

NEW LOCALITIES OF THE SPECIES *Rumex thyrsiflorus* FINGERH. IN CROATIA

VLADIMIR HRŠAK

Department of Botany, Faculty of Science, University of Zagreb, Marulićev trg
20/II, HR-10000 Zagreb, Croatia

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The paper provides data on new localities of a recently found species in Croatia – *Rumex thyrsiflorus* Fingerh. These localities are in the vicinity of Đurđevac, Kalinovac and Kloštar Podravski, some 80 km south-east of the localities in which it first occurred in Croatia.

Key words: *Rumex thyrsiflorus* Fingerh., new localities, Đurđevac, Croatian flora

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Izneseni su podaci o novim nalazištima nedavno pronađene vrste u Hrvatskoj *Rumex thyrsiflorus* Fingerh. Nova nalazišta su u okolici Đurđevca, Kalinovca i Kloštra Podravskog oko 80 km jugoistočno od lokaliteta na kojima je ta vrsta po prvi puta nađena u Hrvatskoj.

Ključne riječi: *Rumex thyrsiflorus* Fingerh., nova nalazišta, Đurđevac, flora Hrvatske

INTRODUCTION

In the autumn of 1996 the Slovenian botanist Nejc JOGAN (1997) discovered *Rumex thyrsiflorus* Fingerh. in the Republic of Croatia. Having found the species in several locations in Slovenia, including those near the very border with Croatia, he assumed that the same species could be found on the Croatian side of the border as well. Led by this hypothesis, he crossed the border and found *Rumex thyrsiflorus* Fingerh. in the vicinity of the town of Varaždin and in the area between Varaždin and the Slovenian border (Fig. 1).

In the course of botanical research in the surroundings of Đurđevac in July 1999 the species was found in several places in the vicinity of the town and the neighbouring settlements. The reason for publishing data about this species is that it was only recently found in Croatia and no other data, apart from those concerning the first findings, are available.

THE DISTRIBUTION OF *Rumex thyrsiflorus* FINGERH.

General distribution

Rumex thyrsiflorus Fingerh. is distributed in the continental parts of central and eastern Europe (JALAS & SUOMINEN, 1979; AKEROYD, 1993). The western border of its distribution is eastern France (Alsace and Lorraine) and the eastern border is eastern Siberia (the Lena river) and Manchuria (QUINGER, 1993). The northern border is between 60° (in northern Scandinavia) and 70° north (in western Siberia). In central Europe its southern border spreads from the upper part of the Rhine valley, along the Main and the Danube rivers, northern Italy, Austria and across the southern Balkans, Besarabia and the Euro-Asian steppes to Manchuria (QUINGER, 1993).

Distribution in former Yugoslavia

Rumex thyrsiflorus Fingerh. was recorded in former Yugoslavia (AKEROYD, 1993; JALAS & SUOMINEN, 1979). However, those data refer to two localities in southern Serbia (SLAVNIĆ, 1972; TRINAJSTIĆ, 1980) and one locality in Bosnia and Herzegovina (HAYEK, 1927; TRINAJSTIĆ, 1980). Only recently was the species found in Slovenia in several locations (TRPIN & VREŠ, 1995; JOGAN, 1997) and in Croatia – between the Slovenia-Croatia border and the town of Varaždin (JOGAN, 1997). To be exact, there is a herbarium specimen in Herbarium Croaticum (ZA) identified as *R. acetosa* L. which looks like *R. thyrsiflorus* Fingerh. collected by L. Rossi on June 12 1889 between Mrkopalj and Begovo Razdolje in the Gorski Kotar region (Fig. 1). However, that specimen was not collected in such a way as to make possible reliable identification. The same is claimed by JOGAN (1997).

Ecology and plant sociology of the species

In Central Europe *Rumex thyrsiflorus* Fingerh. grows on soils rich in nutrients in the valleys of large rivers, most commonly by the road, railway and on levees and dikes (QUINGER, 1993). In the Rhine valley it was marked as the characteristic species of the *Echio-Melilotetum* association (MÜLLER, 1983). In other areas this species was also found in lowland dry grasslands (*Arrhenatheretum elatioris*), in the floristic composition of dry grasslands of the *Mesobromion* alliance, as well as in eutrophic grasslands on sandy soils (QUINGER, 1993).

NEW LOCALITIES IN CROATIA

JOGAN (1997) predicted that the *Rumex thyrsiflorus* Fingerh. species would probably occur at other localities in northern Croatia. This hypothesis was confirmed by a finding in the course of botanical research in numerous places in the surroundings of Đurđevac, Kalinovac and Kloštar Podravski, some 80 km south-east of the locations of the first findings in Croatia (Fig. 1, Tab. 1).

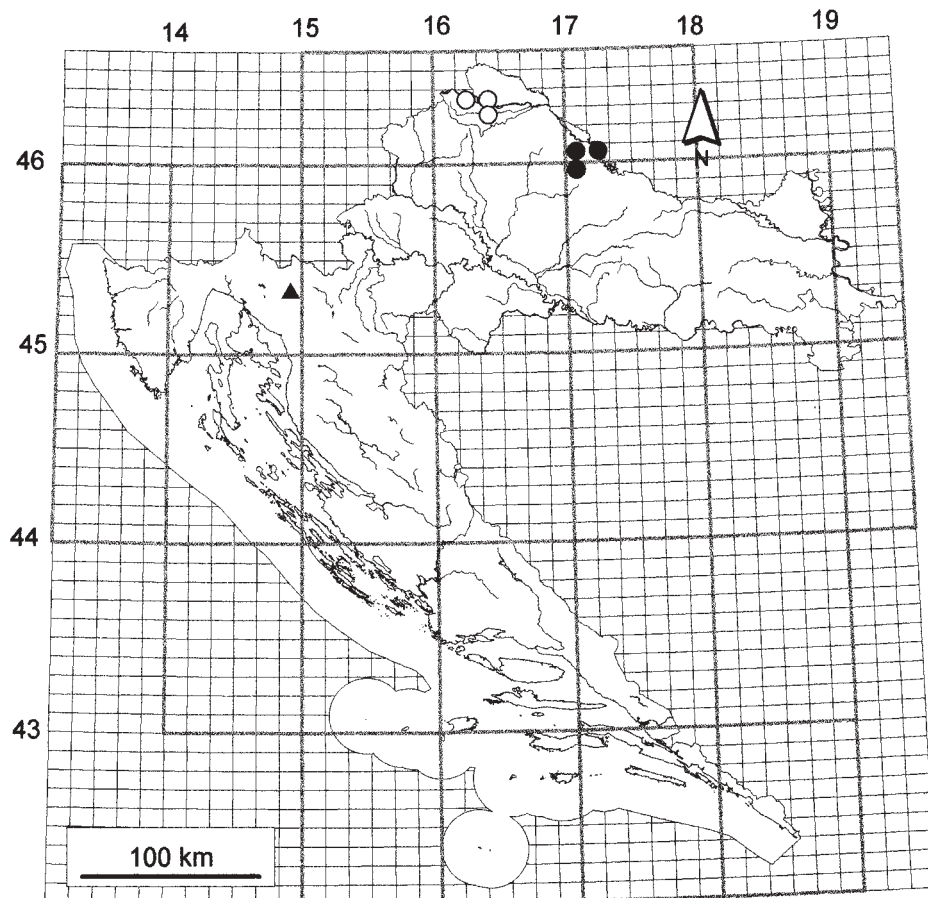


Fig. 1. The distribution of *Rumex thyrsoiflorus* Fingerh. in Croatia (O – locations of first records, ● – new locations, ▲ – Rossi's questionable record)

Tab. 1. MTB quadrants with localities of *Rumex thyrsoiflorus* Fingerh.

- a) By the Bjelovar-Đurđevac road, at the edge of the road and the drainage canal by the road and on both sides of the road and at the edges of the cornfields and oat fields at approximately 3 km from Đurđevac towards Bjelovar (July 4 1999, July 21 1999; MTB 9968.3)
- b) On the Đurđevac-Osijek road, at the edge of the road and in the surrounding grasslands (July 4 1999, July 21 1999; leg. & det. V. Hršak, MTB 9968.4)
- c) By the Kalinovac-Ferdinandovac road, by drainage canals and on the surrounding grasslands (July 4 1999, July 21 1999; leg. & det. V. Hršak, MTB 9968.4)
- d) In the area of the Đurđevački Peski botanical reserve together with the *Rumex acetosa* L. species (July 4 1999, July 21 1999; leg. & det. V. Hršak, MTB 9968.4)

- e) By the Kalinovac-Kloštar Podravski road in the area of Draganci, by the Draganci-Kloštar Podravski road and Đurđevac-Osijek road near Kloštar Podravski (July 4 1999, July 21 1999; leg. & det. V. Hršak, MTB 9969.3, 0068.2)

The species is very abundant in these locations, most commonly growing by roads and paths, as well as on grasslands further away from the roads, and in ruderal habitats. In all those places the morphologically similar species *Rumex acetosa* L. appears very scantily or not at all.

DISCUSSION

It should be mentioned that in 1979 extensive plant-sociological and ecological research in grassland vegetation included plant sociological records both in the Varaždin and Đurđevac vicinities, as well as near Kalinovac and Kloštar Podravski (ILIJANIĆ & ŠEGULJA, 1983). In the Kalinovac and Kloštar Podravski areas 12 records of grassland vegetation were made then, but none quoted *Rumex thyrsiflorus* Fingerh. – only *Rumex acetosa* L. There may be two reasons for this. The first is that *Rumex thyrsiflorus* Fingerh. entered the area only recently and became very abundant in appropriate habitats – so much so as to drive *Rumex acetosa* L. out. The other reason could be that *Rumex thyrsiflorus* Fingerh. was misidentified as *Rumex acetosa* L. due to great mutual similarities and lack of scrutiny while identifying similar and taxonomically questionable species, which is often the case in extensive research in plant sociology. These two species have been misidentified before as well as described imprecisely with incorrect distinguishing characters quoted in various floras, as pointed out by MELZNER (1965, 1978). The reliable distinguishing characters can be found in JOGAN (1997) and new identification keys (AKERROYD, 1993; QUINGER, 1993, LAUBER & WAGNER, 1998)

Thorough study of the distribution of *Rumex thyrsiflorus* Fingerh. and all other species in Croatia has been hindered by the absence of systematic floristic mapping projects of larger areas in the past or present. It is to be hoped that some future research, done by botanists who can differentiate between the two species, even if as sporadic as described in this paper, will result in new data on the distribution of *Rumex thyrsiflorus* Fingerh. and prove that it is widespread much more than is believed today.

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SAŽETAK

Nova nalazišta vrste *Rumex thyrsiflorus* Fingerh. u Hrvatskoj

V. Hršak

Rumex thyrsiflorus Fingerh. je po prvi puta u Hrvatskoj pronađena ujesen 1996. godine u okolici Varaždina te u području između Varaždina i slovenske granice (JOGAN, 1997). Ova vrsta je inače rasprostranjena u kontinentalnom djelu središnje i istočne Europe najčešće u dolinama velikih rijeka uz ceste, putove, pruge, suhim i umjerenom vlažnim travnjacima na hranjivima bogatom tlu (QUINGER, 1993). U djelu Flora Europaea navodi se za područje bivše Jugoslavije (AKERROYD, 1993) ali se taj podatak odnosi na nalaze u južnoj Srbiji i Bosni i Hercegovini (HAYEK, 1927; SLAVNIĆ, 1972; TRINAJSTIĆ, 1980). Neposredno prije nalaza u Hrvatskoj pronađena je i u Sloveniji (TRPIN & VREŠ, 1995, JOGAN, 1997).

Nova nalazišta u Hrvatskoj nalaze se u okolici Đurđevca, Kalinovca i Kloštra Podravskog oko 80 km jugoistočno od prvih lokaliteta. Na tim novim lokalitetima vrsta je obilno zastupljena i nalazi se uz puteve i odvodne kanale, rubove polja ali i na livadama košanicama i Botaničkom rezervatu »Đurđevački peski«. Na tim mjestima slične vrste *Rumex acetosa* L. najčešće uopće nema ili je prisutna u vrlo malom broju.

Budućim botaničkim istraživanjima, uz uvjet sigurnog razlikovanja od vrste *Rumex acetosa* L., mogu se očekivati daljnji podaci o području rasprostranjenja vrste *Rumex thyrsiflorus* Fingerh.