

## *Chenopodium multifidum* L. IN THE CROATIAN FLORA

LJERKA MARKOVIĆ<sup>1</sup> & MIRKO RUŠČIĆ<sup>2</sup>

<sup>1</sup>Department of Botany, Faculty of Science, University of Zagreb,  
Marulićev trg 20, 10 000 Zagreb, Croatia

<sup>2</sup>Marko Marulić Gymnasium, Zagrebačka 2, 21000 Split, Croatia

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In this paper the localities of *Chenopodium multifidum* L. in the town of Split (Croatia) are reported. This newcomer was found in the industrial zone of Split near the northern harbour. It grows here on ruderal places near the railway. No previous Croatian records of this species are known.

**Key words:** *Chenopodium multifidum*, new localities, Croatia

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U radu se objavljuju nalazišta vrste *Chenopodium multifidum* L. na području grada Splita (Hrvatska). Ta je pridošlica nađena u industrijskoj zoni Splita nedaleko sjeverne luke, gdje raste na ruderalnim površinama u blizini željezničke pruge. Radi se o novoj vrsti u flori Hrvatske.

**Ključne riječi:** *Chenopodium multifidum*, nova nalazišta, Hrvatska

### INTRODUCTION

During recent investigations of the ruderal flora in the town of Split (southern Croatia) an interesting alien *Chenopodium* species was collected by the second author. This is *Chenopodium multifidum* L (Fig. 1) from the *Roubieva* section (Moq.) Volkens (cf. AELLEN, 1960:576; SCOTT, 1978:213). This perennial herb is easily recognized by its ramified stems, pinnatifid leaves and sessile or nearly sessile flowers with reticulately veined perianth, the segments of which are connate nearly until the apex. According to the key to the taxa of the *Roubieva* section by AELLEN & JUST (1943:49) our plants belong to the typical form, *Chenopodium multifidum* f. *multifidum* (= f. *typicum* Aellen).

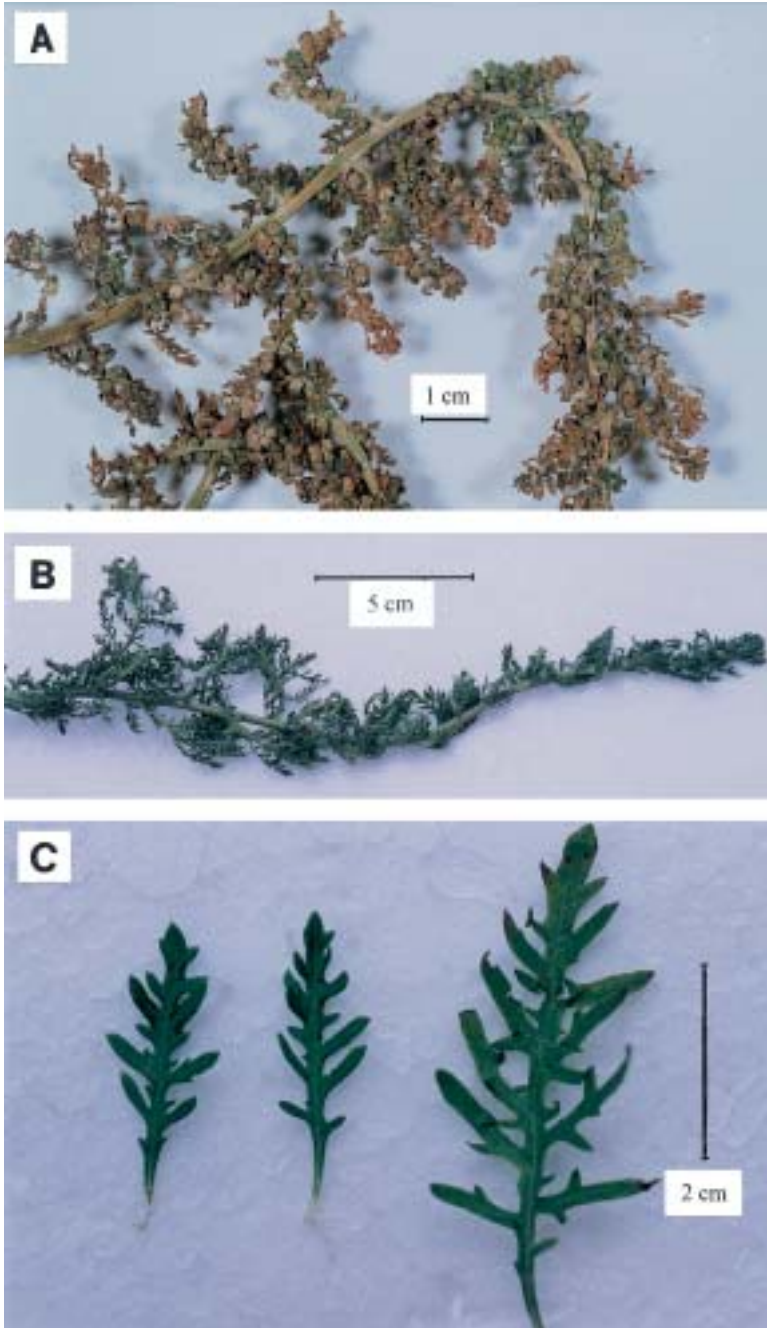


Fig. 1. *Chenopodium multifidum* L.: A – Upper part of the fruiting stem, B – One of the branching stems (sterile), C – Leaves

## ORIGIN AND DISTRIBUTION

According to AELLEN (1960:600) *Chenopodium multifidum* is native to subtropical South America (Argentina, Uruguay, Brazil, Chile, Juan Fernandez), from where it was introduced to North America (United States), Australia, southern Africa and Europe. For more than hundred years, it has been known in Europe. According to JÖRGENSEN (1973:306) this species is widely naturalized in countries with a Mediterranean climate. It is stated by AKEROYD (1993) as being found in many parts of Southern Europe (Portugal, Spain, the Balearics, France incl. Corsica, Italy incl. Sardinia and Sicily, former Yugoslavia, Albania, Greece, Bulgaria and European Turkey). It is also known from Hungary; PRISZTER (1978:68) reported *Chenopodium multifidum* among twenty newcomers to Hungary after 1945. In other parts of Europe (Great Britain, Belgium, Netherlands, Germany, Switzerland, Denmark, Sweden and Norway) this species has been found only as a casual (AELLEN, 1960; JÖRGENSEN, 1973).

## OCCURRENCE IN CROATIA

The records of *Chenopodium multifidum* from the former Yugoslavia, cited by JALAS & SUOMINEN (1980:17), GREUTER *et al.* (1984) and AKEROYD (1993:113) refer to the locality Vranjina in southern Montenegro (UOTILA, 1980:66) and not to Croatia. *Chenopodium multifidum* has not previously been recorded in the Croatian flora, and finds of it are being reported here for the first time. The plants were found in the northern part of the town of Split, mainly in the industrial zone near the northern harbour. *Chenopodium multifidum* was collected at the following localities (Fig. 2):



Fig. 2. Distribution of *Chenopodium multifidum* in Split (Croatia); the numbered dots refer to collecting sites (see text).

1. Split, near Kopolica railway station, a ruderal site along the buildings of the city dairy, many individuals, 10.08.1994,
2. Split, at Kopolica railway station, waste land with many individuals, 10. 08. 1994,
3. Split, Dujmovača, near the buildings of city-bakery, a ruderal site by the path along the railway embankment, about 100 individuals, 24.10.1996,
4. Split, Skalice, ruderal site near a street, only one individual, 25.05.1998.

*Chenopodium multifidum* grows here on sunny and dry ruderal or waste places near the railway area. Its stands were not phytosociologically investigated but in the locality in Dujmovača *Chenopodium multifidum* was accompanied by *Aster squamatus*, *Capsella rubella*, *Chenopodium album*, *Conyza canadensis*, *Cynodon dactylon*, *Ecballium elaterium*, *Euphorbia helioscopia*, *Galium aparine*, *Hordeum leporinum*, *Mercurialis annua*, *Parietaria vulgaris*, *Paspalum paspaloides*, *Solanum nigrum* and *Sonchus oleraceus*. The date of its arrival to Split is difficult to establish. This species probably arrived during the last decade by ship in the northern harbour of Split, from which it has spread along the railway. According to the great number of flowering and fruiting individuals of *Chenopodium multifidum* in nearly all the known localities in Split, new finds in similar habitats in other places along the Croatian Adriatic coasts can be expected with great confidence.

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## REFERENCES

- AELLEN, P., 1960: Chenopodiaceae. – In: RECHINGER, K.-H. (ed.): *Hegi, Illustrierte Flora von Mitteleuropa*. III/2, Lief. 2, 533–612. Carl Hanser Verlag, München.
- AELLEN, P. & JUST, T., 1943: Key and Synopsis of the American Species of the Genus *Chenopodium* L. – *Amer. Midl. Natur. (Notre Dame)* **30**, 47–76.
- AKERROYD, J. R., 1993: *Chenopodium* L. – In: TUTIN, T. G. *et al.* (eds.): *Flora Europaea* **1**, 111–114. University Press, Cambridge.
- GREUTER, W., BURDET, H. M. & LONG, G. (eds.), 1984: *Med-Checklist* **1**. Geneve & Berlin.
- JALAS, J. & SUOMINEN, J. (eds.), 1980: *Atlas Florae Europaeae* 5. Chenopodiaceae to Basellaceae. Helsinki.
- JÖRGENSEN, P. M., 1973: The Genus *Chenopodium* in Norway. – *Norw. J. Bot.* **20**, 303–319.
- PRISZTER, S., 1978: Die Einschleppung fremder Pflanzenarten nach Ungarn in der Vergangenheit und nach dem II. Weltkrieg. – *Acta bot. slovacae Acad. Sci. slovacae*, ser. **A**, **3**, 65–69.
- SCOTT, A. J., 1978: A review of the classification of *Chenopodium* L. and related genera (Chenopodiaceae). *Bot. Jahrb. Syst.* **100** (2), 205–220.
- UOTILA, P., 1980: Chorological notes on *Chenopodium* in the eastern Mediterranean area. – *Ann. Bot. Fennici* **17**, 65–68.

## SAŽETAK

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Lj. Marković &amp; M. Ruščić

Prilikom istraživanja ruderalne flore grada Splita nađena je južnoamerička vrsta *Chenopodium multifidum* L. (sl. 1). Radi se o novoj pridošlici, koja do sada nije bila zabilježena u Hrvatskoj, a naturalizirana je u više zemalja južne Europe. Od zemalja koje graniče s Hrvatskom, ta je vrsta zabilježena u Italiji, Crnoj Gori i Mađarskoj.

Mnogo primjeraka te zanimljive vrste našao je M. Ruščić na tri lokaliteta uz željezničku prugu u industrijskoj zoni Splita nedaleko sjeverne luke (Kopilica, Dujmovača) i jedan primjerak na lokalitetu Skalice (sl. 2). Biljke ovdje rastu na suhim i sunčanim ruderalnim staništima. Nije nam poznato kada i kako je ta vrsta dospjela na područje Splita. Pretpostavljamo da su njezine sjemenke tijekom zadnjeg desetljeća dospjele prilikom istovara brodskog tereta na tlo sjeverne luke, gdje su našle pogodno tlo za svoj dalji razvitak i za opstanak te vrste na ruderalnim površinama duž željezničke pruge. Na temelju velikog broja biljaka u različitim stadijima razvitka, nađenih na navedenom području, pretpostavljamo da će se ta vrsta i dalje širiti duž obalnog područja južne Hrvatske.