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Author: Andreas Zikos

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APIACEAE

in part

Andreas Zikos¹

Orlaya Hoffm.

Gen. Pl. Umbell.: xxvi, 58. 1814. Type: *Orlaya grandiflora* (L.) Hoffm. Circumscription sensu Lee & Downie (1999), monophyletic sensu Lee & Downie (1999). Three species, all present in Greece.

Description: Erect annuals, usually branched, glabrous or hairy. Rootstock without petiolar remains. **Lower leaves 2- to 3-pinnate**, ultimate segments pinnatisect. Umbels compound, terminal or leaf-opposed. **Bracts 2–8, entire**, persistent, with membranous or scarious margins. Bracteoles similar to bracts, but smaller. Flowers hermaphrodite or male. **Sepals persistent. Petals white or pinkish, outer ones (particularly those on hermaphrodite flowers) enlarged, radiant**, broadly ovate, deeply bilobed. Fruits fusiform-ovoid. **Mericarps dorsally compressed**, with slender, setulose primary ridges. **Secondary ridges with 1–3 rows of long, rigid, usually uncinatate spines**. Dorsal vittae 4, commissural 2.

Distribution: Europe, N Africa, SW Asia.

Literature: Hoffmann (1814), Murbeck (1891), Heywood (1968), Cullen (1972), Hartvig (1986), Jury (2003), Strid (2016a).

Key to species

1. Rays 2–3(–5); bracts 2–3; outer petals 2–3 times as long as inner **1. *O. daucooides***
- Rays (3–)5–8(–12); bracts (3–)5–8; outer petals to 10 times as long as inner **2**
2. Upper cauline leaves 2- to 3-pinnatisect; spines on secondary dorsal ridges uniseriate or partly 2-seriate, strongly compressed and confluent at base **2. *O. daucorlaya***
- Upper cauline leaves entire to pinnatisect; spines on secondary dorsal ridges 2- to 3-seriate, ± cylindric, not confluent at base **3. *O. grandiflora***

1. *Orlaya daucooides* (L.) Greuter

Boissiera 13: 92. 1967. Basionym: *Caucalis daucooides* L. 1753 (non *C. daucooides* L. 1767). Lectotype (designated by Fernandes 1967: 398): Herb. Linn. No. 118.1 (S). [Heterotypic synonyms: *Orlaya kochii* Heywood, *O. platycarpus* W. D. J. Koch, *O. topaliana* Beauverd.]

Description: Erect, sparingly branched annual herb 8–50 cm. Stems slightly hairy at base. Lower leaves pilose, 2- to 3-pinnate, ultimate segments pinnatisect. Blades triangular. Cauline leaves similar but smaller and less divided. Umbels mostly terminal, some also leaf-opposed. **Rays few, 2–3(–5), fruiting rays 2–3**, (0.5–)1–2 cm long, rigid, erecto-patent. **Bracts 2–3**, conspicuous, lanceolate, ciliate, with scarious margins, usually as long as rays. Bracteoles

¹ Section of Ecology and Systematics, Department of Biology, National and Kapodistrian University of Athens, Panepistimiopolis, 15784 Athens, Greece; anzikos@gmail.com, azikos@biol.uoa.gr

similar but ovate-lanceolate and smaller. Petals white, sometimes tinged pinkish, outer radiant, **to 3 times as long as inner, 4–6(–8)mm**, deeply bilobed. Styles 1–2 mm, erect. Fruit 8–11(–15) mm, primary ridges setulose, **secondary with 1(–2) rows of long uncinata**, at least distally reddish spines, those **on lateral ridges 3–5 mm long, c. as long as fruit width, confluent at base into a wing, those on dorsal ridges not confluent, shorter**.

Distribution: A Mediterranean-SW Asian element reaching eastward to the Caucasus and N Iran. Common throughout Greece: all 13 floristic regions.

Karyology: $2n = 16$ (Kadluczka & al. 2022).

Status	Conservation status		Legal status	
N	–		–	
Life forms	Functional traits	Chorology	Distribution in Greece	
T	Entomogamy, epizoochory	MS	All 13 regions	
Habitats	Geology	Altitude	Flowering	Fruiting
P, G, R		0–2000 m	IV–VI	IV–VII

2. *Orlaya daucorlaya* Murb.

Acta Univ. Lund. 27(5): 119. 1891. Syntypes: Bosnia and Herzegovina, (circa) Mostar, 70 m, in dumetis, 30 Jun 1889, *Murbeck s.n.* (LD acc. no. 1215205, LD acc. no. 1220910, S herb. no. S-G-4389).

Description: Erect annual herb 30–80 cm. Stem branching. Lower leaves ovate, **2- to 3-pinnate, usually hairy**. Cauline leaves similar but smaller. Upper cauline leaf **2- to 3-pinnate. Rays 5–7(–10), fruiting rays 2–4. Bracts (3–)5–8**, ovate-lanceolate with membranous margins, usually ciliate, **half as long as rays**. Bracteoles similar, but smaller with wider scarious margins. Calyx teeth linear-subulate. **Radiant petals to 8 times as long as inner, (5–)7–12 mm long**, deeply bilobed. Styles 2.5–4 mm. Mericarps 9–11 mm × 5 mm, ellipsoid. Primary ridges setulose. **All secondary ridges with long uniseriate or partly 2-seriate uncinata spines, strongly compressed and confluent at base**. $2n = 14$.

Distribution: An amphi-Adriatic element, found on the Greek mainland and the Ionian Islands: EC, lol, NC, NE, NPi, Pe, SPi, StE.

Karyology: $2n = 14$ (Kadluczka & al. 2022).

Status	Conservation status		Legal status	
N	–		–	
Life forms	Functional traits	Chorology	Distribution in Greece	
T	Entomogamy, epizoochory	BI	EC, lol, NC, NE, NPi, Pe, SPi, StE	
Habitats	Geology	Altitude	Flowering	Fruiting
G		700–1900 m	V–VIII	VI–IX

3. *Orlaya grandiflora* (L.) Hoffm.

Gen. Pl. Umbell.: 58. 1814. Basionym: *Caucalis grandiflora* L. Lectotype (designated by Fernandes 1967: 401): Herb. Burser VII(2): 54 (UPS).

Description: Very similar to *Orlaya daucorlaya*, differing in following characters: Lower leaves hairy or glabrous. **Upper cauline leaf entire or with few elongate linear lobes 1–3 cm long**, very rarely 2-pinnatisect. **Fruiting rays 3–7**. Bracts almost as long as rays. Radiant petals to 10 times as long as inner. Mericarps 6.5–8.5 mm long, ovoid. **Spines on secondary ridges usually yellow and not uncinata, those on dorsal ridges scarcely compressed and not or only slightly confluent at base, shorter than width of fruit, those on lateral ridges ± confluent at base.**

Distribution: A European-SW Asian element, common in the north of Greece, scattered in the south and the Ionian Islands: EC, Iol, KK, NC, NE, NPi, Pe, SPi, StE.

Karyology: $2n = 20$ (Iovene & al. 2008).

Status	Conservation status		Legal status	
N	–		–	
Life forms	Functional traits	Chorology	Distribution in Greece	
T	Entomogamy/ autogamy, epizoochory	EA	EC, Iol, KK, NC, NE, NPi, Pe, SPi, StE	
Habitats	Geology	Altitude	Flowering	Fruiting
G, R		0–1500 m	V–VI	V–VII

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