

## 25. VICATIA de Candolle, Prodr. 4: 243. 1830.

凹乳芹属 ao ru qin shu

Pu Fading (溥发鼎 Pu Fa-ting); Mark F. Watson

Herbs perennial. Taproot stout, short, sometimes branched. Stem single or 2–3, erect, branched above. Leaves petiolate, sheathing; blade triangular, ternate-2–3-pinnate, or 1–2-pinnate. Umbels compound, terminal on stem and branches; bracts few or absent; rays unequal; bracteoles several, entire; umbellules 8–20-flowered. Calyx teeth obsolete. Petals ovate or obovate, white or flushed purple, apex narrow inflexed, base clawed or cuneate. Stylopodium low conic or depressed; styles short, recurved. Fruit ovoid or oblong-ovoid, slightly laterally compressed, smooth; ribs filiform; vittae (1–)3–4(–5) in each furrow, (1–)4–6(–8) on commissure. Seed face deeply concave or sulcate. Carpophore 2-parted, sometimes to base.

About five species: Sino-Himalayan region, from Afghanistan to SW China; three species (one endemic) in China.

This is a taxonomically problematic genus; see comments under *Carum* and *Tongoloa*.

- 1a. Leaves ternate-2-pinnate, leaflets serrate; ultimate segments ovate, 2–3 cm broad; rachis minutely scabrous ..... 1. *V. bipinnata*  
1b. Leaves ternate-2–3-pinnate, leaflets finely dissected; ultimate segments oblong-ovate or linear to lanceolate, less than 1 cm broad; rachis glabrous.  
2a. Leaves abaxially minutely scabrous on main veins; bracteoles subulate, shorter than the pedicels; short male umbellules absent at base of fruiting umbel ..... 2. *V. thibetica*  
2b. Leaves glabrous on both surfaces; bracteoles linear, longer than the pedicels; rays of male umbellules not elongating after flowering, clustered at base of fruiting umbel ..... 3. *V. coniifolia*

**1. Vicatia bipinnata** R. H. Shan & F. T. Pu, Acta Phytotax. Sin. 24: 313. 1986.

少裂凹乳芹 shao lie ao ru qin

*Sinodielsia bipinnata* (R. H. Shan & F. T. Pu) Pimenov & Kljuykov.

Plants to 1.5 m. Stems minutely pubescent to glabrous. Basal leaves petiolate, 10–20 cm, sheaths narrow; blade ternate-2-pinnate; primary pinnae 3–4 pairs, leaflets serrate; ultimate segments ovate, broad, 2–3 × 1–1.5 cm, serrate. Leaves reduced upwards, uppermost small, petiole sheathing for most of its length, blade 3-lobed. Umbels 5–15 cm across; bracts absent; rays 5–20, 1.5–8 cm, somewhat unequal, finely pubescent; umbellules ca. 1.5 cm across; bracteoles absent, or occasionally 2–5, linear, 4–8 mm. Petal base cuneate. Fruit oblong-ovoid, 4–5 × ca. 3 mm; ribs prominent, ridged; vittae 3–5 in each furrow, 8 on commissure. Seed face deeply concave. Fl. May–Jun, fr. Jul–Aug.

• Forest margins, grasslands, shady slopes; ca. 2700 m. NW Sichuan, SE and W Yunnan.

**2. Vicatia thibetica** H. de Boissieu, Bull. Soc. Bot. France 53: 423. 1906.

西藏凹乳芹 xi zang ao ru qin

*Sinodielsia thibetica* (H. de Boissieu) Kljuykov & P. K. Mukherjee.

Plants 20–80 cm, essentially glabrous (except base of umbels sparsely strigose). Leaves ternate-2–3-pinnate; primary pinnae 5–6 pairs, finely dissected, abaxially minutely scaberulous on main veins; ultimate segments oblong-ovate, 5–15 × 2–8 mm, pinnatisect. Umbels 4–11 cm across; bracts 1, linear, or caducous; rays 8–10, 2–7 cm, unequal; umbellules 6–10 mm across; bracteoles 3–5, subulate, 3–5 mm, shorter than the pedicels; pedicels 1–4 mm, elongating to 8 mm in fruit. Petals

white, occasionally flushed purplish-red, ca. 1.8 × 1 mm, base shortly clawed. Fruit ovoid-oblong, 2.5–4 × 1.5–2 mm, ribs filiform; vittae 3–4 in each furrow, 6 on commissure. Seed face deeply concave. Fl. Jun–Aug, fr. Aug–Sep.

Forests, among shrubs, riparian grasslands, rock crevices; 2000–4400(–5000) m. Qinghai, W Sichuan, E and S Xizang, Yunnan [Nepal].

**3. Vicatia coniifolia** Wallich ex de Candolle, Prodr. 4: 243. 1830.

凹乳芹 ao ru qin

*Chaerophyllum gracile* Klotzsch; *C. millefolium* Klotzsch; *Sphallerocarpus coniifolius* (Wallich ex de Candolle) Koso-Poljansky; *S. millefolius* (Klotzsch) Koso-Poljansky; *Vicatia millefolia* (Klotzsch) C. B. Clarke; *V. stewartii* C. B. Clarke.

Plants 5–30 cm, essentially glabrous (except base of umbels sparsely strigose). Stem solitary, erect. Leaves ternate-2–3-pinnate; primary pinnae 5–6 pairs, very finely divided, both surfaces glabrous; ultimate segments linear or lanceolate, 1.5–3 × 0.8–3 mm, pinnatifid. Leaves reduced upwards. Umbels 2–4 cm across; bracts usually absent or 1–2, leaf-like; rays 6–12, un-

equal, 4–15 mm in flower, elongating to 3 cm in fruiting umbellules (remains of short male umbellules conspicuous at base of umbel); bracteoles 3–6, linear, 3–5 mm; as long or longer than the umbellules. Petals white or purplish-red, ca. 1.5 × 1 mm, base shortly clawed. Fruit oblong-ovoid, 3.3–4 × 1–1.4 mm; ribs filiform; vittae (1–)2–4(–5) in each furrow, 2–4(–6) on commissure. Seed face deeply sulcate. Fl. May–Aug, fr. Jul–Sep.

Sparse alpine scrub, alpine meadows, grassy slopes, grassy stream banks; 3000–4700 m. Qinghai, W Sichuan, S Xizang, NW Yunnan [Afghanistan, Bhutan, India, Kashmir, Nepal, Pakistan, Sikkim].

