

18. PHILADELPHUS Linnaeus, Sp. Pl. 1: 470. 1753.

山梅花属 shan mei hua shu

Huang Shumei (黄淑美 Hwang Shu-mei); Hideaki Ohba, Shinobu Akiyama

Shrubs erect, rarely climbing, rarely spinescent. Branchlets opposite. Leaves opposite, exstipulate, veins 3–5, basifugal, margin entire or serrate. Inflorescences racemose, paniculate, or cymose, rarely 1-flowered. Flowers fragrant. Calyx tube campanulate or turbinate, adnate to ovary; lobes 4(or 5). Petals 4(or 5), white, contorted. Stamens 13–90; filaments flat, free or basally connate; anthers ovoid or oblong, rarely globose. Ovary inferior or subinferior, 4(or 5)-loculed; placentation axile; ovules numerous, pendulous. Style (3 or)4(or 5)-lobed; stigmas clavate or spatulate. Fruit a capsule, 4(or 5)-valved, dehiscing by valves; epicarp papery; endocarp corky. Seeds numerous.

About 70 species: mainly in temperate regions of the N hemisphere; 22 species (17 endemic) in China.

- 1a. Style slender; stigma mallet-shaped, rarely clavate, 1–1.5 mm, shorter and narrower than anthers; racemes usually 3–7(–14)-flowered, lowest ones 1–3-flowered.
- 2a. Pedicel and calyx densely appressed white hairy.
- 3a. Leaf blade abaxially glabrous or villous to glabrescent when young, apex acute; calyx densely erect
- villous 11. *P. dasycalyx*
- 3b. Leaf blade abaxially hairy, apex abruptly acuminate; calyx densely appressed strigose.
- 4a. Anthers glabrous 9. *P. incanus*
- 4b. Anthers setose 10. *P. reevesianus*
- 2b. Pedicel and calyx glabrous or sparsely hairy.
- 5a. Inflorescence rachis and calyx purple or dark brown; calyx obscurely veined, sometimes glaucous.
- 6a. Calyx sparsely pubescent to glabrescent, tube urn-shaped 7. *P. purpurascens*
- 6b. Calyx sparsely strigose, tube campanulate 8. *P. kansuensis*
- 5b. Inflorescence rachis and calyx yellowish green or yellowish brown when dry; calyx conspicuously veined, not glaucous.
- 7a. Style slightly divided, glabrous; disc glabrous.
- 8a. Calyx sparsely villous 3. *P. tenuifolius*
- 8b. Calyx glabrous.
- 9a. Leaf blade glabrous on both surfaces or only abaxially hairy at vein axils; racemes 5–7-flowered, rachis 3–5 cm 1. *P. pekinensis*
- 9b. Leaf blade strigose adaxially and villous abaxially at vein axils; racemes 3–5-flowered, rachis 2–2.5(–4) cm 2. *P. brachybotrys*
- 7b. Style divided for 1/2 its length or more, base hairy; disc glabrous or sometimes hairy.
- 10a. Petals suborbicular, hairy near base abaxially 6. *P. laxiflorus*
- 10b. Petals obovate or oblong-obovate, glabrous.
- 11a. Racemes 5–7-flowered; leaf blade elliptic-ovate or ovate 4. *P. schrenkii*
- 11b. Racemes 9–14-flowered; leaf blade broadly ovate or broadly ovate-elliptic 5. *P. tsianschanensis*
- 1b. Style robust; stigma clavate, oar-shaped, or spatulate, subequaling or longer than anthers; racemes (5–)7–11(–30)-flowered, usually lowest ones (2–)4- or 5-flowered in cymes or panicles.
- 12a. Leaf blade densely hairy abaxially.
- 13a. Calyx densely gray-yellow strigose 12. *P. kunmingensis*
- 13b. Calyx glabrous or sparsely hairy, sometimes hairy only along angles of tube.
- 14a. Leaf blade caudate-acuminate at apex.
- 15a. Style apically divided for 1/3–2/3 its length; leaf blade margin remotely serrulate 13. *P. tomentosus*
- 15b. Style entire or only slightly divided; leaf blade margin coarsely triangular serrate 14. *P. lushuiensis*
- 14b. Leaf blade acute or acuminate at apex.
- 16a. Calyx tube 4-angled in cross section, pubescent along angles 16. *P. tetragonus*
- 16b. Calyx tube not angled in cross section, glabrous 15. *P. delavayi*
- 12b. Leaf blade hairy abaxially or only along veins.
- 17a. Calyx glabrous.
- 18a. Leaf blade adaxially strigose; branchlets, inflorescence, and calyx yellow-brown or brown, not glaucous 21. *P. zhejiangensis*

- 18b. Leaf blade adaxially glabrous or bristly; branchlets, inflorescence, and calyx purple, glaucous 22. *P. calvescens*
- 17b. Calyx hairy.
- 19a. Calyx lobes oblong-lanceolate, apex caudate, tail 2–3 mm; leaf blade membranous, base rounded or subcordate 17. *P. caudatus*
- 19b. Calyx lobes ovate or ovate-lanceolate, apex acuminate or acute, acumen 1–1.5 mm; leaf blade papery, base cuneate or broadly so.
- 20a. Calyx tube golden yellow or grayish yellow villous; style hairy as calyx; leaf blade villous abaxially along veins 18. *P. subcanus*
- 20b. Calyx tube white bristly or strigose; style glabrous, rarely hairy; leaf blade scabrid-hirsute abaxially along veins.
- 21a. Leaf blade ovate, ovate-oblong, or lanceolate 19. *P. henryi*
- 21b. Leaf blade elliptic or elliptic-lanceolate, rarely ovate-elliptic 20. *P. sericanthus*

1. *Philadelphus pekinensis* Ruprecht, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 15: 365. 1857.

太平花 tai ping hua

Deutzia chanetii H. Léveillé; *Philadelphus coronarius* Linnaeus var. *pekinensis* (Ruprecht) Maximowicz; *P. pekinensis* f. *lanceolatus* S. Y. Hu; *P. rubricaulis* Carrière.

Shrubs 1–2 m tall. Branches of previous year brown, glabrous, those of current year yellow-brown. Petiole 5–12 mm; leaf blade ovate, broadly elliptic, or lanceolate, 4–9 × 1–4.5 cm, or elliptic or lanceolate and 2.7–5 × 1–2.5 cm on flowering shoots, both surfaces glabrous, occasionally bearded at vein axils, veins 3–5, basifugal, base cuneate or broadly so, margin serrate, rarely entire, apex acuminate or long acuminate. Racemes 5–7(–9)-flowered; rachis yellowish green, 3–5 cm, glabrous; pedicels 3–6 mm, glabrous. Calyx yellowish green when dry, glabrous; lobes ovate, 3–4 × ca. 2.5 mm, veined, apex acute. Corolla discoid; petals obovate, 0.9–1.2 × ca. 0.8 cm. Stamens 25–28, longest ones ca. 1.7 cm. Disc and style glabrous. Style distally slightly divided, slender, 4–5 mm; stigmas mallet-shaped, ca. 1 mm, shorter than anthers, adaxially short or broad. Capsule subglobose or obconical, 5–7 mm in diam. Seeds 3–4 mm, shortly tailed. Fl. May–Jul, fr. Aug–Oct.

Mixed forests, thickets, mountain slopes; 700–900 m. Hebei, ?Hubei, ?Jiangsu, Liaoning, Shaanxi, Shanxi, ?Zhejiang [Korea].

In FRPS, two varieties were recognized: var. *pekinensis* and var. *lanceolatus* S. Y. Hu. However, those names were actually published as forms by Hu (J. Arnold Arbor. 36: 95. 1955) and have never been validly published at varietal rank.

2. *Philadelphus brachybotrys* (Koehne) Koehne in Sargent, Pl. Wilson. 1: 5: 1911.

短序山梅花 duan xu shan mei hua

Philadelphus pekinensis Ruprecht var. *brachybotrys* Koehne, Mitt. Deutsch. Dendrol. Ges. 13: 84. 1904.

Shrubs 2–3 m tall. Branchlets of previous year brownish gray, those of current year villous, glabrescent. Petiole 5–8 mm; leaf blade ovate or ovate-oblong, 2–6 × 1–3 cm, abaxially villous along veins, adaxially strigose, veins 3–5, basifugal, base broadly

cuneate or rounded, margin sparsely serrate or subentire, apex acute. Racemes 3–5-flowered; rachis 2–2.5(–4) cm, sparsely villous; pedicels 3–8 mm, glabrous. Calyx yellowish green when dry; tube glabrous; lobes ovate, 4–6 × 3–4 mm, apex acute. Corolla discoid; petals white, broadly elliptic or broadly obovate, 1–1.5 × 1–1.4 cm, veined. Stamens 32–42, longest ones ca. 8 mm. Disc and style glabrous. Style slightly divided at apex, slender, subequaling stamens; stigmas mallet-shaped, ca. 1.5 mm, shorter than anthers. Capsule ellipsoid, 7–10 × 5–7 mm. Seeds 3–4 mm, shortly tailed; tail 1.5–2 mm. Fl. Apr–Jul, fr. Aug–Sep.

• Thickets; 200–400 m. ?Fujian, Jiangsu, Jiangxi, Zhejiang. This species is cultivated as an ornamental.

3. *Philadelphus tenuifolius* Ruprecht ex Maximowicz, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 15: 133. 1856.

薄叶山梅花 bo ye shan mei hua

Shrubs 1–3 m tall. Branchlets of previous year gray-brown, those of current year brownish, pubescent. Petiole 3–8 mm; leaf blade ovate or ovate-elliptic, 3–11 × 2–6 cm, abaxially usually villous along veins, adaxially sparsely villous, base subrounded or broadly cuneate, margin remotely serrate or dentate, apex acute or acuminate; leaf blade on flowering shoots ovate or ovate-elliptic, 3–6 × 2–3 cm, base rounded or obtuse, margin subentire, apex acuminate. Racemes 3–7(–9)-flowered; rachis 3–5 cm, sparsely hairy; pedicels 3–10 cm. Calyx tube yellowish green when dry, sparsely villous; lobes ovate, ca. 5 mm. Corolla discoid; petals white, ovate-oblong or suborbicular, 1–1.5 × 0.6–1.3 cm, apex rounded, slightly 2-lobed. Stamens 20–30, longest ones ca. 1 cm. Disc glabrous. Style slightly divided, slender, glabrous; stigmas mallet-shaped, ca. 1.5 mm, shorter than anthers. Capsule obconical, 4–6 × 4–5 mm. Seeds 2.5–3 mm, shortly tailed. Fl. Jun–Jul, fr. Aug–Sep.

Thickets; 100–900 m. Heilongjiang, Jilin, Liaoning, ?Nei Mongol [Korea, SE Russia].

1a. Petals ovate-oblong, 1–1.5 × 0.6–1.3 cm

..... 3a. var. *tenuifolius*

1b. Petals suborbicular, ca. 1 × 0.95 cm 3b. var. *latipetalus*

3a. *Philadelphus tenuifolius* var. *tenuifolius*

薄叶山梅花(原变种) bo ye shan mei hua (yuan bian zhong)

Philadelphus coronarius Linnaeus var. *tenuifolius* (Ruprecht ex Maximowicz) Maximowicz.

Leaf blade ovate or ovate-elliptic, 8–11 × 5–6 cm, base subrounded or broadly cuneate, margin remotely serrate or dentate, apex acute. Petals ovate-oblong, 1–1.5 × 0.6–1.3 cm. Fl. Jun–Jul, fr. Aug–Sep.

Thickets; 100–900 m. Heilongjiang, Jilin, Liaoning, ?Nei Mongol [Korea, SE Russia].

3b. *Philadelphus tenuifolius* var. *latipetalus* S. Y. Hu, J. Arnold Arbor. 36: 351. 1955.

宽瓣山梅花 kuan ban shan mei hua

Leaf blade ovate, ca. 11 × 6 cm, base rounded or obtuse, margin serrulate; apex acuminate. Petals suborbicular, ca. 1 × 0.95 cm. Fl. Jun.

• NE China (precise distribution unknown).

This variety is apparently known only from the type, *B. V. Skvortzov s.n.* (A), collected in “Manchuria” in 1925.

4. *Philadelphus schrenkii* Ruprecht, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 15: 365. 1857.

东北山梅花 dong bei shan mei hua

Shrubs 2–4 m tall. Branchlets of previous year grayish brown or gray, glabrous, those of current year brown, villous. Petiole 3–10 mm; leaf blade ovate or elliptic-ovate, 7–13 × 4–7 cm on vegetative shoots, 4.5–7.5 × 1.5–4 cm on flowering shoots, abaxially villous along veins, adaxially glabrous, veins 3–5, basifugal, base cuneate or broadly so, margin serrate, apex acuminate. Racemes 5–7-flowered; rachis yellowish green, 2–5 cm, sparsely villous; pedicels 6–12 mm. Calyx yellowish green when dry; tube sparsely pubescent; lobes ovate, 4–7 mm, conspicuously veined. Corolla discoid; petals white, obovate or oblong-obovate, 1(–1.8) × (0.7–)1.2 cm, glabrous. Stamens 25–30, longest ones ca. 1 cm. Disc subconcave. Style divided for 1/2 its length or more, hirtellous; stigmas mallet-shaped, 1–1.5 mm, shorter than anthers. Capsule ellipsoid, 8–9.5 × 3.5–4.5 mm. Seeds 2–2.5, shortly tailed. Fl. Jun–Jul, fr. Aug–Oct.

Mixed forests; 100–1500 m. Hebei, Heilongjiang, Jilin, Liaoning, Shaanxi [Korea, SE Russia].

1a. Leaf blade broadly ovate, base rounded, apex acute 4c. var. *mandshuricus*

1b. Leaf blade ovate or elliptic-ovate, base cuneate or broadly so, apex acute or acuminate.

2a. Calyx tube moderately villous 4a. var. *schrenkii*

2b. Calyx tube with tufted hairs only between lobes 4b. var. *jackii*

4a. *Philadelphus schrenkii* var. *schrenkii*

东北山梅花(原变种) dong bei shan mei hua (yuan bian zhong)

Leaf blade ovate or elliptic-ovate, base cuneate or broadly so, apex acute or acuminate. Calyx tube moderately villous. Petals oblong-obovate, 1.5–1.8 × 1–1.2 cm. Disc glabrous. Style hirtellous. Fl. Jun–Jul, fr. Aug–Sep.

Mixed forests; 100–1500 m. Heilongjiang, Jilin, Liaoning [Korea, SE Russia].

4b. *Philadelphus schrenkii* var. *jackii* Koehne, Repert. Spec. Nov. Regni Veg. 10: 127. 1911.

河北山梅花 he bei shan mei hua

Leaf blade ovate or elliptic-ovate, base cuneate or broadly so, apex acute or acuminate. Calyx tube with tufted hairs only between lobes. Petals oblong-obovate, 1–1.5 × 0.7–1 cm. Disc and style villous. Fl. Jun–Jul, fr. Aug–Oct.

Hebei, Jilin, Shaanxi [Korea].

4c. *Philadelphus schrenkii* var. *mandshuricus* (Maximowicz) Kitagawa, Lin. Fl. Manshur. 253. 1939.

毛盘山梅花 mao pan shan mei hua

Philadelphus coronarius Linnaeus var. *mandshuricus* Maximowicz, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 7, 10: 41. 1867; *P. mandshuricus* (Maximowicz) Nakai.

Leaf blade broadly ovate, base rounded, apex acute. Petals suborbicular, 1.2–1.5 cm in diam. Disc and style villous. Fl. Jun.

Mixed forests. Jilin, Liaoning [Korea, SE Russia].

5. *Philadelphus tsianschanensis* Wang & Li in Liou, Ill. Fl. Lign. Pl. N. E. China, 561 1955.

千山山梅花 qian shan shan mei hua

Shrubs ca. 1.5 m tall. Branchlets of previous year gray-brown, those of current year brown, pubescent. Petiole 5–8 mm; leaf blade broadly ovate or broadly ovate-elliptic, 5–10 × 3–6.5 cm, both surfaces glabrous or villous along veins, veins 3–5, basifugal, base rounded, margin sparsely serrate, apex shortly acuminate. Racemes 9–14-flowered; rachis yellowish green, 5–6 cm; pedicels 5–8 mm. Calyx yellowish green when dry; tube slightly 4-angled, sparsely villous; lobes ovate, ca. 5 × 3.5 mm, conspicuously veined, apex acute. Petals white, obovate or oblong-obovate, ca. 1.2 × 0.8 cm, glabrous. Stamens 24–26, longest ones 6–8 mm. Disc and style sparsely hirsute. Style divided nearly to base, subequaling longest stamens; stigmas mallet-shaped, ca. 1.5 mm, shorter than anthers. Capsule subglobose, 4–5 mm in diam. Seeds 3–4 mm, shortly tailed. Fl. May.

• Mixed forests; 400–600 m. Liaoning.

6. *Philadelphus laxiflorus* Rehder, J. Arnold Arbor. 5: 152. 1924.

疏花山梅花 *shu hua shan mei hua*

Shrubs 2–3 m tall. Branchlets of previous year grayish brown or brown, those of current year brown, glabrous. Petiole 5–8 mm; leaf blade long elliptic or ovate-elliptic, 3–8 × 1.6–3 cm, abaxially glabrous or white villous along veins, adaxially strigose, veins 3–5, basifugal, base cuneate, margin serrate, apex acuminate or caudate. Racemes 7–9(–11)-flowered, lowest ones usually 3-flowered and cymose; rachis 3–12 cm; pedicels 5–12 mm. Calyx yellowish brown when dry; tube cupular, glabrous or strigose; lobes ovate, ca. 6 × 4 mm, conspicuously veined, apex acute. Corolla discoid; petals white, suborbicular, ca. 1.6 cm, hairy near base abaxially. Stamens 30–35, longest ones ca. 9 mm. Disc margin and style glabrous or sparsely white villous. Style divided for ca. 1/2 its length; stigmas clavate, 1–1.5 mm, shorter than anthers. Capsule ellipsoid, ca. 6 × 6.5 mm. Seeds ca. 3 mm, shortly tailed. Fl. May–Jun, fr. Aug.

• Mixed forests, thickets in valleys, mountain slopes; 800–2000 m. Gansu, Henan, Qinghai, Shaanxi.

7. *Philadelphus purpurascens* (Koehne) Rehder, Mitt. Deutsch. Dendrol. Ges. 24: 220. 1916.

紫萼山梅花 *zi e shan mei hua*

Shrubs 1.5–4 m tall. Branchlets of previous year gray or grayish brown, those of current year purple, white villous or glabrescent. Petiole 2–6 mm; leaf blade ovate or elliptic, 3.5–7 × 2.5–4.5 cm, both surfaces glabrous, or abaxially sparsely villous along veins or densely white villous, base cuneate or broadly so, margin entire or serrate distally, apex acute or acuminate; leaves on flowering shoots with petiole 2–3 mm, leaf blade ovate, elliptic-lanceolate, or ovate-lanceolate, 1.5–4 × 0.5–1.5 cm, veins 3, basifugal, base cuneate or broadly so, margin subentire, apex obtuse or acute. Racemes 5–7(–9)-flowered; rachis purple, 2–10 cm, glabrous or sparsely pilose; pedicels 3–5 mm, glabrous. Calyx purple or dark brown; tube glaucous, spotted, urn-shaped, sparsely pubescent to glabrescent; lobes ovate, ca. 5 × 3.5 mm, apex acute. Corolla discoid; petals white, elliptic-obovate or broadly obovate, 1–1.5 × 8–13 mm, apex emarginate. Stamens 25–33, longest ones ca. 7 mm. Disc sometimes sparsely white villous. Style slightly divided or entire, ca. 6 mm, glabrous or sometimes sparsely villous; stigmas clavate, 1–1.5 mm, shorter than anthers. Capsule ovoid, 6–8 × 4–6 mm. Seeds ca. 3 mm, shortly tailed. Fl. May–Jun, fr. Jul–Sep.

• Mixed forests, thickets, mountain slopes; 2200–3500 m. Sichuan, Yunnan.

1a. Calyx tube dark brown; raceme rachis 4–10 cm *7c. var. szechuanensis*

1b. Calyx tube purple; raceme rachis 2–4.5 cm.

2a. Branchlets and leaf blade abaxially glabrous or sparsely villous along veins; leaf blade on flowering shoots elliptic-

lanceolate or ovate-lanceolate, base cuneate, apex acuminate *7a. var. purpurascens*

2b. Branchlets and leaf blade abaxially densely white villous; leaf blade on flowering shoots ovate, base broadly cuneate, apex acute *7b. var. venustus*

7a. *Philadelphus purpurascens* var. *purpurascens*

紫萼山梅花(原变种) *zi e shan mei hua* (yuan bian zhong)

Philadelphus brachybotrys (Koehne) Koehne var. *purpurascens* Koehne in Sargent, Pl. Wilson. 1: 6. 1911.

Branchlets and leaf blade abaxially glabrous or sparsely villous along veins. Leaf blade on flowering shoots elliptic-lanceolate or ovate-lanceolate, base cuneate, apex acuminate. Raceme rachis 2–4.5 cm. Calyx tube purple. Fl. May–Jun, fr. Jul–Sep.

• Thickets, mountain slopes; 2600–3500 m. NW Sichuan.

7b. *Philadelphus purpurascens* var. *venustus* (Koehne) S. Y. Hu, J. Arnold Arbor. 36: 331. 1955.

美丽山梅花 *mei li shan mei hua*

Philadelphus venustus Koehne, Mitt. Deutsch. Dendrol. Ges. 15: 53. 1906.

Branchlets and leaf blade abaxially densely white villous. Leaf blade on flowering shoots ovate, base broadly cuneate, apex acute. Raceme rachis 2–4.5 cm. Calyx tube purple. Fl. Jun.

• Thickets, mountain slopes; 2200–2400 m. Sichuan, Yunnan.

7c. *Philadelphus purpurascens* var. *szechuanensis* (W. P. Fang) S. M. Hwang, Acta Bot. Austro Sin. 7: 4. 1991.

四川山梅花 *si chuan shan mei hua*

Philadelphus szechuanensis W. P. Fang, Acta Sci. Nat. Univ. Szechuan. 1: 36. 1955.

Branchlets and leaf blade glabrous. Leaf blade on flowering shoots ovate-lanceolate, base cuneate, apex acute. Raceme rachis 4–10 cm. Calyx tube dark brown. Fl. Jun.

• Mixed forests, mountain slopes; ca. 2800 m. Sichuan, Yunnan.

8. *Philadelphus kansuensis* (Rehder) S. Y. Hu, J. Arnold Arbor. 36: 356. 1955.

甘肃山梅花 *gan su shan mei hai*

Philadelphus pekinensis Ruprecht var. *kansuensis* Rehder in Rehder & E. H. Wilson, J. Arnold Arbor. 9: 49. 1928.

Shrubs 2–7 m tall. Branchlets of previous year gray-brown, those of current year dark purple, sparsely puberulous to glabrescent. Petiole 2–8 mm; leaf blade ovate or ovate-elliptic, 5–10 × 3–6.5 cm, or 3–5 × 1–2(–3) cm on flowering shoots, both surfaces glabrous or adaxially strigose, abaxially villous only along veins, veins 3–5, basifugal, base rounded or broadly cuneate, margin subentire or sparsely dentate, apex acuminate. Racemes 5–7-flowered; rachis purple, 2–8 cm, sparsely strigose; pedicels 4–8 mm. Calyx purple; tube

campanulate, sparsely strigose; lobes ovate-deltoid, ca. 4 × 3 mm, apex acute. Corolla discoid; petals white, oblong-ovate, 1.2–1.5 × 1–1.3 cm. Stamens 28–30, longest ones ca. 9 mm. Disc setose at rim. Style divided for ca. 1/2 its length, 6–7 mm, base sometimes hairy; stigmas clavate, ca. 1 mm, shorter than anthers. Capsule obovoid, 6–8 × 4–5 mm. Seeds ca. 3 mm, shortly tailed. Fl. Jun–Jul, fr. Oct–Nov.

• Thickets; 2400–3500 m. Gansu, Qinghai, Shaanxi.

9. *Philadelphus incanus* Koehne, Gartenflora 45: 562. 1896.

山梅花 shan mei hua

Shrubs 1.5–3.5 m tall. Branchlets of previous year gray-brown, those of current year brown or purple, villous to glabrescent. Petiole 5–10 mm; leaf blade ovate or broadly so, 6–12.5 × 8–10 cm, abaxially densely white villous, adaxially bristly, hairs appressed, base rounded, margin sparsely serrate, apex abruptly acuminate; leaf blade on flowering shoots ovate-elliptic to lanceolate, 4–8.5 × 3.5–6 cm, veins 3–5, basifugal, base broadly cuneate or subrounded. Racemes 5–7(–11)-flowered, lowest pair usually at axils of normal leaves; rachis 0.2–0.3 or 5–7 cm, strigose or glabrous; pedicels 5–10 mm. Calyx tube campanulate, densely white appressed strigose; lobes ovate, ca. 5 × 3.5 mm, apex abruptly acuminate. Corolla discoid; petals white, ovate or suborbicular, 1.3–1.5 × 0.8–1.3 cm. Stamens 30–35, longest ones ca. 1 cm. Disc glabrous. Style slightly divided at apex, ca. 5 mm, glabrous; stigmas clavate, ca. 1.5 mm, shorter than anthers. Capsule obovoid, 7–9 × 4–7 mm. Seeds 1.5–2.5 mm, shortly tailed. Fl. May–Jun, fr. Jul–Aug.

• Thickets; 1200–1700 m. ?Fujian, ?Hebei, Henan, Hubei, W Hunan, Shaanxi, Shanxi, Sichuan.

This species is cultivated as an ornamental.

- 1a. Racemes aggregate, 5–7-flowered, rachis 0.2–0.3 cm, pedicels 1–2 mm 9c. var. *baileyi*
- 1b. Racemes lax, 7–11-flowered, rachis 4–7 cm, pedicels 5–10 mm.
 - 2a. Disc and style glabrous; leaf blade abaxially densely hairy 9a. var. *incanus*
 - 2b. Disc and style sparsely white villous; leaf blade abaxially sparsely hairy 9b. var. *mitsai*

9a. *Philadelphus incanus* var. *incanus*

山梅花(原变种) shan mei hua (yuan bian zhong)

Leaf blade abaxially densely hairy. Racemes lax, 7–11-flowered; rachis 4–7 cm; pedicels 5–10 mm. Disc and style glabrous. Fl. May–Jun, fr. Jul–Aug.

• Thickets; 1200–1700 m. Henan, Hubei, Shaanxi, Shanxi, Sichuan.

9b. *Philadelphus incanus* var. *mitsai* (S. Y. Hu) S. M. Hwang, Acta Bot. Austro Sin. 7: 4. 1991.

米柴山梅花 mei chai shan mei hua

Philadelphus mitsai S. Y. Hu, J. Arnold Arbor. 36: 342. 1955.

Leaf blade abaxially sparsely hairy. Racemes lax, 7–11-flowered; rachis 4–7 cm; pedicels 5–10 mm. Disc and style sparsely white villous.

• Thickets. S Henan, W Hunan.

9c. *Philadelphus incanus* var. *baileyi* Rehder, Gentes Herb. 1: 27. 1920.

短轴山梅花 duan zhou shan mei hua

Leaf blade abaxially sparsely hairy. Racemes aggregates, 5–7-flowered; rachis 0.2–0.3 cm; pedicels 1–2 mm. Disc and style glabrous.

• Thickets; ca. 1600 m. Henan, Shaanxi.

10. *Philadelphus reevesianus* S. Y. Hu, J. Arnold Arbor. 36: 340. 1955.

毛药山梅花 mao yao shan mei hua

Shrubs 3–4 m tall. Branchlets of previous year gray, those of current year strigose. Petiole 3–5 mm; leaf blade elliptic or ovate-elliptic, 4–9 × 2–5 cm, both surfaces strigose, abaxially appressed hairy, adaxially erect hairy, base obtuse or rounded, margin serrate, apex abruptly acuminate, acumen 0.5–1.5 cm. Inflorescences 7–9-flowered; rachis 2–6 cm, strigose; pedicels 4–5 mm, strigose. Calyx tube appressed white strigose; lobes ovate, ca. 6 × 3–3.5 mm, apex acuminate. Corolla subcruciform; petals white, oblong, ca. 1.6 × 1 cm. Stamens ca. 40; anthers oblong, connective setose. Disc pubescent. Style divided at apex, ca. 5 mm, glabrous or hirtellous; stigmas clavate, shorter or narrower than anthers. Capsule subglobose, ca. 7 mm in diam., with persistent calyx lobes subapically. Seeds 2–3 mm, shortly tailed. Fl. Jun–Jul.

• Thickets. Hubei.

11. *Philadelphus dasycalyx* (Rehder) S. Y. Hu, J. Arnold Arbor. 36: 341. 1955.

毛萼山梅花 mao e shan mei hua

Philadelphus pekinensis Ruprecht var. *dasycalyx* Rehder, J. Arnold Arbor. 1: 197. 1920.

Shrubs subscandent, ca. 3 m tall. Branchlets of previous year grayish brown, glabrous, those of current year brownish. Petiole 5–10 mm; leaf blade ovate or ovate-elliptic, 3–6(–8) × 1.2–3.5(–5) cm, abaxially glabrous or sparsely villous to glabrescent when young, adaxially glabrous or sparsely strigose on flowering shoots, veins 3–5, slightly basifugal, base broadly cuneate or obtuse, margin serrate, apex acute. Racemes 5–6(–8)-flowered, lowest ones rarely 3-flowered; rachis 2.5–5.5 cm, sparsely white villous; pedicels 4–5 mm, white villous. Calyx tube densely erect grayish white villous; lobes ovate, 5–6 × 2.5–3 mm, sparsely villous to glabrous, apex acute. Corolla discoid; petals white, obovate or broadly so, 1.2–1.5 × 1–1.2 cm. Stamens 25–34, longest ones ca. 7 mm. Disc and style glabrous, rarely villous. Style slightly divided at apex, ca. 6 mm; stigmas clavate, ca. 1.5 mm, shorter than anthers. Capsule obovoid, ca. 6 × 4.5 mm, with persistent calyx lobes at apex. Seeds ca. 3 mm, shortly tailed. Fl. May–Jun, fr. Jul–Sep.

• Coniferous forests, thickets; 700–2500 m. Gansu, Henan, Shaanxi, Shanxi.

12. *Philadelphus kunmingensis* S. M. Hwang, J. Trop. Subtrop. Bot. 8: 263. 2000.

昆明山梅花 *kun ming shan mei hua*

Shrubs ca. 4 m tall. Branchlets of previous year dark purple, glabrous, those of current year purple, densely gray-yellow villous. Petiole 5–10 mm; leaf blade ovate or ovate-lanceolate, rarely narrowly lanceolate, 2–6 × 1–3 cm, abaxially densely villous, adaxially sparsely so, veins 3–5, slightly basifugal, base rounded, margin entire or sparsely serrulate, apex acuminate or abruptly so. Racemes 5–8 cm, (5–)7–13-flowered, lowest ones usually 3-flowered cymes; rachis and pedicels densely gray-yellow strigose; pedicels 1–12 mm, distal ones usually shorter. Calyx tube densely gray-yellow strigose; lobes ovate or ovate-lanceolate, 4–5 × 3–3.5 mm, apex acuminate, acumen ca. 1 mm. Corolla discoid; petals white, obovate or suborbicular, 4–5 × 3.5 mm. Stamens 27–30, longest ones ca. 7 mm. Style entire or slightly divided, robust, slightly shorter than longest stamens, glabrous; stigmas clavate, 1.5–2 mm, subequaling anthers. Capsule gray-brown, turbinate, ca. 7 × 6 mm. Seeds ca. 2.5 mm, shortly tailed. Fl. Jun.

• Thickets; 2000–2100 m. Yunnan.

Philadelphus kunmingensis and its var. *parvifolius* were previously published by Hwang (Acta Bot. Austro Sin. 7: 5–7. 1991), but were invalid because no type was cited (St. Louis Code, Art. 37.1).

- 1a. Leaf blade 4–6 × 1.5–3 cm; corolla 2.5–3 cm in diam. 12a. var. *kunmingensis*
1b. Leaf blade 2–3 × 1–1.5 cm; corolla 1–1.5 cm in diam. 12b. var. *parvifolius*

12a. *Philadelphus kunmingensis* var. *kunmingensis*

昆明山梅花(原变种) *kun ming shan mei hua* (*yuan bian zhong*)

Leaf blade 4–6 × 1.5–3 cm. Corolla 2.5–3 cm in diam.

• Thickets; ca. 2100 m. Yunnan.

12b. *Philadelphus kunmingensis* var. *parvifolius* S. M. Hwang, J. Trop. Subtrop. Bot. 8: 263. 2000.

小叶山梅花 *shao ye shan mei hua*

Leaf blade 2–3 × 1–1.5 cm. Corolla 1–1.5 cm in diam.

• Thickets; 2000–2100 m. Yunnan.

13. *Philadelphus tomentosus* Wallich ex G. Don, Gen. Hist. 2: 807. 1832.

绒毛山梅花 *yong mao shan mei hua*

Philadelphus coronarius Linnaeus var. *tomentosus* (Wallich ex G. Don) J. D. Hooker & Thomson.

Shrubs 2–3 m tall. Branchlets of previous year gray-brown, those of current year black-brown, glabrous or sparsely villous. Petiole 5–8 mm; leaf blade ovate or ovate-lanceolate, 4–10 × 2–5 cm, abaxially densely gray-yellow villous, adaxially glabrous, veins 5–7,

slightly basifugal, base rounded or broadly cuneate, margin remotely serrulate, apex caudate-acuminate, acumen 1.5–2.5 cm. Racemes 5–7-flowered, lowest 1 or 2 pairs 3-flowered; rachis 5–10 cm, glabrous; pedicels 6–11 mm, villous or glabrous. Calyx tube sparsely villous or glabrescent; lobes ovate, 4–5 × 2.5–3.5 mm, apex acuminate. Corolla cruciform; petals white, obovate-oblong, 5–10 × 5–8 mm. Stamens 20–25, longest ones ca. 8 mm. Disc glabrous. Style apically divided for ca. 1/3 its length, ca. 7 mm; stigmas clavate, 1.5–2 mm, longer than anthers. Capsule ellipsoid, ca. 1 × 0.7 cm. Seeds ca. 4 mm, shortly tailed. Fl. Jun–Jul, fr. Aug–Sep.

Forests, thickets; 2500–4400 m. Xizang, Yunnan [Bhutan, India, Kashmir, Nepal, Sikkim].

14. *Philadelphus lushuiensis* T. C. Ku & S. M. Hwang in T. C. Ku, Acta Phytotax. Sin. 29: 80. 1991.

泸水山梅花 *lu shui shan mei hua*

Shrubs ca. 3 m tall. Branchlets of previous year brownish, glabrous, those of current year purple-brown, glabrous. Petiole ca. 5 mm, densely yellow-brown pubescent; leaf blade ovate, 5–12 × 3–6.5 cm, abaxially densely yellow-brown pubescent, adaxially sparsely yellow pubescent, veins 3–5, slightly basifugal, base rounded, margin coarsely triangular serrate, apex caudate-acuminate. Racemes 5–12-flowered, lowest pairs usually 3-flowered; rachis 5–8 cm, glabrous; pedicels ca. 5 mm, glabrous. Calyx tube glabrous; lobes ovate, ca. 5 × 4 mm, apex shortly acuminate. Corolla discoid; petals white, broadly obovate or broadly obovate-oblong, ca. 1.4 × 8 mm. Stamens ca. 30, longest ones ca. 8 mm. Disc glabrous. Style entire or slightly divided, ca. 4.5 mm, glabrous; stigmas clavate, ca. 1.5 mm, glabrous. Capsule unknown. Fl. May.

• Thickets; 2300–2400 m. Yunnan.

15. *Philadelphus delavayi* L. Henry, Rev. Hort. 1903: 12. 1903.

云南山梅花 *yun nan shan mei hua*

Shrubs 2–4 m tall. Branchlets of previous year gray-brown or gray, those of current year purple-brown, glaucous, glabrous or villous. Petiole 3–5 mm; leaf blade oblong- or ovate-lanceolate, 4.5–6 × 3–8 cm, abaxially densely gray villous, adaxially strigose, veins 3–5, slightly basifugal, base rounded or cuneate, margin serrulate or subentire, apex acuminate, rarely acute. Racemes 5–9(–21)-flowered, lowest pairs 3–5-flowered; rachis 5–9 cm, glabrous; pedicels 5–10(–13) mm, glabrous. Calyx purple, black-purple, or brown; tube glaucous, glabrous; lobes ovate, 5–6 × 3–4 mm, apex acute. Corolla discoid or cruciform; petals white, oblong, ovate-oblong, or broadly obovate, 1.2–1.5 × 1–1.2 cm, margin subcrisped, apex rounded, sometimes 2-lobed. Stamens 30–35, longest ones ca. 9 mm; anthers oblong, ca. 1.5 mm. Disc and style glabrous. Style slightly divided or entire, 7–8 mm; stigmas clavate, 1.8–2 mm, longer than anthers. Capsule obovoid, 8–10 × 7–7.5 mm. Seeds ca. 4 mm, shortly tailed. Fl. Jun–Aug, fr. Sep–Nov.

Mixed forests, thickets, mountain slopes; 700–3800 m. Sichuan, Xizang, Yunnan [Myanmar].

Three varieties occur in China. In FRPS, a fourth variety was recognized: var. *cruciflorus* S. Y. Hu. However, that name was actually published as a form by Hu (J. Arnold Arbor. 36: 329. 1955) and has never been validly published at varietal rank. It is treated in the present account as a synonym of var. *melanocalyx*.

- 1a. Branchlets of current year villous;
pedicels villous 15c. var. *trichocladus*
1b. Branchlets of current year glabrous;
pedicels glabrous.
2a. Petals suborbicular, overlapping for
most of their length and forming an
almost orbicular disc; calyx tube
purple, glaucous 15a. var. *delavayi*
2b. Petals oblong or ovate-oblong, over-
lapping only at base and forming a
cross; calyx tube black-purple
or brown, not glaucous 15b. var. *melanocalyx*

15a. *Philadelphus delavayi* var. *delavayi*

云南山梅花(原变种) yun nan shan mei hua (yuan bian zhong)

Branchlets of current year glabrous. Pedicels glabrous. Calyx tube purple, glaucous. Petals suborbicular, overlapping for most of their length and forming an almost orbicular disc.

Mixed forests; 700–3800 m. Sichuan, Xizang, Yunnan [Myanmar].

15b. *Philadelphus delavayi* var. *melanocalyx* Lemoine ex L. Henry, Rev. Hort. 1903: 14. 1903.

黑萼山梅花 hei e shan mei hua

Philadelphus delavayi f. *cruciflorus* S. Y. Hu; *Philadelphus delavayi* f. *melanocalyx* (Lemoine ex L. Henry) Rehder.

Branchlets of current year glabrous. Pedicels glabrous. Calyx tube black-purple or brown, not glaucous. Petals oblong or ovate-oblong, overlapping only at base and forming a cross.

• Thickets, mountain slopes; 2500–2800 m. Yunnan.

15c. *Philadelphus delavayi* var. *trichocladus* Handel-Mazzetti, Symb. Sin. 7: 438. 1931.

毛枝山梅花 mao zhi shan mei hua

Branchlets of current year villous. Pedicels villous. Calyx tube purple, glaucous. Petals ovate-suborbicular, overlapping for most of their length and forming an almost orbicular disc.

• Thickets, mountain slopes; ca. 2600 m. Sichuan, Yunnan.

16. *Philadelphus tetragonus* S. M. Hwang, Acta Bot. Austro Sin. 7: 7. 1991.

四棱山梅花 si leng shan mei hua

Shrubs ca. 3 m tall. Branchlets of previous year dark purple, glaucous, glabrous. Petiole 0.8–1.2 cm, villous; leaf blade ovate or broadly so, 7–10 × 4–6 cm, or 4–5 × 2–3.5 cm on flowering shoots, abaxially densely gray villous, adaxially sparsely strigose, veins 3–5, basifugal, base rounded or broadly cuneate, margin sparsely serrate, apex acute or acuminate. Racemes 7–9-flowered; rachis 4–8 cm, glabrous; pedicels 0.8–1.5

cm, 4-angled. Calyx dark purple; tube 4-angled, grayish pubescent along angles; lobes ovate, 4–5 × 3–4 mm, apex acute. Corolla discoid; petals white, broadly ovate or suborbicular, 1.2–1.5 × 0.8–1.2 cm. Stamens 24–29, longest ones ca. 8 mm; anthers oblong, ca. 1.5 mm. Disc glabrous. Style divided at apex, glabrous; stigmas clavate, ca. 1.5 mm. Capsule unknown. Fl. Jun.

• Mixed forests; ca. 3200 m. Sichuan.

17. *Philadelphus caudatus* S. M. Hwang, Acta Bot. Austro Sin. 7: 7. 1991.

尾萼山梅花 wei e shan mei hua

Shrubs ca. 2 m tall. Branchlets of previous year dark purple, angular, glabrous, those of current year densely villous. Petiole 8–10 mm; leaf blade ovate, 4–6 × 2–3.5 cm, membranous, abaxially villous along veins, adaxially sparsely strigose, veins ca. 5, slightly basifugal, base rounded or subcordate, margin serrate, apex acuminate. Racemes 3–6 cm, 3–19-flowered, lowest 2 or 3 pairs 2- or 3-flowered; rachis densely villous; lowest pedicel 5–8 mm, distal ones shorter. Calyx tube strigose; lobes oblong-lanceolate, 4–5 × 1.5–2 mm, apex caudate, tail 2–3 mm. Corolla discoid; petals oblong or elliptic-ovate, 1–1.2 × 5–7 mm. Stamens 28–31, longest ones ca. 7 mm; anthers subglobose or ovoid-oblong, 1–1.5 mm. Disc glabrous. Style ca. 7 mm, glabrous or sparsely villous at base; stigmas clavate, 1.5–2 mm. Capsule unknown. Fl. Jun–Aug.

• Thickets; ca. 1900 m. Yunnan.

18. *Philadelphus subcanus* Koehne, Mitt. Deutsch. Dendrol. Ges. 13: 83. 1904.

毛柱山梅花 mao zhu mei hua

Shrubs 3–6 m tall. Branchlets of previous year gray-brown, those of current year purple, sparsely white villous or glabrous. Petiole 5–10 mm; leaf blade ovate or broadly so, 6–14 × 3–7 cm, ovate or ovate-lanceolate and 3–12 × 2–5 cm on flowering shoots, papery, abaxially sublanate-villous or villous only along veins, adaxially sparsely hirsute, veins 3–5, basifugal, base cuneate or broadly so, margin sparsely serrulate, apex acute or acuminate. Racemes 9–11-flowered, occasionally paniculate and 5–25-flowered on vigorous shoots; rachis 2.5–15 cm; pedicels 5–10(–15) mm, densely villous. Calyx tube golden yellow or gray-yellow villous, with underlying surface visible; lobes ovate or ovate-lanceolate, 6–7 × 3–4 mm, apex acute or acuminate, acumen 1–1.5 mm. Corolla discoid; petals white, obovate or elliptic, rarely ovate-elliptic, 1–1.8 × 0.7–1.3 cm. glabrous to setose. Stamens 25–33, longest ones ca. 1 cm; anthers oblong, ca. 1.5 mm. Disc and style golden yellow villous at base. Style apically slightly divided or divided for ca. 2/3 its length, ca. 6 mm; stigmas spatulate, 1.5–2 mm, longer than anthers. Capsule obovoid, 8–10 × ca. 6 mm, with persistent calyx lobes subapically. Seeds 3–3.5 mm, with tail ca. 1 mm. Fl. Jun–Jul, fr. Aug–Oct.

• Mixed forests, thickets; 500–2300 m. Hubei, Sichuan, Yunnan.

- 1a. Leaf blade abaxially sublanate-villous 18c. var. *dubius*
- 1b. Leaf blade abaxially villous only along veins.
 - 2a. Style apically slightly divided; calyx tube golden yellow villous 18a. var. *subcanus*
 - 2b. Style apically divided for ca. 2/3 its length; calyx tube sparsely gray-yellow villous 18b. var. *magdalенаe*

18a. *Philadelphus subcanus* var. *subcanus*
毛柱山梅花(原变种) mao zhu mei hua (yuan bian zhong)

Philadelphus paniculatus Rehder; *P. sericanthus* Koehne var. *rehderianus* Koehne; *P. subcanus* var. *wilsonii* (Koehne) Rehder; *P. wilsonii* Koehne.
Shrubs 3–6 m tall. Leaf blade ovate or ovate-lanceolate, 3–12 × 2–5 cm, abaxially villous only along veins. Calyx tube golden yellow villous. Petals setose. Style apically slightly divided. Fl. Jun–Jul, fr. Aug–Oct.

• Mixed forests, thickets; 1800–2300 m. Hubei, Sichuan, Yunnan.
18b. *Philadelphus subcanus* var. *magdalенаe* (Koehne) S. Y. Hu, J. Arnold Arbor. 36: 355. 1955.
城口山梅花 cheng kou mei hua
Philadelphus magdalенаe Koehne, Mitt. Deutsch. Dendrol. Ges. 13: 83. 1904.

Shrubs to 4 m tall. Leaf blade ovate, 3–6 × 1–3 cm, abaxially ± appressed villous only along veins. Calyx tube sparsely gray-yellow villous. Petals glabrous. Style apically divided for ca. 2/3 its length. Fl. Jun.

• Thickets; 1200–2000 m. Hubei, Sichuan.
18c. *Philadelphus subcanus* var. *dubius* Koehne in Sargent, Pl. Wilson. 1: 4. 1911.

密毛山梅花 mi mao shan mei hua

Shrubs 1.5–3 m tall. Leaf blade ovate, 3–6 × 1–3 cm, abaxially yellow or brown sublanate-villous. Calyx tube long sublanate-villous. Petals subglabrous, base with a few hairs. Fl. Jun.

• Mixed forests; 500–1200 m. Sichuan.
This variety is known only from the type collection, *Wilson 4044* (holotype, A).

19. *Philadelphus henryi* Koehne, Repert. Spec. Nov. Regni Veg. 10: 126. 1911.

滇南山梅花 dian nan shan mei hua
Shrubs 1.5–2.5 m tall. Branchlets of previous year dark brown, those of current year dark purple, white villous or gray pubescent. Petiole 3–7 mm; leaf blade ovate, ovate-oblong, or lanceolate, 4–8 × 1.5–4 cm, papery, abaxially scabrid-bristly along veins, adaxially scabrid, veins 3–5, basifugal, base broadly cuneate, margin serrate, apex abruptly acuminate; leaf blade on flowering shoots ovate or ovate-lanceolate, base rounded, apex acute or acuminate. Inflorescences racemose, rarely paniculate, 5–22-flowered, rarely 1-flowered on weak branchlets; rachis purple, 3–11 cm; pedicels 2–6 mm. Calyx tube white, strigose or bristly;

lobes dark purple or brown, ovate or ovate-lanceolate, 4.5–5 × 2.5–3 mm, apex abruptly acuminate, acumen ca. 1.5 mm, subglabrous. Corolla subdiscoid; petals white, orbicular or oblong, 1–1.3 cm × 8–11 mm. Stamens 35–38, longest ones ca. 7 mm; anthers ovoid-oblong, ca. 1.5 mm. Disc and style glabrous or sparsely setose at base. Style 5–6 × 5–7 mm. Capsule obovoid, 5–6 × 5–7 mm, with persistent calyx lobes at apex. Seeds ca. 2.5 mm, shortly tailed. Fl. Jun–Jul, fr. Aug–Oct.

- Thickets, mountain slopes; 1300–2500 m. Guizhou, Yunnan.
- 1a. Branchlets and inflorescences white villous; leaf blade ovate or ovate-oblong; style glabrous 19a. var. *henryi*
- 1b. Branchlets and inflorescences densely gray pubescent; leaf blade lanceolate; style sparsely setose at base 19b. var. *cinereus*

19a. *Philadelphus henryi* var. *henryi*
滇南山梅花(原变种) dian nan shan mei hua (yuan bian zhong)

Branchlets and inflorescences white villous. Leaf blade ovate or ovate-oblong. Pedicels and calyx subglabrous or sparsely villous. Style glabrous. Fl. Jun–Jul, fr. Aug–Oct.

• Thickets, mountain slopes; 1300–2200 m. Guizhou, Yunnan.
19b. *Philadelphus henryi* var. *cinereus* Handel-Mazzetti, Symb. Sin. 7: 438. 1931.

灰毛山梅花 hui mao shan mei hua
Branchlets and inflorescences densely gray pubescent. Leaf blade lanceolate. Pedicels and calyx densely gray strigose. Style sparsely setose at base. Fl. Jun.

• Thickets; 2000–2500 m. Yunnan.
20. *Philadelphus sericanthus* Koehne, Gartenflora 45: 561. 1896.

绢毛山梅花 juan mao shan mei hua
Shrubs 1–3 m tall. Branchlets of previous year yellow-brown, those of current year brown, glabrous or sparsely pubescent. Petiole 0.8–1.2 cm; leaf blade elliptic, elliptic-lanceolate, or rarely ovate-elliptic, 3–11 × 1.5–5 cm, papery, abaxially villous only along veins, adaxially sparsely strigose or glabrous, veins 3–5, basifugal, base cuneate or broadly so, margin serrate or coarsely 9–12-dentate, apex acuminate. Inflorescences racemose or paniculate; 3–15(–30)-flowered; rachis 5–15 cm; pedicels 0.6–1.4 cm, strigose. Calyx tube sparsely strigose; lobes ovate, 6–7 × 3–3.5 mm, apex acuminate, acumen ca. 1.5 mm. Corolla discoid; petals white, obovate or oblong, 1.2–1.5 × 0.8–1 cm, apex rounded, sometimes erose. Stamens 30–35, longest ones ca. 7 mm; anthers oblong, ca. 1.5 mm. Disc and style glabrous or sparsely white villous-setose. Style apically slightly divided, ca. 6 mm; stigma spatulate or oar-shaped, 1.5–2 mm. Capsule obovoid, ca. 7 × 5 mm.

Seeds 3–3.5 mm, shortly tailed. Fl. May–Jun, fr. Aug–Sep.

• Mixed forests, thickets, mountain slopes; 300–3000 m. Anhui, ?Fujian, Gansu, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, ?Zhejiang.

- 1a. Leaf blade elliptic or elliptic-lanceolate, adaxially strigose, margin minutely serrate 20a. var. *sericanthus*
1b. Leaf blade ovate-elliptic, adaxially glabrous or subglabrous, margin sharply and prominently 9–12-serrate 20b. var. *kulingensis*

20a. *Philadelphus sericanthus* var. *sericanthus*

绢毛山梅花(原变种) juan mao shan mei hua (yuan bian zhong)

Philadelphus coronarius Linnaeus var. *chinensis* H. Léveillé; *P. hupehensis* (Koehne) S. Y. Hu; *P. incanus* Koehne var. *sargentianus* Koehne f. *hupehensis* Koehne; *P. sericanthus* var. *bockii* Koehne; *P. sericanthus* var. *rosthornii* Koehne.

Leaf blade elliptic or elliptic-lanceolate, adaxially strigose, margin minutely serrate. Racemes 7–15(–30)-flowered; rachis 5–15 cm. Corolla 2.5–3 cm. Fl. May–Jun, fr. Aug–Sep.

• Mixed forests, thickets, mountain slopes; 300–3000 m. Anhui, ?Fujian, Gansu, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, ?Zhejiang.

20b. *Philadelphus sericanthus* var. *kulingensis* (Koehne) Handel-Mazzetti, Symb. Sin. 7: 439. 1931.

牯岭山梅花 gu ling shan mei hua

Philadelphus incanus var. *sargentianus* f. *kulingensis* Koehne, Repert. Spec. Nov. Regni Veg. 10: 126. 1911.

Leaf blade ovate-elliptic, adaxially glabrous or subglabrous, margin sharply and prominently 9–12-serrate. Racemes 5–10-flowered; rachis 3–10 cm. Corolla 2–2.5 cm. Fl. Jun.

• Mixed forests; ca. 1200 m. Jiangxi, ?Zhejiang.

21. *Philadelphus zhejiangensis* S. M. Hwang, Acta Bot. Austro Sin. 7: 10. 1991.

浙江山梅花 zhe jiang shan mei hua

Philadelphus pekinensis Ruprecht var. *laxiflorus* Cheng, Contr. Biol. Lab. Chin. Assoc. Advancem. Sci., Sect. Bot. 10: 113. 1936, not *P. laxiflorus* Rehder (1924); *P. brachybotrys* (Koehne) Koehne var. *laxiflorus* S. Y. Hu. Shrubs 1–3 m tall. Branchlets of previous year yellow-brown or brown, those of current year brown, glabrous. Petiole 5–10 mm, glabrous; leaf blade elliptic or elliptic-lanceolate, 5–10 × 2–6 cm, abaxially hirsute along veins, adaxially sparsely strigose, veins 3–5, basifugal, base cuneate or broadly so, margin serrate, apex acuminate. Racemes 5–9(–13)-flowered, lowest ones 3-flowered; rachis 5–13 cm, glabrous; pedicels 5–12 mm. Calyx tube brown or yellow-brown, glabrous;

lobes ovate or ovate-lanceolate, 4–6 × 3–4 mm, apex acuminate. Corolla discoid; petals white, elliptic or broadly so, 1.2–1.8 × 1–1.2 cm, apex rounded, sometimes retuse. Stamens 31–39, longest ones ca. 1.2 cm; anthers ovoid-oblong, ca. 1.5 mm. Disc and style glabrous. Style apically divided; stigma spatulate, 1.5–2 mm. Capsule 6–8 × 4–5 mm. Seeds ca. 2.5 mm, shortly tailed. Fl. May–Jun, fr. Jul–Sep.

• Thickets, valleys; 700–1700 m. Anhui, Fujian, Jiangsu, Zhejiang.

22. *Philadelphus calvescens* (Rehder) S. M. Hwang, Acta Bot. Austro Sin. 7: 11. 1991.

丽江山梅花 li jiang shan mei hua

Philadelphus delavayi L. Henry var. *calvescens* Rehder, J. Arnold Arbor. 1: 196. 1919; *P. calvescens* var. *compositus* S. M. Hwang; *P. henryi* Koehne var. *lissocalyx* Handel-Mazzetti.

Shrubs 2–5 m tall. Branchlets of previous year purple, those of current year dark purple, glaucous, glabrous or sparsely hairy. Petiole 5–7(–15) mm; leaf blade ovate or broadly so, 6–15 × 4–7 cm, abaxially glabrous or villous only along veins, adaxially bristly or glabrous, veins 3–5, basifugal, base rounded, margin sparsely serrulate, apex caudate-acuminate, acumen 1–1.5 cm. Racemes 5–9-flowered, sometimes lowest ones 2- or 3-flowered, rarely inflorescences paniculate, 9–15-flowered; rachis purple, glaucous, 5–8 cm; pedicels ca. 1 cm. Calyx tube purple, glaucous, glabrous; lobes ovate, 5–7 × 4–5 mm. Corolla discoid; petals white, broadly obovate or orbicular, 1.5–2 cm, apex retuse or obtuse. Stamens 25–30, longest ones ca. 8 mm; anthers oblong or ovoid, ca. 1.5 mm. Disc and style glabrous. Style ca. 5 mm; stigma clavate, 1.5–2 mm. Capsule obovoid, 7–9 × ca. 5 mm. Seeds ca. 3 mm, shortly tailed. Fl. Jun–Jul, fr. Aug–Oct.

• Thickets, valleys; 2400–3500 m. SW Sichuan, NW Yunnan.

