

24. DILOPHIA Thomson, Hooker's J. Bot. Kew Gard. Misc. 5: 19. 1853.

双脊芥属 *shuang ji qi shu*

Herbs perennial. Trichomes absent or simple. Roots fleshy, conical. Stems erect, simple underground, branched aboveground. Basal leaves sessile, fleshy, rosulate, simple, entire or sinuate or dentate. Cauline leaves sessile, attenuate and not auriculate, entire. Corymbs several to many flowered, bracteate or ebracteate, simple or compound, not elongated in fruit. Fruiting pedicels ascending or divaricate. Sepals broadly ovate, persistent, ascending, glabrous or puberulent, base of lateral pair not saccate. Petals white or pink, longer than sepals; blade obovate or spatulate, apex obtuse or emarginate; claw obscurely to distinctly differentiated from blade. Stamens 6, slightly spreading, slightly tetradynamous; filaments not dilated at base; anthers ovate, apiculate at apex. Nectar glands confluent and subtending bases of all filaments. Ovules 4–12 per ovary. Fruit dehiscent silicles, obcordate, angustiseptate, sessile; valves membranous or thin papery, obscurely veined, glabrous or puberulent, rounded, smooth, apically gibbous and cristate; replum strongly flattened, base much broader; septum complete or perforated; style to 0.5 mm, included in apical notch of fruit; stigma capitate, entire. Seeds wingless, broadly oblong or ovoid, slightly flattened; seed coat minutely reticulate, not mucilaginous when wetted; cotyledons incumbent or oblique.

Two species: Bhutan, China, India, Kashmir, Kyrgyzstan, Nepal, Sikkim, Tajikistan; two species (one endemic) in China.

1a. Petals broadly obovate, 4.5–6 × 2–3 mm; anther apicula ovate, 0.2–0.5 mm, apex rounded; seeds 2–4 per fruit,

1.8–2.2 × 0.9–1.2 mm 1. *D. ebracteata*

1b. Petals spatulate or spatulate-linear, 1.8–2.5(–3.2) × 0.5–1(–1.5) mm; anther apicula triangular, 0.05–0.1

mm, apex acute; seeds (2–)4–8(–12) per fruit, 0.7–1.1(–1.5) × 0.5–0.6 mm 2. *D. salsa*

1. *Dilophia ebracteata* Maximowicz, Fl. Tangut. 72. 1889.

无苞双脊芥 *wu bao shuang ji qi*

Dilophia hopkinsonii O. E. Schulz.

Herbs glabrous throughout, rarely sepals puberulent. Stems erect, somewhat fleshy, simple from taproot, 1.5–10 cm tall. Leaves oblong-spatulate, linear-spatulate, or linear, (3–)5–10 (–15) × (1–)1.5–3 mm, fleshy, base attenuate, margin entire, apex obtuse or rounded. Corymbs few to many flowered, only lowermost few flowers bracteate. Fruiting pedicels 3–10 mm. Sepals erect, broadly ovate, 2.5–3 × 1.5–2 mm, glabrous or subapically puberulent, margin broadly membranous, apex entire or minutely denticulate. Petals white, often with pink tinge outside, broadly obovate, 4.5–6 × 2–3 mm, apex rounded or subemarginate; claw to 3 mm. Filaments white, 2–3 mm; anthers ovate, 0.6–1 mm, the apicula ovate, 0.2–0.5 mm, apex rounded. Ovules 2–4 per ovary. Fruit valves oblong, glabrous, 2–2.5 mm, notch to 2 mm wide, apical cristae 4–12; replum 2–2.5 mm wide at base; style 0.2–0.3 mm. Seeds brown, broadly oblong or ovate, somewhat flattened, 1.8–2.2 × 0.9–1.2 mm. Fl. late Jun–Sep, fr. Aug–Oct.

• Consolidated turf within scree slopes in alpine meadows and on rocky slopes, *Kobresia* mats; 4500–5000 m. Qinghai, Xizang.

The records in FRPS and Fl. Xinjiang. (2(2): 91. 1995) of *Dilophia ebracteata* from Xinjiang are based on misidentified plants of *D. salsa*. The differences previously used to distinguish *D. ebracteata* (leaves entire, flowers ebracteate, ovary cristae longitudinal) from *D. salsa* (leaves dentate or pinnately lobed, flowers bracteate, ovary cristae transverse) do not hold, though the leaves in the latter species are more often sinuate, dentate, or repand, rather than entire.

2. *Dilophia salsa* Thomson, Hooker's J. Bot. Kew Gard. Misc. 5: 20. 1853.

盐泽双脊芥 *yan ze shuang ji qi*

Dilophia dutreuilii Franchet; *D. kashgarica* Ruprecht; *D. salsa* var. *hirticalyx* Pampanini.

Herbs glabrous throughout, or fruit valves and/or sepals sparsely to densely pubescent with simple, flattened trichomes to 0.5 mm. Stems erect, somewhat fleshy, usually simple from taproot, 1.5–10 cm tall, often forming a flat mat 1–12 cm in diam. Leaves spatulate, linear-spatulate, oblong, or linear, (0.3–)0.6–2(–3) cm × (1–)2–3(–5) mm, fleshy, base attenuate, margin sinuate, dentate, or repand, sometimes entire, apex obtuse. Corymbs few to many flowered, lowermost or most flowers bracteate, sometimes flowers solitary from center of rosette. Fruiting pedicels 3–10 mm. Sepals erect or ascending, broadly ovate, (1–)1.5–2.5 × 1–1.5 mm, glabrous or densely pubescent, margin broadly membranous, apex denticulate or entire. Petals white or pink, drying purplish, spatulate to spatulate-linear, 1.8–2.5(–3.2) × 0.5–1(–1.5) mm, apex obtuse or subemarginate; claw to 2 mm. Filaments white, 1.1–1.6 mm; anthers ovate, (0.2–)0.3–0.5 mm, the apicula triangular, 0.05–0.1 mm, apex acute. Ovules (2–)4–8(–12) per ovary. Fruit valves oblong or ovate, glabrous or densely pubescent, 1–2.5 mm, notch 1–2 mm wide, apical cristae 3–14; replum 1.2–2.5 mm wide at base; style 0.2–0.5 mm. Seeds brown to blackish, broadly oblong, 0.7–1.1(–1.5) × 0.5–0.6 mm. Fl. Jun–Aug, fr. Jul–Sep.

Sandy river bottoms or marshes, damp mud by streamsides, debris covered glacial moraine, scree, grasslands, steep slopes with semiconsolidated scree, turf cushions, sand plains permafrost, salty

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pastures, dunes, alpine steppe; (2200–)3400–5500. Gansu, Qinghai, Xinjiang, Xizang [Bhutan, India, Kashmir, Kyrgyzstan, Nepal, Sikkim, Tajikistan].

