

40. TRACHYSPERMUM Link, Enum. Hort. Berol. Alt. 1: 267. 1821, nom. cons.

糙果芹属 cao guo qin shu

She Menglan (佘孟兰 Sheh Meng-lan); Mark F. Watson

Ammios Moench, nom. rej.

Herbs, perennial or annual. Taproot narrow. Stem erect, terete, much-branched, usually puberulous, rarely glabrous. Basal leaves 2–3-pinnate-ternate/pinnatisect; ultimate segments ovate, narrowly lanceolate to filiform, sessile or short-petiolate, base usually broad-cuneate or truncate, margin sparingly irregularly serrate, dentate or entire, glabrous on both surfaces. Umbels compound, loose, terminal and lateral; peduncles slender; bracts and bracteoles absent, rarely present, linear; rays few, slender. Calyx teeth obsolete. Petals white, obovate, apex narrow, inflexed, abaxially sparsely scaberulous. Stylopodium conic; styles short, divaricate. Fruit ovoid-globose or broadly ellipsoid, base rounded or cordate, slightly flattened laterally, nearly round in cross section, white strigose or papillose; ribs 5, filiform, prominent to scarcely so; vittae (1–)2–3 in each furrow, 2–6 on commissure. Seed face plane. Carphophore 2-cleft to base.

About 12 species: Africa to Asia; four species (two endemic, two introduced) in China.

This rather heterogeneous genus has uncertain generic boundaries with *Pimpinella*.

- 1a. Plants biennial or perennial; bracts and bracteoles absent.
 - 2a. Upper leaves pinnate; fruit surface scabrous 1. *T. scaberulum*
 - 2b. Upper leaves usually 3-lobed or undivided, linear; fruit surface densely strigose 2. *T. triradiatum*
- 1b. Plants annual; bracts and bracteoles present, linear-subulate, 3–5 mm.
 - 3a. Plants hirtellous, at least in inflorescence, leaf segments narrowly oblong, 2–3 mm broad; fruit densely hirtellous to glabrescent 3. *T. roxburghianum*
 - 3b. Plants essentially glabrous; leaf segments linear-filiform, 0.2–0.3 mm broad; fruit minutely papillose 4. *T. ammi*

1. *Trachyspermum scaberulum* (Franchet) H. Wolff in Handel-Mazzetti, Symb. Sin. 7: 713. 1933.

糙果芹 cao guo qin

Plants perennial, 70–160 cm. Stem hollow, much branched above, scabrous. Basal and lower leaves petiolate, petioles 2–5 cm, slender, scabrous; blade ovate-triangular, 3–10 × 2.5–7 cm, deeply 1–2-pinnatifid; ultimate segments broad-ovate, ovate-lanceolate or nearly ovate-triangular, 1–3.5 × 0.5–2.5 cm, base cuneate, truncate or cordate, irregularly serrate or dentate, strigose on both surfaces, apex acuminate. Leaves reduced upwards, ultimate segments becoming narrow. Umbels many, 2.5–4 cm across, lax; peduncles 1–4 cm, slender; bracts and bracteoles absent; rays 3–8, 1–2 cm, very slender, spreading widely; umbellules 3–8-flowered, 3–5 mm across; pedicels very thin, 0.5–2 mm, unequal. Petals white, ca. 0.8 × 0.7 mm. Fruit ovoid-globose, 0.9–1.1 × 1.1–1.3 mm across, base cordate, surface scabrous with short appressed hairs. Fl. and fr. Jul–Sep.

• Open forests or scrub on mountain slopes, grassy places on mountain slopes or roadsides; 600–3000 m. Guangxi, Guizhou, Sichuan, Yunnan.

- 1a. Plants sparsely scabrous; ultimate leaf segments irregularly serrate or dentate 1a. var. *scaberulum*
- 1b. Plants densely pubescent throughout; ultimate leaf segments deeply dentate to pinnate 1b. var. *ambrosiifolium*

1a. *Trachyspermum scaberulum* var. *scaberulum*

糙果芹(原变种) cao guo qin (yuan bian zhong)

Carum scaberulum Franchet, Bull. Soc. Philom. Paris, sér. 8, 6: 125. 1894; *Pimpinella scaberula* (Franchet) H. de Bois-

sieu.

Plants sparsely scabrous. Ultimate leaf segments irregularly serrate or dentate.

• Open forests or scrub on mountain slopes, grassy places on roadsides; 600–2600 m. Guangxi, Guizhou, Sichuan, Yunnan.

1b. *Trachyspermum scaberulum* var. *ambrosiifolium* (Franchet) R. H. Shan, Sinensia 11: 166. 1940.

豚草叶糙果芹 tun cao ye cao guo qin

Carum scaberulum var. *ambrosiifolium* Franchet, Bull. Soc. Philom. Paris, sér. 8, 6: 125. 1894; *Pimpinella scaberula* var. *ambrosiifolia* (Franchet) H. Wolff.

Plants densely pubescent throughout. Ultimate leaf segments deeply dentate to pinnate.

• Grassy places on mountain slopes; ca. 3000 m. Sichuan, Yunnan.

2. *Trachyspermum triradiatum* H. Wolff, Acta Horti Gothob. 2: 305. 1926.

马尔康糙果芹 ma er kang cao guo qin

Plants 60–90 cm, perennial, scabrous or shortly hirtellous throughout. Basal leaves petiolate, petioles 1–2.5 cm, sheaths short; blade 2–2.5 cm, pinnate; pinnae 3–5, ovate or obovate, 5–15 × 2–12 mm, 3-parted or apex 3-lobed, base cuneate, margin entire or sparingly dentate. Leaves reduced upwards, becoming 3-parted, segments linear, entire or 1–2-serrate. Umbels 1.5–2 cm, numerous, leaf-opposed; peduncles 1–5 cm; bracts and bracteoles absent; rays 2–4, 5–13 mm; umbellule 3–7-flowered; pedicels 1–2 mm, very slender, elongating in fruit. Petals obovate, ca. 1 × 1 mm. Fruit broadly ovoid-acuminate, ca. 1.8 × 1.5 mm, densely white strigose. Fl. and fr. Aug–Sep.

- Mountain slopes, roadsides; 2600–3200 m. Sichuan (Drogochi).

This incompletely known taxon is recorded only from a few collections

3. *Trachyspermum roxburghianum* (de Candolle) H. Wolff in Engler, Pflanzenr. 90(IV. 228): 129. 1927.

滇南糙果芹 dian nan cao guo qin

Ptychotis roxburghiana de Candolle, Prodr. 4: 109. 1830; *Apium involucreatum* Roxburgh; *Carum roxburghianum* (de Candolle) Kurz; *C. stictocarpum* C. B. Clarke; *Pimpinella involucreata* (Roxburgh) Wight & Arnott; *Ptychotis involucreata* (Roxburgh) Lindley; *Trachyspermum involucreatum* (Roxburgh) H. Wolff; *T. roxburghianum* (de Candolle) H. Wolff; *T. stictocarpum* (C. B. Clarke) H. Wolff.

Plants annual, 20–100 cm. Leaves petiolate, petioles slender, 1–2 cm; blade ovate in outline, 3–8 × 2–12 cm, 2-pinnate or ternate-pinnate; ultimate segments narrowly oblong, 5–20 × 2–3 mm, base cuneate. Leaves reduced upwards, ultimate segments becoming linear-lanceolate. Umbels 2–4 cm across; peduncles 5–9 cm; bracts and bracteoles few, linear-subulate or ciliate, 3–5 mm; rays 4–12, 1–3 cm, filiform, unequal, hirsutulous or glabrescent; umbellules 12–20-flowered; pedicels 1–5 mm, unequal, hirsutulous. Fruit ovoid, 1.5–3 × 1.5–2 mm, apex contracted forming a very short neck, densely hirsutulous or glabrescent. Fl. and fr. Feb–Jul.

Cultivated, adventive on forest margins and in ruderal areas. S Yunnan (Xishuangbanna) [apparently native to S India].

This species cultivated as a spice throughout the Indian subcontinent, SE Asia, and Indonesia.

4. *Trachyspermum ammi* (Linnaeus) Sprague, Bull. Misc. Inform. Kew 1929: 228. 1929.

细叶糙果芹 xi ye cao guo qin

Sison ammi Linnaeus, Sp. Pl. 1: 252. 1753; *Ammi copticum* Linnaeus; *Bunium copticum* (Linnaeus) Sprengel; *Carum copticum* (Linnaeus) C. B. Clarke; *Daucus coptica* (Linnaeus) Persoon; *Ptychotis coptica* (Linnaeus) de Candolle; *Trachyspermum copticum* (Linnaeus) Link.

Plants annual, 20–50(–90) cm, essentially glabrous. Leaves petiolate, petiole 1–5 cm; blade triangular-ovate in outline, 2–8 × 2–6 cm, 2–3-pinnate/pinnatisect; ultimate segments linear-filiform to 15 × 0.2–0.5 mm. Umbels 2.5–5 cm across; bracts 3–8, linear-subulate, 5–7 mm; rays 6–20, 1–3 cm; bracteoles 5–10, linear, 2–3 mm; umbellules ca. 1 cm across, ca. 20-flowered; pedicels 0.5–4 mm, unequal. Calyx teeth conspicuous, minute, ovate or obsolete. Petals ca. 1.3 × 1.3 mm. Fruit

1.2–2 × 1.2–1.8 mm, densely covered in whitish minute papillae. Fl. & fr. May–Aug.

Cultivated, adventive in dry open ruderal areas. W Xinjiang [apparently native to India].

The fruits are used as a spice for flavoring and for perfume; they have reputed medicinal value (in Xinjiang). The species is extensively cultivated throughout C, S, and SW Asia.

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