

Ferula dseghica (Apiaceae), a new species from Armenia

Ferula dseghica (Apiaceae) — новый вид из Армении

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Abstract. A new species *Ferula dseghica* Nersesian is described from Armenia. The species has stems up to 2.5 m tall and a large rootstock. It is remarkable by not inflated, wide open leaf sheaths, by rather long peduncles of central umbels and by oblong or linear-oblong mericarps almost without lateral wings. The species occurs in Ijevan and Yerevan floristic regions of Armenia.

Keywords: *Apiaceae*, *Ferula dseghica*, Armenia, Caucasus, flora, new species.

Аннотация. Из Армении описан новый вид *Ferula dseghica* Nersesian. Этот вид со стеблями до 2.5 м высотой и крупным каудексом примечателен наличием невздутых, широко открытых листовых влагалищ, довольно длинных ножек центральных зонтиков, а также продолговатых или линейно-продолговатых мерикарпиев почти без боковых крыльев. Вид встречается в Иджеванском и Ереванском флористических районах Армении.

Ключевые слова: *Apiaceae*, *Ferula dseghica*, Армения, Кавказ, флора, новый вид.

Ferula L. is one of the largest genera in the family *Apiaceae* Lindl., distributed in the temperate regions of Eurasia. In his superbly illustrated monograph “Generis *Ferula* (Tourn.) L. monographia illustrata”, E. P. Korovin (1947) mentioned 132 *ferula* species. Nowadays about 200 species are known (Pimenov, Leonov, 1993; Yaqoob, Nawchoo, 2016).

In Armenia, the genus *Ferula* up to now was known to be represented by 5 species growing on dry and stony slopes in lower and middle mountain belt (Mandenova, 1973). Nine *ferula* species have been recorded for the Caucasus as a whole (Menitsky, 2008). On the contrary, according to “Flora of Turkey” (Peşmen, 1972) and “Flora Iranica” (Chamberlain, Rechinger, 1987), in these countries adjacent to Armenia, 17 and 53 species of *ferula*, respectively, are found. Obviously, the real number of species is much greater considering new descriptions of the last decades.

A new species was observed during last years in the Ijevan floristic region of Armenia. The species is remarkable first of all by not inflated, wide open leaf sheaths, rather long peduncles of central umbels and by almost absent lateral wings of mericarps. Two years ago another population of this species was found in Yerevan floristic region during the joint field trip with A. Rudov and A. Asatryan. The closest species *F. coskunii* H. Duman et

Sağiroğlu is native to calcareous rocky places and forest clearings of S Turkey and N Israel (Duman, Sağiroğlu, 2005; Danin, Fragman-Sapir, 2019). The Armenian species occurs in steppe-meadows in rocky and stony places, often at the edge of river gorges up to 1800 m a. s. l. Among accompanying species the following ones can be mentioned: *Psephellus debedicus* (Gabrieljan) Gabrieljan (endemic to Armenia), *Melampyrum arvense* L., *Stachys atherocalyx* K. Koch, *Bifora radians* M. Bieb., *Peucedanum ruthenicum* M. Bieb., *Physospermum cornubiense* (L.) DC., *Heracleum chorodanum* (Hoffm.) DC., *Dianthus caucaseus* Sims, *Stipa pulcherrima* K. Koch, *Papaver macrostomum* Boiss. et A. Huet, *Dictamnus albus* L., *Prunus spinosa* L., *Rosa pimpinellifolia* L.

***Ferula dseghica* Nersesian, sp. nova.**

Perennial. Rootstock thick, 5–10 cm diam., dense fibrous collar 3–5 cm long. Stem 100–250 cm, glaucous, glabrous, 1–2 cm diam. at the base. Basal leaves ovate in outline, 25–34 × 20–25 cm; petioles 18–30 cm, glabrous; lamina 4–5-pinnate, ultimate segments linear and linear-lanceolate, 1–4.5 mm long, acute, glabrous above, sparsely pilose beneath along veins, ciliate on margins. Sheaths narrow, not inflated, membranaceous, whitish, wide open, only at the very base semiamplexicaul; lower and middle ones 6–8 × 10–15(20) mm, laminae

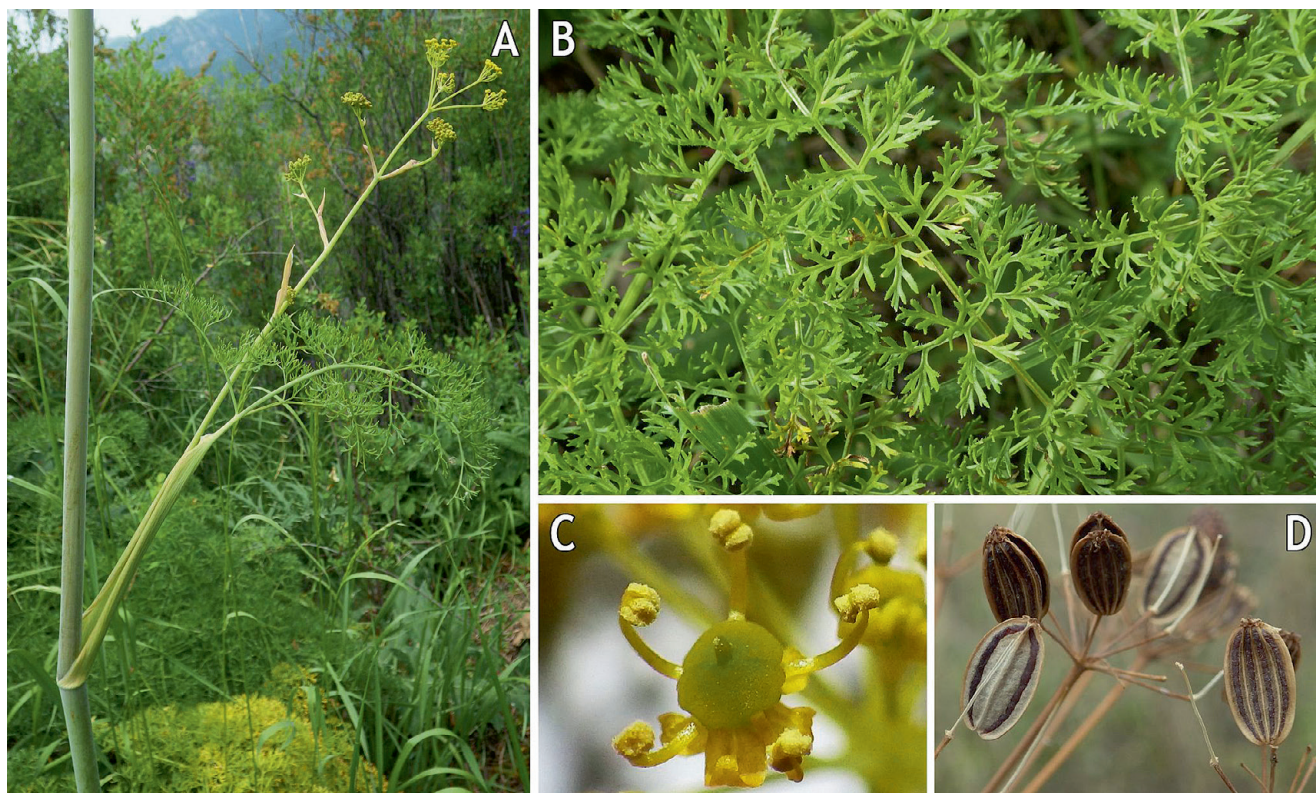


Fig. 1. *Ferula dseghica*.

A — fragment of inflorescence; B — fragment of leaf lamina; C — flower; D — mericarps. Photos by A. Nersesyan: A, C — 10 VI 2020, B — 31 V 2020, D — 28 VII 2019.

of lower leaves 4–5-pinnate, of middle ones 2–3–4-pinnate (Fig. 1: B); upper leaves smaller, usually without lamina or with few segments. General inflorescence paniculate-corymbose, lax, with alternate, ascending lateral branches 10–35 cm (Fig. 1: A). Central umbels (apical umbels of each branch) fertile, long-peduncled, (1)2–4 cm, rays 10–12, 15–20 mm, mostly equal; lateral umbels (umbels of secondary branches) usually sterile, those below the central umbels single or opposite, rarely whorled (by 3); umbellules 10–20-flowered, fruiting pedicels 8–10 mm, subequal. Bracts and bracteoles absent. Sepals persistent, reflexed, 0.1–0.4 mm long. Petals yellow, long attenuate, $0.5\text{--}0.8 \times 1\text{--}1.5$ mm, inflexed. Anthers yellow (Fig. 1: C). Mericarps oblong or linear-oblong, $7\text{--}8 \times 3\text{--}3.5$ mm, brown when ripe (Fig. 1: D); dorsal ridges filiform, lateral wings almost absent, up to 0.25 mm wide. Stylopodium conical. Styles persistent, strongly reflexed, appressed to the mericarps, stigma capitate; dorsal vittae solitary per vallecule, commissural vittae always 2 (Fig. 2). Fl. June, Fr. July–Aug.

Holotype: Armenia, Lori Marz, Dsegh village, edge of the gorge of Marts riv., near the Sirun Khach cross stone, rocks and grassy slopes, mountain-steppe, 1200 m a. s. l., 40.97° N, 44.67° E, 14 VII 2019,

A. Nersesyan, M. Manvelyan (ERE: ERE202089, barcode ERE0013952; isotype — LE). — Fig. 3.

Paratypes. **Armenia.** **Lori Marz:** Dsegh village, edge of the gorge of Marts riv., near the Sirun Khach cross stone, rocks and grassy slopes, mountain-steppe, 1200 m a. s. l., 40.97° N, 44.67° E, 28 VII 2019, A. Nersesyan, M. Manvelyan (ERE202090); *near Dsegh village, edge of the gorge of Marts riv., stony and grassy slopes, mountain-steppe, 1190 m a. s. l., $40^\circ 59'$ N, $44^\circ 40'$ E, 31 V 2020, A. Nersesyan (ERE202091); *ibidem*, 10 VI 2020, *idem* (ERE202092, ERE202093, K); **Aragatsotn Marz:** near Karbi vil., edge of Qasakh river gorge,*

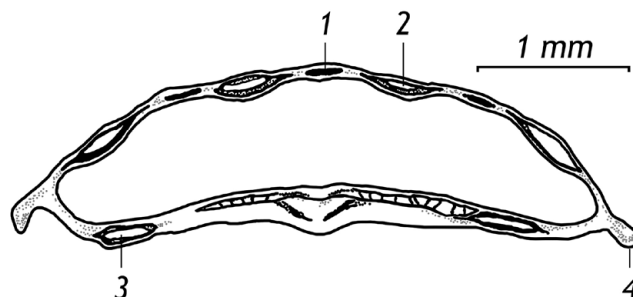


Fig. 2. Section of mericarp of *Ferula dseghica*.

1 — vascular bundle; 2 — dorsal vitta; 3 — commissural vitta; 4 — lateral wing.



Fig. 3. Holotype of *Ferula dseghica* (ERE0013952).

Table. Diagnostic features of *Ferula dseghica* and *F. coskunii*

Trait	<i>F. dseghica</i>	<i>F. coskunii</i>
Rootstock	5–10 cm diam.	1–4 cm diam.
Length of fibrous collar	3–5 cm	5–10 cm
Lower and middle sheaths	not inflated, wide open	weakly inflated, amplexicaul
Upper surface of ultimate segments of leaves	glabrous	sparsely crisped-pubescent
Peduncles of central umbels	(1)2–4 cm long	0.5–1 cm long
Rays of central umbels	2–4.5 cm long	1–2(3) cm long
Number of lateral umbels below central ones	1–2(3)	2
Umbellules	10–20-flowered	20–35-flowered
Fruiting pedicels	8–10 mm long	3–5(7) mm long
Sepals	conspicuous	obsolete
Mericaip size	7–8 × 3–3.5 mm	5–9 × 3–5 mm
Mericaip shape	oblong or linear-oblong	elliptic-oblong
Mericaip colour when ripe	brown	dark green
Lateral wings	0.1–0.25 mm wide	0.3–0.5 mm wide
Commisural vittae	2	2(–4)

rocky and grassy slopes, 40.41° N, 44.40° E, 1750–1800 m a. s. l., 10 VII 2021, A. Nersesyan, A. Asatryan, A. Rudov (ERE202094).

A f f i n i t y . The new species mainly differs from the relative *F. coskunii* in having larger rootstock with shorter fibrous collar, wide open (rather than amplexicaul) leaf

sheaths, glabrous (rather than crisped-pubescent) upper surface of ultimate segments of leaves, longer peduncles of central umbels, 2–4.5 cm long (rather than 1–2 cm long) rays of central umbels, 10–20-flowered (rather than 20–35-flowered) umbellules, 8–10 mm long (rather than 3–5(7) mm long) fruiting pedicels, oblong or linear-oblong, brown (rather than elliptic-oblong, dark green) mericarps, 0.1–0.25 mm wide (rather than 0.3–0.5 mm wide) lateral wings of mericarps, conspicuous (rather than obsolete) sepals, always 2 (rather than sometimes 4) commissural vittae (Table).

H a b i t a t . Steppe-meadows, near rocks, often on the edge of gorge, 1200–1800 m a. s. l. — Fig. 4.

D i s t r i b u t i o n . Armenia: Ijevan and Yerevan floristic regions.

E x a m i n e d s p e c i m e n s . *Ferula coskunii*: Turkey, Hatay, from Hatay to Yayladag road, west of Senkoy, Ziyaret Dagi, 1150–1200 m, clearing forest, calcareous rock, 2 IX 2002, 36°02.192' N, 36°06.170' E, H. Duman, № 8779 (isotype: [BM000885339](#) — image!); *ibidem*, Ziyaret mountain, clearing forest, 1150–1200 m, 36°02' N, 36°06' E, 2 IX 2002, Duman, Hayri, № 8779 (isotype: [E00656572](#) — image!).



Fig. 4. *Ferula dseghica* at the edge of Marts River gorge, 10 VI 2020, photo by A. Nersesyan.

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