

NEW LOCALITIES OF THE SPECIES *Doronicum orientale* HOFFM. (*Asteraceae*) IN CROATIA

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The species *Doronicum orientale* Hoffm. (= *D. caucasicum* Bieb.) is a rare plant in the flora of Croatia, and has been protected by law since 1958. Hitherto, two localities were known: on Medvednica Mountain near Zagreb (UTM WL 78), and on Psunj Mountain in Slavonia (UTM XL 93). This research reports its presence also on Papuk Mountain (UTM YL 03) in a thermophilous white oak forest and on Požeška Gora Mountain (UTM YL 01) in a sessile oak and hornbeam forest. Its distribution in Croatia is shown on the map (Fig. 1).

Key words: *Doronicum orientale*, distribution, Croatia

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Vrsta *Doronicum orientale* Hoffm. (= *D. caucasicum* Bieb.) rijetka je biljka hrvatske flore, zakonom zaštićena od 1958. godine. Dosad su u Hrvatskoj bila poznata dva nalazišta: na Medvednici u okolini Zagreba (UTM WL 78) i na Psunju u Slavoniji (UTM XL 93). Ovim istraživanjima otkrivena je ta vrsta još na Papuku (UTM YL 03) u termofilnoj šumi hrasta medunca i na Požeškoj gori (UTM YL 01) u šumi hrasta kitnjaka i običnoga graba. Rasprostranjenost u Hrvatskoj prikazana je na karti (sl. 1).

Ključne riječi: *Doronicum orientale*, rasprostranjenost, Hrvatska

INTRODUCTION

The species *Doronicum orientale* Hoffm. (= *D. caucasicum* Bieb.) is spread across »S.E. Europe, extending to the Carpathians and C. Italy« (FERGUSON, 1976:190). PIGNATTI (1982:115) defines its area as »Orof.-SE-Europ. Caucas.«.

In Croatia *D. orientale* is a rare plant that has been protected by law since 1958 and thus listed in »Red book of plant species of the Republic of Croatia« (ILIJANIĆ,

1994:171–172). Hitherto, two localities were known in Croatia: one on Medvednica Mountain near Zagreb (UTM WL 78), the other on Psunj Mountain in Slavonia (UTM XL 93) :

1. In the herbarium collection of the Institute of Botany of the Faculty of Science in Zagreb (ZA) there are samples of this plant collected on 13. May 1883 from Medvednica »in silvis montium zagrabiensium supra Gračani« (Ex herbario Ludovici Rossi, determ. Dr. Degen). Horvat's herbarium (ZAHO) also has several specimens from Medvednica »680 m a. s. in beech forest, exposition SE, 8–20°, 24. May 1938«. In his files on the flora of the Zagreb area (mscr.) I. Pevalek notes it, too, »About 7.7 km along the Sljeme road, under Snopljak, about 630 m a. s.« (undated).

In the same area on Medvednica, above Adolfovac, it was also noted by MIHELJ (1982:19), and was still growing there in 1990 (Lj. Ilijanić). That means that the presence of this species on the Medvednica area has been confirmed for over a century.

2. The other previously known locality is on Psunj Mountain, where it was noted by HORVAT & ŠLEZIĆ (1958:232) in their research on the toxicity of the species *D. austriacum* and *D. orientale*. In the cited paper the exact location was not specified, but it can be understood from the text that *D. orientale* grew in the vicinity of Orljavac village. However, Horvat's herbarium (ZAHO) keeps several specimens from that area, and the labels show more accurately their locality and habitat: »Požega region, Psunj-Sikiljača, 600 m, SSE, 10–18°, in a beech forest, 27. May 1956«.

The surroundings of Orljavac, as specified by Horvat, were surveyed on 17 May 1998 by the first author (M. Tomašević). He found that *D. orientale* still grows on the ridge called Sekiljača by the local folk (I. Horvat wrote Sikiljača), in the eastern part of Psunj. The locality is about 2.5 km to the east of Javorovica peak and 2.5 km to the west of Orljavac village in the East Psunj forestry management unit, section 34. *D. orientale* grows there on an area of approximately 1 ha, at the altitude of 600–650 m, partly quite abundant in a floristically rather poor beech forest on a northern exposure, and partly in a floristically much richer forest of sessile oak and hornbeam on a southern exposure, in a much lesser quantity. At the time of the research, the plant was in full bloom. It is interesting that the older residents of Orljavac, according to their experience, distinguish the more poisonous *D. orientale* from *D. austriacum*, which blooms later.

Intensive research into the flora of Požega Valley and the surrounding mountains in the last decade (TOMAŠEVIĆ, 1998a, b) have showed the presence of a number of species of vascular flora in that region of Croatia which were not recorded in the earlier literature (ILIJANIĆ, 1977 and the references therein). Some rare species were also recorded in new localities. *D. orientale* is one of those, and we considered the finding worth publishing.

NEW LOCALITIES OF *Doronicum orientale*

In this research two new localities were found, one on Papuk Mountain, and the other on Požeška Gora Mountain:

1. *D. orientale* was found on Papuk on 2 May 1998 (M. Tomašević and I. Samardžić) on a steep slope about 300–400 m away from the thermal spring in Velika village toward the castle on Lapjak (UTM YL 03). Here the plant grows in a thermophilous forest of *Quercus pubescens* (South Papuk forest management unit, section 67). The lithological substrate is a dolomite with a shallow rendzina layer. The slope is exposed to the south, and the altitude is about 400 m. The vegetation has the following floristical composition:

Tree layer:

Quercus pubescens Willd.

Pinus nigra Arnold (cult.)

Fraxinus ornus L.

Prunus avium L.

Acer campestre L.

Shrub layer:

Fraxinus ornus L.

Prunus avium L.

Cornus sanguinea L.

Ligustrum vulgare L.

Rosa arvensis Huds.

Quercus pubescens Willd.

Ground layer:

Doronicum orientale Hoffm.

Tamus communis L.

Galium aparine L.

Melica nutans L.

Obviously, this stand is floristically poor, especially in the ground layer. *D. orientale* grows on an area of 25–30 m².

2. On Požeška Gora *D. orientale* was found on 26 June 1998 (M. Tomašević and I. Samardžić) on Otrovna Kosa ridge at the altitude of about 450 m. The locality is about 4 km to the east of the peak Maksimov hrast (616 m), about 2 km to the northwest of Škrabutnik village, and about 3 km to the west of Vrhovci Crkveni village (UTM YL 01). *D. orientale* grows there in a sparse, floristically rich, 90–100 year old sessile oak and hornbeam forest (South Babja gora forest management unit, section 100a). The 500 square meter stand where *D. orientale* grows has the following floristical composition:

Tree layer:

Quercus petraea (Matt.) Liebl.

Carpinus betulus L.

Fagus sylvatica L.

Shrub layer:

Quercus petraea (Matt.) Liebl.

Carpinus betulus L.

Fraxinus ornus L.

Ground layer:

Doronicum orientale Hoffm.

Epimedium alpinum L.

Stellaria holostea L.

Convallaria majalis L.

Pulmonaria officinalis L.

Melica nutans L.

Hepatica nobilis Schreb.

Helleborus dumetorum W. et K.

Carex sylvatica Huds.

Campanula persicifolia L.

Symphytum tuberosum L.

Tanacetum corymbosum (L.) C. H. Schult.

Melittis melissophyllum L.

Dactylis glomerata L.

Festuca drymeia Mert. et Koch

Cruciata glabra (L.) Ehrend.

Galium sylvaticum L.

Lathyrus vernus (L.) Bernh.

Lathyrus niger (L.) Bernh.

Dianthus barbatus L.

Hedera helix L.

Digitalis grandiflora Mill.

Genista tinctoria L.

Hieracium umbellatum L.

H. sylvaticum (L.) L.

Clinopodium vulgare L.

Fragaria vesca L.

Ajuga reptans L.

Chamaecytisus hirsutus (L.) Link.

Melampyrum sp.

The distribution of *Doronicum orientale* in Croatia is shown in Fig. 1.

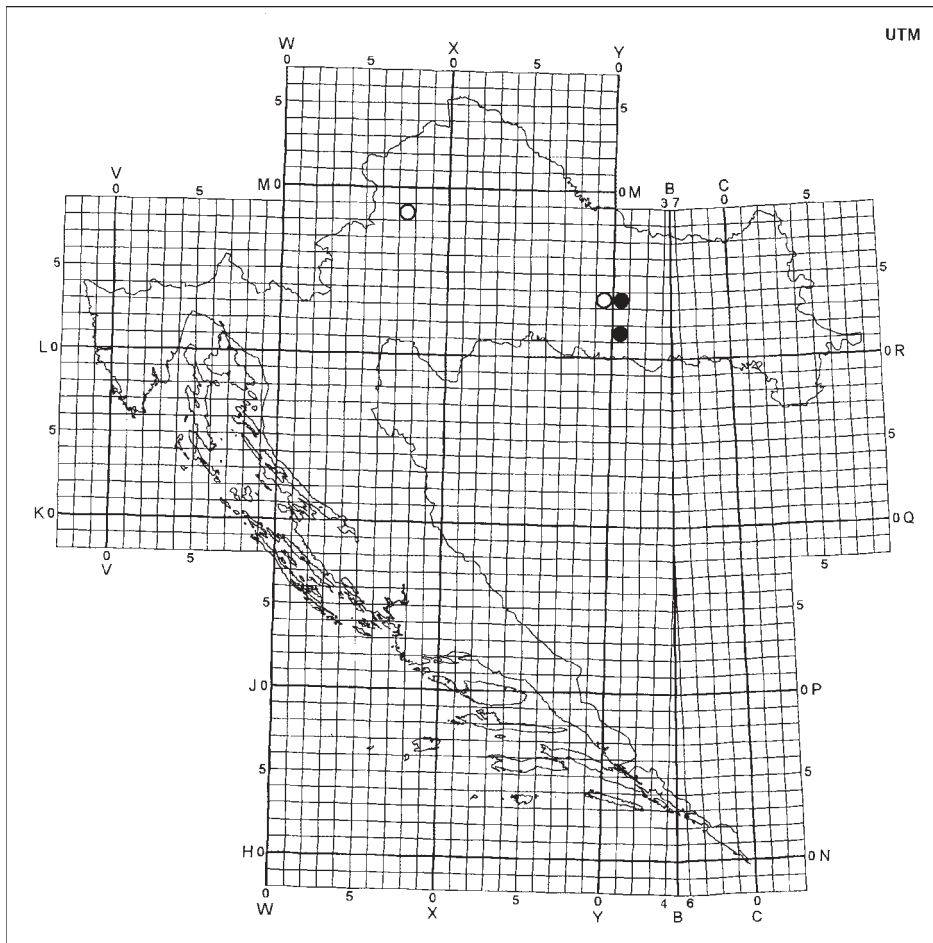


Fig. 1. Distribution of the species *Doronicum orientale* in Croatia (○ previous, ● new findings)

CONCLUSION

Two new localities of *Doronicum orientale* found on Papuk and Požeška Gora mountains show that further localities could be expected. Therefore this species should be paid more attention in the future, especially in the Slavonian mountains. This line of research also has a practical value, since cattle poisoning is an old and well-known problem in the Požega area.

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SAŽETAK

Nova nalazišta vrste *Doronicum orientale* Hoffm. (Asteraceae) u Hrvatskoj

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Vrsta kavkaski divokozjak (*Doronicum orientale* Hoffm., = *D. caucasicum* Bieb.) rijetka je biljka hrvatske flore te je od 1958. zakonom zaštićena, a uvrštena je i u Crvenu knjigu biljnih vrsta Republike Hrvatske. Dosad su u Hrvatskoj bila poznata dva nalazišta. Na Medvednici (UTM WL 78) nađena je 1883, a na Psunju (UTM XL 93) 1956. godine. Na obim nalazištima ta se vrsta održala do današnjih dana.

Istraživanjima u Požeškoj kotlini i okolnom gorju otkrivena su dva nova nalazišta:

1. Na Papuku (2. svibnja 1998.) na strmom obronku (prema starom gradu na Lapjaku) oko 300–400 m udaljenom od termalnog vrela u Velikoj (UTM YL 03) gdje raste na oko 30 m² površine u termofilnoj medunčevoj šumi.

2. Na Požeškoj gori (26. lipnja 1998.) na grebenu Otrovnna kosa na nadmorskoj visini oko 450 m (UTM YL 01). Tamo *D. orientale* raste na oko 500 m² površine u prorijedejoj, oko 100 godina staroj, floristički bogatoj šumi hrasta kitnjaka i običnoga graba.

Raprostranjenost kavkaskog divokozjaka u Hrvatskoj prikazana je na karti (sl. 1). Ovi nalazi dozvoljavaju pretpostavku da nisu otkrivena sva nalazišta. Stoga toj biljci pri florističkim i vegetacijskim istraživanjima valja i nadalje posvetiti pozornost, to više što se radi ne samo o rijetkoj već i o jako otrovnoj biljci te su odavno poznata trovanja stoke, osobito u požeškom kraju.