

The first records of *Calocucullia celsiae* in Bosnia and Herzegovina (Lepidoptera: Noctuidae)

Prvi nalazi vrste *Calocucullia celsiae* u Bosni i Hercegovini (Lepidoptera: Noctuidae)

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Abstract

Calocucullia celsiae (Herrich-Schäffer, [1850]) is an easily recognizable noctuid species, differing from all other similar species in its subfamily. Within this survey, it was recorded at two localities in Bosnia and Herzegovina. Two specimens were collected near Hutovo village in the southern Herzegovina region in April 2023, and a single specimen was collected near Zoranovići village in the central part of the country in May 2023. These are the first records of this species for Bosnia and Herzegovina and the westernmost known data on the presence of this species on the Balkan Peninsula.

Keywords: owlet moths, fauna, distribution, diversity

Sažetak

Calocucullia celsiae (Herrich-Schäffer, [1850]) lako je prepoznatljiva vrsta sovice, koja se razlikuje od svih drugih sličnih vrsta unutar potporodice. Tijekom ovog istraživanja zabilježena je na dvama lokalitetima u Bosni i Hercegovini. Dva primjerka sakupljena su kod sela Hutovo u južnoj Hercegovini u travnju 2023. godine, a jedan primjerak sakupljen je u blizini sela Zoranovići u središnjem dijelu zemlje u svibnju 2023. Ovo su prvi nalazi ove vrste za Bosnu i Hercegovinu.

Ključne riječi: sovice, fauna, rasprostranjenost, raznolikost

Introduction – Uvod

Calocucullia celsiae Herrich-Schäffer, 1850 is an unmistakable owlet moth species. Its forewings are dark chocolate-brown with a pale ochreous marginal area and as such it is unique within the Palaearctic Cuculliini (Ronkay and Ronkay 1994). The forewing is squat with a pointed tip and a dentate outer border. The hindwing is brownish grey. With a wingspan of 31-35 mm, it belongs to the smaller species of the subfamily Cuculinae. This is the only species in the monotypic genus *Calocucullia* Ronkay and Ronkay, 1987 described so far.

It is a Ponto-Mediterranean-Iranian species, in Europe distributed in the wider area of the Balkans (Ronkay and Ronkay 1994). It has not been recorded in some of the Balkan countries including Croatia and Bosnia and Herzegovina. To our knowledge, Serbia

is the only neighbouring country with species records (Stojanović 2012, Beshkov and Nahirnić 2016). In this work, two new records of this species in Bosnia and Herzegovina are presented which are also the westernmost known data on the presence of this species on the Balkan Peninsula (Ronkay and Ronkay 1994) (Figure 1).

Materials and Methods – Materijali i metode

Two 6W 12V portable heath moth traps were used per locality. They were left on both sites for one night and collected the following morning. The specimens were set, identified, and stored in the entomological collection of the National Museum of Bosnia and Herzegovina (loc. 1) and the private collection of the first author (loc. 2).



Figure 1 New records of *Calocucullia celsiae* (Herrich-Schäfer, [1850]) from Bosnia and Herzegovina. The other countries where this species is recorded are shown in light grey colour.

Slika 1. Novi nalazi *Calocucullia celsiae* (Herrich-Schäfer, [1850]) iz Bosne i Hercegovine. Ostale države u kojima je vrsta zabilježena obojane su svijetlo sivom bojom.

Examined material: Bosnia and Herzegovina, Hutovo village below Prielj, 42,976944 N, 17,789722 E, 8.4.2023, 2 ex., leg. D. Kulijer (loc 1); Igman Mt., north of Zoranovići village, 43,757900 N, 18,338103 E, 7.5.2023, 1 ex., leg. D. Kulijer (loc 2).



Figure 2 *Calocucullia celsiae* (Herrich-Schäffer, [1850]) and its habitat in Bosnia and Herzegovina: a-b) Hutovo village below Prielj (8.4.2023), c-d) Igman Mt., north of Zoranovići village (7.5.2023) (photo: D.Kulijer).

Slika 2. *Calocucullia celsiae* (Herrich-Schäffer, [1850]) i njena staništa u Bosni i Hercegovini: a-b) Hutovo village below Prielj (8.4.2023), c-d) Igman Mt., north of Zoranovići village (7.5.2023) (fotografije: D.Kulijer).

Results and discussion – *Rezultati i rasprava*

This is an early spring species that is active from the end of March to the second half of May. It is a poorly known species with the adults occurring in a given locality only for a short period (Ronkay and Ronkay 1994). The recording dates from Bosnia and Herzegovina correspond to the known flight period in Europe.

In Bosnia and Herzegovina, the species was found in two biogeographical regions of the country, the Mediterranean (loc. 1., Figure 2a-b) and Alpine (loc. 2, Figure 2c-d). The southern location is in the warm sub-Mediterranean part of the country close to the Adriatic coast, while the second is in a much colder continental mountain area.

At the southern Hutovo site, typical sub-Mediterranean vegetation is developed. It is a warm rocky area, dominated by oriental hornbeam, *Carpinus orientalis* Mill. and downy oak, *Quercus pubescens* Willd., but tall trees are rare. It is mostly shrubland with small open spaces.

The second location is situated on the east side of Igman Mt., the mountain that belongs to the high mountain belt stretching across the central part of the country. The finding site is a small, open, and partly rocky slope along the dirt road that goes through the mixed broadleaved forest.

Although these regions differ greatly in climate and vegetation, common to both locations is the presence of at least some small fragments of open karstic and rocky grasslands and shrublands. These habitats at least partly correspond to the ones described

by Ronkay and Ronkay (1994) for the species, dry and warm hilly slopes, montane grasslands, karstic grasslands, and gorges. However, these are only isolated findings of adult specimens and habitats, or possibly food plants were not investigated. Based on this it is hard to define the exact species habitat in Bosnia and Herzegovina, particularly considering the presence of other habitats in the vicinity of the traps. The next step should be to try to find the caterpillars and identify their food plant(s).

The food preference of the species is insufficiently known (Lepiforum e.V. 2024), In Bulgaria *Hesperis tristis* L. (syn. *Hesperis desertorum* Vel.) is reported (Rebel 1903), while in Cyprus it is found on *Scutellaria cypria* Rech. f. (Wagner, 2018). *Scutellaria cypria* is endemic to Cyprus and *H. tristis* is present only in the eastern part of the Balkan Peninsula (Marhold 2011, Lepiforum e.V., 2024). In Bosnia and Herzegovina, the food plant must be some other species, possibly from one of these genera. Wagner (2018) stated that in all areas where the species is found, there are also some *Scutellaria* species. Both genera are also present in Bosnia and Herzegovina, with some endemic species, e.g. *Hesperis dinarica* Beck, that are widespread in the mountain region of the country (Šilić 1990) or *Scutellaria altissima* L. common species in various sub-Mediterranean and continental broadleaved forests and shrublands (Šilić 1988).

With these records, the moth fauna of Bosnia and Herzegovina is richer for a new genus and species (Rebel 1904, Lelo 2004). In all probability, with additional surveys, other populations of this species will probably be recorded, within and around the country.

Author Contributions

T.K., writing—original draft preparation, D.K. collecting of the material, writing—review and editing, visualization. All authors have read and agreed to the published version of the manuscript.

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