Flora of China 14: 122–130. 2005.

60. SESELI Linnaeus, Sp. Pl. 1: 259. 1753.

西风芹属 xi feng qin shu

She Menglan (佘孟兰 Sheh Meng-lan); Michael G. Pimenov, Eugene V. Kljuykov, Mark F. Watson

Herbaceous, perennials, sometimes woody at base. Taproot conic, caudex woody, undivided or branched. Stem terete, rarely hollow. Leaf blade 1–3-pinnate or pinnately decompound, rarely ternately dissected or simple and undivided. Umbels compound; bracts few or absent; rays few to many; bracteoles few to many, lanceolate or linear, bases often connate, scarious or scarious-margined; umbellules few- to many-flowered; pedicels short or long, occasionally subsessile. Calyx teeth obsolete or minute. Petals white or yellow, suborbicular or oblong, emarginate, apex broadly or narrowly inflexed, abaxially often pubescent or hirsute. Stylopodium conic or depressed. Fruit ovoid or ellipsoid, moderately or slightly dorsally compressed, glabrous or variously hairy; ribs prominent, rounded or keeled, subequal, marginal ribs sometimes narrowly winged; vittae 1–2(–4) in each furrow, 2 (rarely 4–8) on commissure. Seed face plane. Carpophore 2-cleft to base.

About 80 species: Asia, Europe; 19 species (nine endemic) in China.

See the taxonomic comments under *Eriocycla* and *Libanotis*, and the alternative classification at the end of the *Seseli* account.

1a. Fruit vittae solitary in each furrow, 2 on the commissure.
2a. Caudex branched at apex, stems several.
3a. Bracteoles glabrous; fruit papillose-pubescent; rays (2–)6–10.
4a. Fruit with a white and membranous disk at base ..... 1. *S. glabratum*
4b. Fruit without a white and membranous disk at base ..... 2. *S. intramongolicum*
3b. Bracteoles puberulous; fruit pubescent or hirsute, but never papillose; rays 2–6(–10).
5a. Umbels 1–2.5 cm across; bracteole bases connate ..... 3. *S. aemulans*
5b. Umbels 2–6 cm across; bracteole bases free.
6a. Ultimate leaf segments 15–40(–80) × 0.7–1.5 mm; rays 3–4; flowers almost sessile ..... 14. *S. togasii*
6b. Ultimate leaf segments 5–7 × 1–2 mm; rays 6–8(–10); flowers pedicellate ..... 15. *S. junatovii*
2b. Caudex undivided; stem solitary.
7a. Stem hollow ..... 4. *S. nortonii*
7b. Stem solid, with pith.
8a. Plants densely white hispidulous; leaf blade 3-parted, not pinnate, ultimate segments 70–130 × 5–10 mm ..... 7. *S. delavayi*
8b. Plants puberulent to almost glabrous; leaf blade 2–3-pinnate, ultimate segments 3–50 × 0.5–2 mm.
9a. Fruit oblong, 5–6.5 × 2–3 mm ..... 5. *S. eriocephalum*
9b. Fruit ovoid, 2–4 × 0.8–1.5 mm.
10a. Ultimate leaf segments 5–12 × 0.5–1 mm; ribs slightly prominent, rounded ..... 6. *S. valentinae*
10b. Ultimate leaf segments 20–50 × 0.5–2 mm; ribs prominent, keeled ..... 13. *S. strictum*
1b. Fruit vittae 2–5 in each furrow, 4–10 on the commissure.
11a. Bracteoles fused to each other at base, sometimes, up to middle.
12a. Leaf blade 2–4-ternately dissected, ultimate segments narrow-linear 7–65 × 0.5–3 mm ..... 8. *S. yunnanense*
12b. Leaf blade trifoliolate or 2-ternately dissected, ultimate segments elliptic or lanceolate, 20–120 × 2–12 mm ..... 9. *S. mairei*
11b. Bracteoles not fused at base.
13a. Caudex branched.
14a. Flowers sessile, umbellules capitate ..... 10. *S. sessiliflorum*
14b. Flowers pedicellate, umbels loose, not capitate.
15a. Leaf blade greenish pubescent; stems, rays and bracts scabrous; bracteoles 5–8; fruit minutely pubescent ..... 16. *S. asperulum*
15b. Plant completely glabrous; bracteoles 8–10; fruit glabrous ..... 17. *S. coronatum*
13b. Caudex unbranched.
16a. Stylopodium conic.
17a. Pedicels stout, 2–4 mm; leaf sheaths dark purple ..... 11. *S. purpureovaginatum*
17b. Pedicels slender, short 0.5–1.5 mm; leaf sheaths green ..... 12. *S. squarrulosum*
16b. Stylopodium low-conic.
18a. Fruit ovoid, apex narrow, densely pubescent; leaf blade 2-pinnate, ultimate segments ovate or rhombic ..... 18. *S. sandbergiae*
18b. Fruit oblong glabrous; leaf blade 3-pinnate, ultimate segments ovate ..... 19. *S. incisodentatum*

1. Seseli glabratum Willdenow ex Sprengel in Roemer & Schultes, Syst. Veg. 6: 406. 1820.

膜盘西风芹 mo pan xi feng qin

Seseli tenuifolium Ledebour.

Plants 25–50 cm. Caudex branched. Stems several, much-branched from base or middle, solid, rigid, finely grooved, glabrous. Leaf blade broadly ovate, 7–10 × 3–5 cm, 2-pinnatisect; ultimate segments linear, 20–40(–80) × 0.5–1(–1.5) mm, glabrous, margins revolute. Synflorescence paniculate; umbels 2–4 cm across; bracts absent or 1–2, subulate, 1–3 × 0.5–1 mm; rays 6–10, 0.6–2(–2.5) cm, subequal, glabrous; bracteoles 6–8, lanceolate or linear-subulate, shorter than flowers, usually reflexed, glabrous, margin scarious; umbellules 8–15-flowered; pedicels 2–5 mm. Calyx teeth obsolete. Petals white, costa yellow, emarginate, glabrous. Ovary and fruit with a white, membranous disk at base, disk 0.6–1 mm across, persistent. Stylopodium conic; styles reflexed. Fruit ellipsoid or narrowly ovoid, dorsally compressed, 2.7–4.5 × 0.9–1.3 mm, finely papillose or slightly scabrous, sometimes subglabrous; ribs equal, prominent, filiform or shortly keeled; vittae 1 in each furrow, 2 on commissure. Fl. Jun–Jul, fr. Aug–Sep.

Grasslands, steppes, dry stony and clayey slopes, sometimes sandy areas; 1000–1500 m. N Xinjiang (Altay) [Kazakhstan, Mongolia, Uzbekistan].

2. Seseli intramongolicum Y. C. Ma, Fl. Intramongol. Sin. 4: 171. 1979.

内蒙西风芹 nei meng xi feng qin

Plants 25–60 cm. Caudex branched. Stems several, dichotomously much-branched from base or middle, solid, terete, glabrous or minutely scabrid at base. Basal leaves numerous, long-petiolate; blade oblong or oblong-ovate, 2–20 × 2–7 cm, 2-pinnatisect; ultimate segments linear, 3–15 × 0.5–2 mm, glabrous, margins revolute, apex apiculate. Synflorescence thyrsoid, much-branched; umbels (1–)3–6 cm across; bracts absent; rays (2–)8–10, 0.3–1.2 cm, subequal, ridged, minutely puberulent; bracteoles 7–10, ovate-lanceolate, shorter than flowers, fused to each other at least at base, glabrous or minutely puberulent, reflexed; umbellules 7–15-flowered; pedicels 1.5–3 mm. Calyx teeth obsolete. Petals white, occasionally yellowish, costa fulvous, abaxially puberulous. Stylopodium conic, base undulate; styles reflexed. Fruit oblong, dorsally compressed, (3–)4–6 × (1.5–)2.5–3.5 mm, densely papillose-pubescent when young, glabrescent when mature; ribs filiform, prominent; vittae 1 in each furrow, 2 on commissure. Fl. Jul–Aug, fr. Aug–Sep.

● Mountain slopes, dry stony places; 1500–2200 m. Gansu (Hegang Shan), SW Nei Mongol (Ih Ju Meng, Zhuozi Shan), N Ningxia (Helan Shan).

3. Seseli aemulans Popov, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8(4): 73. 1940.

大果西风芹 da guo xi feng qin

Plants 40–50 cm, polycarpic. Caudex branched. Stems several, dichotomously branched from base or above, solid, finely grooved, glabrous. Basal leaves numerous, petiolate; blade ovate-oblong or oblong, 4–10 × 2–4.5 cm, 2-pinnatisect; pinnae short-petiolulate; ultimate segments linear-filiform, 5–25 × 0.5–1.1 mm, glabrous, margins revolute, apex apiculate. Cauline leaves few, reduced above becoming subsessile, blade 3-parted, segments linear, elongate. Synflorescence paniculate, much-branched; umbels 1–2.5 cm across; bracts absent or 1–5, ovate, minute, margin scarious; rays 2–6, 4–14 mm, unequal, spreading, squarrose; bracteoles 6–10, ovate, triangular-lanceolate or lanceolate-subulate, ca. 2 × 0.5–1 mm, connate at base for half their length, abaxially puberulous; umbellules 6–12-flowered; pedicels 1.5–3 mm. Calyx teeth obsolete. Petals white or pale yellow, costa yellow-brown, abaxially pubescent. Stylopodium conic; styles reflexed. Fruit ovoid or ellipsoid, apex narrow, dorsally compressed, 6–7(–10) × 3–4(–6) mm, puberulous or sparsely pilose; vittae 1 in each furrow, 2 on commissure. Fl. Aug, fr. Sep.

Dry or gravelly slopes, dry pebbly stream beds; ca. 1000 m. Xinjiang (Tian Shan) [Kazakhstan].

4. Seseli nortonii Fedde ex H. Wolff, Repert. Spec. Nov. Regni Veg. 27: 329. 1930.

西藏西风芹 xi zang xi feng qin

Plants 30–50 cm. Caudex simple. Stem solitary, hollow, tawny or purplish, shiny, hispidulous, much-branched above. Basal leaves many, petiole sheaths broadly ovate, hispidulous, scarious-margined; blade broadly rhombic, 2-pinnate; ultimate segments ovate, 10–15 × 6–11 mm, 3-lobed, parted or sub-pinnate, serrate, white hispid on both surfaces and leaf-rachis, especially margins and veins abaxially. Umbels 8–12 cm across; bracts 5–7, lanceolate, shorter than rays, densely white-hispid; rays ca. 10, 3.5–6 cm, unequal; bracteoles numerous, similar to bracts; umbellules many-flowered; pedicels 1.5–5(–7) mm. Calyx teeth subulate, ca. 0.1 mm. Petals white, costa deep yellow, suborbicular, with a broadly inflexed apex, abaxially white-hispid. Stylopodium low-conic; style short, erect. Fruit narrowly ellipsoid, dorsally compressed, 5.5–6 × 2–2.5 mm, densely hispid; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jun–Aug.

● River banks, among stones; ca. 4000 m. Xizang (Kadah He).

This poorly known taxon is recorded only from the type. The subulate calyx teeth are atypical in the current circumscription of *Seseli,* and two of us (Pimenov and Kljuykov) consider this species should be included within *Eriocycla nuda*.

5. Seseli eriocephalum (Pallas ex Sprengel) Schischkin in Schischkin & Bobrov, Fl. URSS 16: 518. 1950.

毛序西风芹 mao xu xi feng qin

Bubon eriocephalus Pallas ex Sprengel, Syst. Veg. 1: 900. 1824.

Plants 40–80 cm, monocarpic. Caudex simple, 1–2 cm thick. Stem solitary, much-branched from middle, solid, finely grooved, minutely puberulent or almost glabrous. Basal leaves numerous, long-petiolate; blade triangular-ovate, 6–10 × 5–8 cm, 3-pinnate; pinnae petiolulate; ultimate segments lanceolate or linear, 3–10 × 1–2 mm, margins entire, narrowly revolute, apex mucronate. Synflorescence paniculate; umbels 2–5 cm across; bracts absent; rays 2–10(–15), 0.5–2 cm, slightly unequal, scabrous-pubescent; bracteoles 12–15, ovate-lanceolate, 2–3 × ca. 2 mm, bases connate to the middle, abaxially villous;

umbellules 22–30(–40)-flowered, densely capitate, flowers sessile. Calyx teeth obsolete. Petals white, abaxially puberulous. Stylopodium depressed; styles slightly elongate, divergent. Fruit oblong, slightly dorsally compressed, 5–6.5 × 2–3 mm, densely tomentose; dorsal ribs thick, acute, prominent, lateral ribs slightly broader than dorsal; vittae 1 in each furrow, 2 on commissure. Fl. and fr. Jul–Sep.

Among shrubs, moist areas, salt-lake shores, alkaline soils. N Xinjiang (Tacheng) [Kazakhstan].

6. Seseli valentinae Popov, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8(4): 73. 1940.

叉枝西风芹 cha zhi xi feng qin

Plants 30–60(–70) cm, monocarpic. Caudex simple. Stem solitary, dichotomously branched nearly from base, finely grooved, lower parts minutely puberulent, branches elongate. Basal leaves several, petioles short; blade oblong, 5–10 × 2.5–3 cm, 2–3-pinnatisect; pinnae 4 pairs, remote; ultimate segments narrowly linear, 5–12 × 0.5–1 mm, glabrous, margins entire and revolute. Synflorescence corymbose; umbels 3–10 cm across; bracts absent; rays 6–13, 1–70 mm, very unequal; bracteoles 10–12, linear-lanceolate, about equaling flowers, bases connate, densely white pubescent, margins scarious; umbellules 20–25-flowered, capitate; pedicels very short, 1–2 mm, pubescent. Petals yellowish, abaxially white puberulous. Stylopodium low-conic; styles reflexed. Fruit ovoid or oblong-ovoid, slightly dorsally compressed, 2.2–4 × 0.8–1.5 mm, densely puberulent; ribs prominent, equal, obtuse-keeled; vittae 1 in each furrow, 2 on commissure. Fl. Jul–Aug, fr. Aug–Sep.

Stony mountain slopes, semi-deserts, conglomerate terraces, clayey soils; 1500–2300 m. Xinjiang (Bogda Shan, Zhaosu) [Kazakhstan, Kyrgyzstan].

7. Seseli delavayi Franchet, Bull. Soc. Philom. Paris, sér. 8, 6: 130. 1894.

多毛西风芹 duo mao xi feng qin

Plants 50–90 cm, monocarpic, densely white hispidulous throughout. Caudex simple. Stem solitary, branched from middle, terete. Basal leaves several, petioles 10–16 cm; blade ternatisect, 4–13 × 2–6 cm; leaflets sessile, linear-lanceolate, (40–) 70–130 × 5–10 mm, primary venation parallel, usually white hispid on both surfaces, especially margins and abaxially veins. Cauline leaves few, reduced upwards, leaflets 30–50 × 2–4 mm. Synflorescence corymbose; umbels 1–3(–4) cm across; peduncles elongate, hispidulous; bracts 5–7, linear, ca. 10 × 0.5 mm, bases free, apex caudate; rays 6–8, 5–20 mm, subequal, densely white-hispid; bracteoles 5–7, linear, 6–8 mm, more than 2 × pedicels; umbellules 10–18-flowered; pedicels ca. 4 mm. Petals yellow, obovate, abaxially white-pubescent. Fruit ovoid or short ovoid, slightly dorsally compressed, ca. 3 × 2 mm, densely white hispid; ribs rounded, equal, hidden by indumentum; vittae 1 in each furrow, 2 on commissure. Fl. Aug–Sep, fr. Sep–Oct.

● Alpine meadows, limestone slopes; 1500–3000(–4500) m. NW Yunnan (Binchuan, Heqing).

This species has reputed medicinal value.

8. Seseli yunnanense Franchet, Bull. Soc. Philom. Paris, sér. 8, 6: 129. 1894.

松叶西风芹 song ye xi feng qin

Seseli siamicum Craib.

Plants 30–80 cm, monocarpic. Caudex simple. Stem solitary, branching above, solid, terete, finely grooved, glabrous. Basal leaves numerous, petiolate; blade triangular or rhombic, 3–10 × 3–10 cm, 2–4-ternately dissected, every divided point articulated; ultimate segments narrowly linear, 7–65 × 0.5–3 mm, entire. Cauline leaves few, 1–3-ternately dissected; uppermost leaf 3-parted or simple. Synflorescence dichotomously branched, corymbose; umbels 2–4 cm across; bracts absent or occasionally 1, subulate, 1.5–4 mm; rays 6–10, 0.3–2(–4) cm, unequal; bracteoles 8–10, lanceolate, ca. 2.5 × 0.5 mm, about equaling flowers, bases connate, margin scarious; umbellules 15–30-flowered; pedicels ca. 2 mm. Calyx teeth obsolete. Petals pale yellow, oblong or almost square, veins 3–5, brown-yellow, conspicuous, abaxially puberulent. Stylopodium low-conic; styles short, stout. Fruit ovoid or oblong-ovoid, compressed dorsally, ca. 3 × 1 mm, glabrous; ribs ca. equal, narrowly keeled or rounded; vittae 1–2 in each furrow, 2–4 on commissure. Fl. and fr. Aug–Oct.

Coniferous forests, among shrubs, valleys; 600–3100 m. S Sichuan (Dechang, Leibo), NW Yunnan (Binchuan, Dali, Heqing) [Thailand].

The roots are used in Yunnan as a regional substitute, known as "song ye fang feng," for the traditional Chinese medicine "fang feng" (*Saposhnikovia divaricata*).

9. Seseli mairei H. Wolff, Repert. Spec. Nov. Regni Veg. 27: 301. 1930.

竹叶西风芹 zhu ye xi feng qin

Plants 15–80 cm, glabrous throughout. Caudex simple. Stem solitary, branched above, solid, terete, finely grooved. Basal leaves few to many, petiolate; blade triangular, 3–10 × 1–10 cm, trifoliolate or 2-ternately dissected; ultimate segments elliptic, lanceolate or linear-lanceolate, 20–120 × 2–12(–40) mm, subsessile, margins entire, narrowly revolute, with 3–10 parallel venations. Upper leaves usually linear and undivided. Synflorescence corymbose; umbels 2–4.5 cm across; bracts absent or 1–2, linear, 2–5 × ca. 0.1 mm; rays 5–7, 1.5–3.5 cm, unequal; bracteoles 6–10, lanceolate, about equaling flowers, bases connate; umbellules 12–18-flowered; pedicels 1.5–3 mm. Calyx teeth obsolete. Petals yellowish, square or oblong, with 3 veins, brown-yellow and conspicuous, especially costa, abaxially puberulent. Stylopodium conic, base undulate. Fruit ovate-oblong, compressed dorsally, ca. 3 × 1 mm, purplish, glabrous. vittae 1–2 in each furrow, 4 on commissure. Fl. and fr. Aug–Oct.

Open woodlands, sunny mountain slopes, grassy places; 1200–3200 m. NW Guangxi, SW Guizhou, SW Sichuan, Yunnan [N Thailand].

Both varieties have reputed medicinal value.

1a. Basal leaf blade 1–2-ternately dissected ..... 9a. var. *mairei*
1b. Basal leaf blade simple ..... 9b. var. *simplicifolium*

9a. Seseli mairei var. **mairei**

竹叶西风芹(原变种) zhu ye xi feng qin (yuan bian zhong)

Peucedanum bupleuriforme H. Wolff; *P. bupleuroides* H. Wolff.

Leaf blade trifoliolate or 2-ternately dissected.

Open woodlands, sunny mountain slopes, grassy places; 1200–3200 m. NW Guangxi (Longlin), SW Guizhou (Xingren), SW Sichuan (Liangshan, Xichang), Yunnan [N Thailand].

The leaf dissection is very variable across the geographic range, and two of us (Pimenov and Kljuykov) prefer to treat this variety and the preceding species as one polymorphic species under the name *S. yunnanense*. Further work is needed to clarify this complex situation. See also the taxonomic note under var. *simplicifolium* below.

9b. Seseli mairei var. **simplicifolium** C. Y. Wu ex R. H. Shan & M. L. Sheh, Acta Phytotax. Sin. 21: 88. 1983 [*"simplicifolia"*].

单叶西风芹 dan ye xi feng qin

Seseli simplicifolium (C. Y. Wu ex R. H. Shan & M. L. Sheh) Pimenov & Kljuykov.

Leaf blade simple, elliptic or elliptic-lanceolate, apex acute. Upper leaves linear-lanceolate.

● Open woodlands, sunny mountain slopes, grassy places; 1200–3200 m. SW Sichuan (Huidong), C Yunnan (Yuanmou).

Two of us (Pimenov and Kljuykov) note that this taxon was originally projected for description by H. Wolff under the manuscript name *"Seseli plantagineum"* (herbarium P), and that specific status is preferable as, in nature, there are no mixed populations of this and the typical variety.

10. Seseli sessiliflorum Schrenk, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 3: 307. 1845.

无柄西风芹 wu bing xi feng qin

Seseli squarrosum Schischkin.

Plants 15–60(–70) cm, polycarpic. Caudex branched. Stems several, suberect, branching above, solid, terete, glabrous or minutely scabrous, branches elongate and spreading. Basal leaves many, petiolate; blade oblong, 2-pinnately dissected; pinnae 4 pairs, rather remote, shortly petiolulate; ultimate segments linear, 5–20 × 1–2 mm, margins narrowly revolute, apex acute, apiculate. Upper leaves reduced, petioles wholly sheathing. Synflorescence thyrsoid; umbels 1.5–4(–6) cm across; peduncles elongate, slender; bracts 2–3, sometimes absent, broadly lanceolate, 1.5–3 × 0.5–1.5 mm, margin scarious; rays (2–)3–6(–9), ca. 10 mm, somewhat unequal; bracteoles 5–10, linear-lanceolate, 1.3–3 × ca. 1 mm, pubescent; umbellules 12–25-flowered, capitate, flowers sessile. Calyx teeth obsolete. Petals whitish or yellow, abaxially pubescent. Stylopodium conic. Fruit ovoid, dorsally compressed, 3–6 × 2–4 mm, densely or sparsely minutely pubescent; ribs filiform, prominent, margin ribs slightly winged; vittae 3 in each furrow, 6–10(–12) on commissure. Fl. and fr. Jul–Sep.

Among shrubs, dry stony and gravelly mountain slopes, screes, rock crevices; 700–1500 m. Xinjiang (Urumqi) [Kazakhstan, Kyrgyzstan].

11. Seseli purpureovaginatum R. H. Shan & M. L. Sheh, Acta Phytotax. Sin. 18: 377. 1980 [*"purpureo-vaginatum"*].

紫鞘西风芹 zi qiao xi feng qin

Plant 25–50 cm, monocarpic, glabrous throughout. Caudex simple. Stem solitary, suberect, solid, little-branched above, branches short and usually arcuate. Basal leaves many, petiole sheaths narrow, dark purple scarious-margined; blade ovate, 6–10 × 3–5 cm, 2-pinnate; pinnae shortly petiolulate; ultimate segments linear or linear-elliptic, 4–10 × 1.5–5 mm, entire or 2–3-lobed, abaxially glaucescent, margins narrowly revolute, apex apiculate. Uppermost leaves subsessile, with dilated, scarious-margined and dark purple sheaths; ultimate segments like basal. Synflorescence dichotomously branched, corymbose; umbels few, loose compound, 2.5–5 cm across; bracts and bracteoles absent; rays 3–5, 1.5–3 cm, subequal; umbellules 4–8-flowered; pedicels 2–4 mm. Calyx teeth obsolete or minute. Petals white, glabrous. Stylopodium conic; styles short. Fruit pale yellow, oblong, cross section rounded-pentagonal, 3.5–5 × 2–3 mm, glabrous; ribs prominent; ribs equal, shortly keeled; vittae 2–3 in each furrow, 4 on commissure. Fl. and fr. Jul–Sep.

● Sunny mountain slopes; ca. 3800 m. E Xizang (Biru).

12. Seseli squarrulosum R. H. Shan & M. L. Sheh, Acta Phytotax. Sin. 21: 86. 1983.

粗糙西风芹 cu cao xi feng qin

Plants 30–100 cm, monocarpic. Caudex simple. Stem solitary, much-branched above, solid, terete, finely grooved, glabrous. Basal leaves many, petiolate; blade oblong or ovate-oblong, 5–14 × 2–4 cm, 3-pinnately dissected, leaf rachis shallowly grooved, squarrose; ultimate segments linear, 3–10 × 0.5–1.5 mm, abaxially slightly glaucous and sparsely squarrose, apex acute. Synflorescence much-branched, corymbose; umbels 1.5–5 cm across; bracts absent or 1–2, small; rays (4–)6–10, 1.5–3.5 cm, unequal, ridged, squarrose; bracteoles 5–6, lanceolate, shorter than or equaling flowers; umbellules 10–15-flowered; pedicels 0.5–2 mm. Petals yellow, subsquare or elliptic, costa deep yellow, sometimes abaxially puberulous. Fruit ellipsoid, slightly dorsally compressed, ca. 3.5 × 2 mm, puberulous when young; vittae 3–4 in each furrow, 6–10 on commissure. Fl. and fr. Jul–Sep.

● Sunny mountain slopes, dry valleys, grasslands; 1400–3600 m. E Qinghai (Datong, Menyuan, Tongren), W Sichuan.

The roots are used in Sichuan as a regional substitute, known as "chuan fang feng," for the traditional Chinese medicine "fang feng" (*Saposhnikovia divaricata*). This taxon is possibly conspecific with *Seseli incisodentatum*.

13. Seseli strictum Ledebour, Fl. Altaic. 1: 338. 1829.

劲直西风芹 jin zhi xi feng qin

Ammi ehrenbergii (H. Wolff) M. Hiroe; *Athamanta stricta* (Ledebour) Ledebour ex Steudel; *Pseudammi ehrenbergii* H. Wolff.

Plants 30–70 cm, monocarpic. Caudex simple, 4–7 mm thick. Stem solitary, branched above, finely grooved, solid, glabrous. Leaf blade triangular to ovate, 8–15 × 4–7 cm, 3-pinnatisect, glabrous; pinnae petiolulate; ultimate segments fili-

form or narrowly linear, 20–50 × 0.5–2 mm, obtuse. Cauline leaves appressed to stem, uppermost 2–3-pinnate. Synflorescence corymbose; umbels 5–9 cm across; bracts absent; rays 15–35, 2.5–3 cm, almost equal, ribbed, glabrous; bracteoles 8–10, linear or filiform, slightly shorter than pedicels, herbaceous; umbellules 20–30-flowered; pedicels 2.5–4 mm. Calyx teeth short, triangular, glabrous. Petals white, emarginate, glabrous. Stylopodium conic. Fruit ellipsoid to ovoid, slightly dorsally compressed, 3–4 × 1–1.5 mm, glabrous; ribs equal, keeled; vittae solitary in each furrow, 2 on commissure. Fl. and fr. Jul–Aug.

Steppe grasslands, damp areas, occasionally on saline soils; ca. 1000 m. Xinjiang [Kazakhstan, Russia].

14. Seseli togasii (M. Hiroe) Pimenov & Kljuykov, Feddes Repert. 110: 488. 1999.

绒果西风芹 rong guo xi feng qin

Deverra togasii M. Hiroe, Umbell. World, 504. 1979.

Plants 25–50 cm, polycarpic. Caudex branched. Stems several, branched from base or middle, solid, rigid, finely grooved, glabrous. Leaf blades rhombic or ovate, 7–10 × 3–5 cm, 2-pinnatisect, glabrous; pinnae shortly petiolulate; ultimate segments filiform or narrowly linear, 15–40(–80) × 0.7–1.5 mm, acute. Upper leaves ternate or entire. Synflorescence paniculate; umbels 2–4 cm across; bracts absent, rarely 1, small; rays 3–4, slender, minutely puberulent; bracteoles 6–9, lanceolate, puberulent; umbellules capitate, flowers almost sessile. Calyx teeth minute, pilose. Petals white, emarginate, glabrous. Stylopodium conic; styles long, reflexed. Fruit ovoid, slightly compressed dorsally, 1.5–2.3 × 1–1.7 mm, densely puberulent; ribs unequal, dorsal ribs keeled, marginal ribs broader; vittae solitary in each furrow, 2 on commissure. Fl. and fr. times not recorded.

● Stony and gravelly slopes; ca. 1000 m. Jilin (Saratsi).

This rather poorly known taxon is recorded only from a few localities.

15. Seseli junatovii V. M. Vinogradova, Novosti Sist. Vyssh. Rast. 22: 198. 1985.

硬枝西风芹 ying zhi xi feng qin

Plants 25–35 cm, polycarpic. Caudex branched. Stems several, branched from base, solid, rigid, smooth, glabrous. Leaf blade rhombic to lanceolate-ovate, 7–12 × 2–4 cm, pinnatisect, glabrous; pinnae sessile or shortly petiolulate; ultimate segments filiform or linear-lanceolate, 5–7 × 1–2 mm, toothed, acute. Synflorescence corymbose; umbels 3–6 cm across; bracts absent or 1–2, small; rays 6–8(–10), equal, glabrous; bracteoles ca. 10, narrowly lanceolate, puberulous; umbellules 12–30-flowered. Calyx teeth narrowly triangular, small. Petals white, emarginate, abaxially puberulent. Stylopodium low-conic; styles reflexed. Ovaries and young fruit densely tomentose (mature fruit unknown); ribs equal, filiform; vittae solitary in each furrow, 2 on commissure. Fl. and fr. times not recorded.

● Schistose steppe slopes, rock crevices; ca. 1000 m. Xinjiang.

16. Seseli asperulum (Trautvetter) Schischkin in Schischkin & Bobrov, Fl. URSS 16: 520. 1950.

微毛西风芹 wei mao xi feng qin

Seseli coronatum Ledebour var. *asperulum* Trautvetter, Trudy Imp. S.-Peterburgsk. Bot. Sada 1: 32. 1871.

Plants 25–50 cm, polycarpic. Caudex branched. Stems several, dichotomously branched from middle, solid, terete, minutely puberulent. Leaf blade oblong, 8–12 × 1.5–2 cm, 2–3-pinnatisect, greenish pubescent; pinnae short-petiolulate; ultimate segments narrowly lanceolate to linear, 3–10 × 0.5–1.5 mm, acute. Upper leaf blades entire, linear, short. Synflorescence thyrsoid; umbels 1.5–2 cm across; bracts absent; rays 4–6(–10), 1–1.4 cm, slightly unequal, scabrous; bracteoles 5–8, linear-lanceolate, entire, 1.1–1.6 mm, scabrous, margin membranous; umbellules ca. 15-flowered; pedicels 1.5–2.5 mm. Calyx teeth obsolete. Petals white or pale yellow, abaxially pubescent. Stylopodium conic; styles reflexed. Fruit ovoid or obovoid, slightly dorsally compressed, 5–6 × 2.5–3 mm, sparsely pilose when young, almost glabrous at maturity; dorsal ribs filiform, margin ribs winged; vittae 3–5 in each furrow, 10–12 on the commissure. Fl. and fr. Jun–Jul.

Dry stony schistose slopes; 700–900 m. Qinghai, Xinjiang [Kazakhstan].

This plant is very similar to the following species, *Seseli coronatum*, and is perhaps conspecific with it.

17. Seseli coronatum Ledebour, Fl. Altaic. 1: 336. 1829.

柱冠西风芹 zhu guan xi feng qin

Plants 25–60 cm, polycarpic, glaucescent throughout. Caudex branched. Stems several, branched at base or above, solid, terete, glabrous or minutely scabrid at base, branches elongate, rigid. Basal leaves numerous, petioles puberulous, sheaths broadly ovate-lanceolate and scarious-margined; blade oblong, 7–20 × 2–7 cm, 2–3-pinnately dissected; ultimate segments linear-lanceolate, 5–15 × 1–2 mm, acute. Synflorescence thyrsoid; umbels 3–6 cm across; rays 6–10, 0.1–2.2 cm, unequal; bracts absent or 1–2, small, early deciduous; bracteoles 6–8, ovate-lanceolate, longer than flowers, apex acuminate, pubescent, margin scarious; umbellules 7–15-flowered; pedicels 1.5–3 mm. Calyx teeth obsolete. Petals white, oblong or suborbicular, abaxially puberulous. Stylopodium conic, base undulate; styles slender, reflexed. Fruit oblong, slightly dorsally compressed, (3–)4–6 × (1.5–)2.5–3.5 mm; dorsal ribs filiform, prominent, lateral ribs slightly broader than dorsal, narrowly winged; vittae 3–5 in each furrow, 8–12 on commissure, unequal. Fl. and fr. Jun–Sep.

Dry, gravelly slopes, steppe; 1000–1300 m. Xinjiang [Kazakhstan].

This species was misidentified in FRPS (55(2): 197. 1985) as *Seseli tschuiliense* Pavlov ex Korovin, which is distributed in C Asia.

18. Seseli sandbergiae Fedde ex H. Wolff, Repert. Spec. Nov. Regni Veg. 27: 309. 1930.

山西西风芹 shan xi xi feng qin

Seseli schansiense Fedde ex H. Wolff.

Plants 50–70 cm, monocarpic. Caudex simple. Stem solitary, branched from middle, densely pubescent under synflorescence. Basal leaves subsessile, sheaths broadly lanceolate, pubescent; blade triangular-ovate, 8–13 × 5–8 cm, 2-pinnately dissected; pinnae long-petiolulate; ultimate segments sessile, lateral segments obovate-oblong or rhombic, 2–3-lobed, terminal segments obovate-cuneate, 3-lobed, base decurrent, abaxially gray-green, sparsely puberulous on both surfaces, especially abaxially and margins. Umbels 3–7 cm across; peduncles densely pubescent; bracts absent or several, linear or linear-lanceolate, small, puberulous; rays 6–12, 1.5–4 cm, very unequal, pubescent; bracteoles 8–10, linear-lanceolate, exceeding flowers, apex caudate; umbellules 16–30-flowered; pedicels 2–4 mm. Petals white, abaxially puberulous. Stylopodium low-conic, base undulate; styles reflexed. Fruit oblong, slightly dorsally compressed, 3–5 × 2–3.5 mm, puberulent; ribs all filiform, acute-keeled; vittae 2–3 in each furrow, 4–6 on commissure. Fl. and fr. Aug–Sep.

● Mountain slopes, grasslands, roadsides; ca. 1000 m. S Shanxi (Quwo).

This poorly known taxon is recorded only from the type gathering.

19. Seseli incisodentatum K. T. Fu, Fl. Tsinling. 1(3): 459. 1981 [“*inciso-dentatum*”].

锐齿西风芹 rui chi xi feng qin

Plants 30–50 cm, monocarpic. Caudex simple. Stem solitary, slender, branched above, finely grooved, glabrous. Basal leaves many, petiole sheaths ovate, scarious-margined; blade ovate, 5–15 × 2–4 cm, 3-pinnate; pinnae 4–6 pairs, basally remote; ultimate segments ovate, 4–10 × 3–5 mm, deeply 3-toothed or pinnate. Cauline leaves reduced upwards, 3-lobed or pinnate, petioles wholly sheathing. Synflorescence much-branched, corymbose; umbels 3–6 cm across; peduncle apex and base of rays sparsely scaberulous; bracts absent; rays 5–7, 1–2.4 cm, unequal, thin; bracteoles 5–7, narrow-linear, 1–2 mm, shorter than flowers; umbellules 8–12-flowered; pedicels 0.7–4 mm. Calyx teeth obsolete or broadly triangular, small, ca. 0.2 mm. Petals yellowish, oblong, with an elongate narrowly inflexed apex, glabrous. Stylopodium low-conic; styles short. Fruit oblong, slightly dorsally compressed, ca. 2 × 1 mm, glabrous; ribs all filiform, slightly prominent; vittae 2–3 in each furrow, 4–6 on commissure. Fl. and fr. Aug–Oct.

● Mountain slopes, grasslands, roadsides; ca. 900 m. S Gansu (Wenxian).

This rather poorly known species is recorded only from a few collections. See the taxonomic note under *Seseli squarrulosum*.

The following is a synopsis of an alternative classification of *Seseli,* including *Libanotis* and allied genera, as proposed by two of us (Pimenov and Kljuykov). Synonyms are included only where taxonomic concepts, as indicated through synonymy, differ from those used in the main accounts. Literature citations provided in the main accounts are not repeated.

SESELI Linnaeus (alternative classification)

西风芹属 xi feng qin shu

Eriocycla Lindley; *Libanotis* Haller ex Zinn; *Lomatopodium* Fischer & C. A. Meyer.

1a. Main stem not developed; fruit with dense white unicellular papillae and multi-cellular scales.
  2a. Petiole sheaths broadly ovate; bracteoles almost equal, lanceolate, shorter than flowers; vittae 2–3 in each furrow, 4–6 on commissure ..... 1. *S. acaule*
  2b. Petiole sheaths narrowly lanceolate; bracteoles distinctly unequal, narrow linear, the longest longer than flowers; vittae solitary in each furrow, 2 on commissure ..... 2. *S. depressum*
1b. Main stem developed; fruit glabrous or hairy, rarely with papillae, never with scales.

3a. Petals yellow or light yellow, rarely pinkish.
4a. Bracts developed.
5a. Leaf blades ternate; leaflet venation parallel ..... 3. *S. delavayi*
5b. Leaf blades 1–2-pinnatisect; leaflet venation reticulate.
6a. Plants 20–40(–60) cm; caudex divided; umbellules 10–20-flowered; fruit elliptic to oblong-linear; seed face plane ..... 4. *S. pelliotii*
6b. Plants (30–)35–100 cm; caudex undivided; umbellules 8–10-flowered; fruit ovoid; seed face deeply grooved ..... 5. *S. nudum*
4b. Bracts obsolete.
7a. Plants polycarpic; caudex branched, lignified; flowers and fruit subsessile ..... 6. *S. sessiliflorum*
7b. Plants monocarpic; caudex undivided; pedicels developed.
8a. Ovaries and fruit pubescent; umbel rays very unequal ..... 7. *S. valentinae*
8b. Ovaries and fruit glabrous; umbels rays almost equal.
9a. Bracteoles free at base; petal secretory ducts solitary; dorsal mericarp ribs filiform, marginal ribs winged ..... 10. *S. incisodentatum*
9b. Bracteoles connate at base; petals secretory ducts several; mericarp ribs almost equally short-winged.
10a. Leaf blade 1–2-ternately dissected ..... 8. *S. yunnanense*
10b. Leaf blade simple, undivided ..... 9. *S. simplicifolium*
3b. Petals white, greenish or pale.
11a. Umbel rays 15–50.
12a. Stems smooth or grooved; terminal leaf lobes narrowly linear; fruit glabrous ..... 14. *S. strictum*
12b. Stems angled or sharp-ribbed; terminal leaf lobes lanceolate to ovate; fruit pubescent.
13a. Leaf blades shiny, rigid, terminal lobes ovate or obovate ..... 11. *S. buchtormense*
13b. Leaf blades matt, not-rigid, terminal lobes lanceolate to broadly lanceolate.
14a. Vittae solitary in each furrow, 2 on commissure; stems angled, corymbose-branched above ..... 12. *S. libanotis*
14b. Vittae 1–4 in each furrow, 4–6 on commissure; stems ribbed, thyrsoid-branched from middle ..... 13. *S. seseloides*
11b. Umbel rays 2–15.
15a. Bracts several or many.
16a. Fruit glabrous; leaf blade 1–2-pinnatisect ..... 17. *S. mucronatum*
16b. Fruit pubescent; leaf blade usually 2–3-pinnatisect, rarely pinnatisect.
17a. Umbellules (15–)16–50-flowered.
18a. Vittae 2–4 in each furrow; stems hollow; bracteoles longer than flowers; styles straight or slightly reflexed ..... 31. *S. condensatum*
18b. Vittae solitary in each furrow; stems solid; bracteoles shorter than flowers; styles reflexed.
19a. Plants monocarpic; stem solitary, gray-white tomentose; caudex undivided ..... 32. *S. incanum*
19b. Plants polycarpic; stems several, green, scattered hairy; caudex branched ..... 33. *S. schrenkianum*
17b. Umbellules 2–14(–15)-flowered.
20a. Terminal leaf lobes ovoid, ovoid-lanceolate or rhombic ..... 34. *S. laticalycinum*
20b. Terminal leaf lobes narrowly lanceolate to linear.
21a. Calyx teeth obsolete; plants polycarpic; caudex branched, lignified; stems and leaves glabrous; fruit 7.5–10 mm ..... 35. *S. aemulans*
21b. Calyx teeth prominent; plants monocarpic and polycarpic; caudex branched or undivided; stems and leaves pubescent or glabrous; fruit 2.8–5.5 mm (except 7.5–10 mm in *S. eriocarpum*).
22a. Plants 100–200 cm, monocarpic; caudex undivided; stems thick ..... 36. *S. vaillantii*
22b. Plants 25–60(–80) cm, polycarpic; caudex branched.
23a. Fruit ribs equal, filiform; vittae solitary in each furrow ..... 37. *S. eriocarpum*
23b. Fruit ribs unequal, dorsal ribs keeled, marginal ribs larger; vittae solitary or 2–3 in each furrow.
24a. Marginal fruit ribs slightly larger than dorsal, all ribs thickened, obtuse; vittae solitary in the furrows, 2 on the commissure ..... 38. *S. abolinii*
24b. Marginal fruit ribs considerably larger than dorsal, all ribs keeled, acute; vittae 2–3 in the furrows, 4–6 on the commissure ..... 39. *S. grubovii*
15b. Bracts absent or 1–2.
25a. Fruit and ovaries with white membranous disk at base; fruit almost glabrous ..... 15. *S. glabratum*
25b. Fruit and ovaries without disk at base; fruit pubescent, rarely glabrous.
26a. Fruit and ovaries glabrous.
27a. Bracteoles absent ..... 16. *S. purpureovaginatum*
27b. Bracteoles several ..... 17. *S. mucronatum*
26b. Ovaries pubescent; fruit pubescent, almost glabrous (*S. asperulum*), or glabrous (*S. coronatum*).
28a. Caudex branched; plants polycarpic.

29a. Terminal leaf lobes rhombic to ovoid; rays 3–4 ..... 18. *S. togasii*
29b. Terminal leaf lobes linear-lanceolate to linear; rays 4–10.
30a. Calyx teeth prominent; fruit densely pubescent; ribs equal, filiform; vittae solitary in each furrow, 2 on commissure ..... 19. *S. junatovii*
30b. Calyx teeth obsolete; fruit glabrous or minutely pubescent; dorsal ribs filiform, marginal ribs narrowly winged; vittae 3–5 in each furrow, 8 on commissure.
31a. Leaf blade greenish pubescent; stems, rays and bracts scabrous; bracteoles 5–8; mature fruit minutely pubescent ..... 20. *S. asperulum*
31b. Plant completely glabrous; bracteoles 8–10; fruit glabrous ..... 21. *S. coronatum*
28b. Caudex undivided; plants monocarpic.
32a. Bracteoles connate up to middle; flowers almost sessile; umbellules 20–30-flowered ..... 22. *S. eriocephalum*
32b. Bracteoles free, or connate only at base; pedicels prominent; umbellules 5–20(–30)-flowered.
33a. Stems and leaves glabrous.
34a. Fruit papillate; stylopodium low-conic; styles reflexed; terminal leaf lobes 3–15 × 0.5–1 mm ..... 23. *S. intramongolicum*
34b. Fruit densely hairy; stylopodium conic; styles almost straight; terminal leaf lobes 30–60 × 5–7 mm ..... 24. *S. lancifolium*
33b. Stems and leaves puberulent.
35a. Leaves 2–3-pinnatisect, primary segments long petiolulate.
36a. Rays very unequal; vittae 2–3 in each furrow, 4–6 on commissure ..... 25. *S. sandbergiae*
36b. Rays ca. equal; vittae solitary in each furrow, 2 on commissure ..... 26. *S. jinanense*
35b. Leaves 1-pinnatisect, primary segments short petiolulate or sessile.
37a. Stem base not covered by remnant sheaths; styles reflexed ..... 30. *S. albescens*
37b. Stem base densely covered by triangular or lanceolate remnant sheaths; styles straight or reflexed.
38a. Rays 3–4; plants slender; terminal leaf lobes lanceolate to linear, 4–12 mm ..... 27. *S. lanzhouense*
38b. Rays 5–15; plants robust; terminal leaf lobes ovoid, 15–50 mm.
39a. Rays 5–12; rays and pedicels sparsely pubescent; terminal leaf lobes pubescent; petals white ..... 28. *S. spodotrichoma*
39b. Rays 10–15; rays and pedicels densely pubescent; terminal leaf lobes minutely pubescent or almost glabrous; petals greenish-white ..... 29. *S. wannienchun*

1. Seseli acaule (R. H. Shan & M. L. Sheh) V. M. Vinogradova, Novosti Sist. Vyssh. Rast. 26: 124. 1989.

Libanotis acaulis R. H. Shan & M. L. Sheh.

2. Seseli depressum (R. H. Shan & M. L. Sheh) V. M. Vinogradova, Novosti Sist. Vyssh. Rast. 26: 124. 1989.

Libanotis depressa R. H. Shan & M. L. Sheh.

3. Seseli delavayi Franchet.

4. Seseli pelliotii (H. de Boissieu) Pimenov & Kljuykov, Bot. Zhurn. 85(10): 105. 2000.

Eriocycla pelliotii (H. de Boissieu) H. Wolff; *Platytaenia depauperata* Schischkin; *Semenovia depauperata* (Schischkin) Mandenova; *Seseli depauperatum* (Schischkin) V. M. Vinogradova; *Zosima depauperata* (Schischkin) M. Hiroe.

5. Seseli nudum (Lindley) Pimenov & Kljuykov, Bot. Zhurn. 85(10): 105. 2000.

Eriocycla nuda Lindley; *Scaphespermum trilobum* Edgeworth; *Seseli nortonii* Fedde ex H. Wolff; *Seseli trilobum* (Edgeworth) C. B. Clarke.

6. Seseli sessiliflorum Schrenk.

7. Seseli valentinae Popov.

8. Seseli yunnanense Franchet.

Seseli mairei H. Wolff.

9. Seseli simplicifolium (C. Y. Wu ex R. H. Shan & M. L. Sheh) Pimenov & Kljuykov, Feddes Repert. 110: 488. 1999.

Seseli mairei H. Wolff var. *simplicifolium* C. Y. Wu ex R. H. Shan & M. L. Sheh.

10. Seseli incisodentatum K. T. Fu.

Seseli squarrulosum R. H. Shan & M. L. Sheh.

11. Seseli buchtormense (Fischer) W. D. J. Koch, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 12(1): 111. 1824.

Libanotis buchtormensis (Fischer) de Candolle.

12. Seseli libanotis (Linnaeus) W. D. J. Koch, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 12(1): 111. 1824.

Athamanta libanotis Linnaeus, Sp. Pl. 1: 244. 1753; *Libanotis intermedia* Ruprecht; *L. montana* Crantz; *L. sibirica* C. A. Meyer; *L. vulgaris* Linnaeus; *Seseli intermedium* (Ruprecht) Vodopianova.

13. Seseli seseloides (Fischer & C. A. Meyer ex Turczaninow) M. Hiroe, Umbell. Asia 1: 135. 1958.

Libanotis amurensis Schischkin; *L. seseloides* (Fischer & C. A. Meyer ex Turczaninow) Turczaninow; *Seseli laserpitiifolium* Palibin.

14. Seseli strictum Ledebour.

15. Seseli glabratum Willdenow ex Sprengel.

16. Seseli purpureovaginatum R. H. Shan & M. L. Sheh.

17. Seseli mucronatum (Schrenk) Pimenov & Sdobnina, Byull. Moskovsk. Obšč. Isp. Prir., Otd. Biol. 78(4): 139. 1973.

Ligusticum mucronatum (Schrenk) Leute; *L. thomsonii* C. B. Clarke; *Pleurospermum longicaule* H. Wolff; *Neogaya urbis-malorum* Popov.

18. Seseli togasii (M. Hiroe) Pimenov & Kljuykov.

19. Seseli junatovii V. M. Vinogradova.

20. Seseli asperulum (Trautvetter) Schischkin.

21. Seseli coronatum Ledebour.

22. Seseli eriocephalum (Pallas ex Sprengel) Schischkin.

23. Seseli intramongolicum Y. C. Ma.

24. Seseli lancifolium (K. T. Fu) Pimenov, Feddes Repert. 110: 487. 1999.

Libanotis lancifolia K. T. Fu.

25. Seseli sandbergiae Fedde ex H. Wolff.

26. Seseli jinanense (L. C. Xu & M. D. Xu) Pimenov, Feddes Repert. 110: 487. 1999.

Libanotis jinanensis L. C. Xu & M. D. Xu.

27. Seseli lanzhouense (K. T. Fu ex R. H. Shan & M. L. Sheh) V. M. Vinogradova, Novosti Sist. Vyssh. Rast. 22: 200. 1985.

Libanotis lanzhouensis K. T. Fu ex R. H. Shan & M. L. Sheh.

28. Seseli spodotrichoma (K. T. Fu) Pimenov, Feddes Repert. 110: 487. 1999 [*"spodotrichomum"*].

Libanotis spodotrichoma K. T. Fu.

29. Seseli wannienchun (K. T. Fu) Pimenov, Feddes Repert. 110: 487. 1999.

Libanotis wannienchun K. T. Fu.

30. Seseli albescens (Franchet) Pimenov & Kljuykov, Bot. Zhurn. 85(10): 107. 2000.

Eriocycla albescens (Franchet) H. Wolff.

31. Seseli condensatum (Linnaeus) H. G. Reichenbach, Icon. Fl. Germ. Helv. 21: 37. 1867.

Libanotis condensata (Linnaeus) Crantz (but excluding *Seseli laserpitiifolium* Palibin; see species no. 13, *S. seseloides*).

32. Seseli incanum (Stephan ex Willdenow) B. Fedtschenko, Rastit. Turkest. 617. 1915.

Libanotis incana (Stephan ex Willdenow) O. Fedtschenko & B. Fedtschenko.

33. Seseli schrenkianum (C. A. Meyer ex Schischkin) Pimenov & Sdobnina, Bot. Zhurn. 60: 1119. 1975.

Libanotis schrenkiana C. A. Meyer ex Schischkin.

34. Seseli laticalycinum (R. H. Shan & M. L. Sheh) Pimenov, Feddes Repert. 110: 487. 1999.

Libanotis laticalycina R. H. Shan & M. L. Sheh.

35. Seseli aemulans Popov.

36. Seseli vaillantii H. de Boissieu, Bull. Mus. Hist. Nat. (Paris) 16: 165. 1910.

Libanotis iliensis (Lipsky) Korovin.

37. Seseli eriocarpum (Schrenk) B. Fedtschenko, Rastit. Turkest.: 617. 1915.

Libanotis eriocarpa Schrenk.

38. Seseli abolinii (Korovin) Schischkin in Schischkin & Bobrov, Fl. URSS 16: 505. 1950.

Libanotis abolinii (Korovin) Korovin.

39. Seseli grubovii V. M. Vinogradova & Sanchir, Bot. Zhurn. 70: 965. 1985.

Libanotis grubovii (V. M. Vinogradova & Sanchir) M. L. Sheh & M. F. Watson.

Flora of China 14: 122–130. 2005.