

**Rare species *Sporobolus pungens* (Schreber) Kunth (Poaceae) in Lastovo archipelago**

short professional communication / kratko stručno priopćenje

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**Abstract**

Rare and critically endangered grass species *Sporobolus pungens* has been recorded on the islet of Mrkljenta (Obrovac). This is its first finding within poorly investigated Lastovo Archipelago.

Although being psammophytic, the species grew in crevices of the flattened horizontal rocks within *Crithmo-Limonietea* vegetation.

**Keywords:** Croatia, flora, *Sporobolus pungens*, Lastovo archipelago, islet of Obrovac (Mrkljenta)

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**Sažetak**

Rijetka i kritično ugrožena vrsta trave *Sporobolus pungens* pronađena je na otočiću Mrkljenta (Obrovac). Ovo je njen prvi nalaz u slabo istraženom

Lastovskom otočju. Iako je psamofit, vrsta je rasla u škrapama unutar vegetacije *Crithmo-Limonietea*.

**Ključne riječi:** Hrvatska, flora, *Sporobolus pungens*, Lastovsko otočje, otočić Obrovac (Mrkljenta)

**Introduction**

The pantropic genus *Sporobolus* is represented by three species in Croatian flora: one indigenous (*S. pungens* (Schreber) Kunth) and two naturalised American species (*S. neglectus* Nash and *S. vaginiflorus* (Torr.) Wood) (Nikolić 2016). While two neophyte species grow within the vegetation of the river sandbanks (Horvatić & Gospodarić 1959-60, Marković 1973, Marković 1980) or on extreme habitats, e.g. edges of asphalt roads (Nejc, in prep.), *S. pungens* is typically a psammo-halophytic species, related mostly to maritime sand dunes (Alegro et al. 2004). All three species are represented in Croatian flora with low number of localities.

The presence of *S. pungens* in Croatia has been elaborated in detail in Alegro et al. (2003), where only five localities in Croatia have been reported, all on the central and south Dalmatian islands. Subsequently, several localities have been recently found or confirmed. The list of so far known findspots of *S. pungens* in Croatia is as follows (Fig. 1):

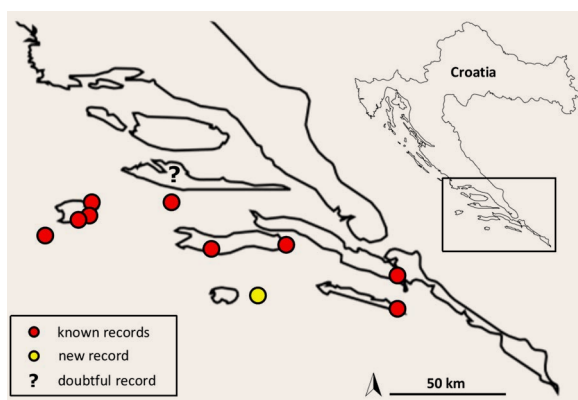


Figure 1. Distribution of *Sporobolus pungens* in Croatia.

1. **Island of Korčula** – Pržino Bay near Lumbarda (Trinajstić, 1971), recently confirmed by Jeričević (2012, FCD observation ID: 16254); Prižba (Trinajstić, 1971), not confirmed by Alegro (unpublished)
2. **Island of Biševo** (Pavletić, 1974, 1975, 1983); recently confirmed by Ruščić (2008, FCD observation ID: 3648)
3. **Islets of Lukavci** – “*Scoglio Bacile Grande*” (Ginzberger 1921), quoted later as islet of Veliki Lukavac by Trinajstić (1971), Pavletić (1975) and Alegro et al. (2003), and finally confirmed by Bogdanović (2006, FCD observation ID: 1813)
4. **Island of Hvar** – “*Scoglio di Lesin*” (Petter 1852); “*circa insulam Lesina*” (Visiani 1852); quoted later by Schlosser & Vukotinović (1869), Hayek (1933) and Trinajstić (1993). However, Alegro et al. (2003) suggested that record of Visiani probably refers to islet of Veliki Lukavac, south of the island of Hvar (cf. Ginzberger 1921). We support this interpretation, since Visiani assigned the species somewhere “around the island of Hvar”. Moreover, Petter used in the same paper toponyms “*Insel Lesina*” for island of Hvar and “*Scoglio di ...*” for smaller islands (islets). Although it is not clear which islet refers to toponym “*Scoglio di Lesin*”, we believe it is not island of Hvar. Therefore, it is doubtful if the species ever existed on the island at all.
5. **Island of Mljet** – “*uvala Blace*” (Alegro et al. 2003, 2004), confirmed subsequently by several authors.
6. **Island of Vis** – “*Lissa*” (herbarium specimen in ZA collected by Mate Botteri, unknown year); Zaglav and Srebrna Bays (Bogdanović & Ruščić 2008, FCD observation ID: 3444), Vela Smokova Bay (Bogdanović 2016, FCD observation ID: 25493)
7. **Pelješac Peninsula** – Prapatna Bay (Jasprica & Dolina, 2008, FCD observation ID: 3465)

*S. pungens* is a critically endangered species of Croatian flora (Alegro 2005) due to its specific and rare sandy habitats which are in Mediterranean under the pressure of tourism development, fragmentation and destruction.

#### Material and methods

In late summer 2016 a survey of the flora of the Vrhovnjaci Archipelago has been performed in a non-systematic way, as a part of the study of

insular *Podarcis* lizards. Plant specimens have been collected and stored in the ZA herbarium collection. Nomenclature of the plant taxa follows Flora Croatica Database (Nikolić 2016).

#### Results and discussion

A small population of *S. pungens* has been found on the islet of Mrkljenta (Obrovac) (42°45'40"N, 17°05'44"E) on 8<sup>th</sup> September 2016 (Šegota, 2016, FCD observation ID: 25588). The species was in bloom, so typical spikes could be noticed (Fig. 2). Islet of Mrkljenta is a part of the Vrhovnjaci Archipelago, consisting of nine islets, all being situated east of the island of Lastovo. With a number of other small islands and islets they belong to a recently declared Lastovo Archipelago Nature Park.

Islet of Obrovac (Mrkljenta) has an area of barely 0.7 ha, perimeter of 308 m, and the highest elevation of 2 m a. s. l. Because of sea water spraying over this low, completely flat islet, the whole area can be characterised as a supralittoral zone. Due to its low altitude, poor soil and strong influence of the southern wind and waves, the islet lacks any shrub or tree vegetation. Therefore, the vegetation of bare littoral rocks prevails, mostly belonging to class *Crithmo-Limonietaea* Molinier 1934. *S. pungens* has been found growing within the narrow and shallow crevices of horizontal rocks, forming linear gaps (*škrape*), where a small amount of soil is able to be deposited. Additionally, *Crithmum maritimum* L. and *Lavatera arborea* L. are occasionally found on the islet. The latter species is on some other islets, based on our observation, often under the pressure of introduced rats, which cause severe impact on vegetation and flora diversity. However, no rats were found to live on this islet.

Contrary to generally accepted view that *S. pungens* is a psammophytic species related to sand dune vegetation, we have found it in littoral rock crevices, where it demonstrates clear chasmophytic features. These crevices are possibly its secondary or suboptimal halophytic habitat; however this should be additionally investigated. Some further findings on secondary habitats could possibly affect the assessment of the population status and conservation issue of the species in the future.

Out of 1246 Croatian islands, islets and rocks (Duplančić et al. 2004), more or less complete floristic data are available for only 106 of them (Nikolić et al. 2008). The same is the case of Lastovo Archipelago, where 44 smaller islands and islets are almost completely floristically unexplored. The exception is the largest island of Lastovo with well-studied flora (Forenbacher 1911, Trinajstić 1979, Škunca et al. 2008). Therefore, the small islands and islets urge for the systematic flora inventory.



**Figure 2.** *Sporobolus pungens*, herbarium specimens from island of Mrkljenta (Obrovac), collected on 8<sup>th</sup> September 2016. Scan photographs were obtained using A3+ scanner Expression 11000XL.

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