

27. FILIPENDULA Miller, Gard. Dict. Abr., ed. 4, [512]. 1754.蚊子草属 *wen zi cao shu*Li Chaoluan (李朝銓 *Li Chao-luang*); Hiroshi Ikeda, Hideaki Ohba

Herbs perennial, rhizomatous. Rhizome short, oblique, here and there thickened into tubers, clothed with fibers. Stipules large or small, subcordate to ovate-lanceolate; leaf blade pinnate; leaflets pinnately or palmately lobed. Inflorescence corymbose-cymose or paniculate-cymose; central branch shortened and flowering first. Flowers bisexual, rarely unisexual (when plants dioecious). Sepals 5, reflexed after flowering. Petals 5, imbricate, white, pink, or red, base clawed. Stamens 20–40. Carpels 5–15, inserted on plane or slightly elevated receptacle, free; ovules 1 or 2; style terminal; stigma capitate. Fruit an achene, free, compressed, crowned by base of style. Seed pendulous, terete, with very little endosperm. $x = 7, 8$.

More than ten species: mainly in N temperate zone; seven species (one endemic) in China.

The fruit of *Filipendula* has been described as an indehiscent follicle. It is described here as an achene because it is indehiscent, as opposed to a typical, dehiscent follicle. In fact, it may be intermediate between an achene and a follicle.

- 1a. Achenes attached to receptacle adaxially near base, spirally contorted and appearing united; terminal leaflets 3–5-lobed 7. *F. ulmaria*
- 1b. Achenes attached to receptacle at base, not contorted, obviously free; terminal leaflets 5–9-lobed.
- 2a. Terminal leaflets with linear to lanceolate lobes.
- 3a. Leaf blades abaxially white tomentose; pedicels distally densely pubescent; sepals distally densely pubescent; achenes shortly stipitate, bristly-hairy at margin 5. *F. ×intermedia*
- 3b. Leaf blades abaxially glabrous; pedicels glabrescent or pilose; sepals distally glabrous; achenes sessile, glabrous, rarely hairy at margin 6. *F. angustiloba*
- 2b. Terminal leaflets with ovate or lanceolate to rhombic-ovate or rhombic-lanceolate lobes.
- 4a. Lateral leaflets of radical and lower cauline leaves 3–5-parted, terminal leaflet with lanceolate to rhombic-lanceolate lobes 1. *F. palmata*
- 4b. Lateral leaflets of radical and lower cauline leaves entire or only slightly lobed, terminal leaflet with ovate to rhombic-ovate lobes.
- 5a. Leaf blade abaxially densely white or brownish tomentose, appressed ferruginous pilose on veins 2. *F. vestita*
- 5b. Leaf blade abaxially glabrescent or sparsely pilose on veins.
- 6a. Lateral leaflets of radical leaves in 6–8 pairs; stipules of cauline leaves oblong to ovate, large, margin serrate 3. *F. kiraishiensis*
- 6b. Lateral leaflets of radical leaves in 1–3 pairs; stipules of cauline leaves ovate-lanceolate, small, margin entire or few serrate 4. *F. glaberrima*

1. *Filipendula palmata* (Pallas) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 250. 1879.

蚊子草 *wen zi cao*

Plants 0.6–1.5 m tall. Stems sulcate, pubescent or glabrescent. Stipules semicordate, large, herbaceous, margin sharply doubly serrate; petiole pubescent or subglabrous; leaf blade pinnate, with 2 pairs of lateral leaflets, abaxially densely white tomentose, sparsely pubescent, or glabrous, adaxially sparsely pubescent or glabrous; terminal leaflet palmately 5–9-parted, rather large, segments lanceolate to rhombic-lanceolate, margin lobed or sharply doubly serrate; lateral leaflets 3–5-parted, smaller than terminal one. Inflorescence terminal, paniculate, many flowered. Flowers bisexual, 5–7 mm in diam.; pedicel sparsely pubescent, glabrescent when old. Sepals ovate, glabrous abaxially. Petals white, obovate, base long clawed. Achenes basally attached to receptacle, shortly stipitate, erect, long ciliate along abaxial and adaxial sides. Fl. and fr. Jul–Sep. $2n = 28, 42–44$.

Forest margins, sunny mountain slopes, valleys, grassy areas, shady and moist places; 200–2300 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shaanxi [N Korea, Mongolia, E Russia].

- 1a. Stems pubescent; leaf blades abaxially densely white tomentose 1a. var. *palmata*

- 1b. Stems glabrescent; leaf blades abaxially glabrous or sparsely pubescent 1b. var. *glabra*

1a. *Filipendula palmata* var. *palmata*

蚊子草(原变种) *wen zi cao* (yuan bian zhong)

Spiraea palmata Pallas, Reise Russ. Reich. 3: 735. 1776; *Filipendula amurensis* (Baranov) Baranov; *F. palmata* var. *amurensis* Baranov; *F. palmata* var. *stenoloba* Baranov ex Liou et al.; *S. digitata* Willdenow.

Stems pubescent. Leaf blades abaxially densely white tomentose, adaxially glabrous. Fl. and fr. Jul–Sep.

Forest margins, valleys, grassy areas; 200–2000 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shaanxi [N Korea, Mongolia, E Russia].

1b. *Filipendula palmata* var. *glabra* Ledebour ex Komarov & Alissova-Klobulova, Key Pl. Far East. URSS 2: 650. 1932.

光叶蚊子草 *guang ye wen zi cao*

Filipendula nuda Grubov; *F. palmata* f. *nuda* (Grubov) T. Shimizu.

Stems glabrescent. Leaf blades on both surfaces glabrous or sparsely pubescent. Fl. and fr. Jul–Sep.

Sunny mountain slopes, valleys, shady and moist places; 400–2300 m. Hebei, Jilin, Nei Mongol, Shaanxi [E Russia].

2. *Filipendula vestita* (Wallich ex G. Don) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 248. 1879.

锈脉蚊子草 xiu mai wen zi cao

Spiraea vestita Wallich ex G. Don, Gen. Hist. 2: 521. 1832; *S. camtschatica* Pallas var. *himalensis* Lindley.

Plants 0.7–1.5 m tall. Stems sulcate, ferrugineous pubescent. Radical leaves: stipules semicordate, large, herbaceous, margin doubly serrate; petiole ferrugineous pubescent; leaf blade lyrate-pinnate, with 3–5 pairs of leaflets and intercalary segments, abaxially densely grayish white or brownish tomentose, densely ferrugineous pubescent on veins, adaxially subglabrous or sparsely pubescent; terminal leaflet usually palmately 3–5-lobed, rather large, lobes ovate, margin doubly serrate or inconspicuously lobed, apex acute to acuminate; lateral leaflets small. Inflorescence terminal, paniculate. Flowers bisexual, 5–6 mm in diam.; pedicel densely tomentose. Sepals ovate, abaxially sparsely pilose and tomentose, apex subobtusate or acute. Petals white, obovate. Achenes sessile, strigose-ciliate along abaxial and adaxial sides. Fl. and fr. May–Aug.

Alpine meadows, river banks; 3000–3200 m. Yunnan [Afghanistan, Kashmir, Nepal].

3. *Filipendula kiraishiensis* Hayata, Icon. Pl. Formosan. 9: 39. 1920.

台湾蚊子草 tai wan wen zi cao

Plants ca. 30 cm tall, polygamous. Stems sparsely pilose. Stipules of radical and lower cauline leaves membranous, those of middle-upper cauline leaves herbaceous, oblong to ovate, margin irregularly serrate; radical leaves: petiole of subglabrous; leaf blade lyrate-pinnate, with 6–8 pairs of leaflets, abaxially sparsely pilose on veins; terminal leaflet usually palmately 5-lobed, large, lobes ovate, margin sharply doubly serrate, apex shortly acuminate to caudate; lateral leaflets ovate, gradually smaller toward base of leaf, margin irregularly serrate or doubly serrate, apex acute or acuminate; cauline leaves resembling radical ones but with 1–4 pairs of leaflets. Inflorescence cymose; peduncle brown villous. Flowers 6–8 mm in diam. Sepals triangular, minute, glabrous. Petals oblong or obovate, base tapering into a short claw, apex rounded. Achenes 7–9, glabrous. Fl. and fr. Jul–Aug.

• Alpine habitats; ca. 3000 m. Taiwan.

4. *Filipendula glaberrima* Nakai, Repert. Spec. Nov. Regni Veg. 13: 274. 1914.

槭叶蚊子草 qi ye wen zi cao

Filipendula camtschatica (Pallas) Maximowicz subsp. *glaberrima* (Nakai) Voroschilov; *F. glabra* Nakai ex Komarov & Alissova-Klobukova; *F. multijuga* Maximowicz var. *alba* Nakai; *F. multijuga* subsp. *yezoensis* (H. Hara) Voroschilov; *F. yezoensis* H. Hara; *F. yezoensis* f. *alba* (Nakai) Y. N. Lee.

Plants 0.5–1.5 m tall. Stems erect, sulcate, glabrous. Stipules usually tinged brown-green, small, ovate-lanceolate, herbaceous or semimembranous, margin entire or few serrate; petiole

3–10 cm, glabrous; leaf blade pinnate, with 1–3 pairs of leaflets and intercalary segments, glabrous or abaxially sparsely pilose on veins; terminal leaflet orbicular to broadly ovate, usually palmately 5–7-lobed, 7–15 × 8–16 cm, base shallowly cordate, lobes ovate, margin doubly serrate or somewhat lobed, apex caudate-acuminate; lateral leaflets oblong-ovate or ovate-lanceolate, small, margin doubly serrate. Inflorescence terminal or from axils of upper cauline leaves, paniculate. Flowers bisexual, 4–5 mm in diam.; pedicel glabrous. Sepals 4 or 5, ovate, 1–1.5 × 0.8–1.5 mm, glabrous abaxially, apex obtuse or acute. Petals 4 or 5, pink to white, obovate, base shortly clawed. Achenes erect, stipitate, long ciliate along abaxial and adaxial sides. Fl. and fr. Jun–Aug.

Forests, forest and mountain stream banks; 700–1500 m. Heilongjiang, Jilin, Liaoning [Japan, Korea, Russia].

This species was treated in FRPS as *Filipendula purpurea* Maximowicz, but true *×F. purpurea* is a cultivated hybrid in Japan.

5. *Filipendula ×intermedia* (Glehn) Juzepczuk in Komarov, Fl. URSS 10: 284. 1941.

翻白蚊子草 fan bai wen zi cao

Spiraea digitata Willdenow var. *intermedia* Glehn, Trudy Imp. S.-Peterburgsk. Bot. Sada 4: 38. 1876; *Filipendula angustiloba* (Turczaninow) Maximowicz var. *tomentosa* Maximowicz.

Plants 80–100 cm tall. Stems sulcate, subglabrous. Stipules semicordate, enlarged, herbaceous, margin serrate; petiole subglabrous; leaf blade pinnate, with 2–5 pairs of leaflets, abaxially white tomentose and pilose on veins, adaxially glabrous; terminal leaflet usually 7–9-lobed, equaling or slightly larger than lateral ones, lobes linear or lanceolate, margin regularly serrate or not, apex acuminate; lateral leaflets resembling terminal one, becoming smaller and less lobed toward base of leaf. Inflorescence terminal, paniculate. Flowers bisexual; pedicel usually pubescent. Sepals ovate, densely pubescent abaxially, apex obtuse or acute. Petals white, obovate. Achenes erect, shortly stipitate, hirsute-ciliate along abaxial and adaxial sides. Fl. and fr. Jun–Aug.

Mountain thickets, meadows, river banks. Heilongjiang, Jilin [Mongolia, Russia].

Filipendula ×intermedia is a putative, natural hybrid between *F. angustiloba* and *F. palmata*.

6. *Filipendula angustiloba* (Turczaninow) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 250. 1879.

细叶蚊子草 xi ye wen zi cao

Spiraea angustiloba Turczaninow in Fischer & C. A. Meyer, Index Sem. Hort. Petrop. 8: 72. 1842; *Filipendula angustiloba* var. *glabra* Maximowicz.

Plants 50–120 cm tall. Stems sulcate, glabrous. Stipules green, broadly semicordate, herbaceous, margin serrate; leaf blade pinnate, with 2–5 pairs of leaflets, both surfaces green and glabrous; terminal leaflet usually 7–9-lobed, slightly larger than lateral ones, lobes lanceolate, margin sharply irregularly serrate, apex acuminate; lateral leaflets resembling terminal one

ROSACEAE

but less lobed. Inflorescence terminal, paniculate. Flowers bisexual, ca. 5 mm in diam.; pedicel glabrescent or sparsely pilose. Sepals ovate, apex obtuse. Petals white, obovate. Achenes erect, sessile, glabrous or hairy along ridge. Fl. and fr. Jun–Aug.

Damp places in forests, meadows, river banks; 600–1300 m. Heilongjiang, Nei Mongol [Mongolia, E Russia].

7. *Filipendula ulmaria* (Linnaeus) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 6: 251. 1879.

旋果蚊子草 xuan guo wen zi cao

Spiraea ulmaria Linnaeus, Sp. Pl. 1: 490. 1753.

Plants 80–100 cm tall. Stems sulcate, glabrous. Stipules green, semicordate or ovate-lanceolate, herbaceous, margin

sharply serrate; petiole glabrous; leaf blade pinnate, with 2–5 pairs of leaflets, abaxially white tomentose, sometimes a few basal leaflets glabrescent, adaxially glabrous; terminal leaflet 3–5-lobed, slightly smaller to slightly larger than lateral ones, lobes lanceolate to oblong-lanceolate, margin doubly serrate or slightly lobed, apex acuminate; lateral leaflets oblong-ovate or elliptic-lanceolate, base rounded, margin doubly serrate, apex acuminate. Inflorescence terminal, paniculate. Flowers bisexual, ca. 5 mm in diam.; pedicel sparsely pubescent. Sepals ovate, densely pubescent abaxially, apex obtuse or acute. Petals white, obovate. Achenes attached to receptacle adaxially near base, subsessile, spirally contorted and appearing united. Fl. and fr. Jun–Sep. $2n = 14$.

Mountain thickets, meadows, river banks. Xinjiang [Mongolia, Russia; C and SW Asia, Europe].

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