

7. SAGERETIA Brongniart, Mém. Fam. Rhamnées, 52. 1826.

雀梅藤属 que mei teng shu

Ampelopsis Rafinesque.

Shrubs scandent or erect, rarely small trees, unarmed or spinescent. Branchlets alternate or subopposite, often terminating in a woody spine. Leaves alternate or subopposite; stipules small, caducous; leaf blade papery to leathery, pinnately veined, margin serrate, rarely entire. Flowers mostly very small, 1–2 mm in diam., bisexual, 5-merous, usually sessile or subsessile, rarely pedicellate, in spikes or spicate panicles, rarely in racemes. Calyx tube shallowly cup-shaped to hemispherical; sepals triangular, ± fleshy, adaxially medially keeled and hooded. Petals spatulate, apex 2-lobed to ± deeply emarginate. Stamens equaling petals or slightly longer; anthers dorsifixed. Disk cup-shaped, thick, fleshy, outer margin free from calyx tube, ± distinctly erect, entire or 5-lobed. Ovary superior, 2- or 3-loculed, with 1 ovule per locule; style short, stout, undivided, apically ± distinctly 2- or 3-lobed. Drupe obovoid-globose, with 2 or 3 one-seeded stones, base with remnants of persistent calyx tube. Seeds compressed, slightly asymmetrical, concave at both ends.

About 35 species: mainly in SE Asia, a few species in Africa and North America; 19 species (15 endemic) in China.

Sageretia gongshanensis G. S. Fan & L. L. Deng (Sida 17: 677. 1997) and *S. latifolia* Handel-Mazzetti (Symb. Sin. 7: 673. 1933), both described from Yunnan, and *S. yunlongensis* G. S. Fan & L. L. Deng (Sida 16: 477. 1995), described from Xizang and Yunnan, could not be treated here because no material was seen by the authors.

The fruit of some species is edible. The leaves are used as a substitute for tea. Several species are very popular in Bonsai gardening.

- 1a. Flowers distinctly pedicellate, in racemes or panicles; fruit maturity delayed to following year.
 - 2a. Leaves 5–12 × 2.5–5 cm, with 5 or 6 (or 7) pairs of lateral veins 18. *S. henryi*
 - 2b. Leaves distinctly smaller, 0.8–2 × 0.7–1.2 cm, with 3 or 4 pairs of lateral veins 19. *S. pedicellata*
- 1b. Flowers sessile or subsessile, in spikes or spicate panicles; fruit maturity in current year.
 - 3a. Rachis of inflorescence glabrous, rarely sparsely pubescent.
 - 4a. Leaf blade 0.5–2(–2.5) cm × less than 1.4 cm, petiole 1–3 mm, lateral veins 3–5 pairs.
 - 5a. Leaves papery, often fascicled, leaf blade obovate or oblong, apex emarginate or rounded, margin entire or crenate; inflorescences usually inserted at middle of branches 1. *S. horrida*
 - 5b. Leaves leathery, not fascicled, but often distichous, leaf blade oblong or ovate-elliptic, apex obtuse or acute, not emarginate, margin minutely serrulate; inflorescences at ends of branchlets 2. *S. pycnophylla*
 - 4b. Leaf blade larger than 2.5 × 1.4 cm, petiole longer than 4 mm, lateral veins 2–8 pairs.
 - 6a. Leaves adaxially smooth; lateral veins few, 2 or 3 (or 4) pairs 3. *S. paucicostata*
 - 6b. Leaves adaxially shiny; lateral veins 5–8 pairs.
 - 7a. Leaves abaxially barbate at vein axils, leaf bases asymmetric 4. *S. lucida*
 - 7b. Leaves abaxially glabrous, leaf bases symmetric.
 - 8a. Leaves papery or subleathery, apex acuminate or acute, margin not revolute; flowers usually in terminal spicate-paniculate inflorescences; fruit maturity in following year 5. *S. gracilis*
 - 8b. Leaves leathery or thickly so, apex obtuse or rounded, margin often revolute; flowers in axillary or terminal lax spikes; fruit maturity within current year 6. *S. camelliifolia*
 - 3b. Rachis of inflorescence tomentose or densely pubescent.
 - 9a. Leaf blade abaxially glabrous or pubescent on veins, or barbate at vein axils.
 - 10a. Leaves up to 4.5 × 2.5 cm, lateral veins 3–5(–7) pairs, adaxially not impressed 13. *S. thea*
 - 10b. Leaves 4–15 cm × more than 3.5 cm, lateral veins 5–10 pairs, adaxially distinctly impressed.
 - 11a. Branchlets often with hooked, incurved long spines; leaf blade usually oblong, abaxially barbate at axils of veins, petioles glabrous; fruit ripe in current year.
 - 12a. Leaves leathery, major veins adaxially distinctly impressed 14. *S. hamosa*
 - 12b. Leaves papery, major veins adaxially inconspicuously impressed 15. *S. randaiensis*
 - 11b. Branchlets with erect spines or without spines; leaf blade usually ovate-elliptic, glabrous or abaxially pubescent on veins, petioles pubescent or sparsely pubescent; fruit ripe in following year.
 - 13a. Leaf blade leathery, abaxially glabrous, lateral veins 5–7 pairs, apex acuminate, rarely acute, base subrounded, slightly asymmetric 16. *S. melliana*
 - 13b. Leaf blade papery or thinly leathery, abaxially on veins pubescent, lateral veins 7–10 pairs, apex caudate-acuminate or long acuminate, base cordate or subrounded, never asymmetric 17. *S. subcaudata*
 - 9b. Leaf blade abaxially tomentose, hairs persistent or ± deciduous.
 - 14a. Leaf blade 1–2.5 × 0.3–1.5 cm, abaxially persistently densely tomentose.

- 15a. Leaf blade papery, margin explanate, lateral veins 4–6 pairs 7. *S. brandrethiana*
 15b. Leaf blade leathery, margin revolute or not, lateral veins 3 or 4 pairs.
 16a. Leaf blade dimorphic, large one 1.5–2.5 × 0.8–1.5 cm, small one 1–1.5 × 0.3–0.6 cm,
 all thickly leathery, margin revolute; calyx and ovary tomentose 8. *S. lijiangensis*
 16b. Leaf blade uniform, 1–1.5 × 0.7–1 cm, thinly leathery, margin explanate; calyx
 puberulous; ovary glabrous 9. *S. yilini*
 14b. Leaf blade larger than 3 × 1 cm, often ferruginous or canescent tomentose, hairs deciduous or not.
 17a. Leaf blade oblong, ovate-oblong, or ovate, apex acute, adaxially distinctly rugose 10. *S. rugosa*
 17b. Leaf blade lanceolate, lanceolate-oblong, or lanceolate-elliptic, apex acuminate or long
 acuminate, adaxially not rugose.
 18a. Leaves abaxially incanous or ferruginous tomentose, lateral veins 7–9 pairs; branchlets
 and petioles incanous or ferruginous tomentose 11. *S. omeiensis*
 18b. Leaves abaxially ferruginous tomentose, hairs later partly or wholly deciduous, lateral
 veins 5 or 6 pairs; branchlets and petioles ferruginous pubescent 12. *S. laxiflora*

1. *Sageretia horrida* Pax & K. Hoffmann, Repert. Spec. Nov. Regni Veg. Beih. 12: 436. 1922.

凹叶雀梅藤 ao ye que mei teng

Shrubs erect, ca. 3 m tall. Branchlets short, with red-brown spines, sparsely pubescent when young, glabrous when old. Leaves alternate or subopposite, or fascicled at base of inflorescence; petiole 1–2 mm, sparsely puberulent; leaf blade obovate or oblong, 0.5–2(–2.5) × 0.4–1.4 cm, papery, both surfaces glabrous or sparsely pubescent when young, adaxially shiny, lateral veins 3 or 4 pairs, prominent abaxially, base rounded, rarely cuneate, margin entire or serrulate, apex rounded, often emarginate. Flowers sessile, yellow-green, in spikes, or rarely in spicate panicles; rachis sparsely puberulent, inserted at middle or lower part of spinescent branches or at leaf axil on short shoots. Calyx glabrous; sepals triangular-ovate, apex acute. Petals shorter than or equaling stamens, apically 2-lobed or entire. Ovary globose, 3-loculed, with 1 ovule per locule; style stout; stigma capitate, 3-fid or cleft. Drupe black-purple when mature, subglobose. Fl. Jun–Sep, fr. Apr–Jun of following year.

• Forest margins on mountains and stony slopes; 1900–3600 m. W Sichuan, E Xizang, NW Yunnan.

This species is quite similar to *Sageretia pycnophylla*, but the latter has leaves leathery, often distichously arranged, with apex acute or obtuse, and inflorescences inserted at the ends of branchlets, ca. 9 cm. It is also distinguished from *S. paucicostata*, which has leaves larger than 2.5 cm, margins hooked serrulate, lateral veins 2 or 3 pairs, and petioles more than 4 mm.

2. *Sageretia pycnophylla* C. K. Schneider in Sargent, Pl. Wilson. 2: 226. 1914.

对节刺 dui jie ci

Sageretia perpusilla C. K. Schneider.

Shrubs evergreen, erect, ca. 2 m tall, spinescent. Branchlets opposite or subopposite, red-brown or black-brown, puberulent. Leaves alternate or subopposite, often distichously arranged; stipules lanceolate-subulate, minute, caducous; petiole 1–2 mm, puberulent; leaf blade adaxially yellow-green when dry, oblong or ovate-elliptic, 5–20 × 3–11 mm, leathery, both surfaces glabrous, lateral veins 4 or 5 pairs, reticulate veins inconspicuous, base subrounded, margin serrulate or entire, apex

rounded, rarely acute, often mucronate. Flowers white, small, sessile, glabrous, in terminal spikes or spicate panicles; rachis ± densely puberulent, ca. 9 cm. Sepals triangular-ovate, adaxially medially keeled and hooded, apex acute. Petals spatulate or obovate-lanceolate, shorter than sepals, apex deeply emarginate. Stamens slightly longer than or equaling petals. Ovary glabrous, 3-loculed, with 1 ovule per locule; styles short, thick; stigma capitate, 3-divided. Drupe black-purple at maturity, nearly globose, 4–5.5 mm in diam., with 2 or 3 indehiscent pyrenes. Seeds yellowish, apically slightly emarginate. Fl. Jul–Oct, fr. May–Jun of following year.

• Sparse forests, thickets, open slopes; 700–2800 m. S Gansu, Shaanxi, SW and W Sichuan.

Schneider published the name *Sageretia perpusilla* based on a gathering from the Mao District in Sichuan with very small leaves (5–8 mm) compared to *S. pycnophylla*. We checked the type specimen of *S. perpusilla* and found obvious variation in the shape and size of the leaves. We therefore reduce it to synonymy under *S. pycnophylla*.

3. *Sageretia paucicostata* Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 101. 1890.

少脉雀梅藤 shao mai que mei teng

Sageretia tibetica Pax & K. Hoffmann.

Shrubs or rarely small trees, erect, to 6 m tall. Young branches yellow tomentose, glabrescent; branchlets opposite or subopposite, spinescent. Leaves alternate or subopposite; petiole 4–6 mm, rarely longer, puberulent; leaf blade abaxially yellow-green, adaxially deep green, elliptic or obovate-elliptic, 2.5–4.5 × 1.4–2.5 cm, papery, both surfaces glabrous, lateral veins 2 or 3(or 4) pairs, major veins ± prominent abaxially, impressed adaxially, base cuneate or subrounded, margin serrulate, with hooklike recurved teeth, apex obtuse or rounded, rarely acute, slightly emarginate. Flowers sessile or subsessile, glabrous, solitary or 2- or 3-fascicled in lax spikes or spicate panicles, often inserted at ends of lateral branches or in axils of upper leaves; rachis glabrous. Sepals triangular, fleshy, apex acute. Petals spatulate, shorter than sepals, apex slightly emarginate. Stamens longer than petals; anthers globose. Ovary compressed-globose, immersed in disk, 3-loculed, with 1 ovule per locule; style short, thick; stigma large, 3-fid. Drupe black or black-purple when mature, obovoid-globose or globose, 5–8 mm in diam., with 3 pyrenes. Seeds compressed, emarginate at

both ends. Fl. May–Sep, fr. Jul–Oct.

• Sparse forests on slopes or in valleys, thickets. Gansu, Hebei, Henan, Shaanxi, Shanxi, Sichuan, E Xizang, Yunnan.

Previous authors identified this as *Sageretia pycnophylla* in error; this species has large, not shiny leaves, 2 or 3 pairs of lateral veins, and longer petioles.

4. *Sageretia lucida* Merrill, Lingnan Sci. J. 7: 314. 1931.

亮叶雀梅藤 liang ye que mei teng

Shrubs scandent, unarmed or with spines. Leaves alternate or subopposite; petiole 8–12 mm, glabrous; leaf blade adaxially shiny, ovate-oblong or elliptic, 6–12 × 2.5–4 cm, thinly leathery, or leaves on flowering branches smaller, 3.5–5 × 1.8–2.5 cm, abaxially barbate at vein axils, adaxially glabrous, lateral veins 5 or 6 (or 7) pairs, prominent abaxially, inconspicuous adaxially, base rounded, often asymmetrical, margin crenate, shallowly serrate, apex obtuse, acuminate, or shortly acuminate, rarely acute. Flowers sessile or subsessile, glabrous, usually in short axillary spikes, or rarely in spicate panicles on lower branches; rachis 2–3 cm, glabrous, often with brownish, ovate-triangular bracteoles. Sepals triangular-ovate, 1.3–1.5 mm, adaxially slightly keeled, apex acute. Petals clawed, shorter than sepals. Stamens ca. as long as petals. Drupe red when mature, elliptic-ovoid, large, 1–1.2 cm, 5–7 mm in diam., apex obtuse or mucronulate. Fl. Apr–Jul, fr. Nov–Dec.

Sparse forests in valleys; 300–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Yunnan, Zhejiang [India, Indonesia, Nepal, Sri Lanka, Vietnam].

This species is very similar to, and often confused with, *Sageretia hamosa*. The latter species differs in having larger leaves, with 7–10 pairs of lateral veins, and large inflorescences, with hairy rachises to 15 cm.

Sageretia lucida has been included by some authors in the synonymy of *S. henryi*. However, we found that specimens of *S. lucida* differ from *S. henryi* in having sessile flowers, barbate vein axils on the abaxial leaf surface, and drupes maturing within the current year.

5. *Sageretia gracilis* J. R. Drummond & Sprague, Bull. Misc. Inform. Kew 1908: 15. 1908.

纤细雀梅藤 xian xi que mei teng

Sageretia apiculata C. K. Schneider; *S. compacta* J. R. Drummond & Sprague.

Shrubs, erect or scandent, spinescent. Leaves alternate or subopposite; stipules subulate, 1–2 mm; petiole 5–14 mm, glabrous or sparsely puberulent; leaf blade abaxially pale green, adaxially slightly shiny and dark green or pale brown when dry, ovate, ovate-elliptic, or lanceolate, 4–11 × 1.5–4 cm, papery or nearly leathery, both surfaces glabrous, or young leaves sparsely tomentose, lateral veins 5–7 pairs, ± prominent abaxially, slightly impressed adaxially, base subrounded or cuneate, margin serrulate, apex acuminate or acute, rarely obtuse, often mucronulate. Flowers yellow-green, sessile, glabrous, usually 1–5-fascicled, lax or crowded, in more than 20 cm terminal or axillary spicate panicles; rachis glabrous or sparsely puberulent. Sepals triangular or triangular-ovate, 1.3–1.5 mm, adaxially

keeled and hooded. Petals white, spatulate, ca. 0.8 mm, shorter than stamens, apex emarginate. Stamens shorter than sepals; anthers acute, mucronulate. Disk thick, fleshy, surrounding ovary. Ovary 2- or 3-loculed, with 1 ovule per locule; style short, stout; stigma entire. Drupe red when mature, obovoid-globose, 6–7 mm in diam. Seeds obliquely cordate, 5–6 mm. Fl. Jul–Oct, fr. Feb–May of following year.

• Forests or thickets in valleys and on mountains; 1200–3400 m. W Guangxi, E and SE Xizang, Yunnan.

Together with *Sageretia gracilis*, *S. compacta* was described by Drummond and Sprague (Bull. Misc. Inform. Kew 1908: 15. 1908), based on specimens from Kunming, Yunnan, and was said to differ in having narrowly lanceolate leaves; inflorescences short, densely paniculate, with flowers crowded at the ends; and stamens equaling the petals. We checked specimens from this area, and except for the flowers being sometimes crowded at the ends, there were no other distinct differences.

6. *Sageretia camelliifolia* Y. L. Chen & P. K. Chou, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 5: 73. 1979 [“*camelliifolia*”].

茶叶雀梅藤 cha ye que mei teng

Shrubs erect, ca. 4 m tall, unarmed. Branchlets gray-brown, glabrous, longitudinally striate. Stipules subulate, caducous; petiole 5–7 mm, glabrous; leaf blade abaxially yellow-green, adaxially shiny, green, brown when dry, oblong or ovate-elliptic, rarely oblong-lanceolate, 5–7 × 2.5–3 cm, leathery, adaxially glabrous, lateral veins 6–8 pairs, midvein and lateral veins prominent abaxially, impressed adaxially, base subrounded, margin often revolute, serrulate, apex obtuse or rounded, rarely acute, emarginate. Flowers sessile, glabrous, usually 1–4-fascicled in axillary or terminal lax spikes, or lower part branched spicate-paniculate; rachis 4–9 cm, glabrous. Sepals ovate-triangular, ca. 1.3 mm, adaxially keeled and hooded, apex slightly acute. Petals spatulate, shorter than sepals, apex emarginate. Stamens slightly longer than petals; anthers acute. Style short, thick; stigma short, entire. Drupe obovoid-globose, 5–6 mm, ca. 4 mm in diam., with 3 pyrenes. Seeds brown, flat. Fl. Aug, fr. Oct–Nov.

• Sparse forests or thickets on top of limestone hills. W Guangxi.

7. *Sageretia brandrethiana* Aitchison, J. Linn. Soc., Bot. 8: 62. 1865.

窄叶雀梅藤 zhai ye que mei teng

Shrubs, spinescent. Branchlets opposite or subopposite, gray-brown, glabrous or sparsely pubescent, often terminating in a spine. Leaves alternate; petiole 1.5–2.5 mm, densely white tomentose; leaf blade adaxially light green, elliptic, lanceolate, or ovate-oblong, small, narrow, 1–2 cm × 5–8 mm, stiffly papery, abaxially densely and persistently gray-white tomentose, adaxially glabrous or sparsely white pubescent, lateral veins 4–6 pairs, midvein prominent abaxially, inconspicuous adaxially, base obtuse, margin serrulate, apex obtuse or acute, rarely rounded, often long mucronulate. Flowers yellow-green, sessile, gray-white pubescent, usually in terminal and axillary spicate panicles; rachis 1–2 cm, densely gray-white pubescent. Sepals triangular, without apical rostellum. Petals white, spatulate, shorter than sepals. Drupe black when mature, obovoid-glo-

bose, small, 3-lobed; mesocarp fleshy and sweet. Fl. Nov, fr. May of following year.

Along rivers; low elevations. NW Yunnan [Afghanistan, NW India, Pakistan; SW Asia (Iran)].

The fleshy, sweet-tasting fruits are eaten in Afghanistan.

8. *Sageretia lijiangensis* G. S. Fan & S. K. Chen, Acta Bot. Yunnan. 19: 38. 1997.

丽江雀梅藤 li jiang que mei teng

Shrubs spinescent. Branchlets opposite or subopposite, brownish, densely tomentose, apex spinescent. Leaves alternate or subopposite, dimorphic; petiole 2–3 mm, whitish tomentose; leaf blade thickly leathery, lateral veins 3 or 4 pairs, slightly impressed adaxially, margin slightly revolute; large leaves elliptic, 1.5–2.5 × 0.8–1.5 cm, abaxially tomentose, adaxially glabrous, margin sparsely dentate, apex rounded-obtuse or shortly acuminate; small leaves 1–1.5 cm × 3–6 mm, abaxially persistently densely tomentose, adaxially shiny, base cuneate, apex obtuse or acuminate. Flowers sessile, in spikes; rachis 2–7 cm. Calyx tomentose. Ovary tomentose. Fruit unknown. Fl. Jun, fr. unknown.

• Forests; 2000–3000 m. NW Yunnan (Lijiang).

Material of this species was not seen by the second author.

9. *Sageretia yilini* G. S. Fan & S. K. Chen, Acta Bot. Yunnan. 19: 38. 1997.

脱毛雀梅藤 tuo mao que mei teng

Shrubs unarmed. Branchlets subopposite or alternate, densely whitish tomentose. Petiole 2–3 mm, whitish tomentose; leaf blade elliptic, 1–1.5 × 0.7–1 cm, thinly leathery, abaxially densely whitish tomentose, glabrescent when old, adaxially sparsely tomentose, glabrescent, lateral veins 3 or 4 pairs, prominent abaxially, slightly impressed adaxially, base rounded, margin densely crenulate explanate (not revolute), apex shortly acuminate. Flowers sessile, in spikes or 2- or 3-fascicled at leaf axils; rachis 1–3 cm, densely whitish tomentose. Calyx sparsely puberulent. Stamens ca. as long as petals. Ovary glabrous. Fruit unknown. Fl. Jun, fr. unknown.

• Forests; 2000–3000 m. NW Yunnan.

Material of this species was not seen by the second author.

10. *Sageretia rugosa* Hance, J. Bot. 16: 9. 1878.

皱叶雀梅藤 zhou ye que mei teng

Quercus dunniana H. Léveillé; *Sageretia ferruginea* Oliver.

Shrubs unarmed, scandent or erect, ca. 4 m tall. Juvenile branches and branchlets ferruginous tomentose or densely puberulent; lateral branches sometimes becoming hooklike. Leaves alternate or subopposite; petiole 3–8 mm, densely puberulent; leaf blade ovate-oblong or ovate, rarely obovate-oblong, 3–8(–11) × 2–5 cm, papery or thickly papery, often rugose when dry, abaxially persistently ferruginous or canescent-tomentose, rarely glabrescent, adaxially whitish tomen-

tose, glabrescent, lateral veins 6–8 pairs, lateral veins and higher vein orders prominent abaxially, distinctly impressed adaxially, base subrounded, rarely subcordate, margin serrulate, apex acute or shortly acuminate, rarely rounded. Flowers sessile, fragrant, 2-bracteate with lanceolate bracts, usually in terminal or axillary spikes or spicate panicles; rachis densely puberulent or tomentose. Calyx pubescent; sepals triangular, hooded, apex acute. Petals spatulate, shorter than sepals, apex 2-lobed, involute. Stamens equaling or longer than petals. Ovary immersed in disk, 2-loculed, with 1 ovule per locule; style short; stigma capitate, entire. Drupe red or purple-red at maturity, globose, with 2 pyrenes. Seeds flat, both ends emarginate, slightly asymmetrical. Fl. Jul–Dec, fr. Mar–Apr of following year.

• Forests and thickets on slopes; ca. 1600 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan, Sichuan, Yunnan.

This species is very similar to and easily confused with *Sageretia omeiensis*. The latter differs in having longer, lanceolate or ovate-elliptic leaves, with apex long acuminate, petioles longer, inconspicuously rugose, and a large spicate-paniculate inflorescence.

11. *Sageretia omeiensis* C. K. Schneider, Pl. Wilson. 2: 230. 1914.

峨眉雀梅藤 e mei que mei teng

Shrubs scandent, unarmed. Branchlets gray-brown, canescent or ferruginous tomentose. Leaves subopposite or alternate; petiole 7–11 mm, canescent or ferruginous tomentose; leaf blade adaxially green, ovate-oblong or ovate-elliptic, rarely lanceolate-oblong, 7.5–11 × 3–5 cm, papery, abaxially canescent or ferruginous tomentose, adaxially glabrous, lateral veins 7–9 pairs, prominent abaxially, impressed adaxially, base rounded, margin serrulate, apex long acuminate or acuminate. Flowers sessile, fetid, glabrous or sparsely pubescent, 1- to few fascicled in terminal paniculate spikes; rachis canescent or ferruginous tomentose, ca. 16 cm, 2-bracteate. Sepals triangular, sparsely puberulent or glabrous. Petals spatulate, shorter than sepals, apex emarginate. Ovary immersed in disk, 2-loculed, with 1 ovule per locule; style short; stigma capitate, undivided. Drupe black-purple when mature, obovoid-oblong, with 2 pyrenes. Seeds flat, ca. 5 mm, both ends emarginate, slightly asymmetric. Fl. Jul–Sep, fr. Apr–May.

• Mountain forests. Chongqing (Nanchuan), Sichuan (Emei Shan).

12. *Sageretia laxiflora* Handel-Mazzetti, Sinensia 3: 191. 1933.

疏花雀梅藤 shu hua que mei teng

Shrubs scandent or erect, to 10 m tall, armed. Branchlets white or yellow tomentose, or puberulent; old branches glabrescent, conspicuously longitudinally striate, with stout spines. Leaves subopposite or alternate; stipules subulate, small, caducous; petiole 6–10 mm, adaxially canaliculate, puberulent or glabrescent; leaf blade adaxially shiny, green, brown when dry, lanceolate, ovate-lanceolate, or ovate-elliptic, 5–8 × 2–3 cm, abaxially ferruginous tomentose, hairs partly or completely deciduous later, adaxially glabrous or arachnoid-lanate, lateral veins 5 or 6(–8) pairs, conspicuously prominent abaxially, impressed adaxially, base subcordate, margin serrulate or subentire, apex obtuse or shortly acuminate. Flowers sessile, gla-

brous, 1- to few fascicled in lax paniculate spikes; rachis 8–15 cm, yellow-white or ferruginous puberulent; bracts triangular or fibrous. Sepals triangular. Petals obovate, shorter than sepals. Ovary 3-loculed, with 1 ovule per locule. Drupe red when mature, obovoid-globose, with 2 or 3 pyrenes. Seeds flat. Fl. Sep–Dec, fr. Mar–Apr of following year.

• Thickets on slopes, grasslands; below 700 m. W Guangxi, S Guizhou.

This species differs from *Sageretia gracilis* in having leaves leathery, abaxially ferruginous tomentose with base subcordate, and rachis yellow-white puberulent.

13. *Sageretia thea* (Osbeck) M. C. Johnston, J. Arnold *Arbor.* 49: 378. 1968.

雀梅藤 *que mei teng*

Shrubs scandent or erect, to 3 m tall, armed. Branchlets slender, alternate or subopposite, brownish, terminating in a spine, finely tomentose when young. Leaves opposite at basal nodes to alternate; petiole 2–7 mm, puberulent; leaf blade abaxially pale green, adaxially green, usually elliptic, oblong, or ovate-elliptic, rarely ovate or nearly orbicular, 2–4.5 × 0.7–2.5 cm, papery, abaxially glabrous or pubescent on veins, sometimes tomentose and glabrescent, adaxially glabrous, lateral veins 3–5(–7) pairs, conspicuously prominent abaxially, base rounded or subcordate, margin serrulate, apex acute, obtuse, or rounded. Flowers yellow, sessile, fragrant, usually 2- to few fascicled in terminal or axillary lax spikes or paniculate spikes; rachis 2–5 cm, sparsely puberulent. Calyx tube sparsely pubescent, shallowly cup-shaped; sepals triangular, ca. 1 mm. Petals spatulate, shorter than sepals, apex 2-fid, often reflexed. Disk fleshy, glabrous, distinctly thickened around ovary. Ovary 3-loculed, with 1 ovule per locule; style very short; stigma 3-fid. Drupe black or purple-black at maturity, subglobose to obovoid, ca. 5 mm in diam., with 1–3 pyrenes; mesocarp fleshy, sour-tasting. Seeds flat, emarginate at both ends. Fl. Jul–Sep, fr. Mar–May of following year.

Mountain forests, thickets, hills; below 2100 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [India, Japan, Korea, Thailand, Vietnam].

- 1a. Petiole 1–2 mm, leaf blade cordate or ovate-orbicular 13b. var. *cordiformis*
- 1b. Petiole 2–7 mm, leaf blade elliptic or ovate-elliptic to oblong or ovate.
 - 2a. Leaf blade abaxially glabrous or pubescent on veins 13a. var. *thea*
 - 2b. Leaf blade abaxially tomentose, glabrescent 13c. var. *tomentosa*

13a. *Sageretia thea* var. *thea*

雀梅藤(原变种) *que mei teng* (*yuan bian zhong*)

Rhamnus thea Osbeck, *Dagb. Ostind. Resa*, 232. 1757; *Ampelopsis chinensis* Rafinesque, nom. illeg. superfl.; *Berchemia chanetii* H. Léveillé; *R. theezans* Linnaeus, nom. illeg. superfl.; *Sageretia chanetii* (H. Léveillé) C. K. Schneider; *S. taiwaniana* Hosokawa ex Masamune; *S. thea* var. *bilocularis* S. Y. Liu; *S. theezans* Brongniart, nom. illeg. superfl.

Petiole 2–7 mm; leaf blade usually elliptic, oblong, or ovate-elliptic, abaxially glabrous or pubescent on veins, base rounded or subcordate.

Mountain forests, thickets, hills; below 2100 m. Anhui, Fujian, Guangdong, Guangxi, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [India, Japan, Korea, Vietnam].

13b. *Sageretia thea* var. *cordiformis* Y. L. Chen & P. K. Chou, *Bull. Bot. Lab. N. E. Forest. Inst.*, Harbin 5: 74. 1979.

心叶雀梅藤 *xin ye que mei teng*

Petiole 1–2 mm; leaf blade cordate or ovate-orbicular, 1–3 × 1–2 cm, base cordate or subcordate.

Thickets on slopes; ca. 700 m. S Yunnan (Mengla) [Thailand].

13c. *Sageretia thea* var. *tomentosa* (C. K. Schneider) Y. L. Chen & P. K. Chou, *Bull. Bot. Lab. N. E. Forest. Inst.*, Harbin 5: 75. 1979.

毛叶雀梅藤 *mao ye que mei teng*

Sageretia theezans var. *tomentosa* C. K. Schneider in *Sargent, Pl. Wilson*. 2: 228. 1914.

Leaf blade usually ovate, oblong, or ovate-elliptic, abaxially tomentose, glabrescent.

Anhui, Fujian, Gansu, Guangdong, Guangxi, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan [Korea, Thailand].

14. *Sageretia hamosa* (Wallich) Brongniart, Mém. Fam. Rhamnées, 53. 1826.

钩枝雀梅藤 *gou zhi que mei teng*

Shrubs evergreen, scandent, armed. Branchlets grayish brown or dark brown, with incurved, hooklike stout spines, glabrous or puberulent at base only, sometimes yellow-brown pubescent. Leaves alternate or subopposite; petiole 8–15(–17) mm, glabrous, sometimes yellow-brown pubescent; leaf blade adaxially shiny, oblong or narrowly elliptic, rarely ovate-elliptic, 9–15(–20) × 4–6(–7) cm, leathery, abaxially barbate at vein axils or sparsely pubescent, glabrescent, adaxially glabrous, lateral veins 7–10 pairs, prominent abaxially, impressed adaxially, base rounded or subrounded, margin serrulate, apex caudate-acuminate, acuminate, or shortly acuminate. Flowers sessile, glabrous, usually 2- or 3-fascicled in lax terminal or axillary spicate panicles; rachis ca. 15 cm, brown or canescent tomentose or densely puberulent; bracts ovate, small, sparsely puberulent. Ovary 2-loculed, with 1 ovule per locule; style short; stigma capitate. Drupe subsessile, deep red or purple-black at maturity, subglobose, 7–10 × 5–7 mm, with 2 pyrenes, often white powdery. Seeds brown, flat, ca. 6 mm, emarginate at both ends, asymmetrical. Fl. Jul–Aug, fr. Aug–Oct.

Forests or thickets on slopes, dense forests along canals; below 1600 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, SE Xizang, S Yunnan, Zhejiang [India, Nepal, Philippines, Sri Lanka, Vietnam].

Because this species is quite similar to *Sageretia lucida*, previous authors have misidentified it as the latter; however, the latter differs in having smaller leaves, with lateral veins 5 or 6 pairs, adaxially not impressed, and rachis glabrous.

- 1a. Branchlets glabrous or puberulent at base only; leaf petioles glabrous 14a. var. *hamosa*
1b. Branchlets and leaf petioles yellow-brown pubescent 14b. var. *trichoclada*

14a. *Sageretia hamosa* var. *hamosa*

钩枝雀梅藤(原变种) *gou zhi que mei teng* (yuan bian zhong)

Ziziphus hamosa Wallich in Roxburgh, Fl. Ind. 2: 369. 1824; *Rhamnus affinis* Blume; *Sageretia affinis* (Blume) G. Don; *S. costata* Miquel, nom. illeg. superfl.

Branchlets glabrous or puberulent at base only. Leaf petioles glabrous.

Forests or thickets on slopes; below 1600 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, SE Xizang (Zayü), Zhejiang [India, Indonesia, Nepal, Philippines, Sri Lanka, Vietnam].

14b. *Sageretia hamosa* var. *trichoclada* C. Y. Wu ex Y. L. Chen & P. K. Chou, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 5: 75. 1979.

毛枝雀梅藤 *mao zhi que mei teng*

Branchlets, petioles, and inflorescence rachises yellow-brown pubescent. Inflorescences paniculate-spicate, ca. 23 cm.

- Dense forests along canals. S Yunnan (Malipo, Mengla).

15. *Sageretia randaiensis* Hayata, Icon. Pl. Formosan. 5: 29. 1915.

峦大雀梅藤 *luan da que mei teng*

Shrubs small. Branchlets dark brown, slender, sparsely yellow brown hairy or subglabrous; old branches often opposite to branchlets, with hooklike, deflexed spines. Leaves alternate; stipules lanceolate, caducous; petiole 5–13 mm, strongly canaliculate, sparsely puberulent; leaf blade abaxially dark green, adaxially pale green, oblong or ovate-oblong, 8–13 × 3.5–6 cm, papery, abaxially glabrous, adaxially barbellate at vein axils or pubescent on veins when young, gradually glabrescent, lateral veins 8–10 pairs, raised abaxially, slightly impressed adaxially, base rounded, margin minutely serrulate, apex acuminate or long acuminate. Flowers sessile, glabrous, solitary or 2- or 3-fascicled in terminal or axillary, spicate panicles; rachis ca. 10 cm, brownish tomentose; bracts ovate-triangular, puberulent or glabrous. Sepals triangular, ca. 1.5 mm. Petals spatulate, small, ca. 0.7 mm. Stamens longer than petals; anthers ovoid-oblong, apex acute. Ovary 2-loculed, with 1 ovule per locule; style short, 2-lobed. Fruit unknown. Fl. Aug.

- Mountains. C and N Taiwan.

This is a rare species.

16. *Sageretia melliana* Handel-Mazzetti, Beih. Bot. Centralbl. 52, Abt. B [Pl. Melliana Sin. 2]: 168. 1934.

刺藤子 *ci teng zi*

Shrubs evergreen, scandent, spinescent. Branchlets terete, brown-yellow puberulent. Leaves generally opposite; petiole 4–8 mm, strongly canaliculate, puberulent or glabrous; leaf blade abaxially shiny, green, brown when dry, ovate-elliptic, rarely ovate, 5–10 × 2–3.5 cm, leathery, both surfaces glabrous, lateral

veins 5–7(or 8) pairs, curved near margins, conspicuously impressed abaxially, raised adaxially, base subrounded, slightly asymmetrical, margin minutely serrulate, apex acuminate, rarely acute. Flowers white, sessile, glabrous, solitary or few fascicled in terminal or rarely axillary spikes or paniculate spikes; rachis 4–17 cm, yellow or yellow-white puberulent or tomentulose; bracts lanceolate or fibrous, 2–4 mm. Sepals triangular, cuspidate. Petals narrowly obovate, ca. 1/2 as long as sepals. Anthers acute. Ovary 2- or 3-loculed, with 1 ovule per locule; style short, 2- or 3-lobed. Drupe reddish. Fl. Nov–Sep, fr. Apr–May of following year.

- Forests, forest margins; below 1500 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, SE Yunnan (Xichou), Zhejiang.

17. *Sageretia subcaudata* C. K. Schneider in Sargent, Pl. Wilson. 2: 228. 1914.

尾叶雀梅藤 *wei ye que mei teng*

Shrubs scandent or erect, ca. 1.5 m tall. Branchlets dark brown, glabrous or sparsely puberulent. Leaves subopposite or alternate; stipules fibrous, ca. 6 mm; petiole 5–11 mm, canaliculate, densely or sparsely pubescent; leaf blade abaxially green, ovate, ovate-elliptic, or oblong, 4–10(–13) × 2–4.5 cm, papery or thinly leathery, abaxially glabrous, adaxially pubescent at first, gradually glabrescent or veins sparsely pubescent, lateral veins (6 or)7–10 pairs, veins conspicuously impressed abaxially, raised adaxially, conspicuously reticulate, base cordate or subrounded, margin shallowly serrate, apex caudate-acuminate or long acuminate, rarely acute. Flower yellow-white or white, sessile, usually 2- or 3-fascicled in terminal or axillary spicate panicles; rachis 3–6 mm, yellow tomentulose; bracts triangular-subulate, ca. 1 mm, glabrous. Calyx sparsely puberulent; sepals triangular, apex acute. Petals obovate, shorter than sepals, apex emarginate. Stamens equaling petals. Ovary 2-loculed, with 1 ovule per locule; style short, 2-lobed. Drupe black at maturity, globose, 2-loculed. Seeds yellow, broadly obovoid, flat. Fl. Jul–Nov, fr. Apr–May of following year.

- Mountain forests, thickets; 200–2000 m. N Guangdong, Guizhou, W Henan, Hubei, Hunan, Jiangxi, S Shaanxi, E Sichuan, Xizang, Yunnan.

18. *Sageretia henryi* J. R. Drummond & Sprague, Bull. Misc. Inform. Kew 1908: 14. 1908.

梗花雀梅藤 *geng hua que mei teng*

Berchemia cavaleriei H. Léveillé; *Sageretia cavaleriei* (H. Léveillé) C. K. Schneider.

Shrubs scandent, rarely small trees, ca. 2.5 m tall, unarmed or spinose; branchlets red-brown, glabrous; old branches gray-black. Leaves alternate or subopposite; stipules subulate, 1–1.5 mm; petiole 5–13 mm, glabrous; leaf blade brownish on both sides when dry, oblong, narrowly elliptic, or ovate-elliptic, 5–12 × 2.5–5 cm, papery, both surfaces glabrous, lateral veins 5 or 6 (or 7) pairs, prominent abaxially, slightly impressed adaxially, base rounded or broadly cuneate, margin minutely serrulate, apex caudate-acuminate, rarely acute. Flowers white or yellow, solitary or few fascicled in axillary or terminal lax racemes; rachis to 15 cm, glabrous. Pedicels 1–3 mm. Calyx tube shallowly cup-shaped; lobes triangular, adaxially distinctly keeled and with minute apical beak, apex acute. Petals spatulate, slightly shorter than stamens, apex emarginate. Ovary 3-loculed, with 1 ovule per locule. Drupe purple-red at maturity, elliptic or obovoid-globose, 5–6 mm, 4–5 mm in diam., 2- or 3-loculed; fruiting pedicel 1–4 mm. Seeds 2, flat, both ends emarginate. Fl. Jul–Nov, fr. Mar–Jun of following year.

• Dense forests, mountain thickets; 400–2500 m. Gansu, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, Yunnan, S Zhejiang.

The fruit is used medicinally for heart and stomach diseases.

19. *Sageretia pedicellata* C. Z. Gao, *Guihaia* 3: 313. 1983.

南丹雀梅藤 nan dan que mei teng

Shrubs scandent, spinose. Branchlets gray, longitudinally striate; branches subopposite, densely brownish puberulent. Leaves alternate or subopposite; petiole 2–3 mm, brownish puberulent; leaf blade adaxially shiny, brown when dry, obovate or oblong, rarely subrounded, 0.8–2 × 0.7–1.2 cm, thickly leathery, midvein puberulent adaxially, lateral veins usually 4 pairs, slightly impressed abaxially, raised adaxially, base broadly cuneate or rounded, rarely slightly cordate, margin reflexed, minutely serrulate, apex acute, obtuse, or rounded. Flowers yellow-white, small, solitary or 2 (or 3)-fascicled in terminal or axillary racemes; rachis 2–5.5 cm, gray puberulent; bracteoles ovate. Pedicels 1–1.5 mm. Sepals triangular or ovate-triangular, ca. 1 mm, apex acute. Petals spatulate, shorter than sepals, apex emarginate. Stamens slightly longer than petals. Ovary globose, 3-loculed, with 1 ovule per locule; style short, stout; stigma capitate, inconspicuously 3-fid. Fl. Sep, fr. unknown.

• NW Guangxi (Nandan).

