

65. TETRACME Bunge, Delect. Seminum Hort. Bot. Dorpat. 1836: 7. 1836.

四齿芥属 si chi jie shu

*Tetracmidion* Korshinsky.

Herbs annual, canescent. Trichomes stalked, stellate or dendritic, rarely mixed with fewer, simple or forked, subsetose ones. Stems often several branched basally. Basal leaves petiolate, not rosulate, simple, entire, sinuate-dentate, or pinnatipartite. Cauline leaves similar to basal. Racemes ebracteate, corymbose, elongated in fruit. Fruiting pedicels slender or thickened and nearly as wide as fruit base, erect or ascending. Sepals ovate, ascending, base of lateral pair not saccate, margin membranous. Petals white, subequaling or much longer than sepals; blade obovate, spatulate, or oblanceolate, apex obtuse; claw distinct or undifferentiated from blade. Stamens 6, slightly tetradynamous; filaments dilated at base; anthers ovate, apiculate at apex. Nectar glands 4, lateral, 1 on each side of lateral filament; median glands absent. Ovules 2–14 per ovary. Fruit dehiscent siliques or indehiscent silicles, linear, oblong, or ovoid, strongly latiseptate, terete, or 4-angled, sessile; valves obscurely veined, tomentose, smooth or torulose, subapically 4-horned; replum flattened; septum complete, membranous; style absent, obsolete, or distinct; stigma capitate, entire. Seeds uniseriate, wingless, oblong, plump; seed coat smooth, not mucilaginous when wetted; cotyledons incumbent.

Eight species: primarily in C Asia; two species in China.

1a. Lower leaves entire or repand; fruit torulose, with stellate and subsetose simple trichomes; subapical horns

0.5–1.8(–2.2) mm, erect or divaricate-ascending, straight; valves not extended beyond horns into stylelike apex ..... 1. *T. quadricornis*

1b. Lower leaves pinnatipartite, pinnatifid, or sinuate-dentate; fruit not torulose, with only stellate trichomes;

subapical horns (2.5–)4–7(–8) mm, divaricate-reflexed, strongly recurved; valves extended beyond horns into stylelike apex 1–2 mm ..... 2. *T. recurvata*

1. *Tetracme quadricornis* (Stephan) Bunge, Delect. Seminum Hort. Bot. Dorpat. 1836: 7. 1836.

四齿芥 si chi jie

*Erysimum quadricorne* Stephan in Willdenow, Sp. Pl. 3: 514. 1800; *Notoceras quadricornis* (Stephan) de Candolle; *Tetracme elongata* Kitamura; *T. quadricornis* var. *longicornis* Regel.

Herbs (3–)5–20(–25) cm tall, tomentose throughout. Stems ascending, branched at or near base. Basal and lowermost cauline leaves with petioles 2–6(–10) mm; leaf blade oblong-linear or narrowly oblanceolate, (1–)2–5 cm × (1–)2–6(–8) mm, base attenuate, margin entire or rarely repand-dentate, apex obtuse. Upper cauline leaves similar to basal, smaller, subsessile, entire. Fruiting pedicels 1–1.5 mm, subclavate, stout, about as wide as fruit base, appressed to rachis. Sepals ovate, 0.7–0.9(–1) mm, distally white and petaloid. Petals white, narrowly oblanceolate, 0.5–0.8(–0.9) × 0.2–0.3 mm, not clawed. Filaments white, 0.4–0.6 mm; anthers ovate, 0.2–0.3 mm. Ovules 8–14 per ovary. Fruit linear, 5–8 × 0.7–1 mm, compressed, torulose, base appressed to rachis, distal half arcuate or recurved; valves tomentose, with stellate trichomes mixed with fewer, much larger, subsetose simple ones to 1.5 mm, apex not extended beyond horns; subapical horns 0.5–1.8(–2.2) mm, erect or divaricate-ascending, straight; style absent. Seeds yellow or light brown, oblong, 0.7–0.9 × 0.4–0.6 mm. Fl. and fr. May–Jun.

Deserts, sand dunes, field margins, roadsides, disturbed areas; 300–3800 m. Xinjiang [Afghanistan, Kazakstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan, Uzbekistan].

The record of *Tetracme contorta* Boissier in FRPS is based on misidentified plants of *T. quadricornis*. True *T. contorta* is endemic to W Pakistan and adjacent Afghanistan and has petals 2–3 mm, very lax infructescences, and fruit without subsetose, simple trichomes.

2. *Tetracme recurvata* Bunge, Arbeiten Naturf. Vereins Riga 1: 158. 1848.

弯角四齿芥 wan jiao si zhi jie

Herbs (4–)10–30(–40) cm tall, tomentose throughout. Stems ascending, several branched at or near base. Basal and lowermost cauline leaves with petioles 0.3–2 cm; leaf blade oblong-linear or linear-lanceolate, (1–)2–5(–6) cm × 3–8 mm, base attenuate, margin pinnatifid, pinnatipartite, or sinuate-dentate, apex obtuse. Upper cauline leaves similar to basal, smaller, subsessile, sometimes entire. Fruiting pedicels 1–2 mm, subclavate, stout, about as wide as fruit base, appressed to rachis. Sepals ovate, 0.6–1 mm, distally white and petaloid. Petals white, spatulate, 0.8–1(–1.2) × 0.4–0.5 mm, attenuate to clawlike base. Filaments white, 0.5–0.7 mm; anthers ovate, 0.2–0.3 mm. Ovules 4–8 per ovary. Fruit linear, (4–)6–8(–10) × 0.8–1 mm, compressed, not torulose, base appressed to rachis, distal half arcuate or recurved; valves tomentose, exclusively with stellate trichomes, apex extend beyond horns into flattened, triangular, stylelike part 1–2 mm; subapical horns (2.5–)4–7(–8) mm, divaricate-reflexed, strongly recurved;

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style distinct, to 1 mm. Seeds yellow or light brown, oblong,  $1.2\text{--}1.6 \times 0.5\text{--}0.7$  mm. Fl. and fr. Apr–Jun.

Sandy deserts, plains; 200–600 m. Xinjiang [Kazakstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan; SW Asia].

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