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Cupido osiris (Lepidoptera, Rhopalocera): an overlooked species of the Slovenian butterfly fauna

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Abstract. There are only a few historical records of the Osiris Blue from Slovenia, and two are plausible based on the species habitat requirements. The record from gravel banks of the Sava River north of Ljubljana has been confirmed by a single female preserved in the collection of the Slovenian Museum of Natural History. Additionally, several collected specimens from Potoče village in the Vipava Valley indicate its wider distribution in the past. Currently, the species is confined to a narrow belt of the Kraški rob between Predloka and Mt. Lipnik. The habitat requirements of the species and its threat status in Slovenia are discussed.

Key words: distribution, historical records, threat status, habitat requirements

Izvleček. ***CUPIDO OSIRIS* (LEPIDOPTERA, RHOPALOCERA): PREZRTA VRSTA DNEVNEGA METULJA V SLOVENIJI –** Znanih je zgolj nekaj zgodovinskih najdb modrega kupida v Sloveniji in od teh sta glede na prisotnost ustreznega življenjskega prostora verjetni le dve. Podatek s prodišč reke Save pri Črnučah potrjuje samica, hranjena v muzerjski zbirki (PMS). Poleg tega je med materialom tudi serija osebkov iz vasi Potoče v Vipavski dolini, kar dokazuje širšo razširjenost te vrste v Slovenji v prejšnjem stoletju. Glede na recentne podatke je vrsta pri nas razširjena le v ozkem pasu ob Kraškem robu od Predloke do gore Lipnik. Podane so glavne značilnosti habitata vrste in njena ogroženost v Sloveniji.

Ključne besede: razširjenost, zgodovinski podatki, ogroženost, habitat vrste

The Osiris Blue (*Cupido osiris* (Meigen, 1829)) is generally a Mediterranean species in Europe with its range extending to the east towards central Asia (Tolman & Lewington 1997). It is rather local in the northern part of its range, becoming increasingly more widespread towards the south. It has been first reported for Slovenia by Hoffmann and Klos (1913) who mention it as *Cupido sebrus* for Maribor. This record remains questionable both due to possible misidentification with similar *Cupido minimus* and lack of suitable habitat in this region. More plausible is the record by Stauder (1923) who cites Alois Naufock who found several males in 1907 at Boršt in Istria. Unfortunately, Stauder never saw the specimens and doubted Naufock's correct determination (Stauder 1923). During the survey of collections kept by the Slovenian Museum of Natural History, additional specimens of the Osiris Blue were discovered. They were all collected by Štefan Michieli near Potoče in the Vipava Valley between 1965 and 1968. Unfortunately, these records remain unpublished. Additional record was published by Sijarić in the catalogue of Boro Mihljević's collection from Gore at Hrastnik in central Slovenia (Sijarić 1991). The specimen was supposed to be collected by Matjaž Černila, but he is not aware of this exceptional find (Černila, pers. com.), therefore a misidentification, as in case of the record from Maribor, is a more likely explanation, particularly due to the lack of larval habitat at this site.

In recent years, the species has been known to fly near Kraški rob, but no exact records are given (Carnelutti & Tonkli 1990). There are only two specimens from Rižana in the collection of Boro Mihljević (Sijarić 1991), which is a rather misleading information as there is no larval habitat in or around Rižana village. The records listed below (in chronological order) are therefore the first exact information on the recent distribution of the Osiris Blue in Slovenia:

- 27.5.2000 – along the path on SE slopes of Vrh hill above Hrastovlje; coordinates: 45°30'35''N, 13°53'52''E; Verovnik, R.
- 17.5.2001 – grassland along the road to Brezovica at the source of Rižana River; coordinates: 45°31'30''N, 13°53'16''E; Verovnik, R.
- 1.6.2002 – road verge along the Predloka-Loka road, 250 m W of Predloka; coordinates: 45°32'25''N, 13°53'03''E; Verovnik, R.
- 23.5.2003, 9.6.2006 – along the path in a small valley of Hrastovski potok, S of Hrastovlje; coordinates: 45°30'01''N, 13°53'55''E; Verovnik, R.
- 9.6.2006 – grasslands along the road to Zanigrad, 500 m N of village Dol pri Hrastovljah; coordinates: 45°30'23''N, 13°54'38''E; Verovnik, R.
- 10.6.2006 – grasslands on the upper terrace below Mt. Lipnik, N of Rakitovec village; coordinates: 45°30'23''N, 13°54'38''E; Kogovšek, N.
- 11.6.2006 – grasslands on the slopes S of Hrastovlje village; coordinates: 45°30'19''N, 13°53'58''E; Kosmač, M.
- 24.5.2008, 15.5.2009, 21.5.2009 – small gully along the road W of Hrastovlje village; coordinates: 45°31'24''N, 13°53'27''E; Verovnik, R.
- 24.5.2008 – small glade on the path bellow the wall of Štrkljevica hill, 200 m NW of Zanigrad village; coordinates: 45°30'59''N, 13°54'28''E; Verovnik, R.
- 24.5.2008, 1.5.2011 – grasslands on Podračje hill, N of Hrastovlje village; coordinates: 45°31'07''N, 13°54'00''E; Verovnik, R.
- 21.5.2009 – stony grasslands on S slopes of Na Reti hill, N of Hrastovlje village; coordinates: 45°31'00''N, 13°54'16''E; Verovnik, R.
- 21.5.2009, 17.5.2011 – along the path to Podračje hill from Hrastovlje village; coordinates: 45°31'00''N, 13°54'13''E; Verovnik, R.
- 1.5.2011 – grasslands between the main road and the Hrastovski potok, N of Hrastovlje village; coordinates: 45°31'15''N, 13°53'44''E; Verovnik, R.
- 17.5.2011 – at the bridge over Hrastovski potok bellow Hrastovlje village; coordinates: 45°30'43''N, 13°54'14''E; Verovnik, R.
- 17.5.2011 – along railway lines bellow Podpeč village; coordinates: 45°31'14''N, 13°54'03''E; Verovnik, R.

The Osiris Blue was currently observed at 15 sites in Slovenia, mostly concentrated around Hrastovlje village bellow Kraški rob. Kraški rob forms the boundary between the Kras plateau and the flysch hills in the coastal part of Slovenia. Due to southern exposition, it is one of the warmest parts of Slovenia with typical xerophilous vegetation. This concentration of locations indicates a possibly contiguous distribution of the species in this part of Kraški rob, with displaced record at Predloka, indicating its potential wider distribution. The most outstanding record is from Mt. Lipnik (Kogovšek, pers. comm.) about 5 km away towards SE. The butterfly was found in dry grassland at the altitude of 700 m, which is about 500 higher than all the other known sites in Slovenia. Whether this is an exceptional record of a blown away specimen, or a permanent population, remains to be verified.

The habitat of the Osiris Blue is well characterized by the presence of larval host plants Sainfoins (*Onobrychis* spp.). These are relatively widespread on Kraški rob, however, adults of Osiris Blue have been found mostly in a more disturbed habitat, especially along roads and paths where Sainfoins flower in abundance. Additionally, they were found also in rocky or open sandy areas, and only rarely in open grasslands. Adults were mostly observed nectaring on different flowers including the Sainfoins. Although imbibing minerals on wet soils is common in blues, it was observed only once in Osiris Blue during recent surveys in Slovenia. Adults are usually present in low densities with commonly only single specimens observed at the site. In the last three years, the butterfly seems to have been more widespread, but maintains to be observed in low numbers. It flies only in a single generation from beginning of May until mid June. Specimens of the second generation commonly observed further south have not been recorded so far.

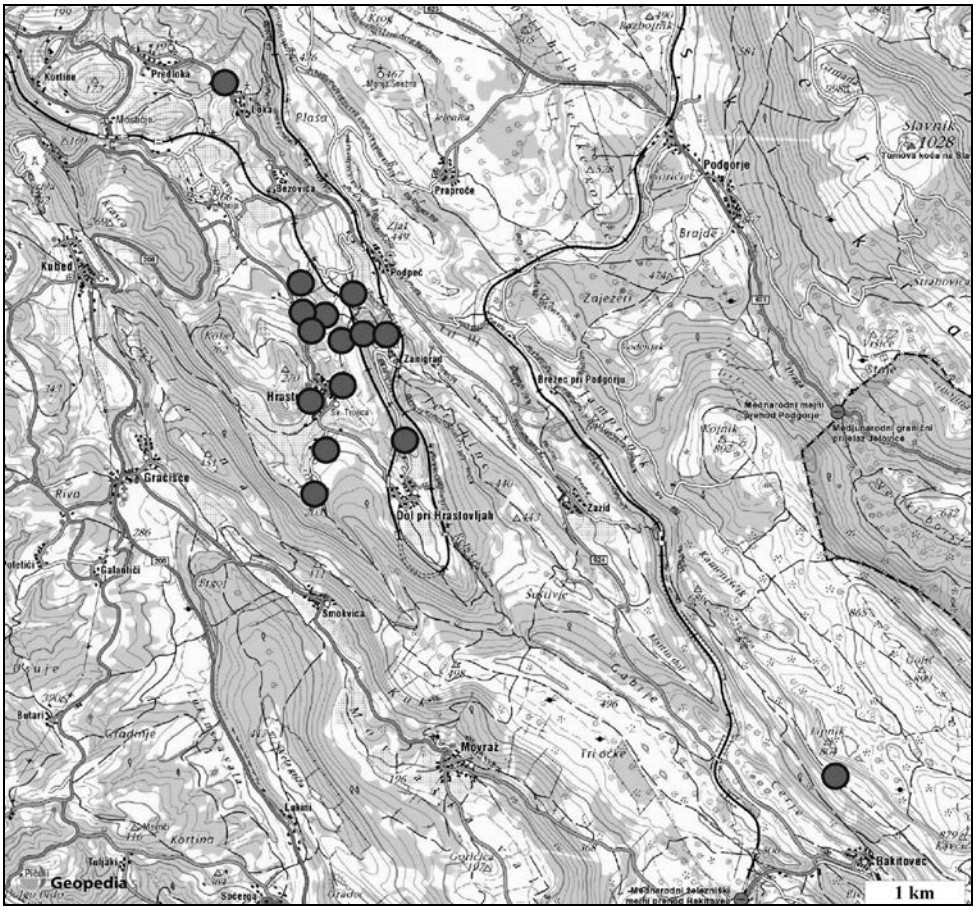

Figure 1. The recent distribution (records after year 1999) of the Osiris Blue (*Cupido osiris*) in Slovenia.
Slika 1. Recentna razširjenost (podatki po letu 1999) modrega kupida (*Cupido osiris*) v Sloveniji.

The species is listed as endangered (E) in Slovenian Red List (Uradni list 2002) due to the severe contraction of its range and the specific nature of its larval habitat. Definitively its low abundances indicate that the habitats for the species in Slovenia are suboptimal, possibly due to climatic conditions and sparseness of suitable larval microhabitat. Certainly this is the key to understanding the threat status of the species; however, nothing is known on the larval ecology in Slovenia. In general, the abandonment of grasslands including the infrastructure (paths and roads) does pose the biggest threat in the long term, as larval host plant will become less abundant and widespread. It remains to be seen how the climatic changes will affect the Osiris Blue in Slovenia along the northern boundary of its distribution in the region.

Povzetek

Modri kupido je v Evropi razširjen pretežno v Mediteranu. Za Slovenijo je znanih le nekaj zgodovinskih najdb, ki pa razen v enem primeru niso preverljive. Vsekakor je vrsta nekoč živela v Vipavski dolini in na prodiščih Save v Ljubljanski kotlini. Recentni podatki so omejeni na območje Kraškega roba od Predloke do gore Lipnik. Tu je večina lokalitet skoncentrirana v okolici Hrastovelj, kar verjetno ponazarja sklenjeno razširjenost te vrste pri nas. Tudi podatek iz Predloke bi lahko šteli v območje sklenjene razširjenosti, nikakor pa ne najdbe na pobočjih gore Lipnik, kjer je bil metulj najden skoraj 500 m višje kot na drugih lokalitetah. Ponovitev te najdbe bi bila vsekakor zaželena.

Vrsta je v Sloveniji vezana na suha skalnata območja, poti in kolovoze, kjer deloma tudi na golih tleh uspeva larvalna gostiteljska rastlina, turška medena detelja (*Onobrychis* spp.). Ta je tudi pomemben vir nektarja za modrega kupida. Vrsta se pri nas pojavlja v nizkih gostotah, večinoma so opaženi le posamezni primerki na lokaliteto. To je verjetno odsev suboptimalnih klimatskih razmer in pomanjkanja ustreznega larvalnega mikrohabitata. Žal o larvalni biologiji vrste, ki je ključna za razumevanje njene ogroženosti, v Sloveniji ne vemo nič. V splošnem pa velja, da je glavni dejavnik ogrožanja opuščanje košnje suhih skalnatih travišč in infrastrukture (poti, kolovozi), ki vodi v zaraščanje in izgubo rastišč gostiteljske rastline.

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