

46. **ALCHEMILLA** Linnaeus, Sp. Pl. 1: 123. 1753.

羽衣草属 *yu yi cao shu*

Li Chaoluan (李朝銮 *Li Chao-luang*); Hiroshi Ikeda, Hideaki Ohba

Herbs perennial (rarely annual), with woody rhizome. Stems decumbent to erect. Leaves stipulate, long petiolate; stipules adnate to sheathing petiole; leaf blade simple, ± orbicular, margin lobed, digitate, or palmately parted. Inflorescences usually dense corymbs, rarely lax cymes or a solitary flower, ebracteate. Flowers very small, bisexual. Hypanthium urceolate, persistent, with constricted throat. Sepals 4(or 5), valvate; epicalyx segments 4(or 5), alternating with sepals. Petals absent. Disk lining hypanthium, margin thickened. Stamens (1–)4; filaments free, short. Carpel 1(–4), sessile or substipitate, free; ovule ascending from base of locule; style basal or adaxial, filiform, glabrous; stigma capitate. Achene 1(–4), enclosed in membranous hypanthium. Seed basal; testa membranous; cotyledons cylindric-obovoid. $x = 8$.

Between 100 and 300 species: frigid and temperate regions of Africa, Asia, Europe, and America, extending to alpine areas in the tropics; three species in China.

- 1a. Stems and petioles glabrous, or stem only declinate hairy in lower part 3. *A. glabra*
- 1b. Stems and petioles covered with ascending, spreading, or declinate hairs.
 - 2a. Pedicel glabrous or subglabrous; hypanthium abaxially densely or sparsely villous; basal sinus of leaf blade deep and narrow, sometimes with 2 lobes meeting 1. *A. japonica*
 - 2b. Pedicel and hypanthium glabrous; basal sinus of leaf blade broad, sometimes base subtruncate 2. *A. gracilis*

1. *Alchemilla japonica* Nakai & H. Hara, J. Jap. Bot. 13: 177. 1937.

羽衣草 *yu yi cao*

Herbs perennial, 10–30 cm tall. Rhizome thick, fleshy, woody. Stems solitary or tufted, decumbent to erect, densely white villous. Radical leaves: stipules brown, membranous, abaxially villous; petiole 3–15 cm, densely spreading villous; leaf blade cordate-orbicular, 2–3 × 3–7 cm, both surfaces sparsely pilose, more densely so on veins, base deeply cordate, sinus narrow, sometimes with 2 lobes meeting, margin 7–9-lobed and serrulate; cauline leaves shortly petiolate or subsessile; stipules connate at base, abaxially villous, margin serrate; leaf blade small. Inflorescences densely corymbose-cymose. Flowers 3–4 mm in diam.; pedicel 2–3 mm, glabrous or subglabrous. Hypanthium abaxially densely or sparsely villous. Sepals yellow-green, triangular-ovate, 1–1.5 mm, slightly larger than epicalyx segments, abaxially sparsely pilose; epicalyx segments oblong-lanceolate. Stamens nearly 1/2 as long as sepals. Style filiform, slightly longer than stamens. Achene included in membranous receptacle, ovoid, ca. 1.5 mm, glabrous, apex subacute.

Alpine grasslands; 2500–3500 m. Gansu, Nei Mongol, Qinghai, Shaanxi, Sichuan, Xinjiang [Japan].

2. *Alchemilla gracilis* Opiz in Berchtold & Opiz, Oekon.-Techn. Fl. Böhm. 2(1): 14. 1838.

纤细羽衣草 *xian xi yu yi cao*

Herbs perennial, 20–30 cm tall. Radical leaves: stipules brown, membranous, abaxially sparsely villous; petiole 5–14 cm, densely spreading villous; leaf blade reniform-orbicular, 2–4 × 4–8 cm, both surfaces sparsely villous, abaxially densely so on veins, base subcordate with broad sinus or subtruncate, margin 7–9-lobed and serrulate; cauline leaves 2–5, shortly petiolate or subsessile; stipules connate at base, margin serrate; leaf blade gradually smaller higher up stem. Inflorescences laxly corymbiform-cymose. Pedicel 3–4 mm, glabrous. Hypanthium

glabrous, base slightly decurrent. Epicalyx segments ca. 1/2 as long as sepals. Achene ovoid, 1–2 mm, glabrous, apex subobtusate.

Thinned forests, alpine grasslands; 1700–3500 m. Gansu, Shaanxi, Shanxi, Sichuan, Xinjiang [Mongolia, Russia (W Siberia); Europe].

3. *Alchemilla glabra* Neugeb. in Ench. Bot. 67. 1821.

无毛羽衣草 *wu mao yu yi cao*

Herbs perennial, 30–60 cm tall. Rhizome robust. Stems

tufted, erect, taller than the leaves, glabrous or only declinate hairy in lower part. Radical leaves many; stipules membranous, brown, glabrous; petiole 10–18 cm, glabrous; leaf blade cordate-orbicular, 3–5 × 6–8 cm, both surfaces glabrous, rarely slightly appressed hairy and margin ciliate, base cordate, margin 7–9-lobed and serrulate; cauline leaves 2–5, shortly petiolate or sessile; stipules connate at base, glabrous, margin serrate; leaf blade small, margin 3–5-lobed. Inflorescences laxly corymbiform-cymose. Flowers ca. 3 mm in diam.; pedicel 1–2 mm, glabrous. Hypanthium glabrous, base slightly decurrent. Sepals yellow-green, triangular-ovate, subglabrous; epicalyx segments oblong-lanceolate, nearly 1/2 as long as sepals, subglabrous.

Alpine grasslands; ca. 4000 m. NW Sichuan [Russia (W Siberia); Europe].

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