



Sternbergia colchiciflora WALDST. & KIT. VAR. *dalmatica* REICHENB. ON THE BOKOVO MASSIF (CROATIA)

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Šilić, Č. & Šolić, M. E.: *Sternbergia colchiciflora* Waldst. & Kit. var. *dalmatica* Reichenb. on the Biokovo massif (Croatia), *Nat. Croat.*, Vol. 8, No. 2., 155–159, 1999, Zagreb.

Undertaking systematic research, both broad and narrow, into the flora of Biokovo during recent years, the authors have found, including other vascular plants discovered for the first time here, some localities of the taxon *Sternbergia colchiciflora* Waldst. and Kit. var. *dalmatica* Reichenb., previously unknown in the flora of Biokovo.

In the introductory part the authors quote four known localities from the last century: Murvica near Zadar (ALSCHINGER, 1832), between Puntamika and Bokanjac near Zadar (PETTER, 1832:126), Pokrovnik between Šibenik and Drniš (VISIANI, 1842:125), around Rijeka (Leg. Schlosser, J. C., det. Vukotinović, L. F., 1878), and one from the sixties of this century: the island Brač: »Gažul Peak at 700 above sea level, Vidova Gora aprox. 740 above the sea level.« (PAVLETIĆ, Zi., 1964:149).

New localities of findings on Biokovo are at about 1000 m above sea level, although one locality was found even at 400 m above sea level, and some are at the height of 1200 m.

Key words: *Sternbergia colchiciflora* var. *dalmatica*, distribution, Biokovo (Croatia)

Šilić, Č. & Šolić, M. E.: *Sternbergia colchiciflora* Waldst. & Kit. var. *dalmatica* Reichenb. na masivu Biokova (Hrvatska), *Nat. Croat.*, Vol. 8, No. 2., 155–159, 1999, Zagreb.

Istražujući posljednjih godina sustavno floru Biokova u užem i širem smislu autori su, pored drugih novih nalaza vaskularnih biljaka, na ovom području pronašli nekoliko lokaliteta taksona *Sternbergia colchiciflora* Waldst. & Kit. var. *dalmatica* Reichenb. koji do sada nije bio poznat u flori Biokova.

U uvodnom dijelu autori navode 4 poznata lokaliteta iz prošlog stoljeća: Murvica kod Zadra (ALSCHINGER, 1832), između Puntamike i Bokanjca kod Zadra (PETTER, 1832:126), Pokrovnik između Šibenika i Drniša (VISIANI, 1842:125), oko Rijeke (Leg. Schlosser, J. C., det. Vukotinović, L. F., 1878), te jedan iz šezdesetih godina ovog stoljeća: otok Brač: »vrh Gažul, na 700 m n.m., Vidova Gora, cca 740 m n.m.« (PAVLETIĆ, Zi., 1964:149).

Nova nalazišta na Biokovu locirana su pretežito na nadmorskoj visini od oko 1000 m iako je jedan lokalitet ustanovljen već na 400 m n. m., a nekoliko nalaza se nalazi na visini od oko 1200 m.

Ključne riječi: *Sternbergia colchiciflora* var. *dalmatica*, rasprostranjenost, Biokovo (Hrvatska)

INTRODUCTION

As is known, the species *Sternbergia colchiciflora* Waldst. and Kit. covers large areas in southern Europe: from Spain and France in the West, via Italy, the Dinaric area, Hungary, Romania, the European parts of Russia to Bulgaria in the East, Sicily and Greece in the south and southeast. (WEBB, 1980:76). It can be found in the Caucasus and in Asia Minor (ASCHERSON-GRAEBNER, 1905 – 1907:361, BOISSIER, 1867 – 1879).

Over such large areas several infraspecies forms were differentiated. They were mostly described in a range of varieties and in the chronology they are characteristic of single parts of the areas. It would be enough to mention the var. *aethnensis* Guss. (1927) found in the western and southern parts of areas (Spain, Italy), the var. *balkana* Vel. (VELENOVSKY., 1897:265, HAYEK, 1933:102) which is considered to be endemic to Bulgaria, and the var. *dalmatica* Reichenb. which is endemic to the coastal Dinaric area.

It is not the intention of this paper to discuss taxonomic problems, but only the taxon var. *dalmatica* Reichenb. and its chorology in the flora of Croatia.

It is known from the literature that this variety was described on the basis of material collected from the surroundings of Zadar (REICHENBACH, 1830–32:87) and is distinguished by many morphological characteristics which differentiate it from the typical form. This was written about not only by REICHENBACH, but also by HAYEK, 1932:103, PAVLETIĆ, Zi., 1964:148–150 and ŠILIĆ, 1966:115–122.

From these two last works it was possible clearly to see that this interesting and rare species was represented in the Croatian flora in a small number of localities: Murvica near Zadar seen for the first time and published by ALSCHINGER (1832) then between Puntamika and Bokanjac near the village of Crno (Czerno) in the vicinity of Zadar (PETTER, 1832:126), Crno near Zadar (VISIANI, 1842:125), around the village of Pokrovnik between Šibenik and Drniš (ca 300 m above sea level) (VISIANI, l. c.), around Rijeka (leg. Schlosser), deposited in the herbarium collection of the PMF of the Zagreb University (Hb ZA), and determined by Vukotić as *Sternbergia colchiciflora* Waldst. & Kit., the island of Brač: »the Gažul Peak at 700 above sea level, Vidova Gora approx. 740 above sea level.« (PAVLETIĆ, Zi., 1964:149).

As is known to us, from the available literature, these rare findings are the only ones in the flora of Croatia, so it could be said that they belong to the order of rare species in the vascular flora of Croatia, and that the taxon var. *dalmatica* Reichenb. is an endemic variety with its centre of distribution on the coastal Dinarid mountains.

In the neighbouring Bosnia and Herzegovina this taxon is known on only from a few localities in southeast Herzegovina and from only one locality in Bosnia, above Livno (ŠILIĆ, 1996:115–121).

RESULTS OF RESEARCH

Undertaking systematic research, broader and narrower, into the vascular flora on Biokovo in all its aspects, we had the good fortune and pleasure to find this taxon on the Biokovo massif in the autumn of 1998, in the following localities inside the basic quadrant XH UTM net:

- the lower part of Staza at about 400 m above sea level; S – exp., in a thin forest of *Pinus halepensis*
leg. 19. IX. 1998.: M. E. Šolić, D. & Č. Šilić (MAKAR);
- the flat plateau above the chapel of St. Ilija (peak elevation 897 m) on the old road towards Saranač (the inhabitants – a few shepherds – call it »Na stazi«). Here a lot of examples were observed in full flowering time, and they grew over open spaces in the zone of dwarf karst woods belonging to the vegetation order *Quercetalia pubescentis*, on deep fertile soil (organogene rendzine) of limestone. This locality is about 1000 m above sea level.
leg. 19.IX.1998., M. E. Šolić, D. & Č. Šilić (MAKAR);
- above the locality Saranač, on the old road for Biokovo, cca 950 m above sea level, on a deep soil (fertile) in open spaces, inside the karst woods, order *Quercetalia pubescentis*
leg. 19.IX.1998., M. E. Šolić, D. & Č. Šilić (MAKAR);
- Tučepski stanovi (fertile soil between stones arranged in cascades in the mountain) – deep soil in limestone about 1000 m above sea level.
leg. 24.IX.1998.: M. E. Šolić, D. & Č. Šilić (MAKAR);
- Lemišni doci, deep soil in limestone, 1200 m above sea level.
leg. 24.IX.1998.: M. E. Šolić, D. & Č. Šilić (MAKAR).

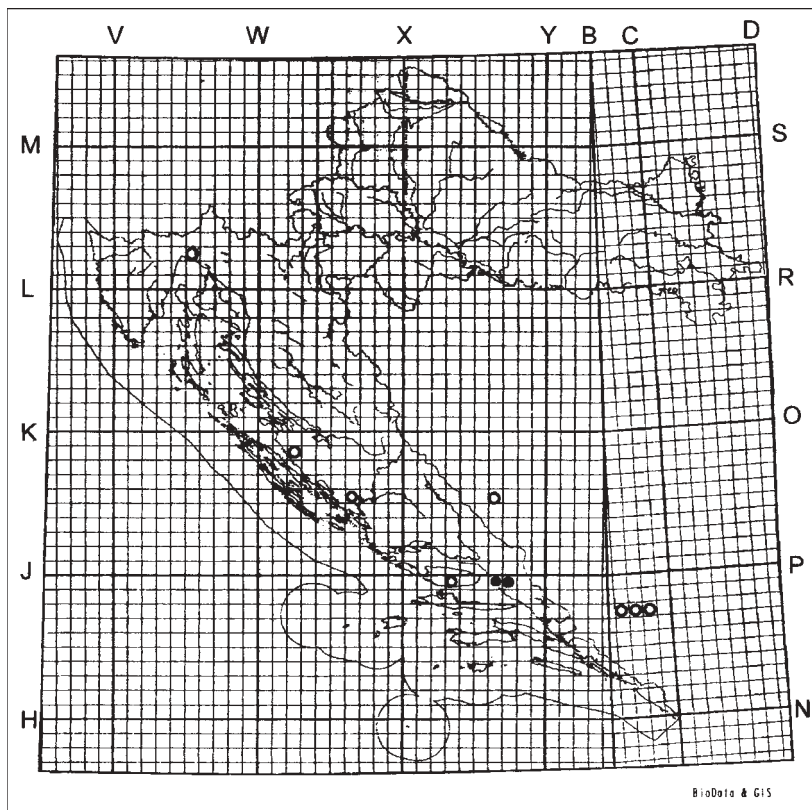
Geocoding of the new findings was done through UTM net basic fields 10 x 10 km, which can be seen on the maps of distribution in Croatia given, all being inside the basic quadrant XH 69, XH 79.

All collected material is in the herbarium and in the scientific collection HERBAR BOKOVSKOG PODRUČJA (MAKAR), »Planina i more« Institute in Makarska, and some live samples were moved to the plantation of the Botanical Garden in the Institute.

Only few days after the above mentioned field trips, we went again to the same localities, but could not see any samples, which convinced us that the phenophase of flowering is very short, which is one of the main reasons why this species was not recorded here previously (a short phenophase of flowering together with known biology of this tiny species *colchiciflora*; leaves and fruits will be possibly collected next spring).

As can be seen, these localities are in the range of 400 – 1200 above sea level, which does not mean that it is not also at the upper levels and other parts of the mountain, as planned research will show.

The most numerous populations are at 1000 m above sea level, on flat and always deep soil of the rendzin type in the karst.



Map 1. Find spots for taxon *Sternbergia colchiciflora* Waldst. & Kit. var. *dalmatica* Reichenb. in Croatia and Bosnia and Herzegovina. (○ – previously known localities, ● – new localities.)

Received February 16, 1999

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Sternbergia colchiciflora Waldst. & Kit. var. *dalmatica* Reichenb.

SAŽETAK

Sternbergia colchiciflora Waldst. & Kit. var. *dalmatica* Reichenb. na masivu Biokova

Č. Šilić & M. E. Šolić

Uvidom u pristupačnu literaturu može se vidjeti da je vrsta *Sternbergia colchiciflora* Waldst. & Kit. rasprostranjena u Južnoj Europi, od Španjolske i Francuske na zapadu, preko Italije, dinarskog prostora, Mađarske, Rumunjske, europskih dijelova Rusije, do Bugarske na istoku, a na jugu i jugoistoku do Sicilije i Grčke (WEBB, 1980:76). Osim toga ima je i na Kavkazu i Maloj Aziji (ASCHERSON-GRAEBNER, 1905–1907:361; BOISSIER, 1967–1879). U različitim dijelovima areala opisano je nekoliko taksona ranga varijeteta od kojih je za floru Hrvatske interesantan var. *dalmatica* Reichenb. koji je prema do danas poznatim lokalitetima endem za primorske Dinaride.

Ovaj takson je opisan na osnovi prikupljenog materijala iz okoline Zadra (REICHENBACH, 1830–32:87).

Do danas su u flori Hrvatske poznati slijedeći lokaliteti: Murvica kod Zadra (ALSCHINGER, 1832), između Puntamike i Bokanjca kod Zadra (PETTER, 1832:126), Pokrovnik između Šibenika i Drniša (VISIANI, 1842:125), oko Rijeke leg. Schlosser, J.

C., det. Vukotinović, L. F., 1878 (ZA) , otok Brač: »vrh Gažul, cca 700 m n.m., Vidova Gora, cca 740 m n. m.« (PAVLETIĆ, Zi., 1964:149).

U susjednoj Bosni i Hercegovini poznato je nekoliko izoliranih lokaliteta u jugoistočnoj Hercegovini i jedno nalazište u Bosni iznad Livna (ŠILIĆ, 1966:115–22).

Mi smo je našli u trećoj dekadi rujna 1998. godine na nekoliko lokaliteta na masivu Biokova, te je ovaj takson nov za floru ove planine, a ovim nalazima ukupan areal ove rijetke i interesantne vrste se proširio dalje prema jugoistoku. U vertikalnom smislu nalazišta se nalaze u rasponu od oko 400 do 1200 m nadmorske visine, ali se najbrojnija nalazišta i sa najvećim brojem primjeraka nalaze na nadm. vis. od oko 1000 m. Fenofaza cvjetanja je veoma kratka, što je jedan od glavnih razloga da ova biljka nije na Biokovu već prije uočena.



ZOOLOGICAL RECORD

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28 June 1999

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