BIOLOGICA NYSSANA
7 (2) • December 2016: 83-86 12th SFSES • 16-19 June 2016, Kopaonik Mt
DOI: 10.5281/zenodo.200403

Original Article

Received: 15 October 2016
Revised: 21 November 2016
Accepted: 29 November 2016

Silene noctiflora L., present in the flora of Kosovo and Metohija (Serbia)

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***Abstract*:**

Prodanović, D., Stanojević, M., Krivošej, Z.: *Silene noctiflora L., present in the flora of Kosovo and Metohija (Serbia). Biologica Nyssana, 7 (2), December 2016: 83-86.*

The genus *Silene* (family Caryophyllaceae) comprises more than 700 species and it is one of the larger genera of the World's flora. Studying the flora of the plain part of Kosovo and Metohija, in the village of Gračanica, on the eastern rim of the Kosovo basin (approximately 10 km to the south of Priština), near the Gračanka stream, we identified a weed and ruderal species, *Silene noctiflora*. The part of the stream bank is urbanised and turned into a quay. The quay is regularly maintained implying that the banks are regularly weeded and the riverbeds are cleaned as the *Typha latifolia* species rapidly grows; it may be the reason why this species was not immediately detected and appropriately identified. Except for the afore mentioned locality, the species was also reported on the neglected arable fields and tilths, around the unkempt orchards, along the new tarmac road between Gračanica and Laplje Selo, on the locality called Labura. *Silene noctiflora* is not mentioned for the region of Kosovo and Metohija in the new and revised edition of the book Flora of Serbia 2.

Key words: *Silene noctiflora*, Kosovo and Metohija, Serbia, new chorological data

***Apstrakt*:**

Prodanović, D., Stanojević, M., Krivošej, Z.: *Silene noctiflora L., prisutna u flori Kosova i Metohije (Srbija). Biologica Nyssana, 7 (2), Decembar 2016: 83-86.*

Rod *Silene* (familija *Caryophyllaceae*) obuhvata više od 700 vrsta i jedan je od najvećih rodova u svetskoj flori. Proučavajući floru nizijskog (ravničarskog) dela Kosova i Metohije, u selu Gračanica, na istočnom obodu kosovske kotline (oko 10 km južno od Prištine), pored rečice Gračanke, konstatovali smo korovsko-ruderalnu vrstu, *Silene noctiflora*. Deo obale oko rečice urbanizovan je i pretvoren u kej, koji se redovno održava, što podrazumeva i stalno košenje korova na obalama ili čišćenje korita kada se prenamnoži *Typha latifolia*; možda je to razlog zašto ova vrsta nije ranije uočena i pravilno determinisana. Vrsta je sem na navedenom lokalitetu konstatovana i na zapuštenim oranicama i njivama, oko neodržavanih voćnjaka, duž novog asfaltnog puta između Gračanice i Lapljeg Sela, na lokalitetu koji meštani Gračanice zovu Labura. U novom, prerađenom i dopunjenom izdanju knjige „Flora Srbije 2", *Silene noctiflora* se ne navodi za region Kosova i Metohije.

Ključne reči: *Silene noctiflora*, Kosovo i Metohija, Srbija, novi horološki podatak

Introduction

Silene L. is one of the larger genera of the World's flora. In the wide sense adopted here is comprised c. 700 species, about half of which occur in the Mediterranean area (Greuter, 1995).

There are two major centers of diversity in *Silene*: one in the Mediterranean/Middle East and one in Central Asia. A few taxa have been introduced to other continents (Mamadalieva et al., 2014). On the Balkan peninsula as many as 64 species (41%) and 98 taxa (47%) are endemic. The high level of endemism has been recorded in the flora of Turkey (48%) and Iran (32%) (Stevanović, ed., 2012).

Genus *Silene* has been placed in the tribe *Sileneae* and the subfamily *Caryophylloideae.* The tribe *Sileneae* has a long history of controversial taxonomy at the genus level. In recent molecular phylogenetic studies by Oxelman et al. (2001) the genus *Silene* along with *Lychis* are distinct from *Viscaria, Ixoca* (=*Heliosperma*), and *Atocion* which form a well supported monophyletic group. The genus *Silene* clusters in two major clades of approximately equal size, which are tentatively classified as *Silene* subgenus *Silene* and *Silene* subgenus *Behen* (Moench) Bunge (Mamadalieva et al., 2014).

The genus consists mainly of herbaceous plants (annuals, biennials, and perennials), and, more rarely, of small shrubs or sub shrubs. *Silene* also includes a number of cultivated species and widespread weeds. The flowers have free petals, with each petal consisting of a usually visible limb that can be divided or entire, and a claw that is included within the synsepalous calyx (Eggens et al., 2007). At the representatives of the Caryophyllaceae family, particularly in the genus *Silene*, the appearance of gynodioecy, dioecy and poliploidy are frequent so they present important model for genetic studies.

Silene noctiflora is gynomonoecious plant, namely individuals produce two types of flowers: hermaphrodite, which often occurs and functionally female flowers, which are less frequent (Petrović, 2015).

Material and methods

The results are based on field work in the plain part of central Kosovo, during the year 2015, as well in year 2016.

Besides the field survey, checking of herbarium material and relevant literature sources were used to present an overall distribution for studied taxa in Serbia.

Identification of the collected plant material is made according to Flora of Serbia 2, (Stevanović, ed., 2012) and Flora Europea 1 (Tutin et al., eds., 1993); the nomenclature was adjusted to Euro+Med Plantbase (2006).

On the basis of relevant distribution data investigated species is mapped on 10x10 sq km at UTM grid system (UTM Zone 34T) (Lampinen, 2001).

Results and discussion

Fam. Caryophyllaceae
Silene noctiflora L.
Floristic element: bor-submerid; col-plan
Life form: a Mes-Meg T scap

The genus *Silene* within the flora of Serbia includes 44 species. *Silene noctiflora* species appears as a weed or ruderal species in fallow fields, by the roads, on plowed, mostly shady places. Its distribution in the flora of Serbia is mostly related to lower areas/altitudes of the territory of Srem and Banat in Vojvodina province, western, central, eastern, southeastern and southern parts of Serbia, as well in Šumadija and Pomoravlje.

Vascular plants adapted to arable habitats are acknowledged to be among the most vulnerable groups in national floras to the land-use change, particularly in western European states. Vrbničanin et al. (2009) consider that insufficient crop management in the mountain area has also led to the appearance of some rare weed species and similar result was obtained for some endangered 'red list' species, such as *Silene noctiflora.*

In a short list of rare or threatened European arable plants species *Silene noctiflora* is present in 26 countries, and in 13 countries the species is rare, threatened or recently extinct (Storkey et al., 2012).

General distribution: Europe, to Ireland to the west, to the peninsula Coolley to the north, to central Apenines and northern Greece to the south; Small Asia and Caucasus, Iran, south Siberia and mountains of central Asia. The species has been introduced to the most of continents.

Distribution in Serbia: Vojvodina: Srem: Fruška gora: Čortanovci, Karlovčić; Banat Pančevo: Vojlovica, Pančevački rit; Deliblatska peščara; Western Serbia: Mt Jelica; Mt Zlatibor: Gmizova ćuprija; Šumadija: Beograd; Kosmaj; Pomoravlje: Jagodina; Northeastern Serbia: Đerdap: Kazan (Pecka bara), Sip, Veliki Štrbac; Zlot; Eastern Serbia: Niš: Gorica, Seličevica, Niška banja: Koritnik, Pirot: Basara, Krupac, Sukovo; Babušnica; South eastern

Serbia: Vlasotince, Kruševica; Vlasina; Čemernik; Southern Serbia Vranje (S t e v a n o v i ć , ed., 2012).

New chorological data in Serbia (Fig. 1): village Gračanica- Gračanka river banks (near Priština town): 42^0 35' 99,9" N, 21^0 11' 66" E (559 m a.s.l) UTM 34 TEN12 (leg./det. Krivošej, Z., Prodanović, D., Stanojević, M., 29-May-2015; 9-June-2016); locality Labura between Gračanica and Laplje selo village 42^0 35' 581" N, 21^0 10' 075" E 580 m a.s.l (30-May-2015; 9-June-2016).

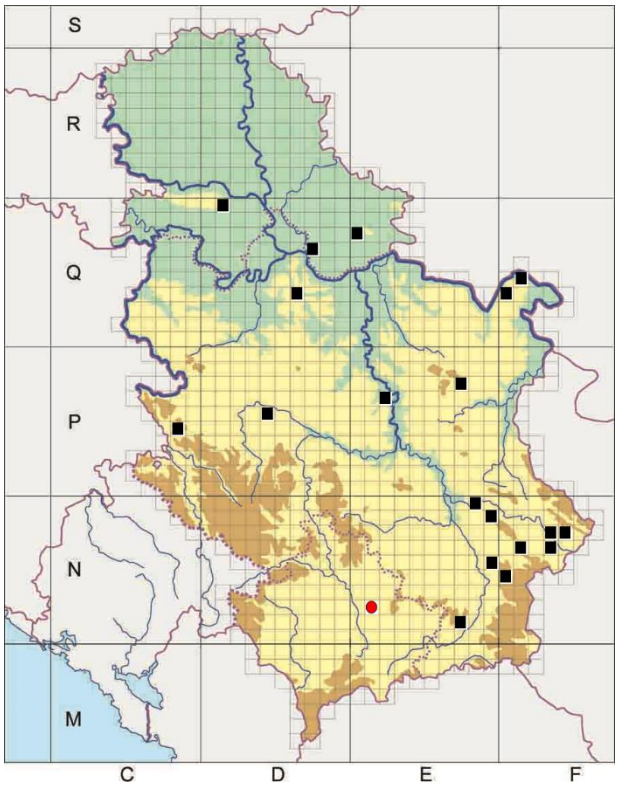

Fig. 1. Distribution of the species *Silene noctiflora* L. in Serbia according to Stevanović, ed., 2012 (black squares). New record marked with red circle.

According to the insight into the available references of the botanist from Kosovo and Metohija and the latest edition of the Flora of Serbia 2 (S t e v a n o v i ć , ed., 2012), *Silene noctiflora* has not been so far recorded on the territory of Kosovo and Metohija.

During the field work in 2015, on the territory of central part of Kosovo, this species was found in two relatively close localities, near Gračanica village.

In the first locality the species was detected on the banks of Gračanka stream about 10 kilometers south from city of Priština. The part of the stream bank is urbanised and turned into a quay. The quay is regularly maintained implying that the banks are regularly weeded and the riverbeds are cleaned as the *Typha latifolia* species rapidly grows; it may be the reason why this species was not immediately detected and appropriately identified. The floristic structure in the Gračanka river locality can be seen from next phytocenological record: *Typha latifolia* L. 4.4., *Polygonum lapathifolium* L. +.1, *Arenaria serpyllifolia* L. 1.1., *Mentha aquatica* L. +, *Polygonum aviculare* L. +, *Convolvulus arvensis* L. +, *Stellaria media* L. (Vill). +. Floristic deficiency in this locality is due to the fact that the river banks (or riverbed) are paved by stony blocks so that only a few number of species have managed to inhabit them (**Fig. 2**).

Fig. 2. Habitat of species *Silene noctiflora* L., on the locality Gračanka stream

Later the species was also reported on the neglected arable fields and tilths, around the unkempt orchards, along the new tarmac road between Gračanica and Laplje Selo, on the locality called Labura.

Conclusion

Silene noctiflora L. is rather sporadically present in Serbia, and the data of its presence in Gračanica village and surrounding are the only available for Kosovo and Metohija flora and present a new locality for the Serbian flora. New reports about the distribution of *Silene noctiflora* L. species have complemented the picture of distribution and will certainly contribute to better understanding the chorology of this relatively rare species in Serbia.

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