

FIRST STUDY OF THE BUTTERFLIES (LEPIDOPTERA: PAPILIONOIDEA) OF MT. MUČANJ

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Abstract

Mučanj is a mountain located in western Serbia, surrounded by three rivers: the Grabovica, Presečka reka and Veliki Rzav. The nearest mountains are Javor and Golija and the closest town is Ivanjica. In entomological terms it is virtually unexplored. The authors visited it on several occasions from 2008 to 2011 and provide here a first overview of its butterfly fauna. During this period a total number of 111 species was recorded – Hesperidae 14, Papilionidae 3, Pieridae 12, Riodinidae 1, Lycaenidae 30, Nymphalidae 51. This number will certainly increase with future studies, but even now proves this mountain has exceptional butterfly diversity. Among the species discovered, *Colias caucasica* Staudinger, 1871 requires special attention, for it was previously known in Serbia only from Mt. Kopaonik. Important populations of some rare butterflies were found, like *Coenonympha orientalis* Rebel 1910 and *Polyommatus eros* (Ochsenheimer 1808).

KEY WORDS: butterflies, Papilionoidea, Mt. Mučanj, *Colias caucasica*, *Coenonympha orientalis*, *Polyommatus eros*, faunistics

Introduction

Although there are several published papers on butterflies and moths of western Serbia (DODOK, 2003a, 2003b, 2006; ĐURIĆ, 2007; JAKŠIĆ, 2008), no data on this group of insects were ever published with regard to Mučanj and Javor Mountains, or to river valleys in the area. This is one reason why the authors of this paper decided to explore Mt. Mučanj and its wider area. Eight locations were chosen on which the study was focused, starting from the lower points at the base of the mountain, to the peak Veliki Mučanj.

In four years (2008-2011) those 8 locations were studied in various spring and summer months, and preliminary results already rank Mt. Mučanj among the richest butterfly areas in Serbia.

Table I. Locations explored on Mt. Mučanj.

Location	Altitude (m)	Number of visits
1 Vodica	842	2
2 Livade (Čepovo)	989	1
3 Češalj	1038	4
4 Niz Grabovicu (Delkape)	596	3
5 Vujasi (Stiško brdo)	856	4
6 Bela crkva	661	7
7 Česma (Pastirska česma)	1353	8
8 Savina voda	1478	8

In order to show the position of the explored locations on Mt. Mučanj a map is provided. Due to limited available time and because of easier access to the eastern part, the western parts of the mountain remained unexplored. This will be a task to accomplish in the coming years. Among the examined locations the most rewarding of all proved to be Savina Voda and Bela Crkva, numbered 6 and 8 on the map. The wide line shows the limits of Mt. Mučanj.

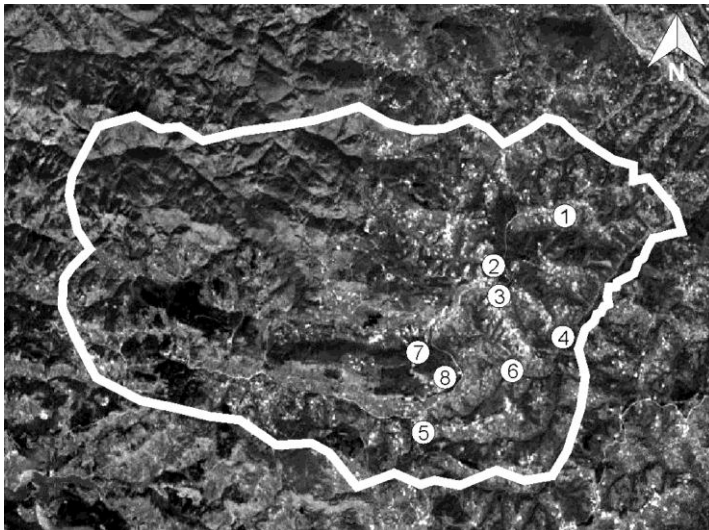


Figure 1. Explored locations on Mt. Mučanj (according to Tab. I).

Mučanj, a predominantly calcareous mountain situated in western Serbia close to the town of Ivanjica, spreads from 43°32'44.79" to 43°33'00.06" N, and from 20°02'54.37" to 19°57'38.60" E. There are opinions that Čemernica Mountain to the south is a part of Mučanj, but there are also opposing opinions that Mučanj is just a peak of Čemernica (ĐOKIĆ, 2005). However, the mountain reaches an altitude of 1534 m on the peak named Klekov vrh or Veliki Mučanj, with another two important summits, Srednji Mučanj (1424 m) and Mali Mučanj (1395 m). The neighbouring mountains are Golija and Javor, separated from Mučanj by the Grabovica, Veliki Rzav and Presečka Rivers.

Mt. Mučanj is made predominantly of Mesozoic sediments overlapping a Palaeozoic base. Besides Triassic marls and sandstones, Jurassic limestones are also found, mostly in the highest parts of the mountain (STOJANOVIĆ, pers. comm.).

The dominant forests on the northwestern part of the mountain consist of beech trees – *Fagus sylvatica* ssp. *moesiaca* (Maly); on the northeastern sides in addition to beech *Ostrya carpinifolia* (Scop.) also occurs; while on the southern, southeastern and southwestern slopes forests consist predominantly of *Ostrya carpinifolia* (Scop.) (STANIĆ, 1990). Oak (*Quercus* sp.) forests are not present on the mountain, most probably because of anthropogenic activity, while areas with coniferous forests are planted.

In the higher parts of the mountain various plant associations can be found. Some of them are: *Orno-Ostryetum* Aichinger 1933, *Potentillo-Festucetum valesiacae* Niketić 1986, *Seslerio tenuifoliae-Ostryetum* Vukojičić & Lakušić 1995, *Achnatheretum calamagrostis* Br.-Bl. 1918, *Carici laevis-Leontopodietum alpinii* Stanić & Lakušić (Stanić, 1990), *Festuco-Dianthetum petraeae* Vukojičić & Lakušić, *Edraiantho-Achantheretum calamagrostis* Vukojičić & Lakušić, *Luzulo-Calamagrostietum variaae* Vukojičić & Lakušić (Vukojičić & Lakušić, 1994), *Edraiantho jugoslavicii-Hieracietum humile* Stanić & Lakušić (Stanić & Lakušić, 1993).

A total number of 266 vascular plant species is recorded for Mt. Mučanj, most of which inhabit rocks, cliffs and the steep slopes of the higher peaks of the mountain (STANIĆ, 1990).

The lower parts of the mountain consist mainly of pastures and meadows used for crop growing and for traditional grazing. These activities obviously have had a large impact: only in small areas is significant biodiversity preserved.

Material and Methods

All data presented in this paper are a result of a four-year study by the authors. Exact coordinates and altitudes were recorded using a Garmin GPS device, with additional altitude check by Internet mapping tools (GoogleEarth, GoogleMap). The altitude span for the chosen locations is in the range of 596-1534 m a.s.l. Butterflies were observed and photographed. In cases where determination was uncertain, specimens were collected and genitalia analysed. The second author performed dissection following conventional methods and material was kept for further analyses.

The nomenclature follows Karsholt & van Nieukerken, which is applied in both Fauna Europaea (www.faunaeur.org) and the European Red List of Butterflies (VAN SWAAY *et al.*, 2010).



Figure 2. Steep slopes near Savina Voda.

Results and discussion

The results of the first study of Mt. Mučanj show that the butterfly diversity of this mountain is high and ranks it near the top on the list of some of the richest regions of Serbia (JAKŠIĆ, 2008). It should be noted that the listed regions were not explored to the same extent, so this comparison is given for illustration purposes only. The last column shows that, if PBA target species criteria were applied, Mučanj would have 18 of the target species, which would place this mountain at the top of the list. This means a large part of its diversity consists of species requiring special interest.

Table II. Comparison of some research sites in Serbia.

Some butterfly-rich regions	Number of species	Number of PBA target species
Tara	140	16
Kopaonik	138	17
Stara Planina	134	14
Fruška Gora	113	12
Mučanj	111	18
Rtanj	102	11
Stol-Veliki Krš	101	15
Povlen	95	10
Devica	87	8
Besna Kobilica	67	5

The recorded species are given in accordance with the mentioned nomenclature. "No. of records" indicates how many times a species was recorded during the research at Mt. Mučanj. "Earliest date" and "Latest date" of species records should give a rough idea of the period of the year when the mentioned butterfly is to be found. "Lowest altitude" and "Highest altitude" show the altitude span of the mentioned species.

Table III. Species recorded on Mt. Mučanj.

Species	Number of records	Earliest date	Latest date	Lowest altitude (m)	Highest altitude (m)
Hesperiidae					
<i>Erynnis tages</i> (Linnaeus 1758)	6	23 May	25 Aug	655	1534
<i>Carcharodus alceae</i> (Esper 1780)	4	28 Apr	24 Aug	665	1168
<i>Carcharodus floccifera</i> (Zeller 1847)	1	12 June	12 June	596	596
<i>Spialia orbifer</i> (Hubner 1823)	5	23 May	3 July	1038	1477
<i>Pyrgus carthami</i> (Hubner 1813)	4	13 June	23 July	1465	1478
<i>Pyrgus malvae</i> (Linnaeus 1758)	7	23 May	3 July	655	1473
<i>Pyrgus serratulae</i> (Rambur 1839)	1	23 July	23 July	1477	1477
<i>Pyrgus amoricanus</i> (Oberthur 1910)	2	3 July	23 July	1355	1478
<i>Pyrgus alveus</i> (Hubner 1803)	2	3 July	3 July	1353	1478
<i>Carterocephalus palaemon</i> (Pallas 1771)	4	23 May	16 June	655	1477
<i>Thymelicus lineola</i> (Ochsenheimer 1808)	9	12 June	25 Aug	510	1477
<i>Thymelicus sylvestris</i> (Poda 1761)	6	14 June	23 July	665	1478
<i>Hesperia comma</i> (Linnaeus 1758)	2	25 Aug	25 Aug	1335	1532
<i>Ochlodes sylvanus</i> (Esper 1777)	9	24 May	23 July	655	1478
Papilionidae					
<i>Parnassius mnemosyne</i> (Linnaeus 1758)	6	23 May	11 July	655	1474
<i>Iphiclydes podalirius</i> (Linnaeus 1758)	4	23 May	16 June	655	1534
<i>Papilio machaon</i> Linnaeus 1758	8	28 Apr	25 Aug	846	1534
Pieridae					
<i>Leptidea sinapis</i> (Linnaeus 1758)	9	23 May	25 Aug	655	1517
<i>Anthocharis cardamines</i> (Linnaeus 1758)	3	23 May	17 June	655	1221
<i>Aporia crataegi</i> (Linnaeus 1758)	9	24 May	3 July	510	1447
<i>Pieris brassicae</i> (Linnaeus 1758)	3	14 June	3 July	989	1478
<i>Pieris rapae</i> (Linnaeus 1758)	9	24 May	25 Aug	655	1521
<i>Pieris manii</i> (Mayer 1851)	1	16 June	16 June	1359	1359
<i>Pieris ergane</i> (Geyer 1828)	1	25 Aug	25 Aug	1521	1521
<i>Pieris napi</i> (Linnaeus 1758)	9	23 May	25 Aug	527	1524
<i>Colias croceus</i> (Fourcroy 1785)	13	23 May	25 Aug	665	1434
<i>Colias caucasica</i> Staudinger 1871	4	13 June	11 July	1412	1484
<i>Colias alfacariensis</i> Ribbe 1905	2	24 May	24 Aug	655	1168
<i>Gonepteryx rhamni</i> (Linnaeus 1758)	4	23 May	3 July	675	1433

Species	Number of records	Earliest date	Latest date	Lowest altitude (m)	Highest altitude (m)
(Table III – continued)					
Riodinidae					
<i>Hamearis lucina</i> (Linnaeus 1758)	1	23 May	23 May	1473	1473
Lycaenidae					
<i>Lycaena dispar</i> (Haworth 1802)	7	23 May	18 June	510	1421
<i>Lycaena virgaureae</i> (Linnaeus 1758)	3	3 July	25 Aug	1168	1534
<i>Lycaena tityrus</i> (Poda 1761)	12	23 May	26 Aug	510	1511
<i>Lycaena alciphron</i> (Rottemburg 1775)	6	12 June	16 June	510	1415
<i>Lycaena hippothoe</i> (Linnaeus 1761)	5	24 May	16 June	596	1153
<i>Lycaena candens</i> (Herrich-Schaffner 1844)	2	3 July	11 July	1413	1478
<i>Lycaena thersamon</i> (Esper 1784)	1	24 Aug	24 Aug	1168	1168
<i>Callophrys rubi</i> (Linnaeus 1758)	2	23 May	24 May	655	1473
<i>Satyrrium spini</i> (Denis & Schiffermuller 1775)	4	2 July	23 July	1038	1477
<i>Satyrrium acaciae</i> (Fabricius 1787)	1	2 July	2 July	1038	1038
<i>Cupido minimus</i> (Fuessly 1775)	3	23 May	16 June	1386	1473
<i>Cupido decolorata</i> (Staudinger 1886)	1	24 May	24 May	655	655
<i>Celastrina argiolus</i> (Linnaeus 1758)	2	12 June	2 July	675	846
<i>Pseudophilotes vicrama</i> (Moore 1865)	2	23 May	23 July	1421	1477
<i>Scollitantides orion</i> (Pallas 1771)	3	24 May	18 June	510	708
<i>Glaucopteryx alexis</i> (Poda 1761)	3	23 May	16 June	655	1427
<i>Phengaris arion</i> (Linnaeus 1758)	3	2 July	3 July	1038	1353
<i>Phengaris alcon</i> (Denis & Schiffermuller 1775)	4	2 July	11 July	1038	1478
<i>Plebejus argus</i> (Linnaeus 1758)	1	16 June	16 June	1359	1359
<i>Plebejus idas</i> (Linnaeus 1761)	6	12 June	23 July	675	1494
<i>Aricia agestis</i> (Denis & Schiffermuller 1775)	2	24 May	23 July	655	1355
<i>Aricia artaxerxes</i> (Fabricius 1793)	2	3 July	23 July	1477	1478
<i>Aricia anteros</i> (Freyer 1838)	2	14 June	25 Aug	989	1335
<i>Cyaniris semiargus</i> (Rottemburg 1775)	10	24 May	3 July	596	1478
<i>Polyommatus dorylas</i> (Denis & Schiffermuller 1775)	2	16 June	25 Aug	1335	1404
<i>Polyommatus amandus</i> (Schneider 1792)	11	24 May	11 July	655	1465
<i>Polyommatus icarus</i> (Rottemburg 1775)	12	23 May	26 Aug	510	1530
<i>Polyommatus eros</i> (Ochsenheimer 1808)	2	16 June	3 July	1461	1483
<i>Polyommatus bellargus</i> (Rottemburg 1775)	1	12 June	12 June	510	510
<i>Polyommatus coridon</i> (Poda 1761)	2	25 Aug	25 Aug	1334	1535
Nymphalidae					
<i>Argynnis paphia</i> (Linnaeus 1758)	2	18 June	11 July	708	1413
<i>Argynnis aglaja</i> (Linnaeus 1758)	5	14 June	23 July	989	1478
<i>Argynnis adippe</i> (Denis & Schiffermuller 1775)	7	14 June	23 July	665	1478
<i>Argynnis niobe</i> (Linnaeus 1758)	2	3 July	23 July	1353	1477
<i>Issoria lathonia</i> (Linnaeus 1758)	11	23 May	26 Aug	596	1529
<i>Brenthis daphne</i> (Bergstrasser 1780)	8	12 June	23 July	510	1355
<i>Brenthis hecate</i> (Denis & Schiffermuller 1775)	4	12 June	3 July	510	1038

Species	Number of records	Earliest date	Latest date	Lowest altitude (m)	Highest altitude (m)
(Table III – continued)					
<i>Boloria euphrosyne</i> (Linnaeus 1758)	6	23 May	3 July	989	1478
<i>Boloria titania</i> (Esper 1793)	5	12 June	23 July	1164	1504
<i>Boloria dia</i> (Linnaeus 1767)	4	23 May	26 Aug	1167	1473
<i>Vanessa atalanta</i> (Linnaeus 1758)	6	23 May	24 Aug	527	1478
<i>Vanessa cardui</i> (Linnaeus 1758)	13	23 May	25 Aug	510	1531
<i>Aglais io</i> (Linnaeus 1758)	6	24 May	25 Aug	655	1531
<i>Aglais urticae</i> (Linnaeus 1758)	16	23 May	25 Aug	596	1528
<i>Polygonia c-album</i> (Linnaeus 1758)	7	12 June	25 Aug	527	1469
<i>Araschnia levana</i> (Linnaeus 1758)	5	24 May	23 July	655	1477
<i>Nymphalis polychloros</i> (Linnaeus 1758)	2	13 June	18 June	708	1465
<i>Nymphalis xanthomelas</i> (Esper 1781)	1	18 June	18 June	693	693
<i>Nymphalis vaualbum</i> (Denis & Schiffermuller 1775)	1	13 June	13 June	1288	1288
<i>Euphydryas maturna</i> (Linnaeus 1758)	5	24 May	16 June	527	1359
<i>Euphydryas aurinia</i> (Rottemburg 1775)	8	23 May	16 June	596	1465
<i>Melitaea cinxia</i> (Linnaeus 1758)	6	23 May	3 July	655	1478
<i>Melitaea phoebe</i> (Denis & Schiffermuller 1775)	5	12 June	23 Jul	675	1466
<i>Melitaea trivia</i> (Denis & Schiffermuller 1775)	5	13 June	23 July	989	1494
<i>Melitaea didyma</i> (Esper 1778)	5	12 June	23 July	510	1462
<i>Melitaea diamina</i> (Lang 1789)	6	12 June	3 July	510	1478
<i>Melitaea aurelia</i> Nickerl 1850	9	13 June	23 July	665	1477
<i>Melitaea athalia</i> (Rottemburg 1775)	9	23 May	23 July	510	1473
<i>Limnitis populi</i> (Linnaeus 1758)	1	18 June	18 June	708	708
<i>Neptis sappho</i> (Pallas 1771)	2	24 May	14 June	647	669
<i>Apatura ilia</i> (Denis & Schiffermuller 1775)	2	14 June	18 June	665	708
<i>Apatura iris</i> (Linnaeus 1758)	2	16 June	18 June	708	1267
<i>Pararge aegeria</i> (Linnaeus 1758)	3	23 May	12 June	527	1473
<i>Lasiommata megera</i> (Linnaeus 1767)	3	23 May	25 Aug	1168	1428
<i>Lasiommata petropolitana</i> (Fabricius 1787)	1	23 May	23 May	1473	1473
<i>Lasiommata maera</i> (Linnaeus 1758)	8	23 May	23 July	1321	1478
<i>Coenonympha arcania</i> (Linnaeus 1761)	10	12 June	23 July	665	1473
<i>Coenonympha glycerion</i> (Borkhausen 1788)	2	14 June	16 June	665	1342
<i>Coenonympha orientalis</i> Rebel 1910	3	13 June	3 July	1362	1511
<i>Coenonympha pamphilus</i> (Linnaeus 1758)	18	23 May	25 Aug	510	1489
<i>Aphantopus hyperantus</i> (Linnaeus 1758)	5	2 July	23 July	1038	1436
<i>Maniola jurtina</i> (Linnaeus 1758)	14	12 June	26 Aug	665	1416
<i>Hyponephele lycaon</i> (Rottemburg 1775)	1	25 Aug	25 Aug	1335	1335
<i>Erebia ilgea</i> (Linnaeus 1758)	4	3 July	23 July	1413	1478
<i>Erebia euryale</i> (Esper 1805)	2	3 July	23 July	1446	1478
<i>Erebia aethiops</i> (Esper 1777)	1	23 July	23 July	1477	1477
<i>Erebia medusa</i> (Denis & Schiffermuller 1775)	11	23 May	11 July	596	1473
<i>Melanargia galathea</i> (Linnaeus 1758)	11	17 June	25 Aug	665	1534

Species	Number of records	Earliest date	Latest date	Lowest altitude (m)	Highest altitude (m)
(Table III – continued)					
<i>Nymphalidae</i>					
<i>Satyrus ferula</i> (Fabricius 1793)	2	24 Aug	25 Aug	1332	1535
<i>Brintesia circe</i> (Fabricius 1775)	3	2 July	25 Aug	846	1511
<i>Chazara briseis</i> (Linnaeus 1764)	1	25 Aug	25 Aug	1335	1335

The finding of *C. caucasica* certainly deserves the most attention among the recorded species. The butterfly had been known in Serbia only from Mt. Kopaonik, so Mt. Mučanj represents an important second location (FRANETA & ĐURIĆ, 2011). This finding is important at the European level as well, since colonies of this species are not so numerous, and some of them are supposed to be extinct (FRANETA & ĐURIĆ, 2011). It is interesting to note that this species was later found on nearby Mt. Javor (FRANETA & ĐURIĆ, 2011), and that in Serbia only these three mountains where *C. caucasica* lives (Kopaonik, Mučanj and Javor) are also home to the glacial relict *Leontopodium alpinum* (Cass.) (TOMOVIĆ, pers. comm.).

Two other interesting species are certainly *N. xanthomelas* and *N. vaualbum*. The first one is present sporadically in eastern Europe and seldom registered in Serbia, while the other one is even rarer in Europe. The discovery of *N. vaualbum* on Mt. Mučanj is just another one in a series of such recent records (POPOVIĆ & ĐURIĆ, 2010). In both cases only a single fresh specimen was observed. Both species deserve further study in order to assess if they form stable colonies on Mt. Mučanj or represent only occasional migrants.

Another important finding is a stable and numerous population of *Coenonympha orientalis*. Opinions on the validity of this species varied and different authors considered it a subspecies of either *C. leander* or *C. gardetta* (CUVELIER & ĐURIĆ, 2010). The matters were sorted only recently, and *C. orientalis* is now considered a separate species (VAN SWAAY *et al.*, 2010). Its lifecycle and precise distribution still remain to be better studied and described. New data from Mt. Mučanj might help in establishing a typical habitat for the species, but they undoubtedly show that the colony is at its peak in mid-June, while in July only occasional specimen can be found (POPOVIĆ & ĐURIĆ, 2011).

It is also important to mention a population of *Polyommatus eros*, found in good numbers in Savina Voda, near the top of Veliki Mučanj. The examined specimens belong to ssp. *eroides* (Fivaldszky, 1835), which until recently was treated as a separate species.

Among the explored locations the richest and most diverse habitats proved to be Savina Voda and Bela Crkva. The first one is typical rocky montane grassland meadow in the vicinity of Veliki Mučanj peak, with scattered juniper trees and nearby scree slopes. Currently, excessive logging seriously threatens that small area, particularly given that it can easily cause landslides. The other factor with negative impact on biodiversity is the transformation of certain parts into crop fields. All other threats, like hiking outside marked paths and eventual unsecure grass burning, seem to represent a minor danger.

The second site is a secluded valley near the river (Brezovačka reka), where habitat preservation is even more dependent on human activities. The majority of species were found in those two locations, but visiting other sites was important in order to get a valid insight into the butterfly diversity of this area. It leads to the conclusion that the study of other locations on Mt. Mučanj, especially its western part, and additional visits on different dates will certainly bring a more detailed insight into this fascinating mountain.

Mt. Mučanj is not included among the Prime butterfly areas nor among the Important bird areas of Serbia, but its well preserved habitats and flora and fauna richness definitely make it a very good candidate for certain conservation measures.

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References

- CUVELIER, S. & ĐURIĆ, M., 2010. Genus *Coenonympha* (Hübner, 1819) in the Western Balkans (Serbia, Montenegro & Bosnia-Herzegovina). New data on the distribution and notes on taxonomy. CLB/BLK XXXIX/1: 10-16. [in French & Dutch]
- DODOK, I., 2003a. The butterfly fauna (Lepidoptera: Hesperioidea and Papilionoidea) in the gorge of the Djetinja River in West Serbia. *Zaštita prirode*, 54: 89-105.
- DODOK, I., 2003b. Noctuidae (Lepidoptera) of the Užice region (Western Serbia), *Acta entomologica serbica*, 8(1/2): 1-13.
- DODOK, I., 2006. The fauna of Geometridae (Lepidoptera) in the region of Užice in Western Serbia, *Acta entomologica serbica*, 11(1/2): 61-75.
- ĐOKIĆ, J., 2005. Catalogue of mountains of Serbia. PSD Kopaonik, Beograd, 16 pp. [in Serbian]
- ĐURIĆ, M., 2007. The butterflies of mountains of the Valjevo region (Lepidoptera: Hesperioidea and Papilionoidea), *Acta entomologica serbica*, 12(2): 43-53.
- FRANETA, F. & ĐURIĆ, M., 2011. On the distribution of *Colias caucasica balcanica* Rebel, 1901, with two new records for Serbia (Lepidoptera: Pieridae), *NEVA*, 32(1/2): 31-37.
- JAKŠIĆ, P., 2008. Prime Butterfly Areas: A tool for nature conservation in Serbia. HabiProt, Belgrade, 223 pp.
- POPOVIĆ, M. & ĐURIĆ, M., 2010. New finding of two rare nymphalids in Serbia (Lepidoptera: Nymphalidae), *NEVA*, 31(3): 169-172.
- POPOVIĆ, M. & ĐURIĆ, M., 2011. Butterflies fieldguide [in Serbian], HabiProt, Beograd, 198 pp.
- STANIĆ, S., 1990. Flora and vegetation of rocks, stony places and screes of Mt. Mučanj. Diplom work (manusc.), University of Belgrade, Faculty of Biology. [in Serbian]
- STANIĆ, S. & LAKUŠIĆ, D., 1993: *Edriantho jugoslavici-Hieracietum humile* i *Carici laevis-Leontopodietum alpini*, nove hazmofitske zajednice na krečnjacima planine Mučanj (JZ Srbija) - *Edriantho jugoslavici-Hieracietum humile* and *Carici laevis-Leontopodietum alpini*, the new chasmophytic communities on the limestone of Mučanj mountain (SW Serbia). *Glasn. Inst. Bot. Bašte Univ. Beograd*, 24-25: 21-31.
- VAN SWAAY, C.A.M., CUTTELOD, A., COLLINS, S., MAES, D., MUNGUIRA, M.L., ŠAŠIĆ, M., SETTELE, J., VEROVNIK, R., VERSTRAEL, T., WARREN, M.S., WIEMERS, M. & WYNHOFF, I., 2010. European Red List of Butterflies, Publications Office of the European Union, Luxembourg, 47 pp.
- VUKOJIČIĆ, S. & LAKUŠIĆ, D., 1994. Screes and tall herb vegetation of the Mučanj mountain (SW Serbia). *Glasn. Inst. Bot. Bašte Univ. Beograd*, 28: 221-235.

ПРВО ИЗУЧАВАЊЕ ДНЕВНИХ ЛЕПТИРА (LEPIDOPTERA: PAPILIONOIDEA) МУЧЊА

МИЛАН ЂУРИЋ И ФИЛИП ФРАНЕТА

Извод

Мучањ је планина у западној Србији, омеђена рекама Грабовица, Пресечка река и Велики Рзав. Најближе планине су Јавор и Голија, а најближи град Ивањица. У ентомолошком смислу је била скоро сасвим неистражена. Аутори су је посећивали у неколико наврата од 2008. до 2011. и овде дају први преглед њене фауне дневних лептира. У том периоду регистровано је укупно 111 врста - Hesperidae 14, Papilionidae 3, Pieridae 12, Riodinidae 1, Lycaenidae 30, Nymphalidae 51. Тај број ће сигурно бити увећан даљим проучавањима, али већ доказује да је то планина са изузетном разноликошћу дневних лептира. Међу откривеним врстама посебну пажњу заслужује *Colias caucasica* Staudinger, 1871 јер је у Србији претходно била позната само са Копаоника. Нађене су значајне популације неких ретких врста лептира, као што су *Coenonympha orientalis* Rebel 1910 и *Polyommatus eros* (Ochsenheimer 1808).

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