

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. tibetica*
 - 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. conifolia*

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 x 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 x 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 tibetica* H. de Boissieu, Bull. Soc. Bot. France 53: 423. 1906.

西藏凹乳芹 xi zang ao ru qin

Sinodielsia tibetica (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 x 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 x 1 mm, base shortly clawed. Fruit ovoid-oblong, 2.5-4 x 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 conifolia* Wallich ex de Candolle, Prodr. 4: 243. 1830.

凹乳芹 ao ru qin

Chaerophyllum gracillum Klotzsch; *C. millefolium* Klotzsch; *Sphallerocarpus conifolius* (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 x 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, $3.3\text{--}4 \times 1\text{--}1.4$ 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].

