiting pedicel 2–3 mm; nutlets ovoid, compressed; wing below middle, apex acuminate. Fruit yellowish, glabrous; margin entire or occasionally with undeveloped lateral lobes adaxially glabrous, base rounded or nearly so, undivided with son. 1: 87. 1911;

梓叶枫 ziyefeng


Leaf blade ovate or ovate-oblong, 8–20 × 5–9 cm, abaxially glabrous except with tufts of hairs at bases of veins, adaxially glabrous, base rounded or nearly so, undivided with margin entire or occasionally with undeveloped lateral lobes below middle, apex acuminate. Fruit yellowish, glabrous; fruiting pedicel 2–3 mm; nutlets ovoid, compressed; wing including nutlet 5.5–4.5 cm × 7–11 mm, wings spreading at erect, obtuse, or acute angles. Fl. Apr, fr. Aug–Oct.

- Mixed forests, valleys; 500–2000 m. NE Guangxi, N Guizhou, Sichuan.


长柄枫 changbingfeng


Trees to 10 m tall, andromonoecious. Bark purplish or purplish gray. Branchlets slender; lenticels rounded or ovate; winter buds small, scales 5–8 pairs. Leaves deciduous; petiole 5–9 cm, slender, glabrous; leaf blade abaxially pale green, adaxially dark green, (6)–8–13(–14) × 7–15 cm, papery, abaxially grayish soft pubescent especially on veins, adaxially glabrous, primary veins 3–5, base subcordate, usually 3-lobed, rarely 5-lobed or undivided; lobes triangular-ovate, 3.5 × 2–4 cm, apex acuminate or aristate. Inflorescence terminal on leafy branchlets, loosely corymbose, glabrous, numerous flowered; peduncles 1–1.5 cm. Sepals 5, elliptic-oblanceolate, ca. 4 mm, apex obtuse. Petals 5, oblong-oblanceolate, as long as sepalas. Stamens 8, glabrous; disk amphistaminal, lobed. Ovary glabrous; style short; stigmas revolute. Peduncles ca. 0.5 cm; pedicels ca. 1 cm. Samara yellowish brown; nutlets compressed, 10–13 × ca. 7 mm; wing including nutlet 2.2–4.5 × ca. 1 cm, wings spreading acutely or erectly. Fl. Apr, fr. Sep.


悦角枫 ruijiaofeng


Trees to 10 m tall, andromonoecious. Bark brown or brownish gray. Branchlets smooth, glabrous; winter buds brown, ovoid; scales 6, margin ciliate. Leaves deciduous; petiole 4–12 cm, puberulent near apex when young, glabrescent; leaf blade adaxially dark green, ovate or ovate-oblong, 8.15 × 6–12 cm, papery, abaxially pubescent when young, adaxially glabrous, base cordate or subcordate, (5 or)7-lobed; lobes broadly ovate or triangular, middle lobe and lateral lobes usually acuminate apically. Inflorescence terminal, corymbose, puberulent; peduncles 3–5 mm, from leafy branchlets, appearing with development of leaves. Sepals 5, petaloid. Petals 5, linear-oblancoceolate or obovate. Stamens 8; filaments glabrous. Disk amphistaminal, glabrous. Ovary glabrous; style glabrous; stigmas incurved. Fruit pale brown, glabrous; nutlets compressed, 9–11 × ca. 17 mm; samara wing oblong, parallel-margin, including nutlet 2.5–3.5 cm × 7–11 mm, wings spreading acutely. Fl. Apr, fr. Aug.

- Forests; 800–1100 m. S Anhui, S Henan, Jiangxi, Zhejiang.


陕甘枫 shanganfeng


Trees to 10 m tall, andromonoecious. Bark brown or grayish brown. Branchlets reddish green, glabrous; winter buds subglabrous, outside glabrous. Leaves deciduous; petiole 7–12 cm, slender, pubescent or glabrescent; leaf blade abaxially pale green, adaxially dark green, 5–10 × 4–12 cm, papery, abaxially pubescent or glabrous, adaxially glabrous, primary veins (3–)5, reticulate veins conspicuous abaxially, usually 3- or 5-lobed; lobes basally truncate, margin entire, apex acute or caudate-acute. Inflorescence terminal, corymbose. Flowers yellow-green. Sepals 5, obovate. 2.2–2.5 mm. Petals 5, oblong-oblanceolate, ca. 5 mm. Stamens 6–8. Disk nearly glabrous. Samara oblong, 1.2–3 cm including wings; nutlets convex, usually impressed on other side of one nutlet; wings 0.4–1 cm wide, spreading with acute to obtuse angle. Fl. Apr–May, fr. Jul–Sep.

- Forests along streams, mixed forests, valleys; 700–3000 m. SE Gansu, W Hubei, S Shaanxi, N and NW Sichuan.


青皮枫 qingpifeng

Trees to 20 m tall, andromonoecious. Bark brown or
grayish brown. Branchlets reddish green, stout, glabrous and with light stripes (as in A. sect. Macrantha); winter buds sub-globose, outside glabrous, margin slightly ciliate. Leaves deciduous; petiole 7–12 cm, slender, glabrous; leaf blade abaxially pale green, adaxially dark green, usually longer than broad, 4–12(–20) × 5–20 cm, papery, adaxially glabrous, primary veins 3–7, reticulate veins conspicuous abaxially, base rounded, 3–5–, or 7-lobed, occasionally with leaves small, entire; middle lobe triangular-ovate, apex acuminate; lateral lobes obtuse or triangular-ovate. Flowers yellowish green. Sepals 5. Petals 5. Disk amphistaminal, glabrous. Inflorescence corymbose, ca. 5 cm. Fruiting pedicel 2–2.5 cm. Nutlets oblong, compressed, ± flat, 1–1.5 cm × ca. 6 mm; samara wing including nutlet 2–5 cm × 5–9 mm, wings spreading variously. Fl. Apr, fr. Aug.

Mixed forests; 1500–3000 m. Guizhou, W Hubei, S Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, N India, Kashmir, Nepal, Pakistan; SW Asia, S Europe (S Italy)].

1a. Leaf blade 12–18 cm, 5- or 7-lobed; samara wings 4.5–5 cm, spreading horizontally or obtusely .............. 7a. subsp. cappadocicum

1b. Leaf blade 6–8 cm, 5-lobed, rarely 7-lobed; samara wings 2.5–3 cm, spreading acutely or obtusely ................. 7b. subsp. sinicum

7a. Acer cappadocicum subsp. cappadocicum

青皮枫 (原亚种)  Qing Pi Feng (Yuan Ya Zhong)

Acer cappadocicum var. cultratum (Wallich) W. P. Fang; A. cappadocicum var. indicum (Pax) Rehder; A. cultratum Wallich; A. latum C. A. Meyer; A. latum var. cultratum (Wallich) Pax; A. lobelii Tenore var. indicum Pax.

Leaf blade 12–18 × 14–20 cm, 5- or 7-lobed. Samara wing 4.5–5 cm, spreading horizontally or obtusely.

2400–3000 m. S Xizang, NW Yunnan [Bhutan, N India (Assam, Sikkim), Kashmir, Nepal, Pakistan; SW Asia (Caucasus, Iran, Turkey), S Europe (S Italy)].


小叶青皮枫 Xiao Ye Qing Pi Feng


Petiole reddish; leaf blade 6–8 × 5–8 cm, 5-lobed. Samara wing 2.5–3 cm, wings spreading acutely, purplish.

• 1500–2500 m. Guizhou, W Hubei, S Shaanxi, Sichuan, Xizang, Yunnan.


察隅枫 Cha Yu Feng


Trees usually ca. 10 m tall. Branchlets slender, glabrous; buds brownish, ovoid. Leaves deciduous; petiole 5–7 cm, puberulent near apex; leaf blade abaxially pale green, adaxially dark green, 6–9 × 5–8 cm, papery, abaxially densely yellow-gray tomentose, adaxially glabrous, base rounded, usually 5-lobed; lobes triangular-ovate, margin entire. Inflorescence corymbose, 5–6 cm, glabrous. Sepals 5, green, oblong, ca. 3 mm. Petals 5, obovate, 4–5 mm. Stamens 8. Ovary pubescent; style ca. 1.9 mm, glabrous; stigmas revolute. Fruit greenish yellow; nutlets ± flat, ca. 1.2 cm × 6–7 mm; wing including nutlet 3.5–4 × ca. 1.2 cm, wings spreading ± horizontally. Fl. Apr, fr. Sep.

• Forests, valleys; 1600–2700 m. SE Zizang.


薄叶枫 Bao Ye Feng

Trees usually ca. 7 m tall, andromonoecious. Bark gray or dark gray, smooth. Branchlets slender; lenticels rounded or ovate, small; winter buds small, scales ca. 4 pairs. Leaves deciduous; petiole 3–6 cm, slender, glabrous; leaf blade abaxially pale green, adaxially dark green, suborbicular or ovate, 4–6 × 3–6 cm, membranous, abaxially glabrous except slightly pubescent at vein axils, adaxially glabrous, veins raised abaxially, base subcordate or cordate, usually 3-lobed, rarely undivided; middle lobe obtuse, margin entire or slightly sinuate, apex acute or rarely acuminate; lateral lobes obtuse or triangular-ovate, margin entire, apex acute or obtuse. Inflorescence terminal, corymbose, glabrous. Pedicel ca. 2 cm. Sepals 5, oblong, 2–3 mm, both surfaces glabrous, margin slightly ciliate. Petals 5, yellowish green, oblong-obovate, 2–3 × 6 mm, glabrous. Stamens 8, in staminate flowers ca. as long as or slightly shorter than petals; filaments glabrous; anthers yellow. Disk amphistaminal, lobed, glabrous. Ovary glabrous, compressed; style glabrous, very short, connate at base; stigmas recurved. Fruit purple when young, glabrous; wing including nutlet 2–3 cm; nutlets compressed, with wings spreading nearly horizontally. Fl. May, fr. Sep.

• Mixed forests, valleys; 1200–1900 m. W Hubei, E and SE Sichuan.

9a. Acer tenellum var. septemlobum

薄叶枫原变种 Bao Ye Feng Yuan Bian Zhong


Trees usually ca. 10 m tall. Branchlets slender, glabrous; buds brownish, ovoid. Leaves deciduous; petiole 5–7 cm, puberulent near apex; leaf blade abaxially pale green, adaxially dark green, 6–9 × 5–8 cm, papery, abaxially densely yellow-gray tomentose, adaxially glabrous, base rounded, usually 5-lobed; lobes triangular-ovate, margin entire. Inflorescence corymbose, 5–6 cm, glabrous. Sepals 5, green, oblong, ca. 3 mm. Petals 5, obovate, 4–5 mm. Stamens 8. Ovary pubescent; style ca. 1.9 mm, glabrous; stigmas revolute. Fruit greenish yellow; nutlets ± flat, ca. 1.2 cm × 6–7 mm; wing including nutlet 3.5–4 × ca. 1.2 cm, wings spreading ± horizontally. Fl. Apr, fr. Sep.

• Forests, valleys; 1600–2700 m. SE Zizang.

七裂薄叶枫 qi lie bao ye feng


Leaf blade 7-lobed; lobes triangular-ovate. Samara wing 2.8–3 cm.

- Mixed forests; 1400–1700 m. SE Sichuan.


黄毛枫 huang mao feng

Trees to 20 m tall, andromonoecious. Bark gray or yellowish gray; lenticels yellow, small; buds very few, brownish, ovoid, scales glabrescent. Leaves deciduous; petiole 3–9 cm, slender; leaf blade abaxially pale green, adaxially dark green, suborbicular, 7–10 × 5–11 cm, papery, abaxially pubigeros, fulvous or brown pubescent especially on veins, adaxially glabrous or pubigeros, primary veins 5–7, prominent, reticulate veins conspicuous abaxially, base rounded or subcordate, usually 3– or 5-lobed, rarely undivided or with 1 or 2 small additional basal lobes; lobes broadly triangular-ovate, 2–3 × 1–3 cm, apex aristate or long acuminate. Inflorescence corymbose, 8–10 cm, glabrous. Peduncles 0.5–2 cm. Sepals 5, 2–3 × 1–3 cm, apex aristate or long acuminate. Inflorescence corymbose, 8–10 cm, glabrous. Peduncles 0.5–2 cm. Sepals 5, ca. 3 mm. Petals 5, obovate. Stamens 8. Fruit purplish yellow when mature; nutlets compressed, 1.3–1.5 cm × 8–10 mm; samara wing 2.5–3.8 × ca. 1.5 cm, slender, broadest at middle, apex obtuse, wings spreading nearly horizontally. Fl. Apr, fr. Aug.

- Forests; 1800–3200 m. Sichuan, SE Xizang.


元宝枫 yuan bao feng

Acer cappadocicum Gleditsch subsp. truncatum (Bunge) A. E. Murray; Regel; A. laetum C. A. Meyer var. truncatum (Bunge) Wesmael; A. lobulatum Nakai; A. lobulatum var. rubripes Nakai; A. pictum Thunberg subsp. truncatum (Bunge) A. E. Murray; A. pictum f. cordatum Chin S. Chang; A. platanoides Linnaeus var. truncatum (Bunge) Gams; A. truncatum var. acuminatum X. M. Liu; A. truncatum var. beipiao S. L. Tung; A. truncatum f. cordatum S. L. Tung; A. truncatum var. nudum Schwerin.

Trees 5–10 m tall, andromonoecious. Bark grayish brown or dark brown. Branchlets slender, glabrous; winter buds ovoid. Leaves deciduous; petiole 3–9 cm, glabrous, rarely puberulent at base when young; leaf blade abaxially pale green, adaxially dark green, 8–12 × 5–10 cm, papery, abaxially reticulate, glabrous, rarely with tufts of hairs at vein axils when young, adaxially glabrous, base usually truncate or rarely subcordate, usually 5-lobed, rarely 7-lobed; lobes triangular-ovate or triangular-lanceolate, 3–5 × 1.5–2 cm, margin entire, apex acuminate or caudate-acuminate. Inflorescence erect, corymbose; peduncles 1–2 cm, slender, glabrous. Pedicel ca. 1 cm, slender. Sepals 5, oblong, 4–5 mm, apex obtuse. Petals 5, oblong-obovate, 5–7 mm. Stamens 8, 2–3 mm in staminate flowers, shorter in pistillate flowers, glabrous, inserted near inner margin of disk. Disk slightly lobed. Ovary in fertile flowers compressed; style ca. 1 mm, glabrescent. Infructescence corymbose, pendulous, each with 3–10 fruit. Nutlets flat, thick, 1.3–1.8 × 1–1.2 cm, glabrous; wing greenish white, usually ca. as long as nutlets, rarely longer, parallel on both sides, wings spreading at obtuse or right angles. Fl. Apr, fl. Aug. 2n = 26.

Forests; 400–1000 m. Gansu, Hebei, Henan, Jiangsu, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi [Korea].

One of us (Chang) treats this as Acer pictum subsp. truncatum; however, two of us (Chen and de Jong) believe that A. pictum and A. truncatum differ in fruit, bark, and leaves, and de Jong notes that the seeds of A. truncatum are larger, with an exceptionally high percentage of fat and with hypogeous germination.


色木枫 se mu feng

Trees to 20 m tall, andromonoecious. Bark gray. Branchlets slender, glabrous; winter buds subglobose, scales 4 pairs. Leaves deciduous; petiole 4–6 cm, slender, glabrous; leaf blade abaxially pale green, adaxially dark green, oblong, (8–)9–11(–12) × (4–)6–8(–12) cm, papery, abaxially glabrous except for yellowish or whitish hairs on veins or at vein axils, sometimes abaxially pubescent, adaxially glabrous, base truncate, subtruncate, or hastate, 3-, 5-, 7-, or 9-lobed; lobes triangular or ovate, margin entire, apex acuminate or subcaudate-acuminate. Inflorescence terminal, paniculate-corymbose, ca. 4 × 4 cm, glabrous, numerous flowered; peduncles 1–2 cm. Pedicel ca. 1 cm, glabrous. Sepals 5, greenish yellow, oblong, 2–8 mm, ciliate, apex obtuse. Petals 5, whitish, elliptic or elliptic-ovate, ca. 3 mm. Stamens 8, shorter than petals, glabrous. Ovary glabrous or glabrescent, rudimentary in staminate flowers; style very short, glabrous; stigmas revolute. Fruit yellowish when mature; nutlets flat, compressed, 1–1.3 cm × 8–10 mm; wing oblong, including nutlet 3–3.5 × 1–1.5 cm, wings spreading variously. Fl. Apr–May, fr. Sep. 2n = 26.

Forests, usually in valleys, also cultivated; sea level to 3300 m. Anhui, Gansu, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jilin, Liaoning, Nei Mongol, Shaanxi, Shanxi, Sichuan, SE Xizang, Yunnan, Zhejiang [Japan, Korea, Mongolia, E Russia].

One of us (Chang) believes that Acer pictum subsp. macropterum, subsp. mono, subsp. pictum, subsp. pubigerum, and subsp. tricuspis so closely resemble each other that they may be taken for one variable and widely distributed taxon. However, one of us (Chen) believes that some of the subspecies are good and differ in their distributions; while awaiting future results about their status, it is best to retain their subspecific status. de Jong notes that A. pictum is a very complex species requiring further study.

1a. Leaf blade usually 3-lobed, sometimes 5-lobed.

2a. Wings spreading horizontally, wing 3–4 cm including nutlet
2b. Wings spreading at acute angle, wing ca. 3 cm including nutlet .... 12e. subsp. tricuspis

1b. Leaf blade usually 5- or 7-lobed.

3a. Leaf blade smaller, 5-lobed, rarely 3-lobed ........................ 12c. subsp. pubigerum

3b. Leaf blade larger, 5-, 7-, or 9-lobed.

4a. Leaf blade abaxially with short upright hairs throughout ....... 12a. subsp. pictum

4b. Leaf blade abaxially not hairy, or pilose on main veins .......... 12b. subsp. mono

12a. Acer pictum subsp. pictum

色木枫(原亚种) se mu feng (yuan ya zhong)

Leaf blade orbicular, suborbicular, or cordate, 5- or 7-lobed, to middle or shallowly lobed, abaxially with short upright hairs throughout.

Deciduous forests; 200–1300 m. Cultivated in China [native to Japan and Korea].


大翅色木枫 da chi se mu feng

Leaf blade 5- or 7-lobed, to middle or shallowly lobed, abaxially with short upright hairs throughout.

Deciduous forests; sea level to 3000 m. Anhui, Gansu, Hebei, Heilongjiang, Henan, Hunan, Jiangsu, Ji lin, Liaoning, Nei Mong, Shanxi, Shanxi, Sichuan, Yunnan, Zhejiang [Japan, Korea, Mongolia, E Russia].

12c. Acer pictum subsp. pubigerum (W. P. Fang) Y. S. Chen, stat. nov.

江南色木枫 jiang nan se mu feng


New branchlets sometimes pubescent. Leaf blade 5-lobed, rarely 3-lobed, abaxially yellowish brown or white villous on veins. Nutlets and lower part of wings pubescent.

- Broad-leaved forests; 700–1200 m. S Anhui, Zhejiang.


大翅色木枫 da chi se mu feng


Leaf blade 3- or 5-lobed, abaxially ± pubescent. Wing including nutlet 3–4 cm, wings spreading horizontally.

- Mixed forests; 1900–3300 m. SE Gansu, W Sichuan, SE Xizang, Yunnan.


三尖色木枫 san jian se mu feng


Leaf blade (4–)7–10 × (5–)8–12 cm, 3-lobed. Samara wing 1.6–3 × 1–1.2 cm, ca. 3 cm including nutlet, wings spreading at acute angle.

- Forests; 1000–2800 m. Gansu, Hebei, Shaanxi, Shanxi.
1a. Leaves evergreen, entire.

2a. Inflorescence corymbose-paniculate ......................................................................................... 38. A. laevigatum

2b. Inflorescence only corymbose.

3a. Leaf blade abaxially light green.

4a. Petioles pubescent ................................................................................................................. 43. A. pubpetiolatum

4b. Petioles glabrous.

5a. Leaf blade lanceolate ............................................................................................................. 44. A. fabri

5b. Leaf blade oblong.

6a. Leaves leathery, petiole 2–4 cm; samara 4–8 cm ......................................................... 45. A. kwangnanense

6b. Leaves papery, petiole 1–1.5 cm; samara 2.5–2.8 cm ...................................................... 46. A. oligocarpum

3b. Leaf blade abaxially white mealy, gray.

7a. Leaf blade lanceolate, lateral veins 15–19 pairs; samara 2.2–2.4 cm ................................. 39. A. wangchii

7b. Leaf blade elliptic to oblong, lateral veins no more than 10 pairs; samara 2.8–3.2 cm.

8a. Leaves papery; samara pubescent when immature .............................................................. 42. A. hilaense

8b. Leaves leathery or thickly leathery; samara glabrous.

9a. Leaf blade 8–14 × 3.5–6 cm, thickly leathery, lateral veins 8–10 pairs ............................... 40. A. crassum

9b. Leaf blade 6–9 × 2.4 cm, leathery, lateral veins 5–7 pairs .................................................. 41. A. sino-oblongum

1b. Leaves deciduous, 3–11-lobed.

10a. Inflorescence corymbose; nutlet strongly veined.

11a. Leaves usually 3- or 5-lobed.

12a. Leaves 3-lobed ..................................................................................................................... 37. A. calcaramatum

12b. Leaves 5-lobed.

13a. Petiole, pedicel, and ovary pubescent; leaf small (4.5–5.5 × 2.5–7.5 cm) and petiole short (2–4 cm), petiole and leaves villos ................. 17. A. pauciflorum

13b. Petiole, pedicel, and ovary glabrous; leaf large (5–8 × 5–9 cm) and petiole long (3–6 cm), leaves glabrous.

14a. Leaf blade 5–8 × 5–9 cm and petiole to 6 cm, relatively less flowered .............................. 18. A. oliverianum

14b. Leaf blade to 12 × 4.5–16.5 cm and petiole to 7.5 cm, relatively more flowered .......... 19. A. serrulatum

11b. Leaves usually 7–13-lobed.

15a. Leaves usually 7- or 9-lobed.

16a. Petiole and peduncle usually pubescent when young, ovary villos ......................... 16. A. duplicatoserratum

16b. Petiole, peduncle, and ovary glabrous.

17a. Both surfaces of leaves glabrous; nutlet including wing 2–2.5 cm ................................. 20. A. palmatum

17b. Leaves abaxially pubescent; nutlet including wing 2.6–4 cm ........................................ 21. A. ceriferum

15b. Leaves 9-, 11-, or 13-lobed.

18a. Leaf blade 9–12 cm in diam. ............................................................................................ 13. A. japonicum

18b. Leaf blade 5–10 cm in diam.

19a. Leaf blade 6–10 cm in diam., usually 9-, 11-, or 13-lobed, both surfaces white tomentose; ovary white tomentose; branchlets not white mealy .............................................. 14. A. pseudosieboldianum

19b. Leaf blade 5–6 cm in diam., usually 9-lobed, rarely 7- or 8-lobed, glabrous except tomentose at vein axils; yellowish rough hairy; branchlets white mealy .......................... 15. A. linganense

10b. Inflorescence paniculate; nutlet usually not obviously veined.

20a. Leaves subleathery, 3-lobed at middle, lobes triangular, margin entire or undulate.

21a. Young branchlets, leaves abaxially, nutlets, and pedicels glabrous; samara wing including nutlet 2.5–2.8 cm, wings spreading horizontally ................................. 35. A. tonkinense

21b. Young branchlets, leaves abaxially, nutlets, and pedicels gray-yellow tomentose; samara wing including nutlet 3.5–3.8 cm, wings spreading obtusely ........................ 36. A. fenzelianum

20b. Leaves papery, deeply 3-, 5-, or 7-lobed, lobes ovate or lanceolate, margin serrate or serrulate, rarely entire or undulate.

22a. Inflorescence paniculate-corymbose.

23a. Leaves 5-lobed .................................................................................................................. 22. A. chingii

23b. Leaves 3-lobed .................................................................................................................. 23. A. confertifolium

22b. Inflorescence paniculate.

24a. Leaves 3(or 5)-lobed.

25a. Inflorescence long paniculate with more flowers; leaf blade membranous or subleathery, 3- or 5-lobed, lobes oblong or lanceolate, apex acuminate, margin entire or apex crenulate; inflorescence 5–6 cm; disk glabrous; ovary pilose; samara wing including nutlet 2.5–3 cm ........................................ 24. A. wilsonii

25b. Inflorescence shortly paniculate with less flowers; leaf blade papery, 3-lobed, lobes ovate or oblong-ovate, apex acute or oblong-acute, margin serrate; inflorescence 3.4–4 cm; disk pubescent; ovary pubescent; samara wing including nutlet 2–5 cm .................................................................................. 25. A. tutcheri

羽扇枫  yu shan feng

Trees small, 8–10 m tall, andromonoecious. Bark grayish white or grayish brown. Branchlets green or purplish green, glabrous; winter buds ellipsoid, scales 5 pairs, nearly rounded, glabrous. Leaves deciduous; petiole 3–5 cm, pubescent when young; leaf blade abaxially pale green, adaxially dark green or yellowish green, suborbicular, 9–12 cm in diam., papery or membranous, base deeply cordate, 9- or 11-lobed; lobes ovate, margin incised-serrate, teeth ± acute or sharp, incised to less than 1/2 width of leaf, apex acuminate. Inflorescence terminal, corymbose, 10–15-flowered, 3–5 cm; peduncles 1–2 cm, pubescent. Sepals 5, ovate or obovate, ca. 6 × 4 mm, apex obtuse. Petals 5, purple, elliptic, ca. 5 mm, emarginate, apex obtuse. Stamens 8, ca. 7 mm, glabrous. Disk glabrous, slightly lobed, extrastaminal. Ovary densely villous; style glabrous; stigmas short. Fruit yellowish green; nutlets convex, densely villous, veined; wing narrowed at base, 2–2.4 cm × 6–8 mm, wings spreading acutely or obtusely. Fl. May–Jun, fr. Sep. 2n = 26.

Cultivated. Jiangsu, Liaoning [native to Japan].


紫花枫  zi hua feng


Shrubs or small trees, to 8 m tall, andromonoecious. Branchlets slender; winter buds large, scales 6, ovate, outside densely pilose. Leaves deciduous; petiole 3.5–4 cm, slender, densely pubescent when young; leaf blade abaxially light green, adaxially dark green, suborbicular, 6–8–(10) cm in diam., papery, abaxially densely white pubescent, base deeply cordate to cordate, usually 9–11-lobed, sinuses 1/2–2/3 width of leaf; lobes triangular-ovate or ovate-lanceolate, margin doubly serrate, teeth incised, apex acuminate. Inflorescence terminal, corymbose, 3–4 cm wide, pubescent; peduncles 2–3 cm. Pedicel 8–10 mm. Sepals 5, lanceolate, pubescent at obtuse angle; leaves 5-lobed. Stamens 8, ca. 4 × 3 mm. Disk glabrous. Ovary slightly pilose, nearly glabrous; stigmas ca. 1 mm. Fruit purplish yellow; nutlets convex, 5–7 × 4–5 mm, glabrous, strongly veined; wing narrowly obovate, contracted at base, including nutlet 1.5–2.5 cm × 5–6 mm, wings spreading obtusely or nearly horizontally. Fl. May–Jun, fr. Sep. 2n = 26.

Mixed forests; 700–900 m. Heilongjiang, SE Jilin, E Liaoning [Korea, E Russia].


临安枫 lin an feng

Trees 5–7 m tall, andromonoecious. Bark blackish gray. Young branchlets greenish gray, covered with white wax; winter buds ovoid, scales imbricate, margin ciliate. Leaves deciduous; petiole 2.5–5 cm, slender, glabrous; leaf blade suborbicular, 5–6 cm in diam., papery, glabrous, base deeply cordate, (7 or)9-lobed; lobes usually ovate-oblong, margin serrulate to ca. 1/2 of blade, teeth acute, apex acute. Inflorescence terminal, corymbose, usually 3–5-flowered; peduncles 2–3 cm. Pedicel 4–8 mm. Sepals 5, purple, ovate-oblong. Petals 5, yellowish white, broadly ovate. Stamens 8. Disk extrastaminal. Ovary densely villous; style glabrous. Fruit yellowish white; nutlets convex; wing narrowed at base, 2–2.4 cm × 6–8 mm, wings spreading acutely or obtusely. Fl. Apr–May, fr. Sep.

One of us (Chang) believes that this species would be better treated as a synonym of Acer ceriferum. Chang considers A. ceriferum to be a distinct taxon from A. robustum, which is here treated as a synonym of A. ceriferum, due to distinctive chemical differences. Further work is required to clarify the relationship between A. robustum
and *Acer ceriferum*. One of us (Chen) believes that *A. ceriferum* occurs only at its type locality and is within the distributional range of *A. robustum*, whereas *A. linganense* is common only in Anhui and Zhejiang.


**重齿枫** chong chi feng

Trees small. Young branchlets glabrous or white villous-pubescent, glabrescent, glabrous when mature. Petiole glabrous or pubescent, geniculate at base, 1.5–5 cm; leaf blade orbicular, lanceolate-oblong, or subcordate, 2.3–10 × 3–10 cm, palmately 7- or 9-lobed, lobes lanceolate or lanceolate-oblong, both surfaces villous especially on veins, base cordate, margin sharply and doubly serrate, apex acuminate. Inflorescence corymbose, densely villous at first; peduncles 1–2.5 cm. Flowers small; pedicel 5–6 mm. Stamens short; anthers and filaments each ca. 1 mm. Nutlets and doubly serrate, teeth acute, apex acuminate. In E China.

The taxonomic status of *Acer ceriferum* and *A. duplicatoserratum* is subject to debate. The only difference between *A. duplicatoserratum* var. *duplicatoserratum*, from Taiwan, and *A. duplicatoserratum* var. *chinense*, from mainland China, is the degree of pubescence. On the other hand, only one collection of *A. ceriferum*, a type from W Hubei, which is very pubescent along the veins and petioles including the twigs, was available for study prior to the current work. Collections of *A. duplicatoserratum* var. *chinense* from locations near Hubei and many collections, including *A. linganense*, from E China cannot be easily identified. One of us (Chang) considers that *A. duplicatoserratum* var. *duplicatoserratum* should be placed in the synonymy of *A. ceriferum*, although geographic separation of these two taxa is evident. Moreover, mainland Chinese individuals of *A. duplicatoserratum* var. *chinense* resemble *A. linganense*, which should therefore be made synonymous. In summary, *A. ceriferum*, which is a pubescent taxon, is distributed in Hubei and Taiwan; and a glabrescent taxon, for which a new combination would be required ("A. ceriferum var. chinense"), is distributed in E China.


**稀花枫** xi hua feng


Trees usually 10–15 m tall, andromonoecious. Bark gray or blackish gray. Branchlets slender, densely white tomentose; buds purple, scales ciliate along margins, apex ± acute. Leaves deciduous; petiole 2–4 cm, densely villous when young, soon less villous; leaf blade abaxially pale green, adaxially dark green, 4–5.5 × 2.5–7.5 cm, membranous, abaxially densely white villous, primary veins raised abaxially, base truncate or subcordate, deeply 5-lobed, rarely 7-lobed; lobes lanceolate, margin doubly serrate, teeth acute, apex acuminate. Inflorescence terminal, corymbose, usually 5–8-flowered; peduncles 2–3 cm, villous. Pedicel ca. 5 mm, very slender, villous. Sepals 5, ovate or ovate-oblong, margin ciliate, apex acute or obtuse. Petals 5, broadly ovate. Stamens 8, glabrous. Disk glabrous, extrastaminal. Ovary densely villous; style glabrous; stigmas very short, slightly revolute. Fruit purplish brown; nutlets globose, 3–4 mm in diam., pubescent or glabrous; wing including nutlet 9–20 × 5–7 mm, ± pubescent, wings spreading obtusely. Fl. May, fr. Sep.

- Deciduous forests; 1000–2000 m. S Anhui, Zhejiang.


**五裂枫** wu lie feng


Trees to 7 m tall, andromonoecious. Branchlets smooth,
green and glabrous, greenish brown or olive-brown in second year and ± with grayish white waxy bloom; winter buds ovoid. Leaves deciduous; petiole 2.5–6 cm, glabrous; leaf blade adaxially dark yellowish green, 5–8 × 5–9 cm, base truncate or subcordate with a broad sinus, abaxially lustrous, reticulate and glabrous with exception of axillary tufts of pale hairs, 5-lobed, rarely 3- or 4-lobed in young shoots; lobes triangular-ovate, margin sharply serrulate, apex acuminate. Inflorescence corymbose, terminal on a 2-leaved branchlet. Sepals 5, purplish, elliptic-ovate, ca. 2 mm, margin denticulate. Petals 5, white, ovate or broadly ovate-obtuse. Stamens 8, longer than petals, inserted inside disk. Ovary sparsely villous, with long hairs, minute, villous, and rudimentary in stamineate flowers; styles 2, ca. 2 mm. Samaras glabrous; nutlets brown, convex, ca. 6 × 5 mm, distinctly veined; wings spreading nearly horizontally, wing including nutlet 2.5–3.5 × ca. 1 cm. Fl. May, fr. Sep.


台湾五裂枫 tai wan wu lie feng

Acer oliverianum Pax subsp. formosanum (Koidzumi) A. E. Murray; Acer oliverianum var. microcarpum Hayata; Acer oliverianum var. nakaharae Hayata.

Trees to 20 m tall. Branchlets glabrous. Petiole 3–7.5 cm, glabrous; leaf blade wholly orbicular-cordate to orbicular in outline, 3.5–12 × 4.5–16.5 cm, both surfaces glabrous, veinlets reticulate, palmately 5-lobed, rarely 3- or 4-lobed; lobes triangular-lanceolate to triangular-ovate, truncate to cordate at base, margin duplicately crenate-serrate. Flowers in terminal corymbose cymes; peduncle 3–5 cm, glabrous. Sepals 5, orbicular-oblong, ca. 2 mm, outside hirsute toward apex, margin ciliate. Disk 8-lobed, round, thick. Pistillate flowers: staminodes 5–8; anthers oblong; filaments ca. 1 mm; ovary hirsute; styles ca. 2 mm, connate at base. Staminate flowers ca. 6 mm in diam.; stamens 8, ca. 4 mm; anthers oblong. Fruit brown; nutlets globose, 3–4 mm in diam., glabrous; wing including nutlet 1.8–2.5 cm, wings spreading obtusely. Fl. Mar–Apr, fr. Jun–Oct.

● Forests; 1000–2000 m. C and N Taiwan.

Acer serrulatum has more flowers and different flavonoid patterns than the preceding species, A. oliverianum.


鸡爪枫 ji zhua feng

Trees deciduous, andromonoecious, to 15 m tall. Bark greenish gray or light brown, smooth. Branchlets grayish green, glabrous; winter buds purplish red, conical, small, with 5 pairs of scales, ciliate, terminal buds usually absent. Petiole 2–6 cm; leaf blade suborbicular, 3–6 × 4–8 cm, membranous to papery, yellowish brown pubescent when unfolding, soon glabrous except for axillary tuft of hairs on abaxial surface, base cordate to subtruncate, palmately 5- or 7-lobed to middle; lobes lanceolate, margin irregularly doubly serrate, apex long acuminate. Inflorescence corymbose-paniculate, 10–20-flowered, 3–4 cm, half-pendulous, subtended by 1 or 2 pairs of leaves. Flowers opening
with leaves. Sepals 5, purplish red, oblong to oblanceolate, ca. 3 mm, pubescent near margin. Petals pale yellow to pinkish white, broadly obovate, smaller than sepals, glabrous. Stamens 8, exserted, ca. 3.5 mm, shorter in pistillate flowers, inserted at inside of disk. Ovary glabrous; style long, topped by divergent stigmas. Abortive pistil in staminate flowers minute. Samaras ca. 1.5 cm with wing, glabrous; wings spreading at obtuse angle; nutlets elliptic-convex, only slightly veined with thin, weak wall. Fl. Apr–May, fr. Sep. 2n = 26.

Widely cultivated in gardens in China [native to Japan and S Korea].

This species is a famous small ornamental tree with many cultivars.


杈叶枫 cha ye feng

*Acer anhweiense* W. P. Fang & M. Y. Fang; *A. anhweiense var. brachypterum* W. P. Fang & P. L. Chiu; *A. campbellii* J. D. Hooker & Thomson ex Hiern subsp. *robutum* A. E. Murray; *A. robustum* Pax (1902), not Opiz (1852); *A. robustum var. honanense* W. P. Fang; *A. robustum var. minus* W. P. Fang.

Trees 5–10 m tall, andromonoecious. Branchlets slender, glabrous; winter buds ovoid. Leaves deciduous; petiole 4–5 cm, glabrous or slightly villous toward apex; leaf blade 4–13 × 4–14 cm, papery or membranous, base truncate or subcordate, 7- or 9-lobed; lobes ovate or ovate-oblong, 4–5 cm, margin remotely and irregularly serrate with sharp teeth, apex cuneate-acuminate. Inflorescence terminal, 4–8-flowered; peduncle 3–4 cm. Pedicel 1–1.5 cm, glabrous. Sepals 5, purple, ovate-oblong. Petals 5, oblong or obovate-oblong. Stamens 8, glabrous. Disk glabrous, extrastaminal. Ovary glabrous or slightly villous; style ca. 3 mm; stigmas ca. 1 mm. Fruit greenish yellow; nutlets ellipsoid, 5–7 × 4–5 mm; wing including nutlet 2.2–4 × ca. 1 cm, wings spreading horizontally or obliquely. Fl. May, fr. Sep.

- Mixed forests; 500–1000 m. E Fujian, NE Guangdong, SE Jiangxi.


栢叶枫 qian gui feng

*Acer sinense* Pax subsp. *chingii* (Hu) A. E. Murray.

Trees 10–15 m tall, andromonoecious. Bark whitish. Branchlets slender, glabrous. Leaves deciduous; petiole ca. 3 cm, pubescent; leaf blade abaxially light green, adaxially dark green, suborbicular, ca. 10 cm wide, membranous, abaxially glabrous except for pubescent midvein, adaxially glabrous, base cordate or deeply so, 5-lobed; lobes lanceolate, margin entire or sparsely appressed serrate toward apex, apex acute; middle lobe ca. 5.5 × 2 cm. Inflorescence corymbose, ca. 5 cm, glabrous. Sepals 5, yellowish green, oblong. Petals 5, white, obovate. Stamens 8. Disk extrastaminal. Fruit yellowish; nutlets convex; wing including nutlet 1.8–2 cm × 5–7 mm, wings spreading acutely. Fl. Apr, fr. Aug.


*Acer chingii* was originally placed in *A. sect. Platanoidae* by Hu. It is characterized by its villous petiole; 5-lobed leaf blade, with villous abaxial veins, base deeply cordate, and margin of lobes nearly entire and undulate, only appressed serratate near the apex; corymbose inflorescence; and small samaras.


密叶枫 mi ye feng

*Acer confertifolium var. serratum* (Dunn) W. P. Fang; *A. john-edwardianum* F. P. Metcalf; *A. oliverianum* Pax var. *serratum* (Dunn) Rehder; *A. tutcheri* Duthie subsp. *confertifolium* (Merrill & F. P. Metcalf) A. E. Murray; *A. wilsonii* Rehder var. *serratum* Dunn.

Shrubs or small trees, 1–4 m tall. Bark brown or gray-brown. Branchlets slender, glabrous, those of present year green, densely white waxy. Leaves deciduous, compactly arranged; petiole 2–2.8 cm; leaf blade shiny, ovate, villous on both surfaces, 3–5 × 3–4 cm, glabrous, 3-veined, secondary veins numerous, closely reticulate, base cordate or subcordate, 3-lobed; lobes ovate, extending 1/3–1/2 distance to base of leaf, margin crenate-serrate, apex acutely acuminate. Inflorescence corymbose, terminal at apices of small branchlets, with few samaras, wings widely divergent; nutlets convex, including wings 1.5–2.5 cm; wings obtuse, slightly falcate, 4–7 mm wide, glabrous. Fl. unknown, fr. Sep.

- Mixed forests; 700–1000 m. E Fujian, NE Guangdong, SE Jiangxi.


三峡枫 san xia feng

*Acer angustilobum* Hu; *A. angustilobum var. longicaudatum* W. P. Fang; *A. angustilobum var. longicaudatum* (W. P. Fang) W. P. Fang; *A. angustilobum var. sichourensis* W. P. Fang & M. Y. Fang; *A. campbellii* J. D. Hooker & Thomson ex Hiern subsp. *wilsonii* (Rehder) P. C. de Jong; *A. sichourensis* (W. P. Fang & M. Y. Fang) W. P. Fang; *A. taipuense* W. P. Fang; *A. tutcheri* Duthie subsp. *angustilobum* A. E. Murray; *A. wilsonii* subsp. *burrnense* A. E. Murray; *A. wilsonii var. obtusum* W. P. Fang & Y. T. Wu.

Trees 10–15 m tall, andromonoecious. Bark dark brown, smooth. Branchlets slender, glabrous; winter buds small, scales 6, slightly villous outside. Leaves deciduous; petiole 2–3 cm; leaf blade ovate, 7–12 × 9–12 cm, membranous or subleathery, base usually rounded, rarely truncate or subcordate, usually 3-lobed, occasionally with 2 or more basal lobes; lobes ovate-oblong, triangular-ovate, or lanceolate, margin entire except occasionally with a few small appressed serrations apically, apex cuneate-acuminate. Inflorescence paniculate, 5–6 cm, glabrous; peduncles 2–3 cm, slender. Sepals 5, glabrous. Petals 5, white. Stamens 8; filaments glabrous. Disk glabrous, extrastaminal. Ovary pilose; style nearly glabrous; stigmas short. Inflorescence pendulous. Nutlets ovoid; wing including


岭南枫 ling nan feng

Trees 5–15 m tall, andromonoecious. Bark brown or dark brown. Branchlets slender, glabrous; winter buds ovoid. Leaves deciduous; petiole 2–3 cm, slender, glabrous; leaf blade abaxially pale green, 6–9 × 2–13 cm, membranous, both surfaces glabrous, primary veins 3, base rounded or rounded-truncate, usually 3-lobed, rarely 5-lobed; lobes triangular-ovate, rarely ovate-oblong, margin serrulate, with appressed acute teeth, entire near base, rarely only with a few small serrations near apex, apex acute or acuminate, rarely ciliate-acuminate. Inflorescence shortly paniculate. Pedicel 5–8 mm. Sepals 4, ovate-oblong, apex obtuse. Petals 4, obovate. Stamens 8. Disk villous, extrastaminal. Ovary densely white pilose; style glabrous; stigmas recurved. Fruit yellowish; nutlets convex, ca. 6 mm in diam., veined; wing including nutlet 1.5–2.5 cm × 8–10 mm, wings spreading acutely to nearly horizontally. Fl. Apr, fr. Sep.

- Forests; 300–1000 m. Fujian, Guangdong, Guangxi, S Hunan, S Jiangxi, Taiwan, S Zhejiang.

1a. Wing including nutlet 1.5–2.5 cm × 8–10 mm, wings spreading obtusely or nearly horizontally. ........................................ 25a. var. tutcheri

1b. Samara smaller, ca. 1.5 cm, wings spreading at acute angle. ........................................ 25b. var. shimadae

25a. Acer tutcheri var. tutcheri

岭南枫 (原变种) ling nan feng (yuan bian zhong)

Acer oliverianum Pax var. tutcheri (Duthie) F. P. Metcalf ex Krüssmann, Liquidambar edentata Merrill.

Wing including nutlet 1.5–2.5 cm × 8–10 mm, wings spreading obtusely or nearly horizontally.

- Forests; 300–1000 m. Fujian, Guangdong, Guangxi, S Hunan, S Jiangxi, S Zhejiang.


小果岭南枫 xiao guo ling nan feng

Acer oliverianum subvar. trilobatum Koidzumi; A. tutcheri subsp. formosanum A. E. Murray.

Samara ca. 1.5 cm, wings spreading at acute angle.

- Broad-leaved forests. Taiwan.


毛花枫 mao hua feng

Acer oxyodon Franchet ex W. P. Fang; A. stachyanthum Franchet ex W. P. Fang (1939), not Hiern (1874).

Shrubs or small trees, to 15 m tall, andromonoecious. Bark greenish gray. Branchlets glabrous; winter buds small, scales 8, pilose along margin. Leaves deciduous; petiole 5–9 cm, glabrous; leaf blade abaxially light green, adaxially green, 9–10 × 8–12 cm, papery, abaxially usually slightly pubescent, adaxially glabrous, reticulate veins prominent abaxially, base rounded or truncate, occasionally subcordate, usually 5-lobed, rarely 7-lobed; lobes ovate or triangular-ovate, apex acuminate. Inflorescence erect, compound paniculate racemes, 6–9 × 1–1.8 cm, pilose or glabrous, numerous flowered. Pedicel 3–4 mm, slender. Sepals 5, ovate or broadly ovate, outside glabrous, villous especially along margin, apex obtuse. Petals 5, obovate, slightly shorter than sepals. Stamens 8, 3–4 mm in stamine flowers, much shorter in pistillate flowers; filaments glabrous. Disk glabrous, extrastaminal. Ovary densely villous with yellowish hairs; style nearly glabrous. Fruit greenish purple; nutlets nearly round, ca. 5 mm in diam., strongly convex and veined, densely pubescent when young; wing including nutlet 2.5–3 × ca. 1 cm, wings spreading horizontally, slightly acutely, or obtusely. Fl. May, fr. Sep.

- Mixed forests; 1000–2300 m. S Gansu, N Guangxi, W Hubei, S Shaanxi, Sichuan, Yunnan.


扇叶枫 shan ye feng


Trees ca. 10 m tall, andromonoecious. Bark smooth. Branchlets slender, glabrous; winter buds ellipsoid, margin ciliate, inner scales densely villous outside. Leaves deciduous; petiole to 7 cm, slender; leaf blade abaxially pale green, adaxially dark green, 8–12 cm wide, papery or membranous, abaxially glabrescent except villous on veins and tufts of hairs at vein axils, adaxially glabrous, primary and secondary veins raised on both surfaces, base deeply cordate, usually 7-lobed; lobes .

ovate-oblong, rarely ovate or triangular-ovate, margin sharply and irregularly serrate with appressed acute teeth, apex acuminate or rarely long acuminate. Inflorescence paniculate, to 5 cm, glabrous; peduncles ca. 3 cm. Pedicel ca. 1 mm, slender, glabrous. Sepals 5, ovate-lanceolate, ca. 3 mm, ciliate along margin, apex acute. Petals 5, obovate, ca. as long as sepals. Stamens 8, glabrous. Disk glabrous, slightly lobed, extrastaminal. Ovary glabrous. Fruit yellowish brown; nutlets convex, subglobose, ca. 6 × 5 mm; wing including nutlet 3–3.5–(4) × 1–1.2 cm, wings spreading horizontally. Fl. Jun, fr. Oct. 2n = 26.

Mixed forests; 800–3500 m. Guangxi, Guizhou, W Hubei, S Shaanxi, Sichuan, Yunnan [Myanmar, Vietnam].

One of us (Oterdoom) believes that this taxon is a young form of Acer campbellii because of its identical chemical structure.

28. Acer campbellii J. D. Hooker & Thomson ex Hiern in J. D.
Trees to 15 m tall, andromonoecious. Branchlets purplish green, glabrous, with elliptic or oblong lenticels; winter buds ovoid, scales yellowish pubescent outside. Leaves deciduous; petiole pale green or purplish green, 4–5 cm, glabrous; leaf blade (7)–8–15 × 9–22 cm, membranous, abaxially pubescent on veins when young or nearly glabrous, glabrous when mature except for tufts of barbed hairs at vein axils, adaxially glabrous, primary veins 7, secondary veins 18 or 19 pairs, base cordate, rounded, cuneate, or truncate, (5 or)7(9)lobed, sinuses to 1/2 width of blade; lobes lanceolate or ovate-oblong, 1–1.5 cm, margin remotely or doubly serrulate, apex acuminate. Inflorescence terminal, paniculate, 4–6 cm, glabrous. Sepals 5, ovate. Petals 5, yellow-green. Stamens 8, glabrous. Disk pubescent, extrastaminal. Ovary densely white pilose. Fruit yellowish when mature; nutlets convex, ca. 5 mm in diam.; wing falcate, including nutlet 2.3–2.8 cm × ca. 8 mm, wings spreading nearly horizontally. Fl. May, fr. Sep. 2n = 26.

Mixed forests; 1800–3700 m. S Sichuan, S Xizang, NW Yunnan [Bhutan, N India, Myanmar, Nepal, Vietnam].

28a. Acer campbellii var. campbellii

Leaf blade abaxially nearly glabrous, base truncate, margin serrulate; inflorescence dense ................. 28a. var. campbellii

Leaf blade abaxially pubescent on veins, base cordate, margin often doubly serrate; inflorescence elongated ...... 28b. var. serratifolium

28b. Acer campbellii var. serratifolium

Leaf blade large, abaxially pubescent on veins, base cordate, margin often doubly serrate. Inflorescence elongated.

Mixed forests; 1800–2800 m. S Xizang, NW Yunnan [Bhutan, N India, Nepal].

One of us (de Jong) considers this a small basis for distinguishing the two varieties in a ± sympatric large area.


Chiu; *A. olivaceum* W. P. Fang & P. L. Chiu; *A. yaoshanicum* W. P. Fang.

Trees to 15 m tall, andromonoecious. Bark on trunk dark brown, scabrous; bark on branches green. Petiole 2.8–6 cm, glabrous; leaf blade abaxially light green, adaxially green, somewhat broader than long, 5–13 × 7–16 cm, thinly papery, primary veins 5, level on both surfaces, lateral veins not distinct, adaxially glabrous, abaxially glabrous with exception of axillary tufts and pubescent or glabrous on primary veins, usually 5-lobed or rarely 7-lobed, base truncate or broadly cordate; lobes ovate or oblong, basal lobes smaller, margin serrulate, apex acute to caudate-acuminate. Inflorescence paniculate, terminal on a 2-leaved branchlet; peduncles 2–3 cm. Sepals 5, light green, ovate to oblong, ca. 2 mm. Petals 5, light green, obovate or oblong-obovate, ca. 2 mm. Stamens 8. Disk glabrous, extrastaminal. Ovary villous. Samara glabrous; nutlets convex, ca. 6 × 5 mm; wings spreading obtusely, wing including nutlet 2–2.5 cm × 8–10 mm. Fl. May, fr. Sep.

- Mountains, forests, usually in valleys; 200–1400 m. S Anhui, Fujian, Guangxi, Guizhou, Hunan, Jiangxi, Zhejiang.

*Acer elegantulum* is characterized by its velutinous ovary and nearly glabrous abaxial veins and petiole. *Acer pubinerve* differs by its velutinous abaxial veins and petiole. These two taxa are difficult to distinguish and possibly can be combined. They differ from *A. sinense* by their smaller papery leaves, slender petioles, smaller samaras, and velutinous ovary.


毛脉枫 *mao mai feng*


Trees 7–10(–15) m tall. Bark dark gray, smooth. Branchlets green, glabrous or densely pubescent; winter buds with few scales. Leaves deciduous; petiole 4–5 cm, densely velutinous; leaf blade abaxially light green, adaxially dark green, suborbicular or ovate, 10–12 × 11–14 cm, abaxially nearly glabrous except densely villous on veins, adaxially glabrous except shortly velutinous on veins, 5-lobed, margin slightly serrate, with short acuminate teeth, usually entire toward base, base subcordate, apex caudate; lobes oblong-ovate, caudate, appressed serrate, with short acuminate teeth, usually entire toward base, middle lobes 4–6 cm, basal lobes 1–1.5 cm; sinuses acute, reaching more than 1/2 to middle. Inflorescence paniculate, glabrous; peduncles 2–3.5 cm. Pedicels 2–6 mm. Sepals 5, purplish, ovate, ca. 2 mm. Petals 5, white, ovate, slightly shorter than sepals. Disk extrastaminal, glabrous. Stamens 8, those in staminate flowers ca. as long as sepals, those in pistillate flowers shorter than sepals. Ovary densely pilose; style ca. 1.5 mm, cleft at apex. Fruit yellowish; nutlets convex, ca. 8 × 15 mm; wing obovate, including nutlet (1.3–2.3–2.5(–3.5)) × 1.2–1.9 cm, wings spreading obtusely or nearly horizontally. Fl. Apr, fr. Oct.
● Forests; ca. 100 m. S Anhui, N Fujian, Guangdong, N Guangxi, S Guizhou, E Jiangxi, Zhejiang.


桂林枫 gui lin feng

Acer huangpingense T. Z. Hsu.

Trees 6–8 m tall, andromonoecious. Bark gray or brownish gray, smooth. Branchlets glabrous, young branchlets green. Petiole 4–5 cm, villous; leaf blade abaxially green, adaxially deep green, elliptic, 5–8 × 7–11 cm, papery, abaxially distinctly villous on primary veins, adaxially glabrous, base truncate or nearly cordate, margin serrate, apex caudate-acute. Inflorescence erect, paniculate, 4–9 cm, glabrous; peduncles ca. 3 cm. Sepals 5, purplish green, oblong, ca. 1.5 mm. Petals 5, whitish green, oblong, ca. 1.5 mm. Stamens 8. Disk glabrous, slightly lobed, extrastaminal. Ovary densely villous. Samara purplish red when young, yellowish brown when mature, 2–2.5 cm; nutlets convex, globose, ca. 4 mm in diam.; wings 6–8 mm wide, spreading at obtuse angle. Fl. Apr, fr. Sep.

● Sparse forests; 1000–1500 m. NE Guangxi, SE Guizhou.

Acer kweliinense is characterized by its villous ovary, abaxial veins, and petioles.


苗山枫 miao shan feng

Acer miaoshanicum W. P. Fang

Trees to 4 m tall, andromonoecious. Bark gray or brown-gray, smooth. Branchlets slender, glabrous, those of present year green or purplish green, older ones grayish or gray-green. Leaves deciduous; petiole 4–5 cm, slender, yellow pubescent; leaf blade abaxially green, adaxially dark green, elliptic, 7–10 × 8–12 cm, papery, abaxially pubescent in vein axils, adaxially glabrous, base truncate or subcordate, 5-lobed to ca. 1/2 width of blade, rarely 3-lobed or shortly lobed at base; lobes lanceolate or ovate-oblong, margin serrulate, apex caudate-acuminate. Inflorescence erect, paniculate, 4–5 cm; peduncles ca. 3 cm. Sepals 5, gray-green, ovate-oblong, ca. 1.5 mm. Petals 5, white-green, oblong. Stamens 8. Disk extrastaminal, slightly lobed, glabrous. Ovary densely yellow pilose; style glabrous; stigmas recurved. Fruit yellowish brown; nutlets convex, ovoid, ca. 4 mm in diam.; wing falcate, including nutlet 2.5–2.7 × 0.8–1.6 cm, wings spreading obtusely or ± horizontally. Fl. Apr, fr. Sep.

● Mixed forests; 900–1200 m. NE Guangxi, SE Guizhou.


粗柄枫 cu bing feng


Trees to 12 m tall, andromonoecious. Bark dark brown, smooth. Branchlets white waxy, glabrous, those of present year purplish green, older ones purple-brown or dark purple. Leaves deciduous; petiole purplish green, glabrous, 2–3.5 cm; leaf blade elliptic, suborbicular, or oblong, (8–)10–17 × 7–15 cm, subleathery, abaxially glabrous except for axillary tufts of hairs,
adaxially glabrous, primary veins 3, lateral veins 7–10 pairs, base nearly rounded or subcordate, deeply or shallowly 3-lobed or 3-dentate, sinuses to 1/3 width of blade; lobes triangular, margin entire, apex acute. Inflorescence terminal, paniculate, 8–10 cm, many flowered. Sepals 5, purplish green, triangular. Petals 5, yellowish. Stamens 8. Disk extrastaminal, pubescent. Ovary densely pubigerous. Fruit yellowish; nutlets convex, nearly rounded, ca. 8 × 6 mm; wing falcate, including nutlet 1.8–3.5 cm, wings spreading ± horizontally. Fl. Apr–May, fr. Sep.

Mixed forests; 300–1800 m. Guizhou, SE Xizang, SE Yunnan [Myanmar, Thailand, N Vietnam].


河口枫 he kou feng

Acer tonkinense H. Lecomte subsp. fenzelianum (Handel-Mazzetti) A. E. Murray.

Trees 7–20 m tall. Bark gray or blackish gray. Branchlets slender, densely tomentose; lenticels brown, rounded. Leaves deciduous; petiole 2–3 cm, densely yellowish tomentose; leaf blade thickly membranous or subleathery, abaxially glabrous except densely tomentose on main veins, adaxially glabrous except slightly pubescent at base of veins, primary veins 3, from base to apex of blade, reticulate veins conspicuous abaxially, base rounded or broadly cuneate, shallowly 3-lobed or 3-dentate, rarely unlobed, sinuses to 1/5–1/4 width of blade; lobes triangular-ovate, apex acuminate. Inflorescence corymbose, short, few flowered. Flowers unknown. Infructescence usually gray or yellow tomentose, rarely glabrescent. Fruit purplish yellow, 4–6; nutlets convex, oblong, 1.8–2.3 × 6–8 mm, persistently villous, veined; wing including nutlet 4–6 × 1.4–1.7 cm, reddish when young or purplish green; nutlets strongly convex, ellipsoid or ellipsoidal-oblong, ca. 1 cm in diam., introrse falcate, wings spreading acutely, erectly, or horizontally. Fl. Apr, fr. Aug–Sep. 2n = 26.


1a. Flowers, inflorescence, pedicels, and petals glabrous ........................................ 38a. var. laevigatum

1b. Flowers, inflorescence, pedicels, and petals pubescent ........................................ 38b. var. salweenense

38. Acer laevigatum var. laevigatum

光叶枫 guang ye feng

Trees 10–15 m tall, andromonoecious. Branchlets slender, glabrous or pubescent. Leaves persistent; petiole 1–1.8 cm, glabrous or pubescent, purple-green; leaf blade light green on both surfaces or abaxially greenish, lanceolate to oblanceolate or ovate-elliptic-oblong, 7–15 × 2.5–5 cm, leathery or papery, abaxially with tufts of hairs at vein axils when young, then glabrous, adaxially glabrous, 3-veined at base, reticulate, veins slightly raised, lateral veins 7–12 pairs, base cuneate, broadly cuneate, or rounded, undivided, margin usually entire or remotely serrate when young, apex acuminate or shortly acuminate, acumen to 1.5 cm. Inflorescence terminal on leafy branchlets, corymbose-pauciflorous, pubescent or glabrous. Pedicel 6–8 cm, slender, glabrous. Sepals 5, ovate-oblong. Petals 5, white, obovate, longer than sepals. Stamens 8, glabrous. Disk glabrous, extrastaminal. Ovary slightly pubescent; style glabrous. Fruit brownish yellow when mature or purplish green; nutlets strongly convex, ellipsoid or ellipsoidal-oblong, ca. 1 cm in diam., introrse falcate, wings spreading acutely, erectly, or horizontally. Fl. Apr, fr. Aug–Sep.


怒江光叶枫 nu jiang guang ye feng

Petiole purple-green, pubescent. Inflorescence, pedicels, and flowers pubescent. Infructescence paniculate. Fruiting peduncles 2.3–2.5 cm. Fruit purplish green; nutlets ca. 8 × 5 mm; wing including nutlet 2.5–2.8 cm × ca. 7 mm.

Forests; 1000–1700 m. S Yunnan [N Myanmar].

One of us (de Jong) notes that variation concerns the pubescence, a minor characteristic. In addition, this taxon grows in the same area as the typical variety; thus, there is a small basis for distinction as a variety.


**天峨枫** tian e feng

Trees evergreen, to 15 m tall. Bark dark brown or dark purple, rough. Branchlets purplish green, becoming brown, slender, glabrous; lenticels yellowish, elliptic; winter buds ovoid. Leaves persistent; petiole purplish green, 1.5–4 cm, glabrous; leaf blade abaxially glaucous, adaxially greenish, lanceolate, oblanceolate, or oblong, 8–11 × 2–4 cm, leathery, base broadly truncate, margin entire to undulate, apex caudate, acuminate, oblanceolate, or oblong, 8–11 × 2–4 cm, leathery, base broadly truncate, margin entire to undulate, apex caudate, acuminate. Flowers unknown. Infructescence corymbose, densely yellowish tomentose. Fruit purple; nutlets strongly convex, ca. 1 cm; wing including nutlet 2.5–3 cm × 10–12 mm, wings spreading at acute angle. Fl. Apr, fr. Sep.

- Evergreen forests, near sea shores. Guangdong.


**厚叶枫** hou ye feng

Trees to 12 m tall, andromonoecious. Bark blackish brown, rough. Branchlets glabrous, those of present year purplish green, older ones blackish gray or grayish brown; winter buds ovoid, scales numerous, ciliate along margin, glabrous outside. Leaves persistent; petiole purplish green, 2.5–3 cm, slender; leaf blade abaxially gray-green and glaucous, adaxially dark green, oblong, ovate, or suborbicular, 6–8 × 2.2–3 cm, papery or subleathery, adaxially glabrous, lateral veins 8–10 pairs, base rounded, apex acuminate or shortly acuminate. Flowers unknown. Infructescence corymbose, 3.5–4 cm, gray pubescent. Fruit purple-brown; nutlets strongly convex, ovoid, ca. 7 mm in diam., yellowish or gray pubescent; wing including nutlet 2.4–3 cm × 5–6 mm, wings spreading acutely. Fl. Fr. Sep.

- Mixed forests; ca. 1500 m. W Yunnan.


**滨海枫** bin hai feng

Trees evergreen, to 7 m tall, andromonoecious. Bark brownish gray, rough. Branchlets glabrous, those of present year purple or purplish green, those more than 1 year old brownish purple or grayish purple, lenticels ovate or rounded; winter buds brownish, ovoid, scales slightly ciliate. Petiole 1–3 cm, glabrous; leaf blade abaxially yellowish green and whitish glaucous, adaxially green or pale green, elliptic or elliptic-oblong, 6–9 × 2–4 cm, leathery, veins weak, lateral veins 5–7 pairs, slightly raised below, base broadly cuneate or rounded, margin entire, apex acuminate or ciliate-acuminate, adaxially glabrous. Inflorescence terminal, corymbose; peduncle ca. 1 cm. Flowers greenish yellow. Sepals 5, obovate-oblong, ca. 4 mm. Petals 5, obovate-oblong, ca. 4 mm. Stamens 8. Disk extrastaminal. Ovary glabrous. Pedicels 5–10 mm, villous. Nutlets strongly convex, 8 × 5 mm; wing including nutlet ca. 3 cm × 10–12 mm, wings spreading at acute angle. Fl. Apr. Fr. Sep.

- Mixed forests; ca. 1000 m. SE Yunnan.
● Mixed forests, valleys, limestone slopes; 800–2600 m. SW Guizhou, Yunnan.

1a. Leaf blade usually serrulate in upper part; petiole tomentose; samara ca. 3.4 cm ..................................... 43a. var. pubipetiolatum

1b. Leaf blade entire throughout; petiole tomentose when young, but glabrescent when mature; samara 2.8–3 cm ..................................... 43b. var. pingpienense

43a. Acer pubipetiolatum var. pubipetiolatum

毛柄枫(原变种) mao bing feng (yuan bian zhong)

Petiole tomentose; leaf blade usually serrulate in upper part. Samara ca. 3.4 cm.

● Mixed forests, valleys; 1900–2600 m. W Yunnan.


屏边毛柄枫 ping bian mao bing feng

Petiole tomentose when young, but glabrescent when mature; leaf blade always entire. Samara 2.8–3 cm. Fl. Apr, fr. Sep.

● Limestone slopes; 800–1500 m. SW Guizhou, SE Yunnan.

The name “Acer changii” (Z. R. Xu, Acta Sci. Nat. Univ. Sunyat-senii 1986(2): 100. 1986) belongs here but was not validly published because no type was indicated (Vienna Code, Art. 37.1).

44. Acer fabri Hance, J. Bot. 22: 76. 1884.

罗浮枫 luo fu feng


Trees small, usually ca. 1 m tall, andromonoecious. Bark brownish gray. Branchlets slender, glabrous. Leaves persistent; petiole 1–1.5 cm, slender, glabrous; leaf blade abaxially pale green, adaxially dark green, oblong, lanceolate, oblong-oblong-lanceolate, or elliptic, 4–11 × 2–3.5 cm, leathery, abaxially glabrous, rarely with tufts of hairs at vein axils, adaxially glabrous, midvein raised, lateral veins 4 or 5 pairs, base acuminated or obtuse, undivided, margin entire, apex acuminate or broadly cuneate. Inflorescence erect, paniculate, glabrous or pubescent. Sepals 5, oblong, slightly pubescent. Petals 5, purple, obovate, shorter than sepals. Stamens 8, glabrous. Ovary glabrous. Fruit brownish yellow when mature; nutlets convex, ca. 5 mm in diam.; wing red, including nutlet 2.5–4.8 cm × 8–10 mm, wings spreading obtusely. Fl. Mar–Apr, fr. Sep.

Mixed forests, valleys; 500–2000 m. Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Yunnan [Vietnam].


广南枫 guang nan feng

Acer fengii A. E. Murray.

Trees to 15 m tall. Bark dark gray or dark brown, rough. Branchlets glabrous, those of present year purplish brown, older ones dark brown or dark gray; winter buds ovoid, scales slightly ciliate. Leaves persistent; petiole reddish, 2–4 cm; leaf blade abaxially pale green, adaxially dark green, ovate-oblong or oblong-elliptic, (7–)8–14 × 3.5–4.2(–6) cm, leathery, both surfaces glabrous, veins 7–9 pairs, base obtuse or broadly cuneate, apex acuminate, acumen 8–10 mm. Flowers unknown. Inflorescence corymbose, 3–4 cm, yellowish pubescent. Fruiting peduncles 1.5–2 cm, pubescent. Fruit yellowish brown; nutlets strongly convex, ca. 1 × 1.2–1.4 cm, wings spreading at 90°. Fr. Sep.

● Mixed forests; 1000–1500 m. SE Yunnan.


全缘叶枫组 quan yuan ye feng zu


Fifteen species: China, Himalayas, Japan, Laos, Thailand, Vietnam; 14 species (12 endemic) in China.

1a. Leaves usually 3-lobed.
   2a. Leaves deeply 3-lobed, middle lobe oblong-lanceolate ................................................................. 47. A. yui
   2b. Leaves shallowly 3-lobed, middle lobe ovate, triangular, or triangular-ovate.
   3a. Leaf lateral lobes nearly same size as middle lobe ................................................................. 48. A. buergerianum
   3b. Leaf lateral lobes usually smaller than middle lobe (sometimes with unlobed leaves on same tree).
      4a. Lateral lobes long, apex acuminate.
         5a. Leaf central lobe apically acuminate, lateral lobes triangular, petiole 2–5 cm ......................... 49. A. paxii
         5b. Leaf lobes apically acute, petiole 2.5–9 cm ........................................................................... 50. A. shihweii
      4b. Lateral lobes small, apex obtuse.
         6a. Margin of leaf lobe serrulate ................................................................................................. 51. A. cordatum
         6b. Margin of leaf lobe entire.
            7a. Branchlets, inflorescence, and petioles densely pubescent; leaf margin reflexed, abaxially pubescent ................................................................. 52. A. sycopeoides
            7b. Branchlets and petioles glabrous, inflorescence hairy when immature; leaf margin not reflexed, abaxially glabrous ......................................................................... 53. A. paihengii

1b. Leaves usually not lobed, sometimes 3-lobed in young shoots.
   8a. Young branchlets, petioles, and leaves abaxially pubescent .......................................................... 54. A. coriaceifolium
   8b. Young branchlets, petioles, and leaves abaxially usually glabrous.
      9a. Leaves papery.
         10a. Leaf base cordate, abaxially light green, usually serrulate in upper part; samara purple-red when young ........................................................................................................... 51. A. cordatum
         10b. Leaf base rounded, abaxially pale white, margin entire or undulate; samara green when young ................................................................................................. 55. A. gracilifolium

9b. Leaves thickly leathery or subleathery.
   11a. Leaf blade ovate, apex obtuse ..................................................................................................... 56. A. poliophyllum
   11b. Leaf blade oblong, oblong-ovate, or lanceolate, apex acute to acuminate.
      12a. Samara less than 2 cm; leaf blade lanceolate or oblong, apex acuminate or acute.
         13a. Leaf blade 8–14 × 2.5–5 cm ................................................................................................. 57. A. albobopurpurascens
         13b. Leaf blade 3.5–4.5 × 1.5–2 cm .............................................................................................. 58. A. yinkunii
      12b. Samara usually 2–3 cm; leaf blade oblong, apex usually acute.
         14a. Leaves adaxially shiny, abaxially conspicuously pale white, margin slightly reflexed .... 59. A. lucidum
         14b. Leaves adaxially not shiny and deep green, abaxially light green or pale green, margin not reflexed ........................................................................................................... 60. A. oblongum


川甘枫 chuan gan feng

Acer yui var. leptocarpum W. P. Fang & Y. T. Wu.

Trees ca. 7 m tall. Bark brownish gray or blackish gray. Branchlets slender, glabrous; lenticels ovate or nearly rounded, small; winter buds terminal or axillary, ellipsoid, small, scales numerous, exterior ones glabrous, ciliate along margin, interior ones pubescent. Leaves deciduous; petiole purplish or purplish green, 3–4 cm; leaf blade broadly ovate, 3–7 × 2–2.5 cm, papery, abaxially yellow pubescent at vein axils, adaxially
glabrous and smooth, primary veins 3, reticulate veins conspicuous abaxially, base nearly rounded or broadly obtuse, 3-lobed or 3-dentate, sinuses 1/3–3/5 width of blade; lobes entire or slightly undulate; middle lobe ovate-triangular or lanceolate, apex acute; lateral lobes triangular-ovate, apex obtuse. Inflorescence corymbose. Infructescence ovate or spatulate-lanceolate, ca. 2 mm, apex obtuse. Stamens 8. Disk ovate, glabrous. Petals 5, yellowish white, narrowly lanceolate. Ovary densely yellowish villous; style glabrous, very short; stigmas widely spreading or recurved. Fruit yellowish brown; nutlets strongly convex, 6–7 mm in diam., slightly puberulent, veined; wing including nutlet obovate, ca. 2.2 × 1 cm, apex obtuse, wings spreading obtusely. Fl. Apr, fr. Aug.

48a. Acer buergerianum var. buergerianum

Acer buergerianum var. ningpoense (Hance) Rehder; Acer buergerianum var. trinerve (Siesmayer) Rehder; A. lingii W. P. Fang; A. ningpoense (Hance) W. P. Fang; A. paxii Franchet var. ningpoense (Hance) Pax; A. trialatum L. L. Deng et al.; A. trifidum Hooker & Arnott (1841), not Thunberg (1784); A. trifidum f. ningpoense (Hance) Schwerin; A. trifidum var. ningpoense Hance; A. trinerve Siesmayer.

Leaf blade ovate, (3–)6–10 × 4–6 cm. Samara wings spreading erectly, obtusely, or acutely.

Mixed forests; below 1500 m. Anhui, Fujian, Guangdong, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Sichuan, Zhejiang [Japan].

48b. Acer buergerianum var. jiujiangense


九江三角枫 jiujiang san jiao feng

Leaf blade ovate, slightly 3-lobed. Samara wings inflexed.


48c. Acer buergerianum var. horizontalis


平翅三角枫 ping chi san jiao feng

Leaf blade ovate, 6–8 × 4–6 cm, shallowly 3-lobed; lobes triangular-ovate. Samara wing 2–2.5 cm, wings spreading horizontally.

Below 100 m. S Zhejiang.

48d. Acer buergerianum var. formosanum


台湾三角枫 tai wan san jiao feng


Leaf blade ovate, 4–10 × 4–6 cm, shallowly 3-lobed; lobes triangular-ovate. Samara wing 2.5–3 cm, wings spreading obtusely or nearly horizontally.

Mixed forests; sea level to 100 m. C and N Taiwan.

48e. Acer buergerianum var. kaisianense


界山三角枫 jie shan san jiao feng

lanceolate. Samara wing 1.8–2 cm, spreading at obtuse angle.

- Mixed forests; 1000–1500 m. SE Gansu, NW Hubei, S Shaanxi.


雁荡三角枫 yan dang san jiao feng

Leaf blade orbicular, ca. 3 × 3 cm, deeply 3-lobed; lobes ovate. Samara wing 1.5–1.8 cm, spreading at obtuse angle.

- Mixed forests; 700–900 m. C Zhejiang.


金沙枫 jin sha feng


Trees evergreen, ca. 15 m tall, andromonoecious. Bark brown. Branchlets slender, glabrous; winter buds elliptoid; scales brownish, ciliate along margin. Petiole 2–5 cm, glabrous; leaf blade ovate, obovate, or suborbicular, 5–11 × 2–6 cm, leathery or thickly leathery, abaxially glaucous, adaxially glabrous and smooth, primary veins 3, base rounded or broadly cuneate, margin entire or occasionally 3-lobed toward apex, undivided leaves also on same tree. Inflorescence terminal on leafy branchlets, corymbose, 3–4 cm wide, numerous flowered. Pedicel slender, glabrous. Sepals 5, glabrous. Petals 5, white, linear-lanceolate. Stamens 8; filaments glabrous. Disk glabrous. Ovary glabrous. Samaras brownish yellow when mature; nutlets convex, ca. 4 × 3 mm, glabrous; wing including nutlet 1.4–2(–3.5) × ca. 1 cm, wings spreading variously. Fl. Apr, fr. Sep.

- Alpine forests; 1500–2000 m. C and N Guangxi, Guizhou, SW Sichuan, NW Yunnan.


平坝枫 ping ba feng

Trees to 33 m tall. Bark brown, rough. Branchlets purplish green; lenticels yellowish, elliptic, small; winter buds axillary, ovoid, bud scales obtuse, imbricate. Leaves persistent; petiole purplish green, 2.5–9 cm; leaf blade abaxially glaucous, adaxially olive-colored, oblong, sometimes ovate or obovate, 12–15 × 5.5–8 cm, leathery, undivided to slightly lobed, 3-veined at base, base rounded, margin entire, apex acuminate. Flowers unknown. Inflorescence terminal, corymbose, ca. 6 cm. Fruiting pedicel 1–1.5 cm. Fruit with dense lenticels; nutlets purple brown, convex, ovoid; wing ca. 8 mm wide, ca. 2.3 cm including nutlet; wings spreading obliquely. Fl. unknown, fr. Sep.

- Dense forests, very rare; ca. 1400 m. Guizhou (Pingba).


紫果枫 zi guo feng

Trees to 10 m tall, andromonoecious. Bark gray, smooth. Branchlets slender, glabrous. Leaves persistent; petiole 1–3.5 cm, slender, glabrous; leaf blade ovate or ovate-oblong, 3.5–9 × 1.5–4.5 cm, papyry, abaxially glabrous and slightly reticulate, adaxially glabrous, veins slightly prominent, lateral veins 4 or 5 pairs, base subcordate, undivided or rarely 2- or 3-lobed, margin nearly entire, remotely serrate, or serratate, apex shortly acuminate or obtuse. Inflorescence terminal on leafy branchlets, corymbose, 3–5-flowered. Pedicel 1–2 cm, slender, glabrous. Sepals 5. Petals 5, yellowish green. Stamens 8, glabrous. Disk glabrous. Ovary glabrous. Samaras brownish yellow when mature; nutlets strongly convex, globose, ca. 8 × 1.5–4.5 cm, wings spreading variously. Fl. unknown, fr. Sep.


51a. Acer cordatum var. dimorphifolium (F. P. Metcalf) Y. S. Chen, comb. nov.

紫果枫 (原变种) zi guo feng (yuan bian zhong)


Leaves undivided, margin nearly entire or remotely serrate, apex shortly acuminate.


角叶枫 jiao ye feng

Two type cultivars of *Acer cordatum* var. *dimorphifolium* (F. P. Metcalf).

- Sparse forests; 200–1200 m. Fujian, E Guangdong, Jiangxi.

52. Acer sycopseoides F. Chun, Hooker’s Icon. Pl. 32: t. 3160. 1932.

角叶枫 jiao ye feng


Trees to 6 m tall. Bark grayish. Branchlets purplish brown, densely yellowish tomentose. Leaves persistent; petiole ca.
2.5 cm; leaf blade adaxially yellow-green, ovate, oblong-ovate, or obovate, 5–8 × 2.5–4 cm, leathery, abaxially pubescent, 3-veined, base rounded, margin strongly revolute and shortly 1- or 2-lobulate, apex obtuse-acuminate. Inflorescence terminal, corymbose, densely pubescent, with few samaras; pedicels 4–5 mm. Samaras finally glabrous, 1.8–2.2 cm including wing; nutlets strongly convex, elliptic-oblong, ca. 5 × 3 mm, wings ca. 4 mm wide, spreading at obtuse angle. Fl. Apr, fr. Sep.


富宁枫 fu ning feng


Trees to 12 m tall, andromonoecious. Bark brown, rough. Branchlets glabrous; lenticels elliptic. Leaves deciduous; petiole 1.8–3.5 cm, glabrous; leaf blade abaxially glaucous, adaxially deep green, oblong or ovate, 4–6 × 1.6–2.8 cm, leathery, primary veins prominent abaxially, conspicuous adaxially, lateral veins from base to central part of blade, base rounded, margin entire or slightly with 2 obtuse lateral lobes, apex acute. Inflorescence terminal, corymbose, densely pubescent; peduncles 4–6 mm. Flowers green. Sepals 5, green, lanceolate, rarely oblong, 3.5–4.3 cm, glabrous. Petals 4, light green, ca. as long as sepals. Stamens 8. Disk glabrous, extrastaminal. Ovary hairy. Samara 2–2.2 cm; nutlets strongly convex, ca. 6 × 4 mm; wings ca. 7 mm wide, spreading at obtuse angle. Fl. Apr, fr. Aug.

- Broad-leaved forests; 700–1100 m. SE Yunnan.


樟叶枫 chang ye feng


Trees to 15 m tall. Bark blackish gray or blackish brown; lenticels ovate or oblong-ovate; winter buds brown, scales ovate, tomentose along margin. Leaves persistent; petiole 1.5–3 cm, slender, tomentose; leaf blade abaxially pale green, adaxially dark green, ovate-oblong or rarely lanceolate, 8–12 × 2.5–5 cm, leathery, abaxially tomentose, less so when mature, adaxially glabrous, lateral veins 5 or 6 pairs, base broadly cuneate, cuneate, or rarely obtuse, margin entire, apex acute. Inflorescence terminal, corymbose. Pedicel ca. 1 cm, slender, tomentose. Flowers 5-merous. Sepals 5, light green, oblong, ca. 4 mm. Petals 5, light yellow, obovate, ca. as long as sepals. Stamens 8, longer than petals. Disk extrastaminal, white pubescent. Ovary white pubescent. Inflorescence terminal, corymbose, tomentose. Fruit brownish yellow, tomentose when young, slightly so when mature; nutlets strongly convex, ca. 7 × 6 mm; wing including nutlet 2.8–3.5 cm × ca. 7 mm, wings spreading obtusely or acutely. Fl. Mar, fr. Aug.

- Forests; 1500–2500 m. S Anhui, Fujian, Guangdong, N Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, SE Sichuan, Zhejiang.


长叶枫 chang ye feng

Trees evergreen, to 5 m tall, andromonoecious. Bark brown or gray, smooth. Branchlets purplish, glabrous. Petiole 2–2.5 cm, slender; leaf blade abaxially glaucous, adaxially green, ovate to oblong, 4.5–8 × 2.25 cm, papery, adaxially glabrous, basal veins 3, lateral veins 4 or 5 pairs, base rounded, margin entire or slightly undulate, apex acuminate. Flowers yellow-green. Sepals and petals 5. Stamens 8. Inflorescence terminal, corymbose, glabrous, with leaves at base; pedicels 2–2.5 cm. Samaras 1.5–1.7 cm; wings light yellow, ca. 5 mm wide; nutlets brown, convex, ca. 4 mm in diam. Fl. Mar–Apr, fr. Sep–Oct.

- Mixed forests near streams; 300–1000 m. SE Gansu, N Sichuan.


灰叶枫 hui ye feng

Trees evergreen, ca. 5 m tall. Bark dark gray. Branches slender, glabrous; lenticels light yellow, elliptic; winter buds axillary, ovoid, scales ovate, imbricate, margin ciliate. Petiole 2–2.5 cm, glabrous; leaf blade abaxially gray, glaucous, adaxially light green, ovate, 6–7 × 3–4.5 cm, leathery, adaxially smooth, primary veins prominent abaxially, distinct adaxially, lateral veins 6 or 7 pairs, base rounded, margin entire or slightly undulate, apex acuminate. Flowers unknown. Inflorescence terminal, corymbose, on leafy branchlets, glabrous, ca. 6 cm. Samara red when young, ca. 2.3 cm; nutlets rhombic, convex, ca. 6 × 4 mm; wings ca. 1 cm wide. Fr. Sep.

- Mixed forests; 1000–1800 m. SW Guizhou, SE Yunnan.


紫白枫 zi bai feng

Acer hypoleucum Hayata; A. litseiifolium Hayata.

Trees small, to 15 m tall, andromonoecious. Bark dark. Branchlets of present year pubescent, glabrescent; winter buds ovoid, glabrous, ciliate on margin, ca. 6 pairs. Leaves persistent; petiole 1–3.5 cm, pubescent; leaf blade abaxially whitish glaucaceous, adaxially green, oblong or oblong-lanceolate, 2.5–13 × 1–4 cm, leathery, abaxially densely pubescent, adaxially glabrous, 3-veined at base, veins slightly raised abaxially, lateral veins 5 or 6 pairs, base obtuse to cuneate, margin entire or rarely slightly undulate, apex ciliate to acuminate. Inflorescence terminal on leafy branchlets, corymbose; peduncles ca. 1.5 cm, densely pubescent. Flowers small. Sepals 5, orbicular-ovate. Petals 5, oblong-ovate. Stamens 8. Disk not distinct, extrastaminal. Ovary hairy. Inflorescence terminal,
60. Acer oblongum


Trees small, 3–5 m tall. Bark purplish gray to brown. Branchlets purple, slender, glabrous; buds purple, acute, scales imbricate. Leaves persistent; petiole 1.8–2.4 cm, glabrous; leaf blade abaxially glaucous, adaxially light green, oblong-lanceolate, 3.5–4.5(–5.5) × 1.5–2 cm, leathery, adaxially glabrous, lateral veins 8 or 9 pairs, slightly raised, veinlets inconspicuous, reticulate, margin entire, base rounded or broadly cuneate, apex acuminate or caudate-attenuate. Inflorescence terminal on leafless branchlets, corymbose-paniculate, sparsely pubescent. Flowers unknown. Fruit brownish yellow when mature; nutlets ellipsoid or ellipsoid-oblong, strongly convex, ca. 7 × 5 mm; wing including nutlet 1.8–2.5 cm × ca. 8 mm, wings spreading nearly erectly. Fr. Aug–Sep.

- Sparse forests; 1000–2000 m. Guangxi.

This apparently rare species requires further study.

60a. Acer oblongum var. oblongum

飞蛾枫 (原变种) fei e feng (yuan bian zhong)


Branchlets purplish green, becoming brownish, glabrous; winter buds ovoid. Leaves persistent; petiole purplish green, 2.5–5 cm; leaf blade elliptic-oblong or lanceolate, 8–12 × 3–5 cm, base broadly cuneate or obtuse. Infructescence corymbose, ca. 7 cm, glabrous. Fruit purplish; nutlets ca. 3 mm in diam.; wing falcate, including nutlet 2–2.5 cm × 6–8 mm. Samara wing narrow, ca. 8 mm wide.

NW Fujian, S Gansu, Guangdong, Guizhou, SW Henan, W Hubei, Jiangxi, S Shaanxi, Sichuan, S Xizang, Yunnan [Bhutan, N India, S Japan, Kashmir, Laos, Myanmar, Nepal, Pakistan, Thailand, Vietnam].

The name “Acer paxii var. integrifolia” [sic] (H. Lévêillé, Fl. Kouy-Tchéou, 383. 1914–1915) belongs here but is a nomen nudum and, therefore, was not validly published.

60b. Acer oblongum var. omeiense

峨眉飞蛾枫 e mei fei e feng

Leaf blade narrow, lanceolate, elliptic, or oblong-ovate, 6–11 × 2.5–3 cm, veinlets not conspicuous, base broadly truncate. Inflorescence shortly corymbose, ca. 3 cm. Ovary villous. Samara small, 1.8–2 cm, spreading at acute or right angle. Fr. Apr, fr. Sep.

- Mixed forests, valleys; 1200–1700 m. Sichuan.


Two species: Afghanistan, N China, Pakistan; one species (endemic) in China.

**61. Acer pilosum**

- **1a. Inflorescences paniculate-racemose, with conspicuous bracts; sepals of flowers reflexed and linear-oblong; leaves 3-lobed, margins coarsely serrate; bud scales 6–10-paired.**
- **1b. Inflorescences racemose, without bracts; sepals of flowers spreading and oblong; leaves unlobed or 3- or 5-lobed, abaxially glabrous to pubescent.**

**61a. Acer pilosum var. pilosum**

- **Leaf blade ovate, 3–6 × 4–7 cm, sinuses to 9/10 width of blade; lobes oblong-lanceolate, margin nearly entire or rarely with few serrations apically, or with few obtuse teeth, apex obtuse or acute. Inflorescences terminal or lateral, corymbose, style glabrous; stigmas papillose, revolute. Fruit greenish; nutlets slightly convex, ca. 6 mm in diam.; wing including nutlet 2–2.5 cm × 8–10 mm, wings spreading acutely. Fl. Apr or May, fr. Sep.**
  - Mixed forests; 1000–2000 m. Gansu, Shandong, Shaanxi.


- **Leaf blade ovate or ovate-lanceolate, 3–6 × 4–7 cm, sinuses to 9/10 width of blade; lobes oblong-lanceolate, margin nearly entire or rarely with few obtuse teeth, apex acute. Fruit brownish yellow; nutlets convex; wing including nutlet ca. 2 cm, wings spreading acutely. Fl. May, fr. Sep.**
  - Mixed forests; 1000–1500 m. NE Gansu, SW Ningxia, SE Shaanxi.


**大花枫组 da hua feng zu**

Trees or shrubs, deciduous, andromonoecious, but apparently androdioecious. Bark striped. Leaves undivided or 3- or 5(or 7)-lobed, margin usually serrate. Bud stalked, scales 2-paired. Inflorescences terminal or lateral, corymbose, style glabrous; stigmas papillose, revolute. Fruit greenish or brownish yellow; nutlets slightly convex, ca. 6 mm in diam.; wing including nutlet 2–2.5 cm × 8–10 mm, wings spreading acutely at 90° or nearly horizontally. Fl. Apr or May, fr. Sep.

- **62a. Samara ca. 2 cm, wings spreading at acute angle.**
- **62b. Samara 2–2.5 cm, wings spreading at 90° or nearly horizontally.**

**1b. Samara 2–2.5 cm, wings spreading at 90° or nearly horizontally.**


- **Leaf blade ovate, 3–6 × 4–7 cm, sinuses to 9/10 width of blade; lobes oblong-lanceolate, margin nearly entire or rarely with few obtuse teeth, apex acute. Fruit greenish; nutlets slightly convex, ca. 6 mm in diam.; wing including nutlet 2–2.5 cm × 8–10 mm, wings spreading acutely. Fl. May, fr. Sep.**
  - Mixed forests; 1000–1500 m. NE Gansu, SW Ningxia, SE Shaanxi.
6a. Leaves abaxially ± pubescent on veins ................................................................. 68. A. pectinatum
6b. Leaves abaxially glabrous.
   7a. Middle lobe apically acuminate or caudate-acuminate, lateral lobes apically acuminate, basal
       lobes apically acute or obtuse, sinuses acute, reaching to 1/3 width of blade; margin doubly
       serrate ..................................................................................................................... 73. A. komarovii
   7b. Middle and lateral lobes apically acuminate, basal lobes apically acute, sinuses deeply
       narrowly acuminatifolium W. P. Fang; A. davidii var. acuminatifolium W. P. Fang; A. davidii var. glabrescens Pax; A. davidii var. grandifolium S. Y. Liang & Y. Q. Huang; A. davidii var. tomentellum Schwerin; A. davidii var. zhanganense S. Z. He & Y. K. Li; A. laxiflorum Pax var. integrifolium W. P. Fang; A. rubronervium Y. K. Li; A. sikkimensis Miquel subsp. davidii (Franchet) Wesmael.
   8a. Leaf blade ovate or ovate-oblong, 8–12 cm, base subcordate or rounded, margin serrate
       with unequal crenations, blade not lobed or slightly 3-lobed, lobes apically obtuse
       ............................................................................................................................. 62a. subsp. davidii
   8b. Leaf blade suborbicular-oblong, base subcordate, margin doubly serrate with
       appressed acute teeth, 5-lobed, nearly 3-lobed, middle lobe triangular, apex
       acuminate; lateral and basal lobes apically acute, entire on old
       branches ............................................................................................................. 62b. subsp. grosseri


青榨枫 qing zha feng

Trees ca. 10 m tall, andromonoecious, but often with an
androdioecious sex expression. Bark gray-brown. Branchlets
brownish green or greenish purple, glabrous; winter buds ob-
long, small, glabrous, scales 2 pairs. Leaves deciduous; petioles
3–6 cm, rufous pubescent when young; leaf blade abaxially
pale green, adaxially dark green, ovate, ovate-oblong, or
suborbicular-oblong, (6–)8–12–14 × (4–)5–8–9 cm, papery,
abaxially rufous pubescent on veins when young, glabrescent
when mature, adaxially glabrous, veins 10–13 pairs, base
subcordate or rounded, margin undivided or (3 or)5-lobed,
serrulate or doubly serrate, apex acuminate or rarely caudate-
acuminate; lobes apically obtuse or middle lobe triangular and
lateral and basal lobes apically acute. Flowers greenish
yellow. Inflorescence pendulous, racemose. Pedicel 1–1.5 cm,
slender. Sepals 5, elliptic, ca. 4 mm, apex obtuse. Petals 5,
obovate, ca. 4 mm. Stamens 8, ca. 3 mm, glabrous; anthers
yellow. Disk glabrous, lobes intrastaminal. Ovary rudimentary.
Fruit brownish yellow; nutlet flat, 8–10 × ca. 6 mm; wing
including nutlet 2.5–2.8 cm, wings spreading horizontally or

Mixed forests. Anhui, Fujian, SE Gansu, Guangdong, Guangxi,
Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Ningxia, S
Shaanxi, Shanxi, Sichuan, Yunnan, Zhejiang [Myanmar].

This species is ornamental for its snakelike bark and the autumn
coloration of its leaves.

1a. Leaf blade ovate or ovate-oblong, 8–12 cm, base subcordate or rounded, margin serrate
       with unequal crenations, blade not lobed or slightly 3-lobed, lobes apically obtuse

Trees to 20 m tall, andromonoecious. Branchlets slender, glabrous; winter buds ellipsoid; scales glabrous. Leaves deciduous; petiole 3–4 cm, glabrous; leaf blade abaxially pale green, adaxially dark green, ovate or ovate-oblong, (5–)6–10(–11) × 3–4.5 cm, papery, adaxially glabrous, 5-veined at base, base rounded, margin densely serrulate with sharp apressed teeth, apex caudate-acuminate. Infructescence racemose-umbellate, ca. 15-flowered. Pedicel 6–7 mm. Sepals 5, purple, oblong, 2–2.5 mm, apex obtuse. Petals 5, white. Stamens 8, shorter than sepals. Disk glabrous, slightly lobed, intrastaminal. Ovary purple, glabrous; style very short; stigmas revolute. Fruit yellowish brown; nutlets convex, ca. 5 mm in diam.; wings introrsely sulcate, 2–2.2 × ca. 1.2 cm, wings spreading obtusely. Fl. Mar, fr. Jul–Aug.

Acer kawakamii Koidzumi; A. kawakamii var. taiton-montanum (Hayata) Li; A. pectinatum Wall. ex G. Nicholson subsp. formosanum A. E. Murray; A. taiton-montanum Hayata.

Trees to 20 m tall, andromonoecious. Branchlets slender, glabrous; winter buds ellipsoid; scales glabrous. Leaves deciduous; petiole 3–4 cm, glabrous; leaf blade abaxially pale green, adaxially dark green, ovate or ovate-oblong, (5–)6–10(–11) × 3–4.5 cm, papery, adaxially glabrous, 5-veined at base, base rounded, margin densely serrulate with sharp apressed teeth, apex caudate-acuminate. Infructescence racemose-umbellate, ca. 15-flowered. Pedicel 6–7 mm. Sepals 5, purple, oblong, 2–2.5 mm, apex obtuse. Petals 5, white. Stamens 8, shorter than sepals. Disk glabrous, slightly lobed, intrastaminal. Ovary purple, glabrous; style very short; stigmas revolute. Fruit yellowish brown; nutlets convex, ca. 5 mm in diam.; wings introrsely sulcate, 2–2.2 × ca. 1.2 cm, wings spreading obtusely. Fl. Mar, fr. Jul–Aug.

Acer metcalfii Rehder, J. Arnold Arbor. 14: 221. 1933.

Acer davidii Franchet f. trilobatum Diels; A. sikkimense Miquel subsp. metcalfii (Rehder) P. C. de Jong.

Trees to 10 m tall. Bark smooth. Branchlets slender. Leaves deciduous; petiole 2–3(–5) cm, glabrous; leaf blade adaxially dark green, 10–14 × 7–11 cm, subleathery, both surfaces glabrous, lateral veins 9–11 pairs, base subcordate or rounded, 3-lobed; middle and lateral lobes triangular-ovate, margin coarsely serrate with obtuse teeth, except for entire acumen, apex acuminate. Flowers unknown. Infructescence racemose, 15-flowered. Fruiting pedicel ca. 5 mm, slender, glabrous. Fruit 6–9, brownish yellow; nutlets ca. 8 × 6 mm; wing including nutlet 2.2–2.5 cm × ca. 8 mm, wings spreading obtusely. Fl. unknown, fr. Sep.

Acer pensylvanicum Linnaeus var. segmentosum (Maximowicz) Wesmael.

Trees to 15 m tall, andromonoecious. Bark dark gray. Branchlets glabrous, glaucous white during winter; winter buds blue, ellipsoid. Leaves deciduous; petiole 4–7(–13) cm, glabrous; leaf blade abaxially pale green, suborbicular-ovate, 10–12 × 7–9 cm, papery, abaxially with yellowish barbed hairs at vein axils, adaxially glabrous, primary veins 5, lateral veins 7
or 8 pairs, base rounded or subcordate, margin doubly serrulate, usually 3- or 5-lobed, rarely with 2 small basal lobes; lobes ovate, apex acuminate. Inflorescence pendulous, racemose, 15-flowered, slender, glabrous. Pedicel ca. 5 mm, very slender. Sepals 5, oblong, ca. 3 × 1.5 mm, apex obtuse. Petals 5, obovate, ca. 3 × 2 mm. Stamens 8, glabrous, rudimentary in pistillate flowers. Disk glabrous, intrastaminal. Ovary glabrous, rudimentary in staminate flowers; style short. Fruit yellowish brown, glabrous; nutlets flat, ca. 7 × 4 mm; wing falcate, including nutlet 1.6–2.5 cm × 6–8 mm, wings spreading obtusely to nearly horizontally. Fl. Apr, fr. Sep.

Coniferous and mixed forests; 500–1000 m. Heilongjiang, Jilin, Liaoning [Korea, E Russia].


**疏花枫** shù huā fēng


Trees to 15 m tall, andromonoecious. Bark smooth. Branchlets slender, glabrous; winter buds oblong or ellipsoid, glabrous, scales 2 pairs. Leaves deciduous; petiole 4–7 cm, pubescent; leaf blade abaxially pale green, adaxially dark green, ovate, 7–14 × 5–8 cm, papery, adaxially glabrous, veins 9–11 pairs, base cordate or subcordate, margin sharply serrulate with adpressed teeth, 3-lobed, rarely 5-lobed; middle lobe long acuminate at apex; lateral lobes small, apically acute; basal lobes obsolete. Inflorescence terminal on leafy branchlets, pendulous, racemose, less than 10-flowered, ca. 4 cm, glabrous, appearing after leaves. Pedicel slender, glabrous. Sepals 5, oblong, glabrous, apex obtuse. Petals 5, greenish yellow, obovate, narrowed at base, apex obtuse. Disk glabrous, intrastaminal. Stamens 8, glabrous, rudimentary in staminate flowers. Ovary glabrous; style ca. 1 mm; stigmas recurved. Fruit brownish yellow when mature; nutlets flat, ca. 8 mm in diam.; wing including nutlet 2.5–3 × 1–1.3 cm, wings spreading obtusely or nearly horizontally. Fl. Apr, fr. Sep. 2n = 26.

- Mixed forests; 1800–2500 m. Sichuan, Yunnan.


**篦齿枫** bi chì fēng

Trees to 20 m tall. Bark dark brown, smooth. Branchlets purplish or purplish green, glabrous; winter buds purplish. Leaves deciduous; petiole purplish red, 2–7 cm, glabrous or densely rufous pubescent when young; leaf blade abaxially pale green, adaxially dark green, suborbicular, 7–10 × 6–8 cm, 3- or 5-lobed, papery, abaxially pubescent especially on veins or densely rufous pubescent on veins when young, adaxially glabrous, primary veins 5, lateral veins 8 or 9 pairs, base cordate, deeply cordate, or subcordate, 3- or 5-lobed; middle lobe ovate, apex caudate-acuminate, acumens ca. 1 cm; lateral lobes triangular, margin serrate, apex caudate-acuminate or obtuse. Inflorescence terminal on leafy branchlets, appearing after leaves develop, racemose, 6–8 cm, 10–40-flowered. Pedicel 5–7 mm, slender, glabrous. Staminate flowers: sepals 5, purplish green, oblong, ca. 5 mm, glabrous, apex obtuse; petals 5, obovate, apex obtuse; stamens 8, ca. 2 mm, glabrous; disk glabrous, intrastaminal; ovary rudimentary. Fruit yellowish; nutlets flat, ca. 7 × 4 mm; wing falcate, including nutlet 1.6–2.5 cm × 6–8 mm, wings spreading obtusely to nearly horizontally. Fl. Apr, fr. Sep.

Coniferous and mixed forests; 2300–3700 m. W Sichuan, E and S Xizang, NW Yunnan [Bhutan, NE India, NE Myanmar, Nepal].

1a. Petioles glabrous, leaves usually 5-lobed, rarely 3-lobed, abaxially slightly pubescent on veins .......... 68a. subsp. *pectinatum*

1b. Petioles pubescent, leaves usually 3-lobed, sometimes 5-lobed, abaxially densely rufous pubescent on veins when young ............................... 68b. subsp. *taronense*

**68a. Acer pectinatum** subsp. *pectinatum*

**篦齿枫(原亚种)** bi chì fēng (yuán yà zhòng)

*Acer forrestii* Diels f. *caudatilobum* Rehder; *A. pectinatum* f. *caudatilobum* (Rehder) W. P. Fang; *A. pectinatum* var. *caudatilobum* (Rehder) A. E. Murray.

Trees to 8 m tall. Petiole 6–7 cm, glabrous; leaf blade suborbicular, 7–10 × 6–8 cm, abaxially pubescent especially on veins, base cordate or deeply cordate, usually (3 or)5-lobed; middle lobe ovate, apex caudate-acuminate, acumens ca. 1 cm; lateral lobes triangular, margin serrate, apex caudate-acuminate. Samara wings spreading nearly horizontally. Fl. Apr, fr. Sep. 2n = 26.

- Mixed forests; 2500–3700 m. S Xizang, NW Yunnan [Bhutan, NE India, NE Myanmar, Nepal].


**独龙枫** dú lóng fēng


Trees to 20 m tall, andromonoecious. Petiole 2–6 cm, densely rufous pubescent when young, less so when mature; leaf blade triangular-ovate or ovate-oblong, 6–15 × 4–9 cm, abaxially densely rufous pubescent on veins when young, base cordate or subcordate, margin doubly serrulate with adpressed acute teeth, 3- or 5-lobed; middle lobes triangular-ovate, apex acuminate; lateral lobes acuminate apically; basal lobes small, apex acute or obtuse. Samara wings spreading obtusely. Fl. Apr–May, fr. Aug.–Sep.

- Mixed forests; 2300–3000 m. W Sichuan, E Xizang, NW Yunnan [Bhutan, NE India, NE Myanmar].

One of us (de Jong) noted that *Acer chienii* is indeed different from this taxon. At first look, it is very similar to *A. rufinerve* Siebold &
s specimens in many species vary in flower number (including flower size), and one of us (Chen) believes that flower number is not a very important character; specimens in many species vary in flower number (including A. chienii and A. pectinatum subsp. taronense).


怒江枫 nu jiang feng

*Acer tegmentosum* Maximowicz & *A. rufinerve* A. E. Murray.

These to 17 m tall, andromonoecious. Bark smooth. Branchlets green or purplish, glabrous; winter buds ellipsoid, glabrous. Leaves deciduous; petiole 3–4 cm, nearly glabrous; leaf blade ovate or ovate-oblong, 9–13 × ca. 8 cm, papery, abaxially densely rufous pubescent on veins, adaxially glabrous, base subcordate, margin doubly serrulate with adpressed acute teeth, 3-lobed; middle lobe triangular-ovate, apex acuminate; lateral lobes in upper part of blade, much shorter and apex acute. Inflorescence terminal on leafy branchlets, appearing after leaves develop, paniculate-racemose, 10–15-flowered, slender, with conspicuous bracts beneath; it is listed as a species in Flora Yunnanica. Acer chienii seems to belong to the pattern of morphological variation of *A. pectinatum*. However, one of us (Chen) believes that flower number is not a very important character; specimens in many species vary in flower number (including *A. chienii* and *A. pectinatum* subsp. *taronense*).


丽江枫 li jiàng feng


These to 17 m tall, andromonoecious. Bark rough. Branchlets reddish, slender, glabrous; winter buds brown, ellipsoid. Leaves deciduous; petiole 3–5 cm, slender, glabrous; leaf blade adaxially shiny, ovate, 7–9 × 6–8 cm, papery, abaxially glabrous or rufous pilose at primary vein axils, adaxially glabrous, base subcordate, margin serrulate with adpressed apiculate teeth, 3-lobed; middle lobe triangular-oblong, apex elongated caudate-acuminate; lateral lobes ovate, apex elongated caudate-acuminate. Inflorescence terminal on leafy branchlets, appearing after leaves develop, paniculate-racemose, 10–15-flowered, slender, with conspicuous bracts and small cincinni. Pedicel 1–1.5 cm, slender, glabrous. Flowers: sepals 5, reflexed, linear-oblong; petals 5, purple, linear-oblong; disk flat, glabrous; stamens 8, glabrous, inserted at middle of disk, much shorter in pistillate flowers; ovary purplish, rudimentary in staminate flowers. Fruit purplish yellow when mature; nutlets flat, oblong, ca. 8 × 4 mm; wing including nutlet 2.2–2.5 × ca. 1 cm, wings spreading obtusely. Fl. May, fr. Aug.–Oct.

● Mixed forests; 2200–3000 m. NW Yunnan.

This species is similar to *Acer pectinatum* subsp. *taronense*, but the fruit is much smaller, and the leaves are 3-lobed in the upper part. However, one of us (Chen) believes that the size of the fruit and the number of leaf lobes are variable within taxa of *A. sect. Macrantha*.


滇藏枫 dian zang feng

*Acer mirabile* Handel-Mazzetti.

Trees small or shrubs, to 5 m tall, andromonoecious. Bark gray or blackish gray, rough. Branchlets reddish, slender, glabrous; winter buds brown, ellipsoid. Leaves deciduous; petiole 3–5 cm, slender, glabrous; leaf blade adaxially shiny, ovate, 7–9 × 6–8 cm, papery, abaxially glabrous or rufous pilose at primary vein axils, adaxially glabrous, base subcordate, margin serrulate with adpressed apiculate teeth, 3-lobed; middle lobe triangular-oblong, apex elongated caudate-acuminate; lateral lobes ovate, apex elongated caudate-acuminate. Inflorescence terminal on leafy branchlets, appearing after leaves develop, paniculate-racemose, 10–15-flowered, slender, with conspicuous bracts and small cincinni. Pedicel 1–1.5 cm, slender, glabrous. Flowers: sepals 5, reflexed, linear-oblong; petals 5, purple, linear-oblong; disk flat, glabrous; stamens 8, glabrous, inserted at middle of disk, much shorter in pistillate flowers; ovary purplish, rudimentary in staminate flowers. Fruit purplish yellow when mature; nutlets flat, oblong, ca. 8 × 4 mm; wing including nutlet 2.2–2.5 × ca. 1 cm, wings spreading obtusely. Fl. May, fr. Sep.

● Mixed forests, valleys; 3000–3800 m. SW Sichuan, NW Yunnan.

Alpine forests; 2400–3600 m. E Xizang, NW Yunnan [NE India, NE Myanmar].

One of us (de Jong) notes that *Acer wardii* has similarities with *A. sect. Macrantha*, but the inflorescences (bracts, cincinni) and flowers (reflexed sepals and amphistaminal disk) are uncharacteristic of this section; thus, there are opinions that this species should be placed in a separate section, or at least as a separate series in *A. sect. Macrantha*. The DNA research of Tian et al. (Acta Bot. Sin. 44: 714–724. 2002) also supports the separate status of this species.


玉山枫 yu shan feng

*Acer rubescens* Hayata.

Trees to 20 m tall. Bark yellowish gray, smooth. Branchlets glabrous; winter buds ellipsoid, outer scales glabrous. Leaves deciduous; petiole 5–7 cm, glabrous; leaf blade suborbicular-ovate, 8–10 × 6–8 cm, papery, adaxially glabrous, 5-veined at base abaxially, lateral veins 5 or 6 pairs, base nearly truncate or subcordate, margin doubly serrate with coarse acute teeth, shal-
lowly 5-lobed, to 1/5 width of blade; middle lobe shortly ovate, apex acuminate; lateral and basal lobes small, apex acute or obtuse. Flowers unknown. Infructescence racemose, 15-flowered. Fruiting pedicel 7–10 mm, slender, glabrous. Fruit yellowish brown, small; nutlets subellipsoid, ca. 6 × 4 mm; wing including nutlet 1.8–2.3 cm × 6–7 mm, wings spreading obtusely. Fl. Mar–Apr, fr. Oct.

- Mixed forests; 1800–2200 m. E and S Taiwan.

73. Acer komarovii Pojarkova in Komarov, Fl. URSS 14: 746. 1949.

Acer tschonoskii Maximowicz subsp. koreanum A. E. Murray; A. tschonoskii var. rubripes Komarov.

Trees ca. 5 m tall, andromonoecious. Bark smooth. Branchlets very slender, glabrous; winter buds purple, ellipsoid, small. Leaves deciduous; petiole purple, 5–7 cm; leaf blade abaxially pale green, triangular-ovate, 6–10 × 6–8 cm, papery, abaxially rufous pubescent at vein axils, adaxially glabrous, primary veins 5, base cordate or subcordate, doubly serrulate and lobulate with dense obtuse teeth, 5-lobed, rarely 3-lobed; middle lobe ovate, apex acuminate; lateral lobes triangular-ovate; basal lobes ovate, apex obtuse. Inflorescence terminal on leafy branchlets, pendulous, racemose, 4–5 cm, 10–15-flowered, appearing after leaves develop fully. Staminate flowers: pedicel 3–4 mm, glabrous; sepals 5, ovate-oblong, apex obtuse; petals 5, obovate; stamens 8; disk intrastaminal; ovary rudimentary. Pistillate flowers: pedicel ca. 6 mm, slender, glabrous; sepals 5, elliptic, apex obtuse; petals 5, ovate-oblong, apex obtuse; stamens 8, disk very short, glabrous, intrastaminal; ovary purple, glabrous; style very short. Fruit brownish yellow; nutlets flat, ca. 6 mm in diam.; wing including nutlet 1.8–2.5 cm × ca. 8 mm, wings spreading obtusely. Fl. May, fr. Sep.


Trees to 12 m tall, andromonoecious. Bark blackish brown, smooth. Branchlets slender, glabrous; winter buds oblong-ellipsoid, glabrous. Leaves deciduous; petiole 5–7 cm, glabrous; leaf blade abaxially pale green, adaxially dark green, ovate or triangular-ovate, 6–11 × 4–9 cm, papery, abaxially rufous pubescent at axils of lateral veins and base of main veins, adaxially glabrous, base subcordate or cordate, rarely truncate, margin doubly serrulate and lobulate with adpressed apiculate coarse teeth, distinctly 5-lobed; middle lobe triangular-ovate or ovate, apex caudate-acuminate; lateral lobes ovate; basal lobes ovate, small. Inflorescence terminal on leafy branchlets, pendulous, racemose, 4–5 cm, 10–15-flowered, appearing after leaves develop fully. Staminate flowers: pedicel 3–4 mm, glabrous; sepals 5, ovate-oblong, apex obtuse; petals 5, obovate; stamens 8; disk intrastaminal; ovary rudimentary. Pistillate flowers: pedicel ca. 6 mm, slender, glabrous; sepals 5, elliptic, apex obtuse; petals 5, ovate-oblong, apex obtuse; stamens 8, disk very short, glabrous, intrastaminal; ovary purple, glabrous; style very short. Fruit brownish yellow; nutlets flat, ca. 6 mm in diam.; wing including nutlet 1.8–2.5 cm × ca. 8 mm, wings spreading obtusely. Fl. May, fr. Sep.

- Mixed forests; 1800–2200 m. E and S Taiwan.


尖叶枫组 jian chi feng zu

Shrubs multi-stemmed, 6–15 m tall, dioecious. Bark slightly white striped. Buds valvate, with 2 or 3 pairs of bud scales. Leaves simple, 3- or 5-lobed or undivided, margin serrate. Staminate inflorescence racemose, axillary from leafless buds; pistillate inflorescence racemose, terminal and axillary from mixed buds. Flowers dioecious, 4-merous. Stamens 4(–6), mostly absent in pistillate flowers. Disk intrastaminal. Ovary very rudimentary in staminate flowers. Nutlets rugose and strongly veined.

Four species: China, Himalayas, Japan; three species in China.

1a. Leaf blade 3- or 5-lobed, lateral lobes usually as long as central lobe, apex of lateral lobes caudate-acuminate

1b. Leaf blade unlobed or 3- or 5-lobed, lateral lobes much shorter than central lobes.

2a. Leaf blade 5-lobed ........................................................................................................... 76. A. barbinerve

2b. Leaf blade unlobed, or rarely 3-lobed ........................................................................... 77. A. stachyophyllum

齿叶枫 chi lie feng

Acer caudatum G. Nicholson (1881), not Wallich (1831); A. sterculiaceum K. Koch (1869), not Wallich (1830).

Trees small, multistemmed, to 10 m tall, dioecious. Branches often reddish, smooth, glabrous. Petiole often reddish, 5–10 cm, pubescent; leaf blade 5–12 cm wide, abaxially glabrescent except bearded in axils, primary veins 5, base subcordate-truncate, margin sharply serrate, often doubly toothed, 3- or 5-lobed; basal lobes small or absent, lobes triangular, lateral lobes usually as long as central lobe, apex caudate-acuminate, acumen ca. 1 cm. Staminate inflorescence corymbose, axillary from leafless buds; pistillate inflorescence racemose, terminal or axillary from mixed buds. Flowers greenish, 4-merous, ca. 4 mm in diam. Sepals 4, oblong. 3–4 mm. Petals 4, ovate, shorter than sepals. Stamens 4–6, inserted outside disk. Ovary glabrous; style long, connate to ca. 1/2. Infructescence 12–20 cm. Samaras 2–3 cm; nutlets rugose; wings spreading at right angle.


Mixed forests; 2700–3100 m. S Xizang [N India, Kashmir, Nepal, Pakistan].


簇毛枫 cu mao feng

Acer barbinerve var. chanbaischanense S. L. Tung; A. diabolicum Blume ex Koch subsp. barbinerve (Maximowicz ex Miquel) W. P. Fang.

Shrubs or small, multistemmed trees, to 7 m tall, dioecious. Bark grayish yellow or grayish brown, smooth. Young branchlets puberulent, becoming nearly glabrous and dull reddish brown in second year; bud scales 2 pairs. Leaves deciduous; petiole 4–6 cm, slender, puberulent when young, glabrescent; leaf blade suborbicular or ovate, 8–10 × 6–8 cm, membranous, abaxially hirsute-pubescent especially on veins, adaxially glabrous, primary veins 5, base cordate or subcordate, margin doubly serrate with coarse obtuse teeth, 5-lobed, rarely 7-lobed; middle and lateral lobes acuminate apically; basal lobes acute. Inflorescence racemose, lateral from leafless buds. Pedicel 1–2 cm, slender, glabrous. Staminate racemes very short, ca. 1.5 cm, 5- or 6-flowered; sepals 4, oblong, slightly ciliate along margin, ca. 5 mm; petals 4, rhombic-obovate, slightly shorter than sepals; stamens 4, ca. as long as sepals, glabrous, absent in pistillate flowers; disk 4-lobed, glabrous, intrastaminal; ovary absent or very rudimentary in staminate flowers. Pistillate racemes with slender peduncle ca. 4 cm, puberulent, usually 7-flowered; sepals oblong, ca. 4.3 mm, ciliate, with long hairs at apex; petals obovate, nearly as long as sepals, distinctly clawed; ovary glabrous; style ca. 2 mm, glabrous; stigmas revolute. Infructescence pendulous, racemose, ca. 5 cm. Samaras 5–7; nutlets subglobose, ca. 10 × 8 mm, rugose, strongly veined; wing introrsely falcate, slightly contracted at base, including nutlet 3–3.5 cm, wings spreading obtusely. Fl. Apr, fr. Aug–Sep. 2n = 26.

Mixed and coniferous alpine forests; 500–2300 m. Heilongjiang, Jilin, Liaoning [N Korea, E Russia].


毛叶枫 mao ye feng

Trees to 15 m tall, dioecious. Bark yellowish brown, smooth. Branchlets glabrous. Leaves deciduous; petiole 2.5–8 cm, slightly pubescent near apex; leaf blade ovate or oblong, 5–11 × 2.5–6 cm, undivided or 3-lobed, papery, abaxially densely pale or white pubescent, becoming less so when mature or nearly glabrous, adaxially glabrous, 3–5-veined at base abaxially, rarely with rudimentary basal veins, lateral veins 4–6 pairs, base rounded, rarely slightly cordate or truncate, margin coarsely serrate with appressed obtuse or ± acute teeth or nearly 3-lobed, or unequally and incised-serrate, apiculate-caudate-acuminate to obtuse. Staminate inflorescence racemose, 1–1.5 cm, glabrous, 5–8-flowered. Pedicel 8–15 mm, slender. Sepals 4, oblong, apex obtuse. Petals 4, yellowish green, linear-oblong. Stamens 4, rarely 5 or 6, glabrous. Disk glabrous, lobed, intrastaminal. Pistillate flowers unknown. Infructescence pendulous, 12–15 cm. Fruiting pedicel 2–2.5 cm, slender, glabrous. Inflorescences oblong, convex, strongly rugose; wing including nutlet 3.5–5.5 × 1–1.5(–2) cm, wings spreading erectly, rarely obtusely or acutely. Fl. Apr–May, fr. Sep or Oct.

Alpine forests; 1400–3500 m. S Gansu, W Henan, W Hubei, Ningxia, S Shaanxi, Sichuan, S and SE Xizang, NW Yunnan [Bhutan, N India, Myanmar, Nepal].

1a. Leaf blade ovate, margin serrate, abaxially pale pubescent or with conspicuous tufts in vein axes, undivided; wing including nutlet 4.5–5 × 1.5(–2) cm

...............................  77a. subsp. stachyophyllum

1b. Leaf blade ovate or oblong, margin unequally and incised-serrate, abaxially white pubescent when young, glabrescent when mature, 3-lobed or undivided; wing including nutlet 3.5–5.5 × 1.2 cm ......... 77b. subsp. betulifolium

77a. Acer stachyophyllum subsp. stachyophyllum

毛叶枫(原亚种) mao ye feng (yuan ya zhong)


Petiole 3–8 cm, slightly pubescent near apex; leaf blade ovate, 8–11 × 5–6 cm, papery, abaxially densely pale...
pubescent, becoming less so when mature, adaxially glabrous, lateral veins 4 or 5 pairs, base rounded or rarely slightly cordate, margin coarsely serrate with appressed obtuse or ± acute teeth, undivided, apex caudate-acuminate, cuspidate. Fruiting pedicel 2–2.5 cm, slender, glabrous. Nutlets oblong, convex, strongly rugose; wing including nutlet 4–5 × 1.5(–2) cm, wings spreading erectly, rarely obtusely or acutely. Fl. Apr–May, fr. Oct. 2

Petiole 2.5–5 cm, slightly pubescent when young, glabrescent; leaf blade ovate, rarely oblong-ovate or elliptic, 5–10 × 2.5–7 cm, membranous, abaxially glabrous or white pubescent when young, glabrescent, adaxially slightly pubescent when young, glabrescent, base rounded, rarely slightly truncate, margin unequally and incised-serrate, 3-lobed or undivided, apex acuminate or obtuse. Fruit 5–8; nutlets oblong, ca. 8 × 6 mm, rugose; wing oblong, slightly contracted at base, including nutlet 3–5.5 × 1–1.2 cm, wings spreading variously. Fl. Apr–May, fr. Sep.

Alpine forests; 2000–3700 m. SE Gansu, SW Henan, W Hubei, Ningxia, S Shaanxi, Sichuan, Yunnan [N India, Nepal, Pakistan].

One of us (de Jong) prefers to distinguish Acer caesium subsp. giralldii by its thicker branchlets and conspicuous, glaucous-white winter color, with leaves somewhat smaller, mainly 3-lobed; it appears to be a good taxon, comparable with Acer sterculiaceum subsp. franchetii as a northern taxon of Acer sterculiaceum.

8. Acer sect. Ginnala


Ten species: N Africa, E, S, and W Asia, Europe, North America; one species in China.

8. Acer caesium

Trees to 25 m tall, andromonoecious. Bark gray. Branchlets glabrous, usually glaucous; winter buds ovoid, margin ciliate. Leaves deciduous; petiole purplish green, 10–15 cm, glabrous; leaf blade abaxially glaucous, adaxially green, 11–21 × 11–14 cm, papery, lateral veins 7–9 pairs, distinct abaxially, base cordate, 5-lobed, rarely 3-lobed; lobes triangular, 1–1.5 cm, margin serrulate, apex acuminate. Inflorescence terminal, corymbose; peduncles ca. 6 cm. Sepals 5, yellowish green, ca. 5 × 3 mm. Petals 5, white, ob lanceolate, ca. 5 × 1.5 mm. Stamens 8, 3–5 mm. Disk glabrous, extrastaminal. Ovary pubescent. Fruit yellowish; nutlets convex, ca. 8 mm in diam.; wing including nutlet 4–5.5 cm, wings spreading erectly. Fl. May–Jun, fr. Sep. 2

Petiole 2.5–5 cm, slightly pubescent when young, glabrescent; leaf blade ovate, rarely oblong-ovate or elliptic, 5–10 × 2.5–7 cm, membranous, abaxially glabrous or white pubescent when young, glabrescent, adaxially slightly pubescent when young, glabrescent, base rounded, rarely slightly truncate, margin unequally and incised-serrate, 3-lobed or undivided, apex acuminate or obtuse. Fruit 5–8; nutlets oblong, ca. 8 × 6 mm, rugose; wing oblong, slightly contracted at base, including nutlet 3–5.5 × 1–1.2 cm, wings spreading variously. Fl. Apr–May, fr. Sep.

Alpine forests; 2000–3700 m. SE Gansu, SW Henan, W Hubei, Ningxia, S Shaanxi, Sichuan, Yunnan [N India, Nepal, Pakistan].

One of us (de Jong) prefers to distinguish Acer caesium subsp. giralldii by its thicker branchlets and conspicuous, glaucous-white winter color, with leaves somewhat smaller, mainly 3-lobed; it appears to be a good taxon, comparable with Acer sterculiaceum subsp. franchetii as a northern taxon of Acer sterculiaceum.

9. Acer tataricum

Shrubs or trees, 3–5 m tall, rarely to 15 m tall. Leaves undivided or 3-lobed, margin serrate. Inflorescences terminal and axillary, corymbose. Flowers andromonoecious, 5-merous. Stamens 8. Disk extrastaminal. Nutlets flat, strongly veined.

One species: Asia, E Europe.
Inflorescence corymbose, 2–6 cm, pubescent or glabrous, several flowered. Pedicel slightly villous. Sepals 5, ovate, 1.5–2 mm, villous along margin. Petals 5, white or greenish, oblong-ovate. Stamens 8; filaments glabrous. Disk glabrous, extrastaminal. Ovary densely or sparsely villous; style glabrous.

Fruit yellowish green; nutlets ca. 8 × 5 mm, villous when young, strongly veined; wing including nutlet 2.5–3.5 cm × 8–10 mm, wings spreading erectly or acutely, glabrous or pubescent and glandular pubescent when young. Fl. May–Jun, fr. Sep–Oct. 2n = 26.

Sparse forests, deciduous forests of valleys and slopes; 100–2200. Anhui, Gansu, N Guangdong, Hebei, Heilongjiang, Henan, Hubei, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shan-dong, Shanxi, W Xinjiang, Zhejiang [Afghanistan, Japan, Korea, Mongolia, Russia; SW Asia (Caucasus, Turkey), C and SE Europe (Austria, Hungary, Romania, Serbia, Ukraine)].

Three subspecies occur in China. *Acer tataricum* subsp. *tataricum* occurs in SW Asia (Caucasus, Turkey) and C and SE Europe (Austria, Hungary, Romania, Serbia, Ukraine).

1a. Leaf blade subleathery, 1.2–2.5(–5) × 1–3.2 cm, 3- or 5-lobed, crenate or doubly serrate; samara wing pubescent and glandular when young .................... 79c. subsp. *semenovii*

1b. Leaf blade papery, 6–10 × 4–6 cm, deeply 3- or 5-lobed (or unlobed), serrate; samara wing glabrous.

2a. Leaf blade elliptic-oblong, 3- or 5-lobed, abaxially glabrous .......... 79a. subsp. *ginnala*

2b. Leaf blade ovate or oblong-ovate, unlobed or slightly 3- or 5-lobed, abaxially white pilose ............. 79b. subsp. *theiferum*


茶条枫 cha tiao feng


Leaf blade elliptic-oblong, 6–10 × 4–6 cm, papery, abaxially glabrous, 3- or 5-lobed; lobes serrate. Corymb ca. 6 cm, glabrous. Samara wing including nutlet 2.5–3 cm, glabrous.

Sparse forests; 100–800 m. Gansu, Hebei, Heilongjiang, Henan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shandong, Shanxi [Japan, Korea, Mongolia, E Russia].


苦条枫 ku tiao feng


Leaves ovate or oblong-ovate, 5–8 × 2.5–5 cm, thinly papery, abaxially white pilose, unlobed or slightly 3- or 5-lobed; lobes marginally duplicately serrate-dentate. Corymb ca. 3 cm, white pubescent. Samara large, wing including nutlet 2.5–3.5 cm, spreading at right or acute angle, glabrous. Fl. May, fr. Sep.

Sparse forests; below 1800 m. Anhui, N Guangdong, Henan, Hubei, Jiangsu, Jiangxi, Shaanxi, Zhejiang.

The name “*Acer theiferum*” (W. P. Fang, Acta Phytotax. Sin. 11: 151. 1966) belongs here but was not validly published because two gatherings were indicated as types (Vienna Code, Art. 37.2). The intended new combination _A. ginnala_ subsp. _theiferum_ W. P. Fang was validly published as the name of a new subspecies because a full and
direct reference was given to the Latin description and diagnosis of “A. theiferum” and a single gathering (W. P. Fang 10413, PE) was indicated as the type (Art. 45.1).

One of us (Chang) believes that this subspecies is a form of Acer tataricum subsp. ginnala and should be treated as a synonym of that taxon. However, another of us (Chen) believes that subsp. theiferum is different from subsp. ginnala in its leaf morphology and geographic distribution.


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Branchlets yellowish brown, glabrous. Petiole 2–4 cm, slender, glabrous; leaf blade ovate, 1.2–2.5 × 1–3.2 cm, sub-leafy, base rounded, undivided or 3- or 5-lobed, margin serrate or doubly serrate, apex acute. Corymb glandular pubescent, several flowered. Petals greenish. Samara pubescent or glandular pubescent when young, wing including nutlet 3–3.5 cm, wings spreading at right angle. Fl. May–Jun, fr. Sep.

Deciduous forests of valleys and slopes; 2000–2200 m. W Xinjiang [Afghanistan, S Russia; SW Asia].


Trees to 10 m tall, andromonoecious. Branchlets stout, with elliptic or oblong lenticels; winter buds ovoid, outer scales ovate. Leaves deciduous; petiole red, 5–9 cm, glabrous or pubescent; leaf blade abaxially light green, adaxially dark green, 8–12 cm wide, membranous, abaxially yellowish pilose, adaxially glabrous except pubescent on veins, base cordate or deeply cordate, 5-lobed, rarely 7-lobed; lobes ovate or triangular-ovate, margin doubly and sharply incised-serrate, with acuminate teeth, abaxially yellowish pilose; samara wing including nutlet 2.5–2.8 cm; peduncle and pedicel relatively short ................................................................. 80. A. caudatum

1b. Leaf blade suborbicular, 7–9 cm in diam., lobes broadly ovate, margin coarsely serrate, with broad acute or ± obtuse teeth, abaxially densely yellowish tomentose; samara wing including nutlet 1.5–2 cm; pedicel and peduncle relatively long ................................................................. 81. A. ukurunduense


Alpine forests; 1700–4000 m. SE Gansu, W Henan, W Hubei, Ningxia, S Shaanxi, W Sichuan, SE Xizang, NW Yunnan [Bhutan, N India, Myanmar, Nepal].


Trees 8–10 m tall, andromonoecious. Bark light grayish brown, slightly fissured. Branchlets light grayish brown or purplish brown, glabrous; winter buds shortly conical, densely yellow pubescent, scales 2 or 3 pairs. Leaves deciduous; petiole 5–8 cm, slightly pubescent or glabrescent; leaf blade adaxially dark green, suborbicular, 10–12 × 7–9 cm, membranous or papery, abaxially densely yellowish tomentose, adaxially glabrescent, primary veins slightly prominent abaxially, secondary reticulate veins conspicuous abaxially, binate truncate or subcorolate, 5(or 7)-lobed; lobes broadly ovate, rarely triangular-ovate,
margin coarsely serrate, with broad acute or ± obtuse teeth, apex acuminate. Inflorescence terminal, erect, racemose-paniculate, compact, from leafy branchlets; peduncles (8–)10–12 cm. Pedicel (5–)8 mm, pubescent. Sepals 5, lanceolate, ca. 2 mm, outside pubescent. Petals 5, narrowly ob lanceolate, ca. 3 mm. Stamens 8, or 7–10, glabrous, inserted at middle of disk. Disk extrastaminal, glabrous, lobed. Ovary densely pubescent. Nutlets flat, ca. 6 mm in diam., puberulent; wing including nutlet 4–7 cm, pubescent or nearly glabrous; fruit peduncle 1–2 cm, stout. Fl. May–Sep. 2n = 26.

Coniferous or mixed forests, thickets on stony slopes, riverbanks; 500–2500 m. Heilongjiang, Jilin, Liaoning [Japan, Korea, E Russia].

Two of us (Chang and de Jong) believe that this species would be better treated as a subspecies of Acer caudatum, i.e., Acer caudatum subsp. ukurunduense (Trautvetter & Meyer) A. E. Murray. However, one of us (Chen) does not agree.


扁果枫组 bian guo feng zu


Two species: Cambodia, China, NE India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam; two species in China.

1a. Leaf blade trinerved, lateral veins 5 or 6 pairs, abaxially ± pubescent; wing including nutlet 4–7 cm, pubescent or nearly glabrous; fruit peduncle stout ...................................................................................................................... 82. Acer laurinum

1b. Leaf blade pinnatinerved, lateral veins 8–12 pairs, abaxially glabrous; wing including nutlet 2–4 cm, glabrous; fruit peduncle very slender ................................................................................................................ 83. A. pinnatinervium


十蕊枫 shi rui feng


Trees evergreen, to 30(–48) m tall, androdioecious, sometimes andromonoecious. Bark gray. Branchlets green, glabrous; winter buds ovoid, scales 7–11 pairs. Petiole (1.5–)3.6–(–10) cm, glabrous; leaf blade abaxially glaucous, whitish or light blue-gray, adaxially glossy dark green, lanceolate or oblong-elliptic to ovate, 9–15 × 3–8 cm, abaxially ± pubescent, trinerved, lateral veins 5 or 6 pairs, 2 basal veins reaching beyond middle of blade, base rounded or cuneate or broadly cuneate, margin entire, glabrous, apex shortly acuminate to obtuse. Inflorescence cymose-paniculate, appearing in axils of fallen leaves, 2.5–10 cm, glabrous or pubescent; peduncle 5–35 mm. Pedicel 4–17 mm, glabrous. Flowers pale yellowish. Sepals 5, ovate, 2.5–3 mm, glabrous. Petals 5, 1.5–2.5 mm. Stamens (4–)8–12, glabrous; filaments ca. 5 mm in staminate flowers, ca. 2.2 mm in pistillate flowers. Disk amphistaminal, glabrous. Ovary rudimentary in staminate flowers. Samara brownish yellow; strongly veined; nutlets slightly convex, ca. 15 × 7 mm, pubescent or nearly glabrous; wing falcate, broadest near apex, including nutlet 4–7 × 2–3 cm, wings spreading acutely. Fruit peduncle 1–3 cm, stout. Fl. Jun–Sep, fr. Sep–Dec. 2n = 26.

The only true tropical maple spreading to the S Hemisphere, this species is relatively rare.


楠叶枫 nan ye feng


Trees, to 10 m tall, androdioecious. Bark gray-brown or dark brown, rough; branchlets slender, glabrous, those of present year purple-green or green, older ones gray-green or yellow-green. Winter buds purplish green, ovoid. Leaves persistent; petiole purple-green, 2–3.5 cm, glabrous; leaf blade abaxially gray-white, adaxially dark green and lucid, oblong-elliptic or elliptic, 10–14 × 3–6 cm, papery or subleathery, glabrous, pinnatinerved, lateral veins 8–12 pairs, base obtuse, apex caudate-acuminate, acumen 2–2.4 cm. Inflorescences cymose-paniculate, ca. 1.5 cm, pubescent. Sepals 5, yellowish green, ca. 2 × 7 mm. Petals 5, light yellow, ca. 1.8 × 0.4 mm. Stamens 8. Disk extrastaminal. Ovary purplish, villous. Fruit yellowish brown; nutlets flat, 1–2 cm × 6–7 mm; wing falcate, including nutlet 2–4 cm, wings spreading acutely. Fruit peduncle 1–2 cm, very slender. Fl. Aug–Oct, fr. Dec–Feb.

Two species: Cambodia, China, NE India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam; two species in China.

Trees evergreen, to 30(–48) m tall, androdioecious, sometimes andromonoecious. Bark gray. Branchlets green, glabrous; winter buds ovoid, scales 7–11 pairs. Petiole (1.5–)3.6–(–10) cm, glabrous; leaf blade abaxially glaucous, whitish or light blue-gray, adaxially glossy dark green, lanceolate or oblong-elliptic to ovate, 9–15 × 3–8 cm, abaxially ± pubescent, trinerved, lateral veins 5 or 6 pairs, 2 basal veins reaching beyond middle of blade, base rounded or cuneate or broadly cuneate, margin entire, glabrous, apex shortly acuminate to obtuse. Inflorescence cymose-paniculate, appearing in axils of fallen leaves, 2.5–10 cm, glabrous or pubescent; peduncle 5–35 mm. Pedicel 4–17 mm, glabrous. Flowers pale yellowish. Sepals 5, ovate, 2.5–3 mm, glabrous. Petals 5, 1.5–2.5 mm. Stamens (4–)8–12, glabrous; filaments ca. 5 mm in staminate flowers, ca. 2.2 mm in pistillate flowers. Disk amphistaminal, glabrous. Ovary rudimentary in staminate flowers. Samara brownish yellow; strongly veined; nutlets slightly convex, ca. 15 × 7 mm, pubescent or nearly glabrous; wing falcate, broadest near apex, including nutlet 4–7 × 2–3 cm, wings spreading acutely. Fruit peduncle 1–3 cm, stout. Fl. Jun–Sep, fr. Sep–Dec. 2n = 26.

Evergreen forests, scattered; 700–2500 m. SW Guangxi, Hainan, SE Xizang, NW and S Yunnan [Cambodia, S India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam].

About nine species: E, S, and SE Asia; eight species (six endemic) in China.


Trees to 8 m tall. Bark dark brown or purple-brown. Branchlets cylindric, those of present year green or purplish green and pubescent, older ones brown and glabrous; winter buds ovoid, scales ciliate along margin. Leaves deciduous; petiole purplish green, 7–8 cm, slender, glabrous; leaf blade abaxially gray, adaxially green, suborbicular-ovate, 9–11 × 7–12 cm, papery, abaxially powdery, pubescent, adaxially glabrous, base subcordate or rounded, shallowly 3-lobed, margin usually entire, rarely with a few serrations. Flowers unknown. Infructescence purplish green, racemose, 15–25 cm, subglabrous. Fruiting pedicle 2.5–4 cm, glabrous. Fruit yellowish brown; nutlets yellowish brown, strongly convex, ca. 1 cm in diam., pubescent; wing falcate, including nutlet 4–4.5 × ca. 1.5 cm, wings spreading at 90° or acutely. Fr. Sep.

- Mixed forests; 2000–2700 m. SW Sichuan.

This is an endangered species.


Trees deciduous, to 20 m tall; trunk to 20 cm d.b.h. Branchlets of previous year greenish, pubescent; branchlets of previous year brown-green, pale gray pubescent; those more than 2 years old light brown or dark brown, glabrescent, with noticeable brown-yellow lenticels; winter buds dark brown, ovoid, imbricate scales ca. 9 pairs, outside tomentose, deciduous soon after flowers or leaves mature. Petiole 4–17 cm, pale gray pubescent; leaf blade abaxially pale green, adaxially deep green, 10–20 × 11–25 cm, usually broader than long, papery, primary veins 5, prominent abaxially, impressed adaxially, shallowly 5-lobed, base cordate, abaxially very densely pubescent on veins and veinlets, adaxially glabrous; basal lobes usually smaller, apex acuminate, or occasionally absent; middle and lateral lobes triangular-ovate, margin entire or remotely toothed with a few sinuous teeth, apex acuminate; central lobe with 7–9 pairs of parallel lateral veins. Racemes pendulous, glabrous, arising from leafless lateral buds of 2- or 3-year-old branchlets. Flowers hermaphroditic, yellow-green. Sepals 5, yellow-green, ovate-oblong, ca. 4.5 × 4 mm, glabrous. Petals 5, yellow-green, ovate,
base narrow. Intrastaminial disk glabrous. Stamens 8; filaments 2–3 mm; anthers ovoid, ca. 1 mm. Styles 2, base united, free portion curved downward; stigmas simple. Infructescence pendulous, 9–32 × ca. 7 cm. Fruit 9–17 per raceme, red-green when young, brown-yellow when mature; wing including nutlet 4.7–5.5 × 1.4–1.7 cm, strongly veined, wings spreading at acute or nearly right angle; fruiting pedicle 2.7–3.4 cm, glabrous; nutlets ca. 7 mm in diam., middle convex, globose, villous. Fl. Apr, fr. Sep.

- Mixed forests, valleys; ca. 2400 m. W Yunnan (Yangbi).

This is a very rare, critically endangered species.


巨果枫 ju guo feng


Trees to 30 m tall, dioecious. Bark dark brown or brown. Branchlets greenish brown, rough, glabrous; winter buds ovoid, scales imbricate. Leaves deciduous; petiole 5–12 cm, subglabrous; leaf blade suborbicular or broadly ovate, 10–15(–30) × 8–15(–20) cm, subleathery, primary veins 5, lateral veins 6–8 pairs, base cordate, 3-lobed; lobes short, margin usually entire or repand, rarely few serrate, lateral lobes acute apically. Inflorescence lateral, racemose, pendulous. Sepals 5, elliptic. Petals 5, ca. as long as sepals. Stamens 8. Ovary glabrous. Infructescence 10–12 cm. Samara wing oblong, including nutlet 8–12 cm, wings spreading acutely or erectly. Fl. Apr, fr. Sep. 2n = 26.

Mixed forests, valleys; 1800–3000 m. S Xizang, S Yunnan [Bhutan, N India, Myanmar, Nepal, Thailand].


天目枫 tian mu feng


Trees to 10 m tall, dioecious. Bark brownish gray, nearly smooth. Branchlets of first year green and sparsely pilose, later brownish, glabrescent; buds bright brown, ovoid, with many imbricate scales, scales densely pilose. Leaves deciduous; petiole 4–8.5 cm, slender, pubescent when young, glabrescent; leaf blade abaxially light green, adaxially dull green, abaxially with axillary tufts of hairs between primary and secondary veins, both surfaces densely pilose on veins when young, less so when mature, ciliate at margin, 5-veined from cordate or subcordate or truncate base, 5-lobed, rarely 3-lobed; 2 basal lobes spreading, triangular, margin very remotely dentate or entire, apically acute or acuminate, midlobe oblong-ovate, slightly longer or very rarely shorter than lateral ones, margin very remotely dentate or entire, with margin nearly parallel below middle, apex long acuminate. Peduncle green or purplish, 1–2.5 cm, sparsely pilose, sometimes glabrous. Flowers purple-red, from lateral leafless buds, appearing before leaves. Stamineate flowers apetalous, in pendulous racemes or corymbose racemes, 3–7-flowered, embraced by several convex bracts; bracts oblong or oblong-ovobate, to 1.2 cm, outside densely pilose, inside glabrous; pedicels purple, 1–2.5 cm, sparsely pilose; sepals (3–)5(or 6), unequal in size, ca. 5 mm, glabrous; petals 5, ca. as long as sepals; stamens 8, inserted inside of disk. Pistillate flowers in pendulous racemes, 3–7-flowered; perianth purple, glabrous; ovary densely pilose; stigma 2-lobed. Fruit 8–14 mm, glabrous; samaras slightly ascending at base, with strongly keeled and veined nutlets, ca. 3.6 cm; wings ca. 1 cm wide, sparsely pilose; nutlets pale yellow, ca. 10 × 9 mm, pubescent and bristly. Fl. Apr, fr. Sep.

- Mixed forests; 700–1000 m. S Anhui, NE Hubei, N Jiangxi, NW Zhejiang.


苹婆枫 ping po feng

Trees to 20 m tall. Bark dark gray or gray-brown. Branchlets grayish, glabrous; winter buds ovoid, scales ciliate along margin. Leaves deciduous; petiole greenish or purplish green, 5–15 cm, glabrous; leaf blade abaxially greenish, adaxially dark green, 10–20 × (12–)15–23 cm, subleathery, adaxially tomentose or pilose, adaxially glabrous, primary veins 5, secondary veins 10 or 11 pairs, distinct adaxially, base subcordate, 3- or 5-lobed, rarely 7-lobed; lobes ovate, margin with obtuse teeth, apex acuminate. Inflorescence racemose, ca. 8 cm, slender, pilose. Sepals 5, greenish, oblong. Petals 5, yellowish green, ca. as long as sepals, ciliate along margin. Stamens 5–8. Ovary hairy. Fruit yellowish; nutlets convex, wing including nutlet 4–6(–6.5) cm, wings spreading erectly. Fl. Apr–May, fr. Sep.

- Mixed forests; 1800–3100 m. Guizhou, SW Henan, NW Hubei, Hunan, S Shaanxi, Sichuan, S Xizang, Yunnan [Bhutan, N India].

1a. Leaf blade usually 5-lobed, rarely 3- or 7-lobed ............................. 88a. *subsp. sterculiacaeum*

1b. Leaf blade usually 3-lobed, rarely 5-lobed ........................................... 88b. *subsp. franchetii*

88a. Acer sterculiacaeum subsp. sterculiacaeum

苹婆枫(原亚种) ping po feng (yuan ya zhong)


Petiole 10–15 cm; leaf blade abaxially pubescent when young and pubescent on veins and at vein axils when mature, usually 5-lobed, rarely 3- or 7-lobed; lobes basally cordate, margin distantly serrate, apex acuminate. Samara wing including nutlet 5–6 cm, wings 1.5–2 cm wide.

2300–3100 m. S Xizang, NW Yunnan [Bhutan, N India].


房县枫 fang xian feng

Leaf blade usually 3-lobed, rarely 5-lobed. Samara wing including nutlet 4–6.5 cm.

- Alpine forests, valleys; 1800–2500 m. Guizhou, SW Henan, NW Hubei, S Shaanxi, Sichuan, E Yunnan.

One of us (Chang) believes this taxon would be better treated as a synonym of *Acer sterculiaceum*. However, one of us (Chen) does not agree.


贡山枫 Gong Shan Feng


Trees to 20 m tall. Bark gray, vertically fissured. Branchlets terete, those of present year grayish brown, older ones grayish brown or dark grayish brown; winter buds gray, circular-conical, scales ciliate along margin. Leaves deciduous; petiole 9–12 cm, pubescent at tip; leaf blade abaxially greenish, adaxially dark green, 15–25 × 15–25 cm, subleathery, primary veins 3, secondary veins 9–11 pairs, distinct abaxially, 3-lobed; lobes ovate. Flowers unknown. Infructescence racemose. Fruiting pedicel 7–15 mm. Nutlets convex, round; wing falcate, including nutlet 6–6.5 × ca. 1.2 cm, wings spreading erectly. Fl. unknown, fr. Sep.

- Mixed forests, valleys; 1500–1800 m. NE Guangxi, SE Guizhou, SW Hubei, NW Hunan.


秦岭枫 Qin Ling Feng

Trees, 8–10 m tall. Bark gray-brown. Branchlets slender; young branchlets light purple, pubescent; old branches light brown, glabrous; winter buds conical, scales ciliate along margin. Leaves deciduous; petiole 6–10 cm, pubescent; leaf blade abaxially greenish, adaxially dark green, 4–9.5 × 4–11 cm, papery, abaxially tomentose or pilose, adaxially glabrous, primary veins 3, secondary veins 9–11 pairs, distinct adaxially, base rounded or rarely subcordate, 3-lobed, rarely 5-lobed; lobes ovate, margin undulate or with 1 or 2 obtuse teeth, apex acute; lateral lobes spreading horizontally. Inflorescence racemose, 3–5 cm, slender, pilose. Sepals 5, light greenish, oblong, ca. 5 mm. Petals 5, yellowish green, ca. 7 mm. Stamens 8. Ovary hairy. Fruit yellowish; pedicel slender. Nutlets irregularly convex, hispid; wing including nutlet 4–4.5 × 1–1.2 cm, wings spreading erectly or acutely. Fl. Apr, fr. Aug–Sep.

- Sparse forests; 1200–1500 m. SE Gansu, SW Henan, Shaanxi.

This species is very similar to *Acer sterculiaceum* subsp. *franchetii* but differs by its light brown branches, thinner 3-lobed leaves, lateral lobes spreading horizontally, inflorescence smaller and shorter, pedicels slender, and petioles and leaves abaxially pubescent.


五小叶枫组 Wu Xiao Ye Feng Zuo


- One species: China.


五小叶枫 Wu Xiao Ye Feng

Trees to 10 m tall, andromonoecious. Branchlets brown, widely spreading or slightly pendulous; buds imbricate, purplish. Leaves deciduous; petiole brownish yellow, 6–8 cm, glabrous; leaf blade subleathery, abaxially white glaucous, adaxially dark green and glabrous; leaflets (4 or)5(–7); petiolules 5–8 mm, glabrous; leaflet blades 5–8 × 1.5–2 cm, narrowly lanceolate or lanceolate, midvein prominent abaxially, slightly impressed adaxially, veins slightly raised abaxially, base cuneate or broadly cuneate, apex obtuse or acute-obtuse-acuminate. Inflorescence corymbose, glabrous. Pedicel 1–2 cm, slender, glabrous. Petals 5. Stamens 8; filaments glabrous. Disk glabrous, extrastaminal. Ovary sparsely pubescent. Nutlets ca. 5 mm in
diam., strongly convex, puberulent; wing including nutlet 2.3–2.5 cm × ca. 8 mm, wings spreading at 90°. Fl. Apr, fr. Sep.

This is a very rare, endangered species.


The genus Acer includes about 130 species of deciduous trees and shrubs distributed throughout the temperate regions of the Northern Hemisphere. The species mentioned in this text are notable for their trifoliate foliage, winged nuts, and distinctive bark patterns.

1a. Bark yellow-brown, orange-brown, or red-brown, fissured. 
1b. Bark gray, smooth.

2a. Leaf more deeply 2- or 3-toothed; small wing and nutlet (3.2–3.8 cm); bark orange-brown or red-brown ........ 93. Acer griseum
2b. Leaf margin entire or shallowly 2- or 3-toothed; large wing and nutlet (3.5–4.5 cm); bark yellow-brown ....... 94. A. triflorum

3a. Young branchlets and abaxial surface of leaves pubescent .................................................................................. 95. Acer nikoense
3b. Young branchlets and abaxial surface of leaves glabrous.

4a. Inflorescence usually 3-flowered; leaflets lanceolate, 5–10 × 1.5–3 cm ............................................. 96. A. mandshuricum
4b. Inflorescence 20–30-flowered; leaflets oblong-lanceolate, 7–14 × 2–4 cm .......................................... 97. A. sutchuenense

93. Acer griseum (Franchet) Pax in Engler, Pflanzenr. 8(IV. 163): 30. 1902.

Blood leaf feng xue pi feng


Trees to 20 m tall, androecious, sometimes andromonoecious. Bark orange-brown or red-brown or fissured. Branchlets cylindrical, those of present year purplish, densely pubescent, older ones dark purple or dark brown, hairs persistent on branchlets for 2 or 3 years; buds dark and small. Leaves deciduous; petiole 2–4 cm, densely pilose; leaf blade papery, abaxially glaucous, pubescent, densely so on veins, adaxially dark green, pubescent when young, glabrescent, with 3 leaflets per petiole; petiolule 5–8 cm, pubescent; leaflet blades elliptic or elliptic-oblong, 3–8 × 2–5 cm, apex acute; middle leaflets cuneate apically, coarsely toothed, with 2 or 3 large ± blunt teeth. Inflorescence cymose, small, pilose, usually 3-flowered. Pedicel 2–3 cm, densely pilose. Sepals 5. Petals 5. Stamens 10, glabrous. Disk glabrous, extrastaminal. Fruit greenish yellow; nutlets subglobose, 1.4–1.6 × 1–1.2 cm, densely pubescent; wing including nutlet 3.5–4.5 × 1.3–2 cm, subparallel, wings spreading at 90° or nearly erectly. Fl. Apr, fr. Sep.


San hua feng

Acer triflorum f. subcoriaceum (Komarov) S. L. Tung; A. triflorum var. subcoriaceum Komarov; Crula triflora (Komarov) Nieuwland.

Trees to 25 m tall, androecious, sometimes andromonoecious. Bark yellow-brown, vertically fissured, peeling in small scales. Branchlets slender, sparsely pilose, soon glabrous or nearly glabrous; winter buds small, scales ciliate. Leaves deciduous; petiole purplish, 2.5–6 cm, sparsely pilose or glabrous; leaf blade membranous, papery, or subleathery, abaxially glabrescent, with densely pilose midvein, adaxially pilose, soon glabrous, 3-foliolate per petiole; petiolule 5–10 mm, slender, sparsely pilose; leaflet blades oblong-obovate to obovate-lanceolate, 4–9 × 2–3.5 cm, margin entire or remotely serrate with a few coarse teeth; middle leaflets cuneate apically; lateral veins 11–13 pairs, adaxially conspicuous. Inflorescence corymbose, 3-flowered. Sepals 5. Petals 5. Stamens 10. Ovary pubescent. Fruit greenish yellow; nutlets subglobose, 1.4–1.6 × 1–1.2 cm, densely pubescent; wing including nutlet 3.5–4.5 × 1–1.3 cm, subparallel, wings spreading at 90° or nearly erectly. Fl. Apr, fr. Sep.

Five species: E Asia; five species (two endemic) in China.
parthenocarpic tendency strong. or 2 pairs of small leaves. Flowers 4-merous. Stamens 4–6, absent in pistillate flowers. Disk absent or small. Nutlets veined; glabrous; stigmas widely spreading. Fruit yellowish brown; nutlets flat; wing including nutlet 3.5–4(–6) × ca. 1.2 cm, curved inward and wings spreading at 90°. Fl. Apr, fr. Sep.

Mixed forests; 1000–1800 m. S Anhui, W Hubei, Hunan, N Jiangxi, E Sichuan, NW Zhejiang [Japan].

Delendick (Brittonia 32: 286–290. 1980) reviewed the nomenclatural history and determined that *Acer nikoense* Maximowicz (13 Nov 1867) is the correct name for this taxon, not based on *Negundo nikoense* Miquel, and that the nomenclaturally superfluous synonym *A. maximowiczianum* Miquel (Dec 1867) is based on *A. nikoense*.


东北枫  dong bei feng


Trees, to 30 m tall, dioecious. Bark gray, smooth. Branchlets glabrous; winter buds small, scales glabrous. Leaves deciduous; petiole greenish yellow or purplish red, 7–10 cm; leaf blade papery, abaxially green and glabrous, 3-foliolate; petiolule to 1 cm, slender; leaflet blades oblong, oblong-ovate, oblong-lanceolate, or lanceolate, 5–10 × 1.5–3 cm; middle leaflets cuneate apically, lateral leaflets subobtuse, margin obtusely serrate with very small teeth on upper parts of leaflets; lateral veins nearly 2 × as long as petals; filaments glabrous; rudimentary ovary small, pilose; disk glabrous, extrastaminal. Fruit in short glabrous racemes, purplish or brownish; nutlets 6–7 mm, glabrous; lateral leaflets obliquely rounded at base, margin remotely dentate. Inflorescence corymbiform-racemose, on leafy or rarely leafless branches, glabrous, 8–12-flowered; peduncles 8–16 mm. Pedicel 8–12 mm, slender, glabrous. Staminate flowers: sepals 5(or 6), ovate or lanceolate, ca. 6 mm; petals 5(or 6), obovate, ca. as long as sepals; stamens 10–16, nearly 2 × as long as petals; filaments glabrous; rudimentary ovary small, pilose; disk glabrous, extrastaminal. Fruit in short glabrous racemes, purplish or brownish; nutlets 6–7 mm, strongly convex; wing including nutlet 2.5–5.5 cm × ca. 7 mm, wings spreading erectly. Fl. Apr-May, fr. Sep.

- Mixed forests; 1000–2500 m. W Hubei, NW Hunan, Sichuan.

This is a rare, vulnerable species.


复叶枫组  fu ye feng zu


Trees or shrubs, deciduous, dioecious. Leaves compound, trifoliolate or pinnate, 5–7-foliolate, margins of leaflets entire to remotely dentate. Bud scales 2- or 3-paired. Inflorescences racemose or compound racemose, axillary from leafless buds or accompanied by 1 or 2 pairs of small leaves. Flowers 4-merous. Stamens 4–6, absent in pistillate flowers. Disk absent or small. Nutlets veined; parthenocarpic tendency strong.

Three species: E Asia, North America; two species (one endemic, one introduced) in China.

1a. Staminate and pistillate flowers in pendulous racemes, from leafless branchlets; leaves 3-foliolate

1b. Pistillate flowers in pendulous racemes; staminate flowers usually in clusters of 4; leaves pinnately 7–9-foliolate


三叶枫  san ye feng

*Acer cissifolium* K. Koch subsp. *henryi* (Pax) A. E. Murray; *A. henryi* f. *intermedium* W. P. Fang; *A. henryi* var. *serratum* Pampanini; *Crula henryi* (Pax) Nieuwland.

Trees to 10 m tall, dioecious. Branchlets slender; winter buds small, scales ovate, pubescent. Leaves deciduous; petiole 5–10 mm, pubescent; leaf blade elliptic or oblong-elliptic, 6–12 cm × 2.5–3.5(–6) cm, wings spreading acutely, obtusely, or nearly 2 × as long as petals; filaments glabrous; rudimentary ovary small, pilose; disk glabrous, extrastaminal. Fruit in short glabrous racemes, purplish or brownish; nutlets 6–7 mm, strongly convex; wing including nutlet 2.5–5.5 cm × ca. 7 mm, wings spreading erectly. Fl. Apr-May, fr. Sep.
× 3–5 cm, papery, both surfaces pubescent especially on veins abaxially when young, then glabrescent with only tufts of hairs at vein axils abaxially, 3-foliolate, margin entire or remotely serrate apically, apex acuminate or cuneate. Inflorescence pendulous, racemose, to 7 cm, pubescent. Flowers subsessile or sessile, yellow-green. Sepals 4, ovate, ciliate along margin. Petals 4, white, deciduous before anthesis. Stamens 4, glabrous, rudimentary in pistillate flowers. Disk amphistaminal, small. Ovary glabrous, rudimentary in staminate flowers; style glabrous; stigmas revolute. Fruiting pedicel ca. 2 mm. Nutlets convex, oblong, ca. 1 cm; wing including nutlet ca. 2.5 cm × 5 mm, wings spreading at 90° or erectly. Fl. Apr, fr. Sep.


复叶枫 fu ye feng

Acer fauriei H. Léveillé & Vaniot.

Trees to 20 m tall, dioecious. Bark yellowish brown or gray-brown. Branchlets glabrous, those of present year green, older ones yellowish brown; winter buds small, scales 2(or 3) pairs. Leaves deciduous; leaf blade 10–25 cm, papery, pinnate; petiolules 5–7 cm, pubescent, glabrescent; leaflets 3–7(-9) per petiole; leaflet blades ovate or elliptic-lanceolate, 8–10 × 2–4 cm, base rounded or truncate, margin entire or with 3–5 teeth, apex acute. Pistillate inflorescence pendulous, racemose or compound racemose, axillary from leafless buds, 15–50-flowered. Staminate inflorescence usually a cluster of 4 flowers. Flowers 4-merous. Petals and disk absent. Stamens purplish, 4–6. Ovary glabrous. Samaras brownish yellow; nutlets convex, glabrous; wing including nutlet 3–3.5 cm × 8–10 mm, wings spreading acutely or nearly erectly. Fl. Apr, fr. Sep. 2n = 26.

Widely cultivated and naturalized in China [native to North America].