

**GERANIUM BRONZE, *CACYREUS MARSHALLI* BUTLER, 1897 –  
NEW BUTTERFLY SPECIES FOR FAUNA OF SERBIA  
(PAPILIONIDEA: LYCAENIDAE)**

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**Abstract** – Butterfly species *Cacyreus marshalli* was recorded on October 1, 2020 in the city of Niš, which represents the first record in the territory of Serbia. It is also the first allochthonous butterfly species in Serbia and its discovery brought the number of species in Serbian fauna to 200. The specimen was identified from the photograph submitted to a Facebook group, which indicates significance of such social network groups which bring together insect lovers and enthusiasts of citizen science, especially regarding registering of invasive and allochthonous species.

**KEY WORDS:** allochthonous species, citizen science, Lycaenidae, social networks

**Izveleček** – PELARGONIJEV BAKRENČEK, *CACYREUS MARSHALLI* BUTLER, 1897 – NOVA VRSTA METULJA V FAVNI SRBIJE (PAPILIONIDEA: LYCAENIDAE)

Metulj *Cacyreus marshalli* je bil zabeležen 1. oktobra leta 2020 v mestu Niš, kar je prva najdba na ozemlju Srbije. Je tudi prva tujerodna vrsta metulja v Srbiji in njegovo odkritje zvišuje število vrst v srbski favni na 200. Primerek je bil določen s fotografije, objavljene v Facebook skupini, kar kaže na pomen takšnih družabnih omrežnih skupin, ki združujejo ljubitelje žuželk in navdušence za ljudsko znanost, posebno pri beleženju invazivnih in tujerodnih vrst.

**KLJUČNE BESEDE:** tujerodne vrste, ljudska znanost, Lycaenidae, družabna omrežja

*Cacyreus marshalli* Butler, 1897 is an African butterfly species from the family Lycaenidae, native to Mozambique, South Africa, Lesotho, Swaziland, Zambia and Zimbabwe (Clark & Dickson 1971; Heaths et al. 2002). The first record of the species in Europe came from England in 1978, when caterpillars were found (Heaths et al.

2002). The first adult *C. marshalli* was recorded in Balearic Islands in 1990 and after that it spread over a large part of the continent, primarily in Mediterranean region (Sarto i Monteys 1992). For countries in vicinity of Serbia it was recorded in Slovenia and Croatia in 2008, while in Bosnia and Herzegovina and Montenegro it was recorded just in 2016 (Kosmač & Verovnik 2009; Verovnik et al. 2011; Kućinić et al. 2014; Glavendekić et al. 2016; Koren & Kulijer 2016; Franeta 2018). Actually *C. marshalli* was observed in Montenegro already in 2015, but that record remained unpublished (Stojanović D. Z., pers. comm.).

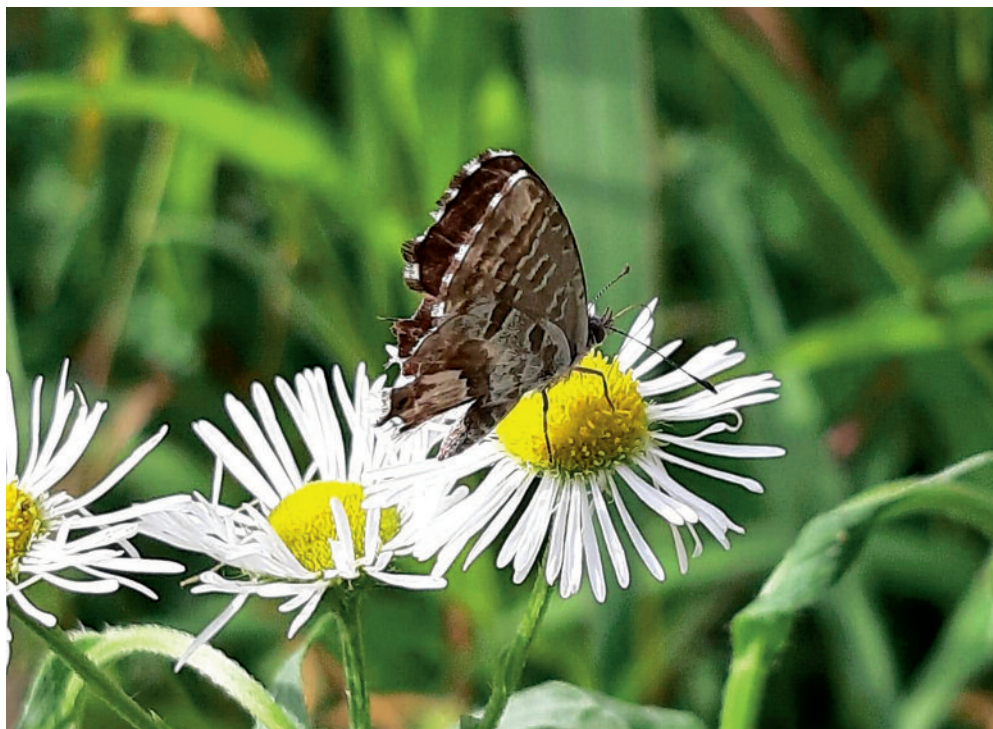
Caterpillars of this butterfly feed primarily on *Pelargonium* spp., and those are commonly cultured decorative plants both in Serbia and Europe. Quacchia et al. (2008) examined if there was a possibility for that species to become a threat to autochthonous *Geranium* spp. feeding butterflies, and concluded that *C. marshalli* larvae could develop on these plants, and that in absence of *Pelargonium*, they lay eggs on *Geranium*. *C. marshalli* could therefore potentially compete with autochthonous species such as *Aricia nicias* Meigen, 1830 and *Eumedonia eumedon* (Esper, 1780) (Quacchia et al. 2008).

On October 21, 2020, the first author, Slađana Milojković uploaded photos of *C. marshalli* to Facebook group “Лептири Србије (Leptiri Srbije, Butterflies of Serbia)”. Photographs were taken 20 days earlier in Niš, one of Serbian cities. Once specimen was identified from the photograph, other authors contacted the first author and inform her it was an invasive species, not previously recorded in Serbia. The discovery of this invasive species, but also numerous other invasive and unrecorded species being reported on social networks indicate significance of social network groups that bring together amateurs, enthusiasts, photographers, and all other people interested in certain group of organisms (Gonella et al. 2015; Skejo et al. 2016; Rahayu & Rodda 2019). The record was entered into Alciphron database (Miljević et al. 2014).

### *Cacyreus marshalli* (Fig. 1).

The first record in Serbia: Niš, Palilula, near Gymnasium Svetozar Marković (Decimal Degrees: Latitude: 43.312538 Longitude: 21.886389), 1.10.2020., specimen photographed by S. Milojković, on green area. In the vicinity of the place where the specimen was photographed, Gymnasium garden, old cemetery and numerous green areas are present. As in other parts of Serbia, *Pelargonium* spp. are common and often cultivated plants.

A single specimen was photographed on flowers of invasive plant *Erigeron annuus* (L.) Pers., in the urban part of Niš, largest city in southern Serbia. Previously there were 199 butterfly species registered in Serbia, so recording of this species brought the total to 200 (Popović & Verovnik 2018). This is also the first allochthonous butterfly species recorded in Serbia. Possibility of appearance of *C. marshalli* in Serbia was predicted by many, and specifically was mentioned in Glavendekić & Čavlović (2019) based on the research of damage this butterfly caused in Montenegro. *C. marshalli* is a thermophilous species so it is likely it will not be able to form stable pop-



**Figure 1:** First specimen of *Cacyreus marshalli* registered in Serbia from the city of Niš (photo: S. Milojković).

ulations under continental climate of Serbia. Butterfly's host plants, *Pelargonium* spp. are however very common decorative plants in Serbia, in most cases cultivated indoors during winter.

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