

Crvena lista dnevnih leptira Crne Gore

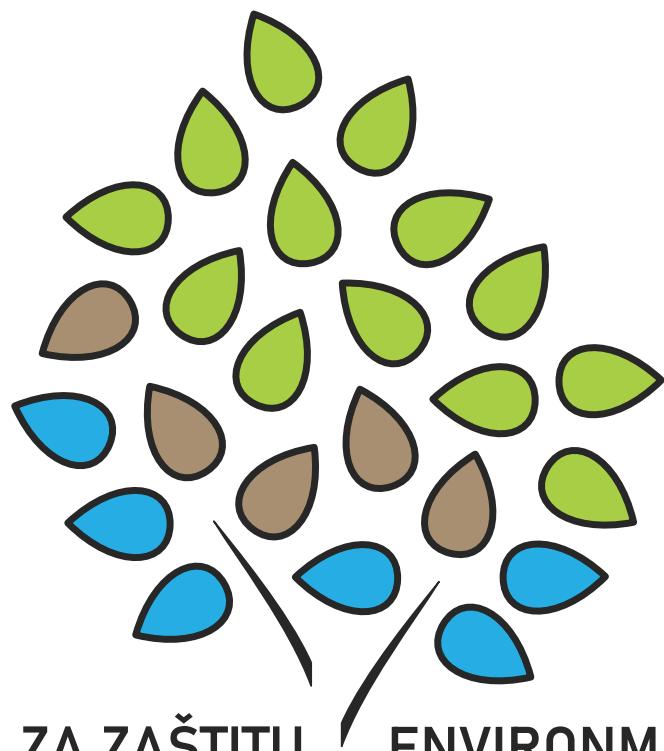
**Red list of Butterflies
of Montenegro**



Podgorica, jul 2023



AGENCIJA ZA ZAŠTITU
ŽIVOTNE SREDINE
CRNE GORE
ENVIRONMENTAL
PROTECTION AGENCY
OF MONTENEGRO



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Agencija za zaštitu životne sredine Crne Gore
Environmental Protection Agency of Montenegro

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Uvodna riječ

Poštovani čitatelji i čitateljke

Gotovo pet decenija međunarodna organizacija IUCN preko svojih crvenih lista i crvenih knjiga ukazuje na stepen ugroženosti biljnog, životinjskog i svijeta gljiva.

Napravljene prema utvrđenim standardima, ova dokumenta jasne su smjernice gdje i na koji način ulagati u zaštitu prirode, jer je svaka izgubljena vrsta poraz za civilizaciju.

Posljednjih je godina intenzivnija poljoprivreda, besomučna legalna i ilegalna sjeća drveća, oduzimanje od prirode za potrebe izgradnje infrastrukture, zajedno sa sve učestalijim pošastima koje donose klimatske promjene na desetine vrsta dovela do ruba opstanka. Zato su izrade ovakvih dokumenata najbolja smjernica gdje i koliko hitno djelovati.

Crvena lista leptira dolazi nakon što smo uradili crvene liste ptica, vodozemaca i gmizavaca i riba. Ona pokazuje da je od zastupljenih 192 vrsta leptira, u Crnoj Gori u crvenoj zoni 35 vrsta.

Dr Milan Gazdić

direktor Agencije za zaštitu životne sredine



Foreword

Dear readers,

The international organisation IUCN has been bringing conservation status to plant, animal, and fungal life through its red lists and red books for almost five decades.

Prepared by the established standards, these documents are clear guidelines suggesting where and how to invest in nature protection because every lost species is a decline of a civilization.

In recent years, dozens of species became nearly extinct due to more intensive agricultural activity, reckless legal and illegal tree felling, deprivation of nature for infrastructure needs, and more frequent disasters caused by climate change. For this reason, preparing such documents lays down the best guidelines on where and how urgently to act.

The red lists of birds, amphibians, reptiles, and fish preceded the red list of butterflies. It shows that out of the 192 species of butterflies represented, 35 species are in the red zone in Montenegro.

Milan Gazdić, PhD

Director of the Environmental Protection Agency

Dr Milan Gazdić
direktor Agencije za
zaštitu životne sredine

Milan Gazdic, PhD
Director of
Environmental Protection
Agency of Montenegro



Aglais io
(Linnaeus, 1758)

Paunovac
Peacock Butterfly



Apatura iris
(Linnaeus, 1758)
Modri prelivac
Purple Emperor



Uvod

Insekti su najbrojnija grupa organizama na planeti Zemlji. Međutim, uslijed negativnih antropogenih uticaja, bilo direktno ili indirektno, biodiverzitet entomofaune se smanjuje, a brojne vrste širom svijeta postaju ugrožene. U svom radu Sánchez-Bayo i sar. (2019) navode dramatične stope opadanja brojnosti pojedinih insekatskih grupa, koje tokom narednih nekoliko decenija mogu dovesti do izumiranja 40% populacije vrsta insekata u svjetskim razmjerama. Kada su kopneni ekosistemi u pitanju, u najvećoj mjeri su ugroženi pripadnici redova Lepidoptera, Hymenoptera, te vrste familije Scarabaeidae iz reda Coleoptera, dok su četiri glavne vodene grupe (Odonata, Plecoptera, Trichoptera i Ephemeroptera) već izgubile značajan dio vrsta. Ugrožene grupe insekata ne uključuju samo specijalizovane vrste koje zauzimaju određene ekološke niše, već i mnoge uobičajene i opšte prisutne vrste.

Trend smanjenja broja vrsta leptira prisutan je još od ranije. Ilustracija snažnog smanjenja broja vrsta leptira u Flandriji (sjeverna Belgija) u XX vijeku, sa korišćenjem podataka iz nacionalne šeme mapiranja leptira, data je u radu Maes, D. & Dyck Van H., 2001, koji je prikazao da je 19 od 64 autohtone vrste izumrlo, a polovina preostalih vrsta je bila ugrožena.

Uobičajena je podjela pripadnika reda Lepidoptera na dnevne leptire (Rhopalocera), noćne leptire i molje (Heterocera), a koja se zasniva na periodu njihove aktivnosti. Ipak, činjenica je da su brojni predstavnici podreda Heterocera i te kako aktivni i tokom dana, a ne samo u sumrak i tokom noćnih časova.

Introduction

Insects are the most diverse group of organisms on planet Earth. However, negative anthropogenic effects, either direct or indirect, lead to a declining biodiversity of the entomofauna, with a number of species becoming endangered worldwide. In their paper, Sánchez-Bayo et al. (2019) report dramatic rates of decline that may lead to the extinction of 40% of the world's insect species over the next few decades. In terrestrial ecosystems, orders Lepidoptera, Hymenoptera, and species of the family Scarabaeidae from the order Coleoptera are the most affected, whereas four major aquatic taxa (Odonata, Plecoptera, Trichoptera, and Ephemeroptera) have already lost a considerable proportion of species. Affected insect groups include specialist species that occupy particular ecological niches as well as many common and generalist species.

The declining trend in the number of butterfly species started a long time ago. An illustration of the strong decrease in the number of butterfly species in Flanders (north Belgium) in the 20th century using data from a national butterfly mapping scheme was shown in the paper of Maes, D. & Dyck Van H., 2001, which presented that 19 of 64 indigenous species went extinct, and half of the remaining species were threatened.

Common classification of the order Lepidoptera involves their differentiation into diurnal butterflies (Rhopalocera) and nocturnal moths (Heterocera), which is based on the period of their activity. However, it is a fact that numerous representatives of the suborder Heterocera are active during the daytime as well, not only at dusk and in the nighttime hours.



Polyommatus icarus
(Rottemburg, 1775)

Obični plavac
Common Blue

Leptiri imaju važnu ekološku ulogu u prirodi. Osim što su neizostavna karika u lancu ishrane, njihova glavna uloga je opršavanje biljaka. Bez njih i drugih važnih insekata-oprašivača (pčele i osolike muve) – došlo bi do značajnog opadanja brojnosti biljaka koje su važne u lancu ishrane u prirodi, a što bi se u konačnici odrazilo i na ishranu čovjeka. Leptiri su ključni izvor hrane za različite životinje, kao što su ptice, slijepi miševi, vodozemci i gmizavci.

Leptiri su značajni pokazatelji (indikatori) kvaliteta životne sredine, s obzirom na njihov visok stepen specijalizacije odnosa domaćin-biljka i osjetljivost (ranjivost) na propadanje i gubitak staništa (Erhardt i Thomas, 1991). S obzirom na njihovo prisustvo u širokom spektru staništa, gubitak vrsta leptira može direktno uticati na pružanje ključnih usluga ekosistema kao što su opršavanje i prirodna kontrola „štetnih“ vrsta (Fox, 2013).

Faktori koji utiču na populacije leptira, odnosno njihova staništa jesu zarastanje livađskih i pašnjaka površina, kao njihovih najvažnijih staništa, napuštanje tradicionalnog načina poljoprivredne proizvodnje sa jedne i njeno intenziviranje sa druge strane, pritisci koje sa sobom donosi turistička privreda, što između ostalog podrazumijeva urbanizaciju, zatim klimatske promjene i druge faktore. Gubitkom njihovog prisustva na određenoj lokaciji ili području uočava se i ukupan pad biodiverziteta zbog njihove značajne uloge u ekosistemu.

Dnevni leptiri su zbog svoje atraktivnosti od davnina predstavljali predmet istraživanja velikog broja stručnjaka, naučnika i amatera. Naučna istraživanja se, osim na evidenciju prisutnosti vrsta i njihovu ekologiju, prije svega odnose na utvrđivanje uticaja različitih faktora koji ih ugrožavaju, kako bi se omogućila njihova konkretna i efikasna zaštita, a koja se prije svega odnosi na zaštitu njihovih staništa.

Butterflies play an important ecological role in nature. Besides being an indispensable link in the food chain, their major role is pollination. Without them and other important insect pollinators (bees and hoverflies), there would be a significant decrease in the number of plants that are important for the food chain in nature, which would ultimately affect human nutrition. Butterflies are a major source of food for a variety of animals, such as birds, bats, amphibians, and reptiles.

Butterflies are valuable indicators of environmental quality, considering their high degree of host-plant specialisation and sensitivity (vulnerability) to habitat deterioration and loss (Erhardt and Thomas, 1991). Given their presence in a broad range of habitats, the loss of butterfly species may directly impact the delivery of key ecosystem services such as pollination and natural “pest” control (Fox, 2013).

Factors that affect butterfly population, i.e., their habitats, are the overgrowth of meadow and pasture areas as their most important habitats, the abandonment of traditional farming practices on the one hand and its intensification on the other, the pressures put by the tourism industry, which, inter alia, implies urbanisation, climate change, and other factors. A total decline in biodiversity is perceived when they are absent in a certain location or area due to their significant role in the ecosystem.

Because of their attractiveness, butterflies have long been the subject of research by a large number of experts, scientists, and amateurs. Scientific research, in addition to recording the presence of species and their ecology, primarily refers to identifying the impact of various factors that threaten them in order to enable their actual and effective protection, which primarily refers to the protection of their habitats.



Lycaena alciphron
(Rottemburg, 1775)

Ljubičasti vatreni dukat
Purple-shot Copper

Jedan od prvih načina integralne zaštite prostora, a koja, između ostalog, podrazumiјeva i zaštitu svih prisutnih vrsta, kao i zaštitu leptira, jeste zaštitu Biogradske gore, sa sливом Biogradske rijeke i Jezerštice. Zaštitu područja datira još od 1878. godine. Integralna zaštita prostora nastavlja se 1952. godine, kada je donesen Zakon o nacionalnim parkovima, kojim se Biogradska gora, Lovćen i Durmitor prvi put proglašavaju nacionalnim parkovima, a kasnije i donošenjem Rješenja o zaštiti objekata prirode („Sl. list SRCG“ br 30/68), kojim se zabranjuje preduzimanje bilo kakvih radnji koje mogu prouzrokovati promjenu oblika ili izgleda zaštićenih objekata ili narušiti njihov integritet bez prethodne dozvole Republičkog zavoda za zaštitu prirode.

Nakon toga se u kontinuitetu nastavlja proglašavanje zaštićenih područja, gdje se štiti integritet čitavog prostora, a time i vrste koje žive na tom prostoru. Do danas se na listi zaštićenih područja nalazi 13,22% kopnenog, i 1,79% morskog dijela teritorije Crne Gore. Treba napomenuti da zaštitom područja nisu uspostavljeni adekvatni mehanizmi zaštite, prije svega zbog nepostojanja upravljačkih struktura za svako zaštićeno područje, ali i pored toga zaštićena područja predstavljaju „utočište“ za vrste koje žive na tom području. U članu 16 Zakona o nacionalnim parkovima između ostalog se propisuje da je zabranjeno „branje, sakupljanje i korišćenje nezaštićenih biljaka i gljiva, odnosno hvatanje i ubijanje nezaštićenih životinjskih vrsta u mjeri u kojoj se može ugroziti brojnost populacije“, a da bi se on ispoštovao, neophodne su kvalitetne mjere nadzora.

Prva lista zaštićenih vrsta životinja, biljaka i gljiva donijeta je 2006. godine, kada na snagu stupa i Rješenje o stavljanju pod zaštitu rijetkih, prorijedenih, endemičnih i ugroženih biljnih i životinjskih vrsta („Sl. list RCG“ br. 76/06), gdje su četiri vrste dnevnih leptira familije Papilionidae dobile status zaštite u Crnoj Gori: *Papilio machaon L.*, *Papilio alexander Esper*, *Iphiclides podalirius L.* i *Parnassius apollo L.*

One of the first methods for integrated protection of an area, which, inter alia, includes the protection of all present species, as well as the protection of butterflies, is the protection of Biogradska gora, along with the protection of Biogradska river basin and Jezerštica. The protection of the area dates back to 1878. Integrated protection of the area continued in 1952, when the Law on National Parks was adopted, which for the first time declared national parks of Biogradska gora, Lovćen, and Durmitor, and later with the adoption of the Decision on Protected Natural Objects (Official Gazette of the Socialist Republic of Montenegro, 30/68), which prohibits carrying out any actions that may cause a change in the shape or appearance of protected objects or damage their integrity without a prior approval issued by the Republic Institute for Nature Protection.

Afterward, the declaration of protected areas proceeds continuously, where the integrity of the entire area is protected, and thus the species living in that area. To date, 13.22% of the land and 1.79% of the marine part of the territory of Montenegro are on the list of protected areas. It should be noted that the protection of the area failed to provide adequate protection mechanisms, primarily due to the lack of management structures for each protected area, but even so, the protected areas are a "refuge" for the species living in that area. Article 16 of the Law on National Parks stipulates, inter alia, that "picking, collecting and using unprotected plants and mushrooms, i.e. catching and killing unprotected animal species to the extent that the number of the population can be threatened" shall be prohibited, and to comply with hereto, quality surveillance measures are required.

The first list of protected species of animals, plants, and fungi was adopted in 2006 when the Decision on the protection of rare, declining, endemic, and endangered plant and animal species (Official Gazette of the Republic of Montenegro, 76/06) came into force, which gave four species of butterflies of the family Papilionidae the conservation status in Montenegro: *Papilio machaon L.*, *Papilio alexander Esper*, *Iphiclides podalirius L.*, and *Parnassius apollo L.*



Aporia crataegi
(Linnaeus, 1758)

Glogovac
Black-veined white

Članom 90 Zakona o zaštiti prirode („Sl. list CG“ br. 54/16) normira se postupak izrade crvenih lista Crne Gore na osnovu međunarodnih crvenih lista i naučnih podataka, prema stepenu ugroženosti, rasprostranjenosti, brojnosti populacije i drugim karakteristikama pojedinačnih divljih vrsta biljaka, životinja i gljiva, što će biti osnov za značajno proširenje liste zaštićenih vrsta dnevnih leptira u Crnoj Gori.

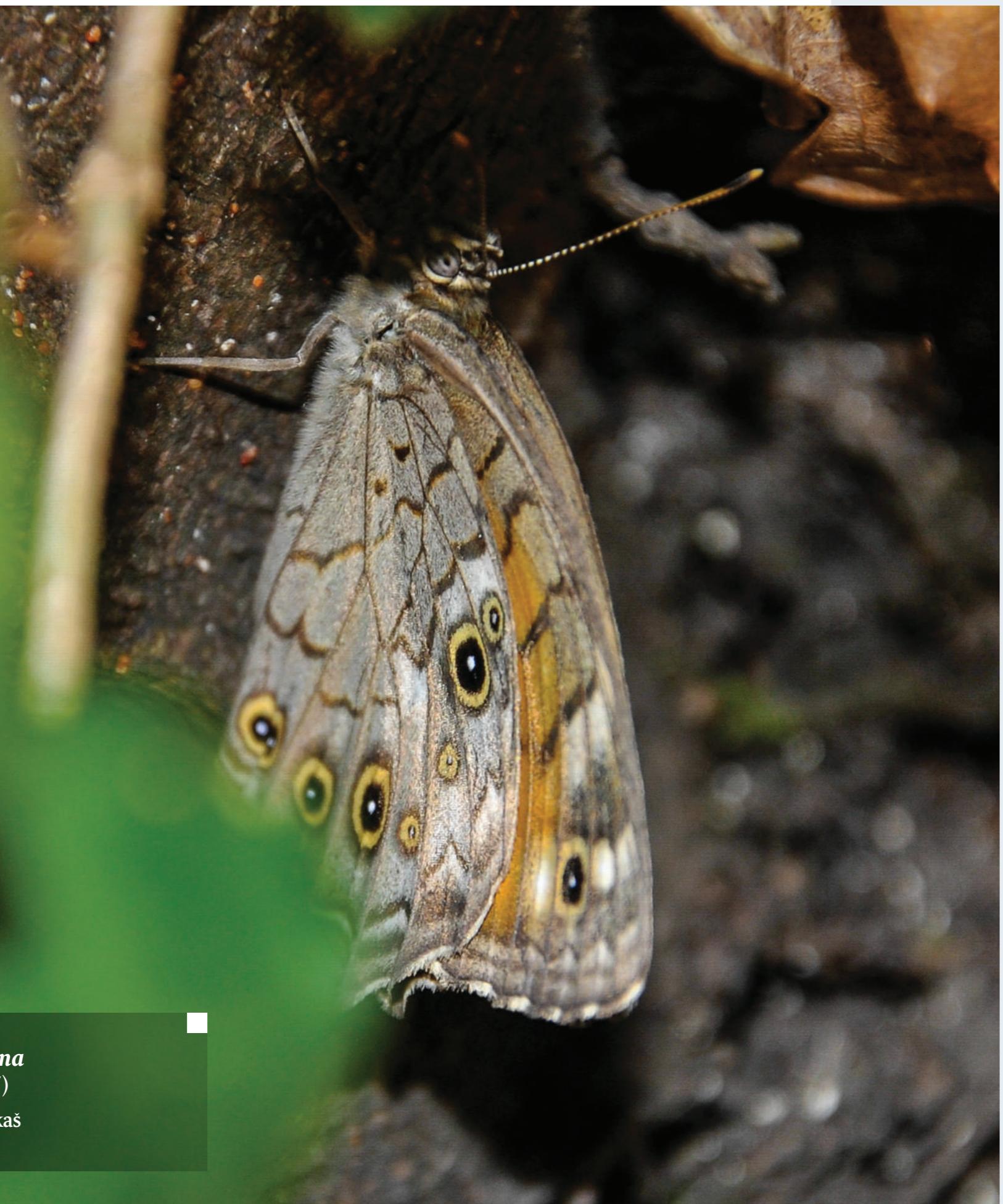
Article 90 of the Law on Nature Protection (Official Gazette of the Republic of Montenegro, No. 54/16) regulates the procedure for the preparation of red lists of Montenegro on the basis of international red lists and scientific data, according to the conservation status, distribution, population size, and other characteristics of individual wild species of plants, animals and fungi, which will be the basis for a significant expansion of the list of protected species of butterflies in Montenegro.

Pregled istraživanja faune dnevnih leptira u Crnoj Gori

Proučavanje faune dnevnih leptira počinje krajem XIX odnosno početkom XX vijeka, i ta istraživanja se sprovode u većoj ili manjoj mjeri do danas. Prve podatke o različitim vrstama (dnevnih) leptira na području Crne Gore nalazimo u radovima Latreille & Godart (1819) i Nicholl (1899). Prilog fauni dnevnih leptira Durmitora dao je Moritz Hilf (Rebel, 1913), a podatke o dnevnim leptirima okoline Cetinja i Durmitora nalazimo u radovima Nicholl (1899, 1902). Takođe, podatke za Crnu Goru nalazimo i u okviru istraživanja koja su svojedobno vršena na području cijelog Balkana, kao ona koje daje Gibbs (1913), dok je Rebel (1913) u trećem tomu rezultata istraživanja leptira na Balkanu pripremio detaljne podatke o nalazima vrsta i, između ostalog, dao prvi popis leptira Crne Gore. Rebel i Zerni (1931) u svom radu o leptirima Albanije navode i podatke za Crnu Goru.

Overview of research on the butterfly fauna in Montenegro

The study of butterfly fauna began at the end of the 19th and at the beginning of the 20th century, and the research is carried out to a greater or lesser extent to this day. The first data on different types of (diurnal) butterflies in the territory of Montenegro can be found in the papers of Latreille & Godart (1819) and Nicholl (1899). Moritz Hilf (Rebel, 1913) contributed to the fauna of the diurnal butterflies of Durmitor, and data on the diurnal butterflies of the surroundings of Cetinje and Durmitor can be found in the papers of Nicholl (1899, 1902). Also, data for Montenegro can be found in research that was once carried out in the entire Balkans, such as the ones presented by Gibbs (1913), while in the third volume of the results of research on butterflies in the Balkans, Rebel (1913) prepared detailed data on the findings of species and, inter alia, gave the first list of butterflies of Montenegro. In their paper on the butterflies of Albania, Rebel and Zerni (1931) also provide data for Montenegro.



Kirinia roxelana
(Cramer, 1777)

Mediteranski okaš
Lattice Brown

Podatke o pojedinim vrstama dnevnih leptira dali su Haig i Thomas (1930, 1931). Carnelutti i Michieli (1958) su u svom „Prilogu fauni Lepidoptera Crne Gore“ dopunili listu vrsta. Istraživanja su nastavljena nešto kasnije, i to uglavnom u primorskom dijelu Crne Gore, tako da bilježimo podatke u radovima Kuhnert (1971); Sijarić i Mihaljević (1972); Bretherton (1973); Cribb (1973); Muting (1974). Značajan doprinos poznavanju faune dnevnih leptira u Crnoj Gori dat je u okviru projekta Crnogorske akademije nauka i umjetnosti, kada su sprovedena sistematičnija istraživanja ove grupe insekata na području Durmitora, a kao rezultat toga Sijarić (1984) navodi 160 vrsta za Crnu Goru. Nešto kasnije Jakšić (1988) u svom radu „Privremene karte rasprostranjenosti dnevnih leptira Jugoslavije“ za Crnu Goru navodi 166 vrsta. Podatke o dnevним leptirima Crne Gore nalazimo i u radovima Jakšić i Pešić (1995); Jakšić i Ristić (1999); Jakšić (2001, 2003b); Radović i sar. (2008); Bulić i sar. (2011); Hadžić i Muković (2013); Nahirnić i sar. (2015); Švara i sar. (2015); Sobczik i Gligorović (2016); Glavendekić i sar. (2016). Sistematisovane rezultate ukupnih istraživanja dnevnih leptira Crne Gore dao je Franeta, 2018. godine, uz kompletan spisak vrsta i referenci o nalazima vrsta dnevnih leptira u Crnoj Gori.

Osim publikovanih stručnih i naučnih rada, podatke o zastupljenosti i brojnosti vrsta nalazimo u studijama zaštite, podlogama za ustanavljanje i reviziju zaštićenih prirodnih dobara, studijama o biodiverzitetu određenog područja i prikupljenim podacima u okviru Projekta za uspostavljanje Natura 2000 mreže područja u Crnoj Gori. Istraživanja u okviru Natura 2000 projekta počela su 2017. godine i traju do danas. Podaci o zaštićenim vrstama insekata u Crnoj Gori mogu se pribaviti i u godišnjem dokumentu „Informacija o stanju životne sredine“ (prema članu 101 Zakona o zaštiti prirode, „Sl. list CG“ br. 54/16).

Data on individual species of diurnal butterflies were given by Haig and Thomas (1930, 1931). Carnelutti and Michieli (1958) supplemented the list of species in their "Appendix to the Lepidoptera Fauna of Montenegro." Research continued a little later, mostly in the coastal part of Montenegro, so we record the data in the papers of Kuhnert (1971); Sijarić and Mihaljević (1972); Bretherton (1973); Cribb (1973); Muting (1974). A significant contribution to the knowledge of the fauna of diurnal butterflies in Montenegro was made within the project of the Montenegrin Academy of Sciences and Arts when more systematic research of this group of insects was carried out in the area of Durmitor and as a result, Sijarić (1984) listed 160 species for Montenegro. A few years later, Jakšić (1988), in his paper "Provisional distribution maps of the butterflies of Yugoslavia," added the aforementioned species, increasing the total to 166 taxa. Data on diurnal butterflies of Montenegro can also be found in the papers of Jakšić and Pešić (1995); Jakšić and Ristić (1999); Jakšić (2001, 2003b); Radović et al. (2008); Bulić et al. (2011); Hadžić and Muković (2013); Nahirnić et al. (2015); Švara et al. (2015); Sobczik and Gligorović (2016); Glavendekić et al. (2016). Franeta, in 2018, presented the systematized results of the overall research on the diurnal butterflies of Montenegro, along with a complete list of species and references on the findings of diurnal butterfly species in Montenegro.

In addition to published technical and scientific papers, data on the distribution and population size of species can be found in protection studies, documents for the establishment and revision of protected natural assets, studies on the biodiversity of a certain area, and data collected within the project for the establishment of the Natura 2000 network in Montenegro. Research within the Natura 2000 project began in 2017 and continues to this day. Data on protected insects in Montenegro can also be obtained in the annual document "Information on the State of the Environment" (pursuant to Article 101 of the Law on Nature Protection, Official Gazette of Montenegro 54/16).

Kategorije ugroženosti po IUCN-u

Prema preporukama IUCN-a i preporukama za kategorisanje taksona iz 2012. godine, postoji devet kategorija za definisanje statusa vrsta. Svaki takson koji se procjenjuje može imati samo jednu oznaku ugroženosti, a ta se oznaka vremenom može mijenjati.

Za Crnu Goru su razmatrani sljedeći statusi:

Iščezli takson (Extinct – EX):

Takson se smatra iščezlim ukoliko ne postoji osnovana sumnja da je posljednja jedinka uginula. Opred-jeljuje mu se termin „iščezao (EX)“ ukoliko su na poznatom ili na potencijalnom staništu vrste u od-govarajućem vremenu (neki dio dana, sezone ili godine), na području poznatog istorijskog rasprostranjenja, sprovedena opsežna istraživanja, prilikom kojih vrsta nije zabilježena. Trajanje istraživanja treba da bude primjerenod odlikama životnog ciklusa i životne forme taksona;

Kritično ugroženi takson

(Critically endangered – CR):

Takson je kritično ugrožen ukoliko najbolji dostupni podaci ukazuju na to da zadovoljava bilo koji od kriterijuma A, B, C, D ili E za kategoriju kritično ugroženog taksona i smatra se da se suočava s visokim rizikom da iščeze u prirodi;

Ugroženi takson (Endangered – EN):

Takson je ugrožen ukoliko najbolji dostupni podaci ukazuju na to da zadovoljava bilo koji od kriterijuma A, B, C, D ili E za kategoriju ugroženog taksona i smatra se da se suočava s visokim rizikom da iščeze u prirodi;

Ranjivi takson (Vulnerable – VU):

Takson je ranjiv ukoliko najbolji dostupni podaci ukazuju na to da zadovoljava bilo koji od kriterijuma A, B, C, D ili E za kategoriju ranjivog taksona i smatra se da se suočava s visokim rizikom da iščeze u prirodi;

Skoro ugrožen takson (Near threatened – NT):

Takson je skoro ugrožen ukoliko se prilikom procjene ne može svrstati u kategorije kritično ugroženog, ugroženog ili ranjivog taksona, ali je blizu da se može kvalifikovati u neku od grupa ugroženosti u bliskoj budućnosti;

IUCN Red List categories

According to the IUCN recommendations and the 2012 taxonomic categorization recommendations, there are nine categories to define species status. Each taxon being assessed may have only one endangerment categorization that may change over time.

The following statuses were considered for Montenegro:

Extinct (EX):

A taxon is considered extinct when there is no reasonable doubt that the last individual has died. The term “Extinct (EX)” is chosen for the taxon when exhaustive surveys in known or expected habitat of the species at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Critically Endangered (CR):

A taxon is critically endangered when the best available evidence indicates that it meets any of the criteria A, B, C, D or E for critically endangered taxon category (criteria table, add) and it is considered to be facing a high risk of extinction in the wild.

Endangered (EN):

A taxon is endangered when the best available evidence indicates that it meets any of the criteria A, B, C, D or E for Endangered, and it is therefore considered to be facing a high risk of extinction in the wild.

Vulnerable (VU):

A taxon is vulnerable when the best available evidence indicates that it meets any of the criteria A, B, C, D or E for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild.

Near Threatened (NT):

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for a threatened category in the near future.



Posljednja briga (Last concern – LC):

Takson se svrstava u grupu najmanje ugroženih ukoliko se ne može svrstati ni u jednu od prethodno pomenutih kategorija ugroženosti: kritično ugrožen, ugrožen, ranjiv ili skoro ugrožen takson. Široko rasprostranjeni taksoni ili oni koji imaju velike populacije spadaju u ovu kategoriju;

Nedovoljno podataka (Data deficient – DD):

Takson se može svrstati u ovu grupu ukoliko ne postoje odgovarajuće informacije prema kojima se može napraviti direktna ili indirektna veza od iščezavanja zasnovana na rasprostranjenju i/ili stanju populacije. Takson u ovoj kategoriji može biti dobro proučen (s dobro istraženom biologijom i ekologijom), ali nedostaju odgovarajući podaci o rasprostranjenju i brojnosti. Stoga ova kategorija ne spada u kategorije ugroženosti. Svrstavanje taksona u ovu kategoriju ukazuje na potrebu za dodatnim podacima i na mogućnost da će dodatna istraživanja dokazati njegovu ugroženost. U mnogim slučajevima veliku pažnju treba posvetiti izboru između kategorije s nedovoljno podatakom i neke od kategorija ugroženosti;

Neevaluiran takson (Not evaluated – NE):

Takson spada u ovu grupu ukoliko još nije evaluiran na osnovu kriterijuma;

Kriterijumi IUCN za kritično ugrožene (CR), ugrožene (EN) i ranjive (VU) vrste

Kriterijumi na osnovu kojih se vrši kategorizacija vrsta u odnosu na rizik od iščezavanja može se podjeliti u pet klasa:

- 1. A** (redukcija populacije u prošlosti i/ili budućnosti)
- 2. B** (usko rasprostranjena i/ili zauzeta površina)
- 3. C** (mala veličina populacije i opadanje populacije)
- 4. D** (mala veličina populacije)
- 5. E** (vjerojatnoča iščezavanja taksona)

Za svaki od navedenih kriterijuma definisane su granične vrijednosti na osnovu kojih se određuje kojoj kategoriji pripada takson. Takođe, pridružene su i oznake s potkriterijumima koje bliže određuju način na koji se prikupljaju podaci o populacionim parametrima ili se preciznije definišu analizirani populacioni parametri.

Least Concern (LC):

A taxon is classified as Least Concern when it does not qualify for any of the above-mentioned endangerment categories: Critically Endangered, Endangered, Vulnerable or Near Threatened taxon. Widespread or abundant taxa are included in this category.

Data Deficient (DD):

A taxon can be classified in this group when there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied (and its biology and ecology well known), but appropriate data on distribution and abundance are lacking. Therefore, this category is not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that additional research will show that threatened classification is appropriate. In many cases, great care should be exercised in choosing between the Deficient Data category and a threatened status.

Not Evaluated (NE):

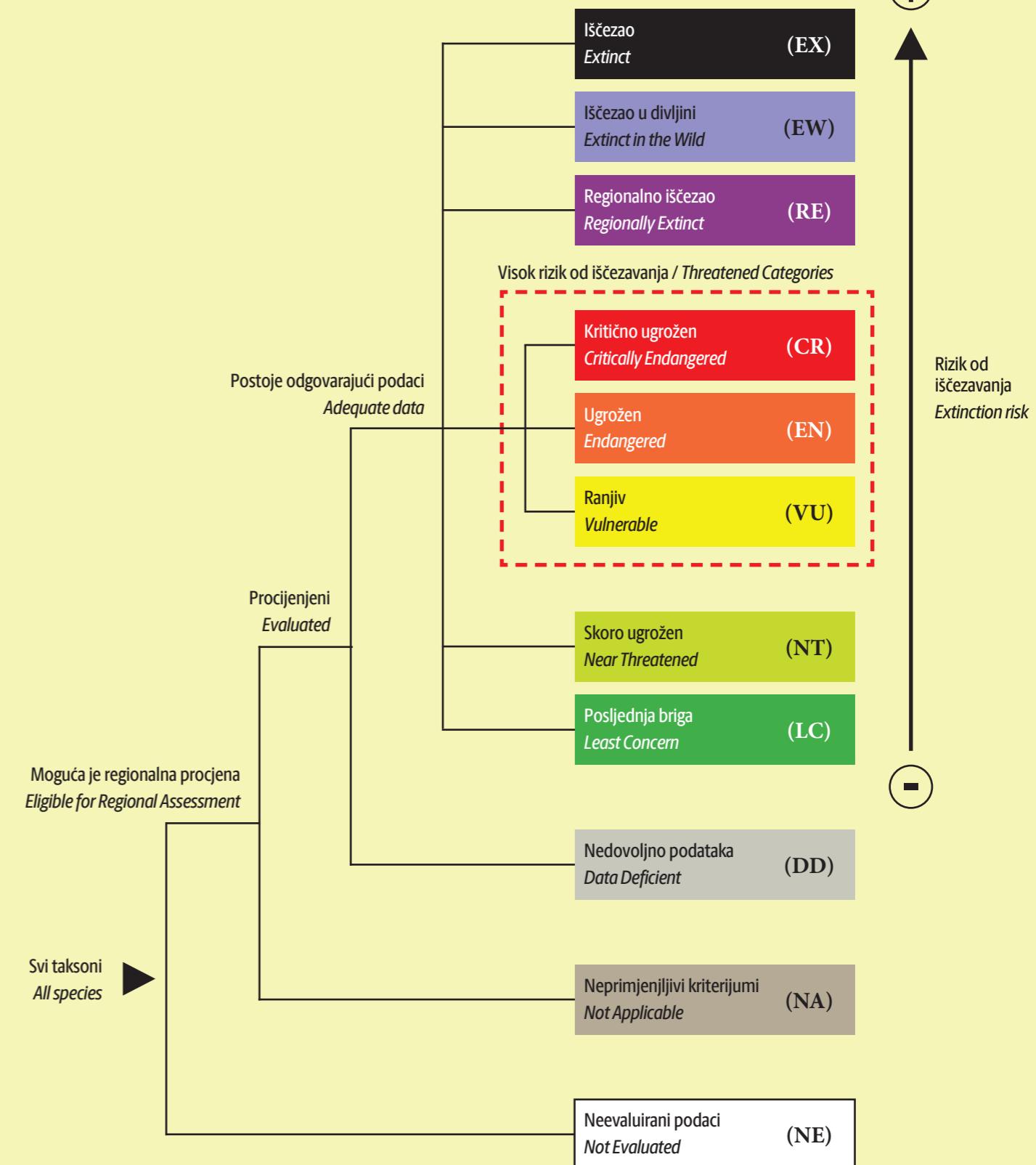
A taxon belongs to this group when it has not yet been evaluated against the criteria.

IUCN criteria for Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species

The criteria on the basis of which the categorization is done in relation to the risk of extinction can be divided into five classes:

- 1. A** (population size reduction in the past and/or future)
- 2. B** (extent of occurrence and/or area of occupancy)
- 3. C** (small population size and population decline)
- 4. D** (very small or restricted population)
- 5. E** (probability of taxon extinction)

For each of the above criteria, threshold values are defined on the basis of which the category of the taxon is determined (add a table with the criteria). Also, they include related subcriteria categories that more closely determine the method of collecting data on population parameters or more precisely define the analyzed population parameter.

Grafik 1: IUCN kategorije ugroženosti na regionalnom nivou**Graph 1: IUCN categories used at the regional level**

Grafik 2: IUCN kriterijumi i pragovi za klasifikovanje kritično ugroženih, ugroženih i ranjivih taksona
Graph 2: Summary of IUCN criteria and values for classification of critically endangered, endangered and vulnerable taxa

A. Redukcija populacije u toku protekle ili buduće tri generacije ili 10 godina Population reduction measured over the longer of 10 years or 3 generations			
	Kritično ugrožen takson (CR) Critically Endangered taxon (CR)	Ugrožen takson (EN) Endangered taxon (EN)	Ranjiv takson (VU) Vulnerable taxon (VU)
A1	≥ 90 %	≥ 70 %	≥ 50 %
A2, A3 i A4	≥ 80 %	≥ 50 %	≥ 30 %

Definicija / Definition

A1. Redukcija populacije koja je uočena, procijenjena, projektovana ili na koju se sumnja u prošlosti. Uzroci redukcije su jasni i otklonjeni, a njihov efekat je reverzibilan. / *Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible and understood and have ceased.*

A2. Redukcija populacije koja je uočena, procijenjena, projektovana ili na koju se sumnja u prošlosti. Uzroci redukcije nisu jasni ili nisu otklonjeni ili nisu reverzibilni. / *Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction may not have ceased or may not have been understood or may not be reversible.*

A3. Redukcija populacije koja je uočena, procijenjena, projektovana ili za koju se vjeruje da će se dogoditi u budućnosti (najdalje za 100 godina). / *Population reduction projected, inferred, or suspected to be met in the future (up to a maximum of 100 years).*

A4. Redukcija populacije koja je uočena, procijenjena, projektovana ili na koju se sumnja i koja obuhvata i prošlost i budućnost. Uzroci redukcije nisu jasni ili nisu otklonjeni ili nisu reverzibilni.

/ *An observed, estimated, inferred, or suspected population reduction where the time period must include both the past and the future, and where the causes of reduction may not have ceased or may not have been understood or may not be reversible.*

Bazirano na / Based on:

a) Direktnom posmatranju (neprimjenjivo za kriterijum A3) / *Direct observation (not applicable for A3)*

b) Odgovarajućem indeksu brojnosti za takson / *An index of abundance appropriate to the taxon*

c) Smanjivanju opsega pojavljivanja, zauzetih površina i/ili kvaliteta staništa / *A decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality*

d) Utvrđenom ili potencijalnom nivou eksplotacije / *Actual or potential levels of exploitation*

e) Efektu introdukovanih taksona; hibridizaciji, patogenima, polutantima, kompetitorima i parazitima / *Effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.*

C. Malá populacija i opadanie Small population size and decline			
	Kritično ugrožen takson (CR) Critically Endangered taxon (CR)	Ugrožen takson (EN) Endangered taxon (EN)	Ranjiv takson (VU) Vulnerable taxon (VU)
Broj odraslih jedinki / Number of mature individuals			
I najmanje jedan od uslova C1 ili C2 / and at least one of C1 or C2	< 250	< 2.500	< 10.000
C1: Uočeno, procijenjeno ili prognozirano kontinuirano opadanje za najmanje: / An observed, estimated or projected continuing decline of at least:			
C2: Uočeno, procijenjeno, pretpostavljeno ili prognozirano kontinuirano opadanje, uz najmanje jedan od ponuđenih uslova: / in observed, estimated, projected or inferred continuing decline and at least 1 of the following 3 conditions:			
(a) (i) broj odraslih jedinki u svakoj od subpopulacija / Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1.000
(ii) % odraslih jedinki u jednoj od subpopulacija / % of mature individuals in one subpopulation	90–100%	95–100%	100%
(b) ekstremne fluktuacije u broju odraslih jedinki / Extreme fluctuations in the number of mature individuals			

B. Geografska rasprostranjenost (B1) i/ili zauzete površine (B2) Geographic range in the form of either B1 (extent of occurrence) and/or B2 (area of occupancy)			
	Kritično ugrožen takson (CR) Critically Endangered taxon (CR)	Ugrožen takson (EN) Endangered taxon (EN)	Ranjiv takson (VU) Vulnerable taxon (VU)
B1: Opseg pojavljivanja / Extent of occurrence (EOO)	100 km ²	5.000 km ²	20.000 km ²
B2: Zauzeta površina / Area of occupancy (AOO)	10 km ²	500 km ²	2.000 km ²
I najmanje dva od tri dolje navedena uslova / And at least 2 of the following 3 conditions:			
a) Snažno fragmentisano rasprostranjenje i zauzete površine ili broj naseljenih lokacija koji je: / Severely fragmented EOO and AOO or Number of locations that is:	= 1	≤ 5	≤ 10
b) Posmatrano, procijenjeno, pretpostavljano ili prognozirano kontinuirano opadanje opsega pojavljivanja (i), zauzetih površina (ii), rasprostranjenosti, površine i/ili kvaliteta staništa (iii), broja naseljenih lokacija ili subpopulacija (iv) ili broja odraslih jedinki (v) / Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
c) Ekstremne fluktuacije u opsegu pojavljivanja (i), zauzetim površinama (ii), broju naseljenih lokacija, broju subpopulacija (iii) ili broju odraslih jedinki (iv) / Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy, (iii) number of locations or subpopulations; (iv) number of mature individuals			

D. Veoma mala ili ograničena populacija Very small or restricted population			
	Kritično ugrožen takson (CR) Critically Endangered taxon (CR)	Ugrožen takson (EN) Endangered taxon (EN)	Ranjiv takson (VU) Vulnerable taxon (VU)
Broj odraslih jedinki / Number of mature individuals			
I	< 50	< 250	< 1.000 (D1)
D2. (primjenjiv jedino za kategoriju ranjivog taksona): Ograničena površina zauzetih staništa ili mali broj lokacija uz postojanje realne prijetnje koja bi mogla brzo da dovede takson do kategorije CR ili EX/ (only applies to the VU category): Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.			
D2. tipično: AOO < 20 km ² ili brojem lokacija ≤ 5 / typically: AOO < 20 km ² or number of locations ≤ 5			

E. Kvantitativna analiza / Quantitative Analysis			
	Kritično ugrožen takson (CR) Critically Endangered taxon (CR)	Ugrožen takson (EN) Endangered taxon (EN)	Ranjiv takson (VU) Vulnerable taxon (VU)
Kvantitativna analiza ukazuje na to daje vjerovatnoču isčezavanja u slobodnoj prirodi / Quantitative Analysis indicates the probability of extinction in the wild to be:			
I	≥ 50 % u narednih 10 godina ili tri generacije (što god da je duže) / ≥ 50% in 10 years or 3 generations (whichever is longer)	≥ 20 % u narednih 20 godina ili pet generacije (što god da je duže) / 20% in 20 years or 5 generations (whichever is longer)	≥ 10% u narednih 100 godina / ≥ 10% in 100 years



Lycaena phlaeas
(Linnaeus, 1761)

Vatreni dukat
Small Copper

Metodološki pristup

M

eđunarodna unija za očuvanje prirode (IUCN) propisuje standarde za izradu crvenih lista, što podrazumijeva primjenu kriterijuma koji se koriste za procjenu da li takson pripada crvenoj listi IUCN-a, odnosno u ocjeni statusa podrazumijeva korišćenje smjernica za primjenu kriterijuma IUCN Crvene liste na regionalnom i nacionalnom nivou (Verzija 4.0 – 2010), kao i IUCN Crvene liste Kategorije i kriterijumi – verzija 3.1 (IUCN 2001, 2012) i Smjernice za korišćenje IUCN crvene liste – kategorije i kriterijumi (IUCN, 2022, verzija 15.1). Primjena ovih kriterijuma podrazumijeva dugogodišnja (kontinuirana) istraživanja i monitoring. Izbor ugroženih vrsta bazira se na nekoliko kvantitativnih kriterijuma, što zahtijeva analizu prikupljenih podataka distribucije i populacionog trenda, zatim njihove veličine, fragmentacije, lokalne rasprostranjenosti i procjene rizika od mogućeg izumiranja, odnosno analizu sposobnosti populacije neke vrste da preživi u divljini. U takvim okolnostima, gdje postoji kontinuitet u prikupljanju podataka, slijede se globalne kategorije i regionalne smjernice Međunarodne unije za očuvanje prirode u primjeni kriterijuma pri određivanju kategorija ugroženosti. Radionica za obuku ocjenjivača od strane IUCN održana je u Podgorici od 29. marta do 1. aprila 2022. godine.

Imajući u vidu značajan nedostatak podataka iz ranijeg perioda (posebno kada su brojnost vrsta i njihovi trendovi u pitanju), a sa druge strane kontinuirano istraživanje dnevnih leptira od 2017. godine, u okviru projekta uspostavljanje mreže Natura 2000 područja u Crnoj Gori, pristupilo se izradi Crvene liste leptira.

Methodological approach

T

he International Union for Conservation of Nature (IUCN) defines standards for the preparation of red lists, which implies the application of the criteria used to evaluate if a taxon belongs to the IUCN Red List, i.e. the assessment of status implies the use of Guidelines for Application of IUCN Red List Criteria at Regional and National Levels (Version 4.0 – 2010), as well as the IUCN Red List Categories and Criteria – Version 3.1 (IUCN 2001, 2012) and Guidelines for Using the IUCN Red List Categories and Criteria (IUCN, 2022, Version 15.1). The application of these criteria implies long-term (continuous) research and monitoring. The selection of endangered species is based on several quantitative criteria, which requires an analysis of collected data on distribution and population trends, its size, fragmentation, local distribution, and the assessment of extinction risk, i.e., analysis of the ability of a population of a species to survive in the wild. In such circumstances, where there is continuity in the collection of data, global categories and regional guidelines of the International Union for Conservation of Nature are followed in the application of criteria for determining threatened categories. The IUCN Assessor Training Workshop was held in Podgorica from 29 March to 1 April 2022.

Taking into consideration a serious lack of data from the earlier period (especially in terms of the abundance of species and their trends), and on the other hand, the continuous research of diurnal butterflies since 2017, preparation of Red lists of butterflies began within the project Montenegro - Natura 2000: Establishment of Natura 2000 network.



Polygonia c-album
(Linnaeus, 1758)

Kontinentalni mnogobojac
Comma Butterfly

Prilikom analize raspoloživih podataka polazilo se od sljedećih činjenica, odnosno sljedećih podataka: brojnost nalaza vrste, njena učestalost, fragmentacija staništa i distribucija vrste, ekološke karakteristike vrste (eventualna endemičnost) i njeno lokalno rasprostranjenje, veličina populacije, posebni zahtjevi prema staništu, naročito kada su u pitanju biljke-hraniteljke, kako za odrasle jedinke tako i za njihove larve.

Osim toga, obratila se pažnja i na status ugroženosti vrsta u zemljama u okruženju, kao i njihov status na evropskom nivou. Treba imati u vidu da za prisutne vrste ne postoje kvantitativni podaci o padu brojnosti populacije koji bi imali naučno utemeljenje, te stoga kriterijume A i C nije bilo moguće primijeniti. Takođe, kod kriterijuma B nije uziman u obzir status VU za (B1) opseg pojavljivanja manji od 20.000 km², imajući u vidu da je teritorija Crne Gore 13,812 km². U skladu sa objektivnim okolnostima, najčešće su korišćeni B2 kriterijumi.

Za sve vrste su, u odnosu na njihovu raspoloživost, prikupljeni sljedeći podaci:

- taksonomska klasifikacija (uključujući sinonime),
- rasprostranjenost u zemljama okruženja,
- preferencije staništa i primarni ekološki zahtjevi,
- korišćenje i trgovina vrstama (CITES konvencija),
- glavne prijetnje,
- istraživačke potrebe (na osnovu arhivskog materijala dozvola za istraživanje),
- mjere očuvanja (postojeće i potrebne),
- IUCN Crveni popis kategorija i kriterijuma i njihovo obrazloženje,
- raspoloživa literatura (osim stručnih i naučnih radova, podatke o zastupljenosti i brojnosti vrsta nalazimo u studijama zaštite, podlogama za ustanavljanje i reviziju zaštićenih prirodnih dobara, studijama o biodiverzitetu određenog područja i prikupljenim podacima u okviru Projekta za uspostavljanje Natura 2000 mreže područja u Crnoj Gori. Podaci o zaštićenim vrstama insekata u Crnoj Gori mogu se pribaviti i u godišnjem dokumentu „Informacija o stanju životne sredine“ (prema članu 101 Zakona o zaštiti prirode, „Sl. list CG“ br. 54/16).

In the analysis of the available data, the following facts were taken as a starting point, i.e., the following data: the extent of the occurrence of the species, its frequency, habitat fragmentation and distribution of the species, ecological traits of the species (possible endemicity), and its local distribution, population size, specialized habitat requirements, especially in terms of host plants, both for adults and for their larvae. In addition, attention was also paid to the endangered status of species in neighboring countries, as well as their status at the European level.

Please note that for the present species, there are no quantitative data on the decline in the population size that would have a scientific basis, and therefore criteria A and C could not be applied. Also, with criterion B, the VU status was not taken into account for (B1) extent of occurrence less than 20,000 km², bearing in mind that the territory of Montenegro is 13,812 km². In accordance with the objective circumstances, B2 criteria were most often used.

For all the species, the following data were collected in relation to their availability:

- taxonomic classification (including synonyms),
- distribution in neighboring countries,
- habitat preferences and primary ecological requirements,
- use and trade of species (CITES convention),
- major threats,
- research needs (based on archival material, research permits),
- conservation measures (existing and required),
- IUCN Red List Categories and Criteria and their Explanation,
- available literature (apart from technical and scientific papers, data on the distribution and population size of species can be found in protection studies, documents for the establishment and revision of protected natural assets, studies on the biodiversity of a certain area, and data collected within the project for the establishment of the Natura 2000 network of areas in Montenegro. Data on protected insects in Montenegro can also be obtained in the annual document "Information on the State of the Environment" (pursuant to Article 101 of the Law on Nature Protection, Official Gazette of Montenegro 54/16).

Rezultati / Results

Tabela 1. Crvena lista dnevnih leptira Crne Gore / Table 1. Red List of Butterflies of Montenegro

Br.	Naučni naziv Scientific name	Domaći naziv (Domestic name)	Engleski naziv (Common name in English)	Crna Gora kategorije (Montenegro Categories)	Kriterijumi (Criterion)	Evropa kategorije (Europe Categories)
	Rhopalocera					
	Hesperiidae Latreille, 1809					
1.	<i>Pyrgus malvae</i> (Linnaeus, 1758)	Sljezov pirgus	Grizzled Skipper	LC		LC
2.	<i>Pyrgus alveus</i> (Hübner, [1803])	Veliki sijedi pirgus	Large Grizzled Skipper	LC		LC
3.	<i>Pyrgus andromedae</i> (Wallengren, 1853)	Alpijski pirgus	Alpine grizzled skipper	EN	B2ab (ii,iii)	LC
4.	<i>Pyrgus armoricanus</i> (Oberthur, 1910)	Zujavac	Oberthur's Grizzled Skipper	LC		LC
5.	<i>Pyrgus serratulae</i> (Rambur, 1839)	Zagasiti zujavac	Olive Skipper	LC		LC
6.	<i>Pyrgus sidae</i> (Esper, 1784)	Narandžasti zujavac	Yellow-banded Skipper	LC		LC
7.	<i>Pyrgus carthami</i> (Hübner, [1813])	Obični pirgus	Safflower Skipper	LC		LC
8.	<i>Spatialia orbifer</i> (Hübner, [1823])	Dinjicina hesperida	Orbed Red-underwing	LC		LC
9.	<i>Muschampia proto</i> (Ochsenheimer, 1808)	Pelinova hesperida	Sage Skipper	LC		LC
10.	<i>Gegenes pumilio</i> (Hoffmannsegg, 1804)	Patuljasti debeloglavac	Pigmy Skipper	LC		LC
11.	<i>Gegenes nos trodamus</i> (Fabricius, 1793)	Mediteranski debeloglavac	Mediterranean Skipper	LC		LC
12.	<i>Carcharodus alceae</i> (Esper, [1780])	Sljezov skelar	Mallow Skipper	LC		LC
13.	<i>Carcharodus lavatherae</i> (Esper, [1783])	Čistacov debeloglavac	Marbled Skipper	LC	NT	
14.	<i>Carcharodus floccifera</i> (Zeller, 1847)	Čupavi debeloglavac	Tufted Marbled Skipper	LC	NT	
15.	<i>Carcharodus orientalis</i> (Reverdin, 1913)	Istočni debeloglavac	Oriental Marbled Skipper	LC		LC
16.	<i>Erynnis tages</i> (Linnaeus, 1758)	Tamni skelar	Dingy Skipper	LC		LC

Br.	Naučni naziv Scientific name	Domaći naziv (Domestic name)	Engleski naziv (Common name in English)	Crna Gora kategorije (Montenegro Categories)	Kriterijumi (Criterion)	Evropa kategorije (Europe Categories)
17.	<i>Carterocephalus palaemon</i> (Pallas, 1771)	Karirani skelar	Chequered Skipper	LC		LC
18.	<i>Heteropterus morpheus</i> (Pallas, 1771)	Veliki karirani skelar	Large Chequered Skipper	EN	B2ab (ii,iii)	LC
19.	<i>Thymelicus sylvestris</i> (Poda, 1761)	Mali skelar	Small Skipper	LC		LC
20.	<i>Thymelicus lineola</i> (Ochsenheimer, 1808)	Smedi skelar	Essex Skipper	LC		LC
21.	<i>Thymelicus acteon</i> (Rottemburg, 1775)	Travar	Lulworth Skipper	LC		NT
22.	<i>Hesperia comma</i> (Linnaeus, 1758)	Livadski skelar	Silver-spotted Skipper	LC		LC
23.	<i>Ochlodes sylvanus</i> (Esper, 1777)	Šareni skelar	Lavantine Skipper	LC		LC
	Papilionidae Latreille, 1802					
24.	<i>Papilio machaon</i> (Linnaeus, 1758)	Lastin repak	Common yellow swallowtail	NT	B2b (iii)	LC
25.	<i>Papilio alexanor</i> (Esper, 1800)	Južni lastin repak	Southern Swallowtail	EN	B2ab (ii,iii,iv)	LC
26.	<i>Parnassius apollo</i> (Linnaeus, 1758)	Apolon	Apollo	VU	B2ab (ii, iii)	NT
27.	<i>Parnassius mnemosyne</i> (Linnaeus, 1758)	Crni apolon	Clouded Apollo	VU	B2ab (ii,iii)	NT
28.	<i>Iphiclides podalirius</i> (Linnaeus, 1758)	Prugasto jedarce	Scarce swallowtail	NT	B2b (iii)	LC
29.	<i>Zerynthia polyxena</i> ([Denis & Schiffermüller], 1775)	Uskršnji leptir	Southern Festoon	VU	B2ab (ii,iii)	LC
	Pieridae Swainson, 1820					
30.	<i>Aporia crataegi</i> (Linnaeus, 1758)	Glogovac	Black-veined white	LC		LC
31.	<i>Pieris brassicae</i> (Linnaeus, 1758)	Veliki kupusar	Large White	LC		LC
32.	<i>Pieris rapae</i> (Linnaeus, 1758)	Mali kupusar	Small White	LC		LC

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33.	<i>Pieris napi</i> (Linnaeus, 1758)	Žiličasti kupusar	Green-veined White	LC		LC
34.	<i>Pieris balcana</i> (Lorković, 1968)	Balkanski kupusar	Balkan Green-veined White	LC		LC
35.	<i>Pieris mannii</i> (Mayer, 1851)	Dalmatinski kupusar	Southern Small White	LC		LC
36.	<i>Pieris ergane</i> (Geyer, [1828])	Planinski kupusar	Mountain Small White	LC		LC
37.	<i>Pontia edusa</i> (Fabricius, 1777)	Zeleni kupusar	Eastern bath white	LC		LC
38.	<i>Euchloe ausonia</i> (Hübner, [1804])	Čipkasti bijelac	Eastern Dappled White	LC		LC
39.	<i>Colias hyale</i> (Linnaeus, 1758)	Zagasiti poštar	Pale Clouded Yellow	LC		LC
40.	<i>Colias caucasica</i> (Staudinger, 1871)	Kavkaski poštar	Balkan clouded yellow	EN	B2ab (ii,iii,iv)	LC
41.	<i>Colias alfacariensis</i> (Ribbe, 1905)	Zlatni poštar	Berger's Clouded Yellow	LC		LC
42.	<i>Colias croceus</i> (Fourcroy, 1785)	Obični poštar	Clouded Yellow	LC		LC
43.	<i>Anthocharis cardamines</i> (Linnaeus, 1758)	Zorica	Orange Tip	LC		LC
44.	<i>Gonepteryx cleopatra</i> (Linnaeus, 1767)	Kleopatra	Cleopatra	EN	B2ab (ii,iii)	LC
45.	<i>Gonepteryx rhamni</i> (Linnaeus, 1758)	Limunovac	Brimstone	LC		LC
46.	<i>Gonepteryx farinosa</i> (Zeller, 1847)	Oblakov limunovac	Powdered Brimstone	DD		LC
47.	<i>Leptidea juvernica</i> (Williams, 1946)	Realov bijelac	Cryptic Wood White	DD	/	
48.	<i>Leptidea sinapis</i> (Linnaeus, 1758)	Gorušićin bijelac	Wood White	LC		LC

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49.	<i>Leptidea duponcheli</i> (Staudinger, 1871)	Balkanski bijelac	Eastern Wood White	DD		LC
50.	<i>Lycaena phlaeas</i> (Linnaeus, 1761)	Vatreni dukat	Small Copper	LC		LC
51.	<i>Lycaena virgaureae</i> (Linnaeus, 1758)	Obični vatreni dukat	Scarce Copper	LC		LC
52.	<i>Lycaena tityrus</i> (Poda, 1761)	Bakrenac	Sooty Copper	LC		LC
53.	<i>Lycaena ottomanica</i> (Lefèvre, 1830)	Grčki vatreni dukat	Grecian Copper	LC		LC
54.	<i>Lycaena alciphron</i> (Rottemburg, 1775)	Ljubičasti vatreni dukat	Purple-shot Copper	LC		LC
55.	<i>Lycaena thersamon</i> (Esper, 1784)	Pjegavi dukat	Lesser Fiery Copper	CR	B2ab (ii,iii)	LC
56.	<i>Lycaena candens</i> (Herrich-Schäffer, 1844)	Balkanski dukat	Balkan Copper	LC		LC
57.	<i>Lycaena dispar</i> (Haworth, 1802)	Veliki dukat	Large copper	VU	B2ab (ii,iii)	LC
58.	<i>Favonius quercus</i> (Linnaeus, 1758)	Hrastov repić	Woodland Brown	LC		LC
59.	<i>Thecla betulae</i> (Linnaeus, 1758)	Brezov dukat	Brown hairstreak	VU	B2ab (ii,iii)	LC
60.	<i>Satyrium ilicis</i> (Esper, 1779)	Medunčev repić	Ilex Hairstreak	LC		LC
61.	<i>Satyrium acaciae</i> (Fabricius, 1787)	Bagremov repić	Sloe Hairstreak	LC		LC
62.	<i>Satyrium w-album</i> (Knoch, 1782)	Brijestov repić	White-letter Hairstreak	LC		LC
63.	<i>Satyrium spinii</i> ([Denis & Schiffermüller], 1775)	Trnjinin repić	Blue-spot Hairstreak	LC		LC
64.	<i>Satyrium pruni</i> (Linnaeus, 1758)	Crni repić	Black Hairstreak	DD		LC

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65.	<i>Callophrys rubi</i> (Linnaeus, 1758)	Zeleni kupinar	Green Hairstreak	LC		LC
66.	<i>Tarucus balkanicus</i> (Freyer, 1844)	Balkanski tigrasti plavac	Little Tiger Blue	LC		LC
67.	<i>Leptotes pirithous</i> (Linnaeus, 1767)	Mali tigrasti plavac	Lang's Short-tailed Blue	LC		LC
68.	<i>Lampides boeticus</i> (Linnaeus, 1767)	Veliki tigrasti plavac	Long-tailed Pea-blue	LC		LC
69.	<i>Cupido alcetas</i> (Hoffmannsegg, 1804)	Livadski plavac	Provencal Short-tailed Blue	DD		LC
70.	<i>Cupido minimus</i> (Fuessly, 1775)	Mali plavac	Little Blue	LC		LC
71.	<i>Cupido osiris</i> (Meigen, 1829)	Ozirisov plavac	Osiris Blue	NT	B2ab (ii)	LC
72.	<i>Cupido argiades</i> (Pallas, 1771)	Kratkorepi plavac	Short-tailed Blue	LC		LC
73.	<i>Cupido decolorata</i> (Staudinger, 1886)	Blijedi plavac	Eastern Short-tailed Blue	EN	B2ab (ii,iii)	NT
74.	<i>Celestrina argiolus</i> (Linnaeus, 1758)	Vrijesov plavac	Holly Blue	LC		LC
75.	<i>Pseudophilotes vicrama</i> (Moore, 1865)	Istočni plavac	Eastern Baton Blue	LC		NT
76.	<i>Scolitantides orion</i> (Pallas, 1771)	Karirani plavac	Chequered Blue	LC		NT
77.	<i>Glaucopsyche alexis</i> (Poda, 1761)	Zelenokrili plavac	Green-underside Blue	LC		LC
78.	<i>Phengaris alcon</i> ([Denis & Schiffmüller], 1775)	Mali pjegavac	Dusky Large Blue	VU	B2ab (ii,iii)	NT
79.	<i>Phengaris arion</i> (Linnaeus, 1758)	Veliki pjegavac	Large Blue	VU	B2ab (ii,iii)	EN
80.	<i>Iolana iolas</i> (Ochsenheimer, 1816)	Pucavac	Iolas Blue	LC		NT

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81.	<i>Kretania sephirus</i> (Frivaldszky, 1835)	Sefirov plavac	Balkan Zephyr Blue	EN	B2ab (ii,iii)	LC
82.	<i>Plebejus argus</i> (Linnaeus, 1758)	Stooki plavac	Silver-studded Blue	LC		LC
83.	<i>Plebejus idas</i> (Linnaeus, 1761)	Idin plavac	Idas Blue	LC		LC
84.	<i>Plebejus argyronomus</i> (Bergsträsser, 1779)	Blistavi plavac	Reverdin's Blue	LC		LC
85.	<i>Aricia anteros</i> (Freyer, 1838)	Plavi argus	Blue Argus	LC		NT
86.	<i>Aricia agestis</i> ([Denis & Schiffmüller], 1775)	Obični mrki plavac	Brown Argus	LC		LC
87.	<i>Aricia artaxerxes</i> (Fabricius, 1793)	Planinski argus	Mountain Argus	LC		LC
88.	<i>Aricia eumedon</i> (Esper, [1780])	Mrki plavac	Geranium Argus	LC		LC
89.	<i>Cyaniris semiargus</i> (Rottemburg, 1775)	Vizantijski plavac	Mazarine Blue	LC		LC
90.	<i>Polyommatus damon</i> ([Denis & Schiffmüller], 1775)	Damonov plavac	Damon Blue	LC		NT
91.	<i>Polyommatus admetus</i> (Esper, [1783])	Veliki smedji plavac	Anomalous Blue	EN	B2ab (ii,iii)	LC
92.	<i>Polyommatus amandus</i> (Schneider, 1792)	Amandin plavac	Amanda's Blue	LC		LC
93.	<i>Polyommatus thersites</i> (Cantener, 1835)	Čampanov plavac	Chapman's Blue	LC		LC
94.	<i>Polyommatus escheri</i> (Hübner, [1823])	Ešerov plavac	Escher's Blue	EN	B2ab (ii,iii)	LC
95.	<i>Polyommatus dorylas</i> ([Denis & Schiffmüller], 1775)	Tirkizni plavac	Torquoise Blue	LC		NT
96.	<i>Polyommatus daphnis</i> ([Denis & Schiffmüller], 1775)	Meleagerov plavac	Meleager's Blue	LC		LC

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97.	<i>Polyommatus icarus</i> (Rottemburg, 1775)	Obični plavac	Common Blue	LC		LC
98.	<i>Polyommatus eroides</i> (Frivaldszky, 1835)	Planinski plavac	False Eros Blue	EN	B2ab (ii,iii)	NT
99.	<i>Polyommatus coridon</i> (Poda, 1761)	Srebrnkasti plavac	Chalk-hill Blue	LC		LC
100.	<i>Polyommatus bellargus</i> (Rottemburg, 1775)	Adonisov plavac	Adonis Blue	LC		LC
101.	<i>Cacyreus marshalli</i> (Butler, 1898)	Pelargonijin plavac	Geranium Bronze	NA		NA
	Riodinidae Grote, 1895					
102.	<i>Hamearis lucina</i> (Linnaeus, 1758)	Smedji pjegavac	Duke of Burgundy Fritillary	LC		LC
	Nymphalidae Rafinesque, 1815					
103.	<i>Libythea celtis</i> (Laicharting, 1782)	Koprivićev leptir	Nettle-tree Butterfly	LC		LC
104.	<i>Araschnia levana</i> (Linnaeus, 1758)	Šumska riđa	Map Butterfly	EN	B2ab (ii,iii)	LC
105.	<i>Boloria graeca</i> (Staudinger, 1870)	Balkanska sedefica	Balkan fritillary	LC		LC
106.	<i>Boloria pales</i> ([Denis & Schiffmüller], 1775)	Planinska sedefica	Shepherd's fritillary	LC		LC
107.	<i>Boloria titania</i> (Esper, [1793])	Titanija	Titania's Fritillary	LC		NT
108.	<i>Boloria dia</i> (Linnaeus, 1767)	Tkačeva sedefica	Weaver's Fritillary	DD		LC
109.	<i>Boloria euphrosyne</i> (Linnaeus, 1758)	Proljećna sedefica	Pearl-bordered Fritillary	LC		LC
110.	<i>Nymphalis antiopa</i> (Linnaeus, 1758)	Kraljevski plašt	Camberwell Beauty	LC		LC
111.	<i>Nymphalis vaualbum</i> ([Denis & Schiffmüller], 1775)	Mrki šarenac	False Comma	CR	B2ab (ii,iii, iv)	LC
112.	<i>Nymphalis polychloros</i> (Linnaeus, 1758)	Mnogobojac	Large Tortoiseshell	LC		LC

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113.	<i>Nymphalis xanthomelas</i> (Esper, 1781)	Žutonogi mnogobojac	Yellow-legged Tortoiseshell	EN	B2ab (iii)	NT
114.	<i>Polygonia egea</i> (Cramer, 1775)	Mediterski mnogobojac	Southern Comma	LC		LC
115.	<i>Polygonia c-album</i> (Linnaeus, 1758)	Kontinentalni mnogobojac	Comma Butterfly	LC		LC
116.	<i>Aglais io</i> (Linnaeus, 1758)	Paunovac	Peacock Butterfly	LC		LC
117.	<i>Aglais urticae</i> (Linnaeus, 1758)	Riđa sedefica	Small Tortoiseshell	LC		LC
118.	<i>Vanessa atalanta</i> (Linnaeus, 1758)	Crveni admiral	Red Admiral	LC		LC
119.	<i>Vanessa cardui</i> (Linnaeus, 1758)	Stričkovac	Painted Lady	LC		LC
120.	<i>Argynnis paphia</i> (Linnaeus, 1758)	Obična sedefica	Silver-washed Fritillary	LC		LC
121.	<i>Argynnis pandora</i> ([Denis & Schiffmüller], 1775)	Pandorina sedefica	Cardinal	LC		LC
122.	<i>Argynnis aglaja</i> (Linnaeus, 1758)	Velika sedefica	Dark Green Fritillary	LC		LC
123.	<i>Argynnис niobe</i> (Linnaeus, 1758)	Niobina sedefica	Niobe Fritillary	LC		LC
124.	<i>Argynnис adippe</i> ([Denis & Schiffmüller], 1775)	Adipina sedefica	High Brown Fritillary	LC		LC
125.	<i>Issoria lathonia</i> (Linnaeus, 1758)	Mala sedefica	QueENof Spain Fritillary	LC		LC
126.	<i>Brenthis hecate</i> ([Denis & Schiffmüller], 1775)	Dvotačasti šarenac	Twin-spot Fritillary	LC		LC
127.	<i>Brenthis daphne</i> (Bergsträsser, 1780)		Marbled Fritillary	LC		LC
128.	<i>Brenthis ino</i> (Rottemburg, 1775)	Inova sedefica	Lesser Marbled Fritillary	EN	B2ab (ii,iii)	LC

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129.	<i>Apatura metis</i> (Freyer, 1829)	Frejerov prelivac	Freyer's Purple Emperor	EN	B2ab (ii,iii,iv)	LC
130.	<i>Apatura ilia</i> [Denis & Schiffermüller], 1775	Mali prelivac	Lesser Purple Emperor	VU	B2ab (ii,iii)	LC
131.	<i>Apatura iris</i> (Linnaeus, 1758)	Modri prelivac	Purple Emperor	VU	B2ab (iii)	LC
132.	<i>Melitaea didyma</i> (Esper, 1778)	Tačkasti šarenac	Spotted Fritillary	LC		LC
133.	<i>Melitaea trivia</i> [Denis & Schiffermüller], 1775	Divizmin šarenac	Lesser Spotted Fritillary	LC		LC
134.	<i>Melitaea phoebe</i> [Denis & Schiffermüller], 1775	Različkov šarenac	Knapweed Fritillary	LC		LC
135.	<i>Melitaea ornata</i> (Christoph, 1893)	Istočni šarenac	Eastern Knapweed Fritillary	CR	B2ab (ii,iii)	/
136.	<i>Melitaea cinxia</i> (Linnaeus, 1758)	Obični šarenac	Glanville Fritillary	LC		LC
137.	<i>Melitaea diamina</i> (Lang, 1789)	Mrki šarenac	False Heath Fritillary	LC		LC
138.	<i>Melitaea athalia</i> (Rottemburg, 1775)	Vrijesov šarenac	Heath Fritillary	LC		LC
139.	<i>Melitaea aurelia</i> (Nickerl, 1850)	Zlatni šarenac	Nickerl's Fritillary	LC		NT
140.	<i>Euphydryas aurinia</i> (Rottemburg, 1775)	Močvarni šarenac	Marsh Fritillary	VU	B2ab (ii,iii)	LC
141.	<i>Euphydryas maturna</i> (Linnaeus, 1758)	Šumski šarenac	Scarce fritillary	VU	B2ab (ii,iii)	VU
142.	<i>Charaxes jasius</i> (Linnaeus, 1767)	Dvorepi paša	Two-tailed Pasha	VU	B2ab (ii,iii,v)	LC
143.	<i>Limenitis populi</i> (Linnaeus, 1758)	Veliki topolnjak	Poplar Admiral	NT	B2ab (iii)	LC
144.	<i>Limenitis reducta</i> (Staudinger, 1901)	Admiral	Southern White Admiral	LC		LC

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145.	<i>Limenitis camilla</i> (Linnaeus, 1764)	Smedi admiral	White Admiral	LC		LC
146.	<i>Neptis rivularis</i> (Scopoli, 1763)	Mađarska jedrilica	Hungarian Glider	LC		LC
147.	<i>Neptis sappho</i> (Pallas, 1771)	Grahorovac	Common Glider	DD		LC
148.	<i>Danaus chrysippus</i> (Linnaeus, 1758)	Afrički monarh	African monarch	NA		NA
149.	<i>Satyrus ferula</i> (Fabricius, 1793)	Veliki čadavi satir	Great Sooty Satyr	LC		LC
150.	<i>Minois dryas</i> (Scopoli, 1763)	Modrooki satir	Dryad	LC		LC
151.	<i>Brintesia circe</i> (Fabricius, 1775)	Šumski vratar	Great Banded Grayling	LC		LC
152.	<i>Arethusana arethusa</i> [Denis & Schiffermüller], 1775	Jesenji livadar	False Grayling	DD		LC
153.	<i>Hyparchia fagi</i> (Scopoli, 1763)	Bukova hiparhija	Woodland Grayling	LC		NT
154.	<i>Hyparchia syriaca</i> (Staudinger, 1871)	Istočna hiparhija	Eastern Rock Grayling	LC		LC
155.	<i>Hipparchia volgensis</i> (Mazochin-Porshnjakov, 1952)	Delatinova hiparhija	Delattin's Grayling	LC		LC
156.	<i>Hipparchia statilinus</i> (Hufnagel, 1766)	Jesenja hiparhija	Tree Grayling	LC		NT
157.	<i>Hipparchia fatua</i> (Freyer, 1844)	Frejerova hiparhija	Freyer's grayling	DD		LC
158.	<i>Chazara briseis</i> (Linnaeus, 1764)	Samotnjak	The Hermit	LC		NT
159.	<i>Erebia ligea</i> (Linnaeus, 1758)	Velika erebija	Arran Brown	LC		LC
160.	<i>Erebia euryale</i> (Esper, [1805])	Mala erebija	Large Ringlet	LC		LC

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161.	<i>Erebia epiphron</i> (Knoch, 1783)	Obična erebija	Mountain Ringlet	LC		LC
162.	<i>Erebia melas</i> (Herbst, 1796)	Crna erebija	Black Ringlet	LC		LC
163.	<i>Erebia aethiops</i> (Esper, 1777)	Okasta erebija	Scotch Argus	LC		LC
164.	<i>Erebia triarius</i> (de Prunner, 1798)	Prunerova erebija	Prunner's ringlet	EN	B2ab (ii,iii)	LC
165.	<i>Erebia manto</i> ([Denis & Schiffermüller], 1775)	Žuto-pjegava erebija	Yellow-spotted ringlet	EN	B2ab (ii,iii)	LC
166.	<i>Erebia medusa</i> ([Denis & Schiffermüller], 1775)	Proljećna erebija	Woodland Ringlet	LC		LC
167.	<i>Erebia pandrose</i> (Borkhausen, 1788)	Sniježna erebija	Dewy ringlet	LC		LC
168.	<i>Erebia ottomana</i> (Herrich-Schäffer, 1847)	Otomanska erebija	Ottoman Brassy Ringlet	LC		LC
169.	<i>Erebia gorge</i> (Hübner, [1804])	Zagasita erebija	Silky Ringlet	EN	B2ab (iii)	LC
170.	<i>Erebia rhodopensis</i> (Nicholl, 1900)	Rodopska erebija	Nicholl's Ringlet	EN	B2ab (ii,iii)	LC
171.	<i>Erebia alberganus</i> (De Prunner, 1798)	Bademasta erebija	Almond-eyed Ringlet	EN	B2ab (ii,iii)	LC
172.	<i>Erebia cassiooides</i> (Reiner & Hochenwarth, 1792)	Planinska erebija	Common brassy ringlet	LC		LC
173.	<i>Erebia pronoe</i> (Esper, [1780])	Voden planinski okaš	Water Ringlet	LC		LC
174.	<i>Erebia oeme</i> (Hübner, [1804])	Svetlooka erebija	Bright eyed ringlet	LC		LC
175.	<i>Melanargia galathea</i> (Linnaeus, 1758)	Šah-tabla	Marbled White	LC		LC
176.	<i>Melanargia larissa</i> (Geyer, 1828)	Balkanska šah-tabla	Balkan Marbled White	LC		LC

Br.	Naučni naziv Scientific name	Domaći naziv (Domestic name)	Engleski naziv (Common name in English)	Crna Gora kategorije (Montenegro Categories)	Kriterijumi (Criterion)	Evropa kategorije (Europe Categories)
177.	<i>Maniola jurtina</i> (Linnaeus, 1758)	Volovsko oko	Meadow Brown	LC		LC
178.	<i>Hyponephele lycaon</i> (Rottemburg, 1775)	Livadski smeđaš	Dusky Meadow Brown	LC		LC
179.	<i>Hyponephele lupinus</i> (O. Costa, 1856)	Vučji smeđaš	Oriental Meadow Brown	DD		LC
180.	<i>Aphantopus hyperantus</i> (Linnaeus, 1758)	Okasti smeđaš	Ringlet	LC		LC
181.	<i>Pyronia tithonus</i> (Linnaeus, 1767)	Vratar	Gatekeeper	LC		LC
182.	<i>Pyronia cecilia</i> (Vallantin, 1894)	Južni vratar	Southern Gatekeeper	DD		LC
183.	<i>Coenonympha rhodophensis</i> (Elwes, 1900)	Rodopska cenonimfa	Eastern Large Heath	LC		LC
184.	<i>Coenonympha pamphilus</i> (Linnaeus, 1758)	Mala cenonimfa	Small Heath	LC		LC
185.	<i>Coenonympha orientalis</i> (Rebel, 1910)	Balkanska cenonimfa	Balkan Heath	VU	B2ab (ii)	LC
186.	<i>Coenonympha glycerion</i> (Borkhausen, 1788)	Kestenjasta cenonimfa	Chestnut Heath	LC		LC
187.	<i>Coenonympha arcania</i> (Linnaeus, 1761)	Biserina cenonimfa	Pearly Heath	LC		LC
188.	<i>Pararge aegeria</i> (Linnaeus, 1758)	Šumski pjegavac	Speckled Wood	LC		LC
189.	<i>Lasiommata maera</i> (Linnaeus, 1758)	Veliki okaš	Large Wall Brown	LC		LC
190.	<i>Lasiommata megera</i> (Linnaeus, 1767)	Zidni okaš	Wall Brown	LC		LC
191.	<i>Lasiommata petropolitana</i> (Fabricius, 1787)	Planinski okaš	Northern Wall Brown	LC		LC
192.	<i>Kirinia roxelana</i> (Cramer, 1777)	Mediteranski okaš	Lattice Brown	NT	B2ab (iii)	LC

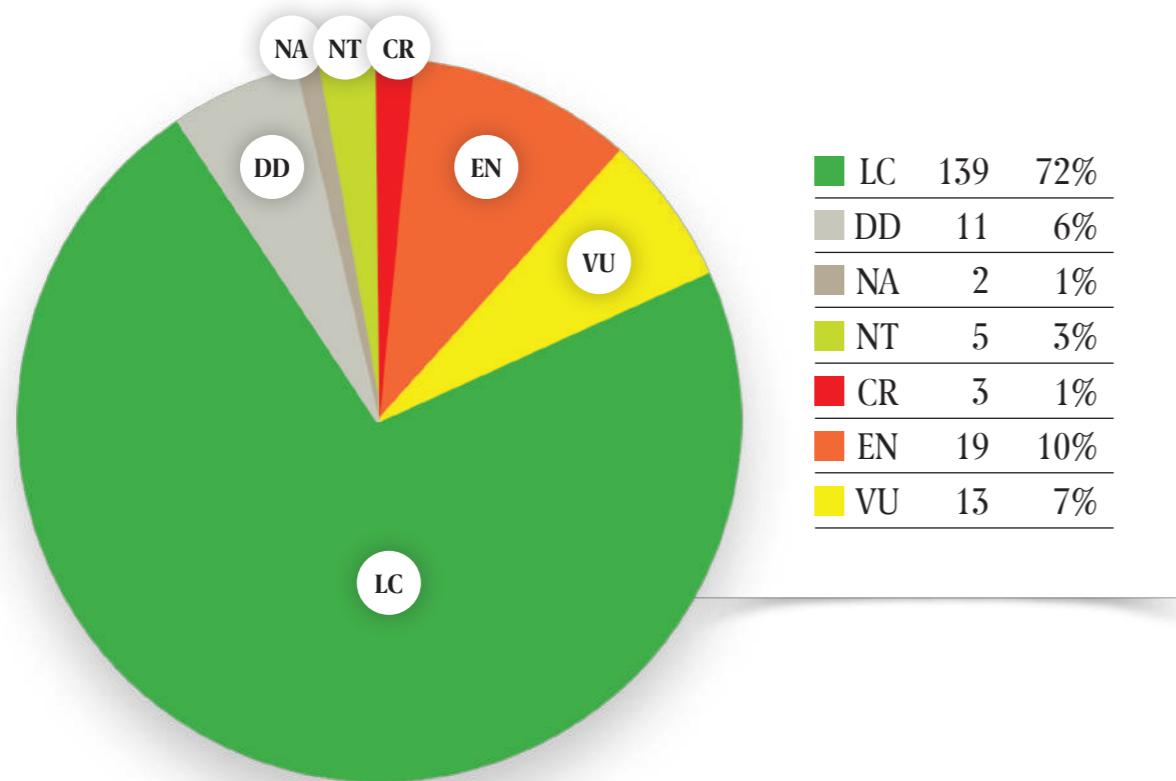
Na osnovu sprovedene procjene ugroženosti, broj vrsta sa različitim stepenom ugroženosti, od ranjive (VU – Vulnerable), preko ugrožene (EN – Endangered) do kritično ugrožene (CR – Critically Endangered), broji ukupno 35 vrsta ili 18% (Grafik 3). Od toga broja, u kategoriji ranjivih (VU) nalazi se 13 vrsta ili 7%, u kategoriji ugroženih (EN) 19 vrsta ili 10%, dok su u kategoriji kritično ugroženih (CR) tri vrste, odnosno 1%. Na osnovu raspoloživih podataka, u Crnoj Gori nije konstatovan status iščešle (EX) vrste.

Na prelazu između tri kategorije različitog stepena ugroženosti i kategorije najmanje zabrinutosti (LC) nalazi se prelazna kategorija skoro ugroženih (NT) vrsta, u koju je svrstano pet vrsta (3%).

Od ukupnog broja ocijenjenih vrsta, njih 139 ili 72% spada u grupu dnevnih leptira koja se procjenjuje kao posljednja briga (LC).

U sljedeću kategoriju, odnosno kategoriju gdje se nije raspolagalo dovoljnom količinom podataka za procjenu ugroženosti (DD), spada 11 vrsta ili 6%.

Za dvije vrste proces evaluacije (ocjene) statusa nije bio primjenljiv (NA).



Grafik 3. Broj vrsta i procenat po kategorijama
Graph 3. Number and percentage of species by categories

Based on the assessment of the risk of extinction, total number of species with different conservation status ranging from vulnerable (VU - Vulnerable) to endangered (EN - Endangered) and critically endangered (CR - Critically Endangered) is 35 or 18% (Graph 3). Out of this number, there are 13 species, or 7%, in the vulnerable category (VU), 19 species, or 10%, in the endangered category (EN), while three species, or 1%, are in the critically endangered (CR) category. Based on the available data, the status of the extinct (EX) species has not been established in Montenegro.

At the transition between the three categories of varying conservation status and the category of least concern (LC), there is a subcategory of near-threatened (NT) species, which includes five species (3%).

Out of the total number of evaluated species, 139 or 72% of them belong to the group of diurnal butterflies, which is assessed as least concern (LC).

11 species, or 6%, belong to the next category, i.e., the data deficient (DD) category, where there is inadequate information to make the assessment of the risk of extinction.

For two species, the status review tool (assessment process) was not applicable (NA).

Kada su u pitanju vrste koje se nalaze na dodaci Ma Habitattne direktive i Bernske konvencije, vrsta *Nymphalis vaualbum*, koja se nalazi na dodacima II i IV Habitattne direktive i revidovanom dodatu I Bernske konvencije, nalazi se u kategoriji kritično ugroženih (CR). Vrsta *Euphydryas aurinia*, koja se nalazi na dodatu II Habitattne direktive i dodatu II (i revidiranom dodatu I) Bernske konvencije, i vrsta *Euphydryas maturna*, koja se nalazi na dodacima II i IV Habitattnedirektive i dodatu II Bernske konvencije, svrstane su u kategoriju ranjivih (VU) vrsta. Vrsta *Papilio alexanor*, koja se nalazi na dodatu IV Habitattne direktive i dodatu II Bernske konvencije, kao i na na listi zaštićenih vrsta u Crnoj Gori, nalazi se u kategoriji ugroženih (EN) vrsta. Vrste *Parnassius apollo*, *Parnassius mnemosyne*, *Zerynthia polyxena* i *Phengaris arion*, koje se nalaze na dodatu IV Habitattne direktive i dodatu II Bernske konvencije, nalaze se u kategoriji ranjivih (VU) vrsta. Vrsta *Parnassius apollo* nalazi se i na dodatu II CITES konvencije i zaštićena je i po osnovu nacionalnog zakonodavstva¹.

Vrsta *Lycaena dispar*, koja se nalazi na dodacima II i IV Habitattne direktive i na dodatu II (i revidiranom dodatu I) Bernske konvencije, nalazi se u kategoriji ranjivih vrsta (VU). Vrsta *Polyommatus eroides*, koja se nalazi na dodacima II i IV Habitattne direktive, kao i na revidiranom dodatu I Bernske konvencije, nalazi se u kategoriji ugroženih vrsta (EN).

Vrste *Papilio machaon* i *Iphiclus podalirius*, koje se nalaze na listi zaštićenih vrsta u Crnoj Gori¹, zbog neravnomjerne distribucije u mediteranskom i alpskom biogeografskom regionu nalaze se u kategoriji skoro ugroženih vrsta (NT).

Upoređivanjem podataka sa zemljama iz regiona (Grafik 4), tj. sa Srbijom, Hrvatskom, Federacijom Bosne i Hercegovine i Albanijom, mogu se prema generalnoj procjeni primijetiti određene sličnosti, dok se utvrđeni status vrsta razlikuje u odnosu na raspoložive podatke i druge kriterijume (pored kriterijuma IUCN-a) koji su uzeti u obzir prilikom procjene statusa vrsta.

As for the species listed in the annexes of the Habitats Directive and the Berne Convention, the species *Nymphalis vaualbum*, listed in Annex II and IV of the Habitats Directive and the revised Annex I of the Berne Convention, falls into the category of Critically Endangered (CR). The species *Euphydryas aurinia*, listed in Annex II of the Habitats Directive and Annex II (and revised Annex I) of the Berne Convention, and the species *Euphydryas maturna*, listed in Annex II and IV of the Habitats Directive and Annex II of the Berne Convention, falls into the category of vulnerable (VU) species. The species *Papilio alexanor*, which is listed in Annex IV of the Habitats Directive and Annex II of the Berne Convention, as well as on the list of protected species in Montenegro, falls into the category of endangered (EN) species. The species *Parnassius apollo*, *Parnassius mnemosyne*, *Zerynthia polyxena*, and *Phengaris arion*, which are listed in Annex IV of the Habitats Directive and Annex II of the Berne Convention, fall into the category of vulnerable (VU) species. The species *Parnassius apollo* is also listed in Appendix II of the CITES Convention and is also protected by national legislation¹.

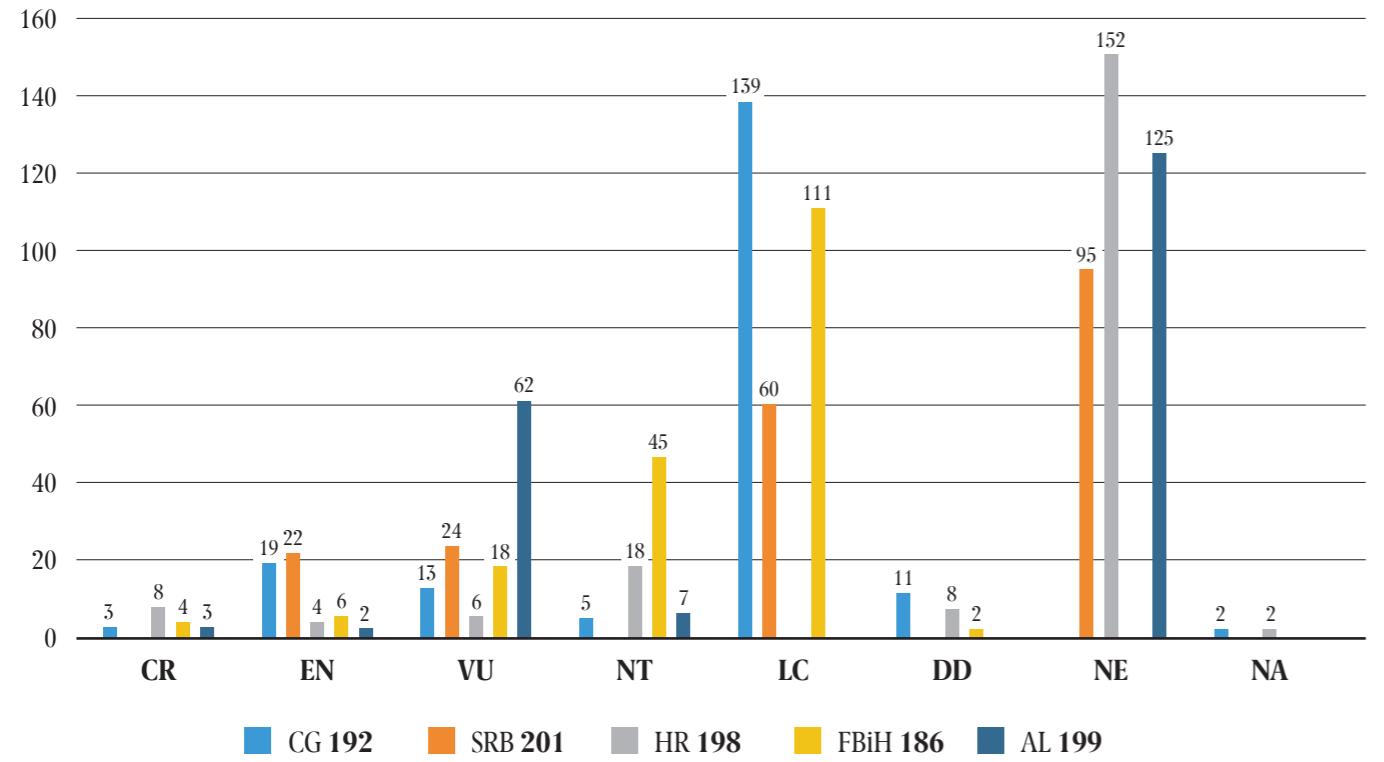
The species *Lycaena dispar*, which is listed in Appendix II and IV of the Habitats Directive and in Appendix II (and revised Appendix I) of the Berne Convention, falls into the category of vulnerable species (VU). The species *Polyommatus eroides*, listed in Appendix II and IV of the Habitats Directive, as well as in the revised Annex I of the Berne Convention, falls into the category of endangered species (EN).

The species *Papilio machaon* and *Iphiclus podalirius*, which are on the list of protected species in Montenegro¹, due to their uneven distribution in the Mediterranean and Alpine biogeographic regions, fall into the category of near-threatened species (NT).

Comparing the data with countries from the region (Graph 4), i.e. with Serbia, Croatia, the Federation of Bosnia and Herzegovina, and Albania, certain similarities can be perceived according to a general assessment, while the determined status of the species differs in relation to the available data and other criteria (in addition to the IUCN criteria) that were taken into account when assessing the status of species.

¹ Rješenje o stavljanju pod zaštitu pojedinih biljnih i životinjskih vrsta, „Sl. list RCC“ br. 76/06.

¹ Decision on the protection of rare, declining, endemic and endangered plant and animal species, Official Gazette of the Republic of Montenegro, 76/06.



Grafik 4.
Uporedni prikaz zastupljenosti vrsta sa različitim statusima u Srbiji, Hrvatskoj, Federaciji BiH i Albaniji

Graph 4.
Comparative overview of the representation of species with different statuses in Serbia, Croatia, Federation of Bosnia and Herzegovina and Albania

Zaključak

Out of the total number of evaluated species, 35 or 18% fall into the category of certain conservation status (CR, EN, and VU). There are five species, or 3%, in the NT or near-threatened category, while there are 139 species, or 72%, in the LC (least concern) category. Due to data deficiency (DD), 11 species, or 6%, could not be assessed or classified into any of the established conservation categories.

Ovo je prva kategorizacija sprovedena po aktuelnim IUCN kriterijumima. Nastavkom istraživanja i redovnim praćenjem vrsta listu treba ažurirati svakih pet godina, čime će se status pojedinih vrsta mijenjati u skladu sa trendovima koji budu evidentirani na terenu.

Conclusion

Out of the total number of evaluated species, 35 or 18% fall into the category of certain conservation status (CR, EN, and VU). There are five species, or 3%, in the NT or near-threatened category, while there are 139 species, or 72%, in the LC (least concern) category. Due to data deficiency (DD), 11 species, or 6%, could not be assessed or classified into any of the established conservation categories.

This is the first categorization carried out according to the current IUCN criteria. With the continuation of research and regular monitoring of species, the list should be updated every five years, which will change the status of certain species in accordance with the trends detected on-site.



Vrste**PAPILIONIDAE*****Iphiclus podalirius* (Linnaeus, 1758)**
– prugasto jedarce

Ekološke karakteristike: Prugasto jedarce je jedna od najkrupnijih i najatraktivnijih vrsta dnevnih leptira. Rasprostranjena je u čitavoj Evropi, osim na samom sjeveru (Skandinavija) i većem dijelu Velike Britanije, a prisutna je i u sjevernim djelovima Afrike i većem dijelu Azije. Preferira travnata područja i šumske čistine, na različitim nadmorskim visinama: od nivoa mora do iznad 1600 m n. v. (Forey i Fitzsimons, 2000), pa čak i iznad 2000 m. Nerijetko je srijećemo u blizini naseobina. Za nesmetan let zahtijeva veća staništa ili više manjih, povezanih. Kod nas je relativno česta u primorskim i centralnim djelovima zemlje, dok se u planinskim djelovima i na sjeveru srijeće znatno rjeđe, a populacije su manje brojne. Polifagna je vrsta, a gusjenice u ishrani preferiraju različite vrste divljih i pitomih voćki (drenjina, trnjina, glog, bijeli glog, jabuka, kajsija, trešnja, višnja). Može imati jednu do dvije generacije u sjevernim djelovima rasprostranjenja, a u južnim djelovima i na nižim nadmorskim visinama nerijetko i tri. Jaja polaže na obje strane lista, dok gusjenicu obično nalazimo dobro kamufliranu na gornjoj strani lista. Prezimljuje u stadiju lutke, često na stijenama ili kori stabla. Odrasle jedinke su aktivne od marta do oktobra.

Ugroženost na nacionalnom i međunarodnom nivou: Prema evropskoj Crvenoj listi dnevnih leptira, vrsta je svrstana u kategoriju LC. U Crnoj Gori je zaštićena, kao i u nekim drugim evropskim državama: Češka, Slovačka, Mađarska, Luksemburg, Rusija, Ukrajina, Poljska (Collins i Moris, 1985).

Imajući u vidu da je vrsta prilično rijetka na sjeveru i u planinskim djelovima zemlje, kategorija ugroženosti za Crnu Goru je NT.

Razlozi ugroženosti: Osim zbog lovljenja u svrhu kolekcionarstva, do pada brojnosti populacija u pojedinim zemljama prvenstveno dolazi uslijed uništavanja njihovih prirodnih staništa. Zabilježeno je da se u pojedinim djelovima centralne Evrope širi njeno rasprostranjenje, a što se dovodi u vezu sa povećanjem temperature na globalnom nivou.

Species**PAPILIONIDAE*****Iphiclus podalirius* (Linnaeus, 1758)**
– Scarce swallowtail

Ecological traits: Scarce swallowtail is one of the largest and most attractive species of diurnal butterflies. It is widespread throughout Europe, except for the very north (Scandinavia) and most of Great Britain, and it is also present in the northern parts of Africa and most of Asia. It prefers grasslands and open woodlands at different altitudes: from sea level to above 1600 m a.s.l. (Forey and Fitzsimons, 2000), and even above 2000 m. We often meet it near settlements. For smooth flight, it requires larger habitats or several smaller, connected ones. In our country, it is relatively common in the coastal and central parts, while it is rather scarcely found in the mountainous parts and in the north, and the population size is smaller. It is a polyphagous species, and caterpillars prefer different types of wild and tame fruit trees (Cornelian Cherry, blackthorn, hawthorn, common hawthorn, apple, apricot, cherry, sour cherry). It can have one to two generations in the northern parts of its distribution, while in the southern parts and at lower altitudes, it often has three generations. It lays its eggs on the underside and tops of plant leaves, while the caterpillar is usually well camouflaged on top of the leaf. It overwinters in the pupa stage, often on rocks or tree bark. Adults are active from March to October.

Conservation status at the national and international level: According to the European Red List of butterflies, the species is classified as LC. It is protected in Montenegro, as well as in some other European countries: the Czech Republic, Slovakia, Hungary, Luxembourg, Russia, Ukraine, Poland (Collins and Morris, 1985).

Bearing in mind that the species is quite rare in the north and mountainous parts of the country, the conservation category for Montenegro is NT.

Causes for endangered status: Apart from trophy hunting, a decline in the population size in certain countries is primarily caused by the destruction of their natural habitats. It has been recorded that its population spread over some parts of Central Europe, which is linked to global temperature rise.



Iphiclus podalirius
(Linnaeus, 1758)
Prugasto jedarce
Scarce swallowtail



Papilio machaon
(Linnaeus, 1758)

Lastin repak
Common yellow swallowtail

Papilio alexonor (Esper, 1800)
– južni lastin repak

Ekološke karakteristike: Kako samo ime kaže, južni lastin repak je rasprostranjen u južnim djelovima Europe i karakteriše ga ostrvska distribucija, a takođe je prisutan u djelovima Male Azije, Izraelu, Pakistanu, Avganistanu i Kazahstanu. U Crnoj Gori je zabilježen na par lokaliteta u primorskim djelovima, a njegovo prisustvo je potvrđeno u okolini Starog Bara i u Boki Kotorskoj. Preferira otvorena staništa, kamenite livadske padine sa dosta žbunja, nasipe, rubove šuma, maslinjake. Njegove gusjenice se hrane djelovima različitih vrsta biljaka iz familije Apiacea, zavisno od areala. Neke od njih su *Ptychotis saxifraga*, *Opopanax spp.*, *Ferula communis*. Biljka-hraniteljka za gusjenice ove vrste u Crnoj Gori je *Opopanax chironium*. Odrasle jedinke imaju jednu generaciju godišnje i aktivne su u periodu od aprila do jula. Jaja polažu od maja pa do sredine juna, dok se larve mogu naći od kraja maja pa do početka avgusta. Lutke su konstatovane na stijenama, u udubljenjima ili procjepima.

Ugroženost na nacionalnom i međunarodnom nivou: Ova vrsta je na Crvenoj listi dnevnih leptira Evrope svrstana u kategoriju LC.

U Crnoj Gori je veoma rijetka i smatra se ugroženom (EN). Zabilježena je u malom broju primjeraka na nekoliko lokaliteta na primorju (u Baru, Kotoru i Igalu).

Razlozi ugroženosti: Populacije ove vrste su lokalizovane, a pojedine postaju ugrožene uslijed gubitka prirodnih staništa, turizma i sl.

Papilio alexonor (Esper, 1800)
– Southern Swallowtail

Ecological traits: As the name suggests, the southern swallowtail is widespread in the southern parts of Europe and is characterised by an insular distribution; and is also present in parts of Asia Minor, Israel, Pakistan, Afghanistan, and Kazakhstan. In Montenegro, it was recorded in a couple of localities in the coastal areas, and its presence was confirmed in the surroundings of Stari Bar and in Boka Kotorska. Prefers open habitats, rocky meadow slopes with plenty of bushes, embankments, forest edges, olive groves. Its caterpillars feed on parts of different species of plants from the *Apiacea* family, depending on the area. Some of them are *Ptychotis saxifraga*, *Opopanax spp.*, *Ferula communis*. The food plant for caterpillars of this species in Montenegro is *Opopanax chironium*. Adults have one generation per year and are active from April to July. Eggs are laid from May to mid-June, while larvae can be found from late May to early August. Dolls were found on rocks, in hollows, or in crevices.

Conservation status at the national and international level: This species falls into the LC category on the European Red List of Butterflies.

It is very rare in Montenegro and is considered endangered (EN). A small number of specimens was recorded in several localities in the coastal area (in Bar, Kotor, and Igalo).

Causes for endangered status: Populations of this species are localized, and some become endangered due to habitat loss, tourism, etc.

Papilio machaon (Linnaeus, 1758)
– lastin repak

Ekološke karakteristike: Lastin repak je rasprostranjen u gotovo cijeloj Evropi, sjeverozapadnim djelovima Afrike, većem dijelu Azije i djelovima Sjeverne Amerike. Ova vrsta nastanjuje različite tipove otvorenih i poluotvorenih staništa, a naročito preferira velike čistine, na različitim nadmorskim visinama. Pojedine populacije mogu biti vezane za određeni tip staništa, a takođe je evidentiran i u urbanim i suburbanim područjima. Za reprodukciju su im ipak potrebne livade koje se ne kose više od jednom ili dva puta godišnje.

Papilio machaon (Linnaeus, 1758)
– Common yellow swallowtail

Ecological traits: Common yellow swallowtail is widespread in almost all regions of Europe, north-western parts of Africa, most of Asia, and parts of North America. This species inhabits different types of open and semi-open habitats and especially prefers large clearings at different altitudes. Certain populations can be linked to a certain habitat type, and it has also been recorded in urban and suburban areas. For reproduction, however, they need meadows that are not mowed more than once or twice a year.



Parnassius apollo
(Linnaeus, 1758)

Apolon
Apollo

Populacije ove vrste su u sjevernim djelovima Crne Gore prilično malobrojne i vrstu rjeđe srijećemo u planinskim djelovima. Larve se hrane različitim vrstama biljaka, naročito iz familija *Apiaceae* i *Rutaceae*, a mogu se hraniti i u baštama, na nekim kultivarima, poput šargarepe. Prezimljuje u stadiju lutke. Može imati dvije do tri generacije tokom sezone, dok sezona aktivnog leta traje od aprila do septembra.

Ugroženost na nacionalnom i međunarodnom nivou:

Prema Crvenoj listi leptira Evrope, vrsta je svrstana u kategoriji LC. U Crnoj Gori je zaštićena nacionalnom legislativom. Lastin repak je široko rasprostranjena vrsta u palearktičkom regionu, i mada je zabilježena u cijeloj Evropi, ipak je zakonom zaštićena u nekoliko evropskih zemalja: Austrija, Slovačka, Mađarska, Rumunija, Moldavija i Velika Britanija (Collins i Moris, 1985).

U Crnoj Gori je vrsta relativno česta u primorskim djelovima, ali je prilično rijetka u sjevernim, kao i planinskim djelovima. Shodno tome, u Crnoj Gori je svrstana u kategoriju NT.

Razlozi ugroženosti: Zbog svoje atraktivnosti, ova vrsta je bila, i još uvijek je, na meti brojnih kolekcionara. Smanjenje brojnosti populacija na širem području uslijed gubitka staništa evidentno je u slučajevima devastacija većih razmjera.

Parnassius apollo (Linnaeus, 1758) – apolon

Ekološke karakteristike: Apolonov leptir je prilično lokalizovan u Evropi i uglavnom nastanjuje visoke evropske planine, kao i djelove Azije. U centralnoj Evropi je gotovo nestao sa nižih planina, dok se u Skandinaviji može naći i na stjenovitim obalama. U Crnoj Gori je zabilježen na većem broju planina u sjevernim djelovima države, dok je znatno rjeđi i manje brojan na jugu. Ova vrsta preferira otvorena staništa na stjenovitoj podlozi sa malo zemlje, na većim nadmorskim visinama (od 1500 m do 2000 m nadmorske visine), uglavnom planinske livade i vrištine. Najčešće je nalazimo na područjima na kojima ima dosta vrsta iz familije *Crassulaceae* (naročito *Sedum album*, a povremeno i *Sempervivum* vrste), s obzirom na to da su te biljke domaćini njihovih larvi. Prezimljuje kao razvijena gusjenica unutar jajeta. Gusjenice se mogu zabilježiti od marta/aprila do maja/juna, a nekada čak i u julu, zajedno sa odraslim jedinkama. Period aktivnog leta odraslih jedinki varira u pojedinim djelovima Evrope između maja i početka septembra.

Populations of this species are quite small in the northern parts of Montenegro, and the species is rarely found in mountainous areas. Larvae feed on different types of plants, especially from the families *Apiaceae* and *Rutaceae*, and they can also feed in gardens on some cultivars, such as carrots. It overwinters in the pupa stage. It can have two to three generations during the season, while the peak butterfly season lasts from April to September.

Conservation status at the national and international level:

According to the European Red List of Butterflies, the species is classified as LC. In Montenegro, it is protected by national legislation. The common yellow swallowtail is a widespread species in the Palaearctic region, and although it has been recorded throughout Europe, it is still protected by law in several European countries: Austria, Slovakia, Hungary, Romania, Moldova, and Great Britain (Collins and Morris, 1985).

In Montenegro, the species is relatively common in the coastal areas, but it is quite rare in the northern and mountainous areas. Consequently, in Montenegro, it falls into the NT category.

Causes for endangered status: Due to its attractiveness, this species was, and still is, targeted by a number of trophy hunters. The decline in population size in a wider area due to habitat loss is evident in cases of large-scale degradation.

Parnassius apollo (Linnaeus, 1758) – Apollo

Ecological traits: The Apollo butterfly is quite localized in Europe and mainly inhabits the high mountains of Europe, as well as parts of Asia. In Central Europe, it has almost disappeared from the lower mountains, while in Scandinavia, it can also be found on rocky coasts. In Montenegro, it has been recorded on a larger number of mountains in the northern parts of the country, while it is much rarer and less numerous in the south. This species prefers open habitats on bedrock with little soil at higher altitudes (from 1500 m to 2000 m above sea level), mainly mountain meadows and heaths. It is most often found in areas abundant with species from the *Crassulaceae* family (*Sedum album* in particular, and occasionally *Sempervivum* species), considering that these plants host their larvae. It overwinters as a grown-up caterpillar inside an egg. Caterpillars can be recorded from March/April to May/June, and sometimes even in July, along with adults. The peak season of adults ranges in some parts of Europe between May and early September.

Ugroženost na nacionalnom i međunarodnom nivou:
Prema evropskoj Crvenoj listi dnevnih leptira, ova vrsta je svrstana u kategoriju NT, kriterijum A2c.

Iako su populacije ove vrste na pojedinim planinama Crne Gore, naročito na sjeveru, dosta brojne i očuvane, vrsta se ne bilježi na manjim nadmorskim visinama, a na planinama južnog i centralnog dijela, nalazi su sporadični. Zbog toga je ovoj vrsti dodijeljena kategorija ranjive (VU).

Razlozi ugroženosti: Brojni su faktori koji imaju negativan uticaj i mogu dovesti do smanjenja brojnosti populacija ove vrste: kolekcionarstvo, uništavanje prirodnih staništa, zagađenja, požari, fragmentacija, kao i posljedice koje sa sobom nose klimatske promjene. Svi ti faktori su doveli do toga da su u posljednjih pola vijeka populacije ove vrste u znatnom padu u pojedinim djelovima Europe (npr. u Skandinaviji) ili su postale lokalizovane (Nakonieczny i sar., 2007).

Parnassius mnemosyne (Linnaeus, 1758) – crni apolon

Ekološke karakteristike: Crni apolon je rasprostranjen od Pirineja, lokalno preko planinskih djelova Europe do planinskih djelova centralne Azije (Tien Shan). U Crnoj Gori je vrsta zabilježena na više lokaliteta u različitim regionima. Preferira otvorena staništa, biljkama bogate čistine između šuma i unutar njih, kao i rubove šuma. Nalazimo ga na nešto manjim nadmorskim visinama nego planinskog apolona, ali se može zabilježiti i na planinskim livadama iznad 1500 m n. v. ukoliko na tim staništima ima dovoljno hrane. Hrani se uglavnom vrstama roda *Cordylis* (*C. cava* i *C. intermedia*). Crni apolon prezimljuje kao larva u jajetu i razvija se veoma brzo s obzirom na to da vrste kojima se hrani (*Corydalis* spp.) nemaju dug životni vijek. Odrasle jedinke su aktivne u periodu od maja do jula u planinskim područjima, dok je taj period nešto duži na manjim nadmorskim visinama. Vrsta ima samo jednu generaciju godišnje (Tolman i Lewington, 2008).

Ugroženost na nacionalnom i međunarodnom nivou:
Kada je riječ o statusu ugroženosti na evropskom nivou, ova vrsta je svrstana u kategoriju NT, kriterijum A2c.

Vrsta je registrovana na više lokacija, prvenstveno u centralnim i sjevernim djelovima Crne Gore, na nadmorskim visinama iznad 900 m, međutim, populacije su često izolovane i nisu tako brojne. Shodno tome, kao i činjenici da su njihova staništa pod sve većim pritiskom, ovoj vrsti je dodijeljen status VU.

Conservation status at the national and international level: According to the European Red List of butterflies, this species falls into the NT category, criterion A2c.

Although the populations of this species found on certain mountains of Montenegro, particularly in the north, are quite large and preserved, the species is not recorded at lower altitudes, while on the mountains of the southern and central part, they are found sporadically. Therefore, this species has been assigned the category of vulnerable (VU).

Causes for endangered status: There are numerous factors that have a negative impact and can lead to a decline in the population size of this species: trophy hunting, habitat destruction, pollution, fires, fragmentation, as well as the consequences of climate change. All these factors have led to the fact that, in the last half-century, populations of this species have declined rapidly in certain parts of Europe (e.g., in Scandinavia) or have become localized (Nakonieczny et al., 2007).

Parnassius mnemosyne (Linnaeus, 1758) – Clouded Apollo

Ecological traits: Clouded Apollo is distributed from the Pyrenees, locally, through the mountainous parts of Europe to the mountainous parts of central Asia (Tien Shan). In Montenegro, the species has been recorded in several localities in different regions. It prefers open habitats, forest clearings rich in plants between and within forests, as well as woodland edges. We find it at slightly lower altitudes than the mountain Apollo, but it can also be found in mountain meadows at an altitude above 1500 m if there is enough food in those habitats. It feeds mainly on species of the genus *Cordylis* (*C. cava* and *C. intermedia*). Clouded Apollo overwinters as a larva in an egg and develops very quickly, considering that the species it feeds on (*Corydalis* spp.) do not have a long lifespan. Adults are active from May to July in mountainous areas, while this period is somewhat longer at lower altitudes. The species has only one generation per year (Tolman and Lewington, 2008).

Conservation status at the national and international level: As for the conservation status at the European level, this species falls into the NT category, criterion A2c.

The species is registered in several locations, primarily in the central and northern parts of Montenegro, at altitudes above 900 m. However, the populations are often isolated and not so large in number. As a result, but also due to the fact that their habitats are under increasing pressure, this species has been assigned the status of VU.



Parnassius mnemosyne
(Linnaeus, 1758)
Crni apolon
Clouded Apollo



Zerynthia polyxena
([Denis & Schiffermüller], 1775)
Uskršnji leptir
Southern Festoon

Razlozi ugroženosti: Crni apolon je prilično stenotipična i lokalna vrsta i nije sklona širenju, odnosno migracijama, osim u posebnim slučajevima, što je čini prilično osjetljivom na promjene u staništu koje naseljava. Posebno je osjetljiva na gubitak biljnih vrsta kojima se njihove larve hrane. Razni antropogeni faktori koji dovode do uništavanja njihovih prirodnih staništa glavni su razlog opadanja brojnosti vrste u mnogim evropskim zemljama (Ruchin, 2018).

Zerynthia polyxena (Denis & Schifermuller, 1775)
– uskršnji leptir

Ekološke karakteristike: Uskršnji leptir nastanjuje južne krajeve Evrope, od južne Francuske, preko Italije, djelova Austrije i Njemačke, kao i na Balkanu. Kod nas se najčešće nalazi i populacije su najbrojnije u djelovima pod uticajem mediteranske klime. Ovaj lijepi šaren leptir preferira topla, osunčana otvorena staništa, biljkama bogate livade, obale rijeke, močvarna staništa, vegetaciju uz puteve, ali i kraške terene. Može se naći na različitim nadmorskim visinama (mada nešto rjeđe iznad 900 m) ukoliko su ispunjeni ekološki uslovi. Od biljnih vrsta naročito preferiraju one iz roda *Aristolochia*, kojima se hrane larve u toku razvoja. Odrasle jedinke se javljaju rano s proljeća, već u martu-aprilu, i rijetko se mogu zapaziti nakon maja. Uobičajeni period aktivnosti traje oko tri nedelje. Na istom lokalitetu se istovremeno mogu naći odrasle jedinke, jaja, kao i rani stadijumi larvi.

Ugroženost na nacionalnom i međunarodnom nivou: Na evropskoj Crvenoj listi uskršnji leptir je svrstani u kategoriju LC, jer su njegove populacije opale za manje od 30% u odnosu na posljednjih deset godina. Međutim, smatra se da ova procjena Crvene liste nije na adekvatan način uzimala u obzir aspekte prijetnje, te da populacioni trendovi potcenjuju rizike od izumiranja (Van Swaay i sar., 2011).

U Crnoj Gori je ova vrsta zabilježena u južnim i djelično centralnim djelovima, ali nije zabilježena na sjeveru. Populacije su često lokalizovane i ne tako brojne. Zbog navedenog, vrsti je dodijeljen status ranjive (VU).

Razlozi ugroženosti: Ova vrsta postaje sve ugroženija zbog gubitka prirodnih staništa uslijed zarastanja livada, prenamjene zemljišta, gradnje, te prekomjerne upotrebe pesticida.

Causes for endangered status: Clouded Apollo is a rather stenotopic and local species and is not prone to spread or migration, except in special cases, which makes it quite sensitive to its habitat alterations. It is particularly sensitive to the loss of plant species that its larvae feed on. Various anthropogenic factors that lead to the destruction of their natural habitats are the main reason for the decline of the species in many European countries (Ruchin, 2018).

Zerynthia polyxena (Denis & Schifermuller, 1775)
– Southern Festoon

Ecological traits: Southern Festoon inhabits the southern parts of Europe, from southern France, through Italy, parts of Austria and Germany, as well as the Balkans. In our country, it is most often found, and the populations are largest in the areas influenced by the Mediterranean climate. This beautiful, colourful butterfly prefers open habitats that are warm and sunny, meadows rich in plants, riverbanks, wetlands, roadside vegetation, and karst terrain. It can be found at different altitudes (although somewhat less often above 900 m) if the ecological conditions are met. Of the plant species, they especially prefer those from the genus *Aristolochia*, which the larvae feed on during development. Adults appear early in the spring, already in March-April, and can rarely be seen after May. The usual activity period lasts about three weeks. Adults, eggs, and early larval stages can be found at the same locality.

Conservation status at the national and international level: On the European Red List, Southern Festoon is classified in the LC category because its population has declined by less than 30% in comparison to the last ten years. However, this Red List assessment is considered to inadequately take into account threat aspects and population trends and underestimate the risk of extinction (Van Swaay et al., 2011).

In Montenegro, this species was recorded in the southern and partially central parts, but it was not recorded in the north. Populations are often localized and not so large in number. Because of the above, the species has been assigned the status of vulnerable (VU).

Causes for endangered status: This species is becoming more and more endangered due to habitat loss, overgrowth of meadows, land use change, construction, and excessive use of pesticides.

LYCAENIDAE

LYCAENIDAE

Lycaena dispar Haworth, 1803

– veliki dukat

Ekološke karakteristike: Ovaj plavac je rasprostranjen od Francuske (gdje je lokalizovan), preko centralne Evrope (rijetka i disjunktnog areala na sjeveru Italije, u Holandiji i Njemačkoj, dok je u Engleskoj reintrodukovana nakon ranih nestanka) do Baltika, te preko Balkana do djelova Turske i do Crnog mora. U Crnoj Gori je vrsta rijetka i do sada je zabilježena na svega par lokaliteta. Preferira različite tipove vlažnih staništa, kao što su močvare, vlažne livade, obale rijeka, kanali i jarkovi, ali se može naći i u ruderalnim područjima. Povremeno posjećuje poljoprivredna polja, gdje može polagati jaja, ali se ne zadržava trajno. Veoma je mobilna vrsta i može nastaniti novonastala pogodna livadska staništa. Jaja obično polaze u malim grupama na gornjoj površini lista biljke-hraniteljke. U ishrani gusjenice koriste različite vrste roda *Rumex*, kao što su: *R. acetosa*, *R. aquaticus*, *R. crispus* i *R. obtusifolius* (Pullin i sar., 1998). Mostert (2016) navodi ovu vrstu za Biogradsku goru, a pretpostavlja se da je zabilježena u blizini južne i jugoistočne obale Biogradskog jezera, gdje je zastupljena močvarna vegetacija, tipična za obale stajačih ili sporotekućih voda, gdje obično susrijećemo vrstu *R. hydrolapathum*. Prezimljuju poluodrasle larve, koje sazrijevaju krajem aprila ili u maju. Odrasle jedinke lete od maja do junia, a nekad i do početka jula. Obično imaju dvije generacije godišnje, a ponekad i djelimičnu treću generaciju, u septembru/oktobru, kada su ljeta topa.

Ugroženost na nacionalnom i međunarodnom nivou: Kada je u pitanju status ugroženosti na evropskom nivou, vrsta je svrstana u kategoriju LC. Smatra se ugroženom u mnogim evropskim zemljama, a njene populacije su naročito u opadanju u sjevernim i zapadnim djelovima Evrope, posebno one koje imaju samo jednu generaciju godišnje (Pullin i sar., 1998).

Vrsta je rijetka u Crnoj Gori, te postoji svega nekoliko publikovanih podataka. Odsustvo podataka je dijelom uzrokovano nedovoljnom istraženošću, te je moguće da će dalja i detaljnija istraživanja pokazati njeno prisustvo na dodatnim lokacijama. Za sada je procijenjeno da vrsta zaslužuje kategoriju ranjive (VU).

Razlozi ugroženosti: Gubitak prirodnog staništa i njegova prenamjena (isušivanje močvarnih staništa radi njihovog korištenja u poljoprivredi) osnovni su razlozi pada populacija ove vrste u pojedinim djelovima Evrope, ali se ne mogu zanemariti ni posljedice globalnog zagrijavanja.

Lycaena dispar Haworth, 1803

– Large copper

Ecological traits: This blue is widespread from France (where it is localized), through central Europe (a rare and disjoint area in the north of Italy, in the Netherlands and Germany, while it was reintroduced in England after its previous disappearance) to the Baltic, and through the Balkans to parts of Turkey and to the Black Sea. In Montenegro, the species is rare, and so far, it has been recorded in only a few localities. It prefers different types of wet habitats, such as swamps, wet meadows, riverbanks, canals, and ditches, but it can also be found in ruderal habitats. It occasionally visits agricultural fields, where it can lay eggs, but it does not stay permanently. It is a very mobile species and can inhabit newly created suitable meadow habitats. Eggs are usually laid in small groups on the top of the leaf of the host plant. In their diet, caterpillars use different species of the genus *Rumex*, such as *R. acetosa*, *R. aquatics*, *R. crispus*, and *R. obtusifolius* (Pullin et al., 1998). Mostert (2016) mentions this species for Biogradska Gora, and it is assumed that it was recorded near the southern and south-eastern shores of Lake Biograd, where wetland vegetation is distributed, typical for the shores of stagnant or slow-flowing waters, where the species *R. hydrolapathum* is usually found. Half-grown larvae overwinter and then mature at the end of April or in May. Adults fly from May to June and sometimes until the beginning of July. They usually have two generations per year and sometimes a partial third generation in September/October when the summers are warm.

Conservation status at the national and international level: As for the conservation status at the European level, the species falls into the LC category. It is considered endangered in many European countries, and its populations are particularly declining in the northern and western parts of Europe, especially those that have only one generation per year (Pullin et al., 1998).

The species is rare in Montenegro, and there are only a few published data. Data deficiency is partly caused by insufficient research, and it is possible that further and more detailed research will show its presence in additional locations. So far, it is estimated that the species deserves the category of vulnerable (VU).

Causes for endangered status: Habitat loss and its conversion (draining wetlands for its use in agriculture) are the main reasons for the decline of populations of this species in certain parts of Europe, but the consequences of global warming cannot be ignored either.

Phengaris arion (Linnaeus, 1758)

– veliki pjegavac

Ekološke karakteristike: Veliki pjegavac je rasprostranjen u djelovima Evrope i Azije s umjerjenim klimatom, sve do Pacifika. U Evropi je prilično lokalizovan i populacije su nešto očuvane u planinskim djelovima, naročito u alpskom regionu. U Crnoj Gori je registrovan na nekoliko planina u različitim regionima države. Preferira otvorena staništa, livade i pašnjake na kojima ima dovoljno biljki-hraniteljki, ali i mrava, uglavnom roda *Myrmica*, u čijim kolonijama larve prezimljuju. Biljke-hraniteljke larvi velikog pjegavca su *Origanum vulgare* i vrste roda *Thymus*. Odrasle jedinke su aktivne u periodu od sredine juna do avgusta, sa pikom u julu. Imaju jednu generaciju godišnje.

Ugroženost na nacionalnom i međunarodnom nivou: Vrsta se smatra veoma ugroženom na evropskom nivou, te je prema IUCN-u svrstana u kategoriju EN, kriterijum A2bc. Ugrožena je u mnogim evropskim zemljama, a postoje bojazan da je u nekim već i isčeza.

Imajući u vidu da je u Crnoj Gori registrovana na više planina, kako u mediteranskom regionu tako i u centralnim i sjevernim djelovima, procijenjeno je da vrsta trenutno zaslužuje kategoriju ranjive (VU).

Razlozi ugroženosti: Kao i kod većine ugroženih vrsta, glavni razlog opadanja brojnosti populacija ove vrste je gubitak prirodnih staništa, i to u velikoj mjeri uslijed zarastanja livada na kojima se više ne odvija ispaša stoke, niti kosidba.

Polyommatus eroides (Frivaldszky, 1835)

– planinski plavac

Ekološke karakteristike: Planinski plavac je primarno alpska vrsta, koja se može naći na Pirinejima, Alpima, Apenninima, te još nekim planinama centralne i južne Evrope. Zavisno od regiona, ova vrsta uglavnom nastanjuje suve livade i stepes, alpske i subalpske livade na krečnjačkoj i silikatnoj podlozi, često je ima i u blizini mladih borovih šuma, kao i na malim vlažnim livadama u šumama, na nadmorskim visinama od 1000 do 2000 m n. v. (Van Swaay i Warren, 1999). U Crnoj Gori je uglavnom evidentirana u planinskim djelovima sjevernog regiona. Podaci o životnom ciklusu su nepotpuni.

Phengaris arion (Linnaeus, 1758)

– Large Blue

Ecological traits: Large Blue is widespread in parts of Europe and Asia with a temperate climate all the way to the Pacific. In Europe, it is quite localized, and populations are somewhat more preserved in mountainous areas, particularly in the Alpine region. In Montenegro, it is registered on several mountains in different regions of the country. It prefers open habitats, meadows, and pastures where there are sufficient host plants but also ants, mainly of the genus *Myrmica*, in whose colonies the larvae spend the winter. The host plants for the larvae of the Large Blue are *Origanum vulgare* and species of the genus *Thymus*. Adults are active from mid-June to August, with a peak in July. They have one generation per year.

Conservation status at the national and international level: The species is considered highly endangered at the European level, and according to the IUCN, it is classified in the EN category, criterion A2bc. It is endangered in many European countries, and there is a fear that it has already gone extinct in some.

Considering that it is registered on several mountains in Montenegro, both in the Mediterranean region and in the central and northern parts, it is estimated that the species currently deserves the category of vulnerable (VU).

Causes for endangered status: As with most endangered species, the main reason for the decline in the population size of this species is habitat loss, to a large extent due to the overgrowth of meadows that are no longer used for livestock grazing or mowing.

Polyommatus eroides (Frivaldszky, 1835)

– False Eros Blue

Ecological traits: False Eros Blue is primarily an alpine species, which can be found in the Pyrenees, Alps, Apennines, and some other mountains of central and southern Europe. Depending on the region, this species mainly inhabits dry meadows and steppes, Alpine and subalpine calcareous grasslands; it is often found near young pine forests, as well as in small wet meadows in forests, at altitudes from 1000 to 2000 m above sea level (Van Swaay and Warren, 1999). In Montenegro, it is mainly recorded in the mountainous parts of the northern region. Life cycle data are incomplete.

Odrasle jedinke obično imaju jednu generaciju godišnje i aktivne su u periodu od kraja juna do početka septembra. Zabilježeno je da se larve hrane vrstama *Oxytropis*, *Astragalus* i *Genista depressa*, da jaja polažu na listovima biljaka kojima se larve hrane, kao i da larve posjećuju mravi roda *Tapinoma* (Tolman, 1997).

Ugroženost na nacionalnom i međunarodnom nivou: Prema Crvenoj listi leptira Evrope ova, vrsta je svrstana u kategoriju NT, kriterijum A2c. Zabilježena je u većem broju evropskih zemalja, osim na sjeveru Evrope, međutim, u mnogima je ugrožena, populacije su male i izolovane, a prema Van Swaay i Warren (1999) u periodu od 1970. do 1995. rasprostranjenje vrste se smanjilo za 50–80%.

Prema raspoloživim podacima, vrsta se smatra veoma rijetkom u Crnoj Gori, te su neophodna dodatna istraživanja o njenoj prisutnosti i rasprostranjenosti kod nas. Na osnovu dostupnih podataka i saznanja, procijenjeno je da zасlužuje status ugrožene (EN) vrste.

Razlozi ugroženosti: Negativne efekte na opstanak ove vrste imaju uništavanje prirodnih staništa, posljedice uslovljene globalnim klimatskim promjenama, a jednim od glavnih uzročnika lokalizovanosti populacija ove vrste, kao i opadanja brojnosti populacija, smatra se gubitak biljaka-hraniteljki.

NYMPHALIDAE

Apatura metis (Freyer, 1829) – frejerov prelivac

Ekološke karakteristike: Frejerov prelivac je rasprostranjen u istočnim i jugoistočnim djelovima Evrope, evropskim djelovima Turske, u jugozapadnoj Rusiji, u Kazahstanu, sjeveroistočnoj Kini, Koreji i Japanu. U Crnoj Gori je zabilježen samo na području Skadarskog jezera. Ove populacije se smatraju izolovanim s obzirom na to da su najmanje 300 km udaljene od najbližih populacija u okruženju (Franeta, 2018). Vrsta uglavnom nastanjuje doline velikih rijeka ili jezera, preferirajući vegetaciju na njihovim obalama, kao i plavne livade. Ženke polažu jaja pojedinačno ili u grupama na gornjoj strani listova biljaka-hraniteljki (naročito vrste *Salix alba*), iz kojih će se kasnije razviti larve, koje obično hiberniraju nakon drugog presvlačenja. Lutke se mogu naći kasnije sa donje strane listova. U Evropi vrsta obično ima dvije generacije godišnje: od kraja maja do kraja juna i od kraja jula do početka septembra.

Adults usually have one generation per year and are active from late June to early September. It has been recorded that the larvae feed on species of *Oxytropis*, *Astragalus*, and *Genista depressa*, that they lay their eggs on the leaves of the plants that the larvae feed on, and that the larvae are visited by ants of the genus *Tapinoma* (Tolman, 1997).

Conservation status at the national and international level: According to the European Red List of Butterflies, this species is classified in the NT category, criterion A2c. It has been recorded in a large number of European countries, except in the north of Europe. However, it is endangered in many, with small and isolated populations, and according to Van Swaay and Warren (1999), in the period from 1970 to 1995, the distribution of the species declined by 50–80%.

According to the available data, the species is considered very rare in Montenegro, and additional research on its presence and distribution in our country is required. Based on the available data and knowledge, it has been estimated that it deserves the status of an endangered (EN) species.

Causes for endangered status: Habitat destruction has negative effects on the survival of this species, along with the consequences of global climate change, while loss of host plants is considered one of the main causes of the localization of populations of this species, as well as the decline in the population size.

NYMPHALIDAE

Apatura metis (Freyer, 1829) – Frejerov prelivac

Ecological traits: Freyer's Purple Emperor is widespread in eastern and south-eastern parts of Europe, European parts of Turkey, south-western Russia, Kazakhstan, north-eastern China, Korea, and Japan. In Montenegro, it was recorded only in the area of Lake Skadar. These populations are considered isolated, given that they are at least 300 km away from the nearest populations in the environment (Franeta, 2018). The species mainly inhabits the valleys of large rivers or lakes, preferring the vegetation on their banks, as well as flooded meadows. Females lay eggs singly or in groups on the upper side of the leaves of host plants (especially *Salix alba* species), which will later develop into larvae, which usually hibernate after the second molt. Pupae can be found later on the underside of the leaves. In Europe, the species usually has two generations per year: from the end of May to the end of June and from the end of July to the beginning of September.



Apatura metis
(Freyer, 1829)
Frejerov prelivac
Freyer's Purple Emperor



Euphydryas aurinia
(Rottemburg, 1775)

Močvarni šarenac
Marsh Fritillary

Ugroženost na nacionalnom i međunarodnom nivou:

Prema Crvenoj listi leptira Evrope, ova vrsta je svrstana u kategoriju LC. Smatra se rijetkom i ugroženom u mnogim evropskim zemljama, prvenstveno zbog ugroženosti tipova staništa koja nastanjuje.

Uzimajući u obzir da se radi o lokalizovanoj vrsti, da je kod nas zabilježena samo na području Skadarskog jezera, te osjetljivost staništa koje preferira, vrsta se u Crnoj Gori smatra ugroženom (EN).

Razlozi ugroženosti: Osnovni razlog ugroženosti ove vrste je uništavanje njenih prirodnih staništa (plavnih šuma), bilo uslijed isušivanja i prenamjene zemljišta ili uslijed globalnog zagrijavanja.

Euphydryas aurinia (Rottemburg, 1775) – močvarni šarenac

Ekološke karakteristike: Močvarni šarenac je rasprostranjen od Pirinejskog poluostrva, preko većeg dijela Evrope do azijskih djelova s umjerjenim klimatom i do Koreje. U Crnoj Gori vrsta je zabilježena u različitim regionima. Bez obzira na ime, može se naći na različitim tipovima otvorenih staništa, od vlažnih livada i močvara do krečnjačkih i djelimično suvih livada, na čistinama u šumama i vresištima. Osim što u različitim djelovima Evrope nastanjuje različite tipove staništa, postoje razlike i u odabiru prioritetsnih biljaka-domačina (Hula i sar., 2004). Biljke-domačini larvi su prvenstveno *Succisa pratensis*, *Scabiosa columbaria*, *Lonicera*, *Gentiana spp.*, kao i još neke vrste. Odrasle jedinke su polifagne i hrane se nektarom vrsta *Ranunculus*, *Cirsium*, *Leucanthemum vulgare*, *Myosotis*, *Rubus*, *Caltha palustris*, *Ajuga reptans* itd. Jaja bivaju položena u klasterima sa donje strane biljaka-hraniteljki. Mlade larve se mogu naći pri donjim listovima ovih biljaka u jesen, najčešće grupisane i ušuškane u paučinastu tvorevinu, dok su lutke konstatovane prikaćene sa donje strane lista *Colchicum autumnale*. Prezimljuju u stadijumu larve. Odrasle jedinke su aktivne od maja do početka jula, a u planinskim djelovima do avgusta.

Ugroženost na nacionalnom i međunarodnom nivou:

Prema Crvenoj listi leptira Evrope ova vrsta je svrstana u kategoriju LC. Močvarni šarenac je široko rasprostranjen u palearktičkom regionu, međutim, problem je što su njegove populacije već godinama u opadanju u mnogim zemljama, te se smatra da je jedna od najugroženijih evropskih vrsta leptira. Zabilježen je u manjim populacijama, a formiranje metapopulacija smatra se jednim od načina opstanka vrste (Hula i sar., 2004).

Conservation status at the national and international level:

According to the European Red List of Butterflies, this species is classified as LC. It is considered rare and endangered in many European countries, primarily due to the endangered habitat types it inhabits.

Considering that it is a localized species, that it has only been recorded in the area of Lake Skadar, and the sensitivity of the habitat it prefers, the species is considered endangered (EN) in Montenegro.

Causes for endangered status: The main reason for the endangered status of this species is its habitat destruction (floodplain forests), either as a result of drying and land use change or as a result of global warming.

Euphydryas aurinia (Rottemburg, 1775) – Marsh Fritillary

Ecological traits: Marsh Fritillary is distributed from the Iberian Peninsula, through most of Europe to the Asian parts with a temperate climate, and to Korea. In Montenegro, the species has been recorded in different regions. Regardless of the name, it can be found in different types of open habitats, from wet meadows and wetlands to calcareous and semi-dry grassland, in forest clearings and heaths. Apart from the fact that it inhabits different types of habitats in different parts of Europe, there are also differences in the selection of priority host plants (Hula et al., 2004). Larvae host plants are primarily *Succisa pratensis*, *Scabiosa columbaria*, *Lonicera*, *Gentiana spp.*, as well as some other species. Adults are polyphagous and feed on the nectar of the species of *Ranunculus*, *Cirsium*, *Leucanthemum vulgare*, *Myosotis*, *Rubus*, *Caltha palustris*, *Ajuga reptans*, etc. Eggs are laid in clusters on the underside of host plants. Young larvae can be found near the lower leaves of these plants in the fall, most often grouped and tucked into a cobweb form, while the pupae are found attached to the underside of *Colchicum autumnale* leaves. They overwinter in the larval stage. Adults are active from May to early July and until August in mountainous areas.

Conservation status at the national and international level: According to the European Red List of Butterflies, this species is classified as LC. Marsh Fritillary is widespread in the Palearctic region. However, the problem is that its populations have been declining in many countries for years, and it is considered one of the most endangered European butterfly species. It was recorded in smaller populations, and the formation of metapopulations is considered one of the ways of survival of the species (Hula et al., 2004).

Vrsta je zabilježena na više lokaliteta u različitim djelovima Crne Gore, na staništima koja odgovaraju ekološkim potrebama vrste. Uzimajući u obzir status vrste u okruženju, kao i pritiske koje trpe preferirana staništa, vrsti je dodijeljen status ranjive (VU).

Razlozi ugroženosti: Kao glavni razlog smanjenja brojnosti populacija ove vrste u Evropi navodi se uništavanje prirodnih staništa (uglavnom prenamjenom zemljišta), te time i biljaka-domaćina, kao i problem globalnog zagrijavanja.

Euphydryas maturna (Linnaeus, 1758)

– šumski šarenac

Ekološke karakteristike: Šumski šarenac je rasprostranjen od istočne Francuske, preko djelova istočne Evrope do djelova sa umjerenom klimom Azije (Bajkalsko jezero, Mongolija). Rijedak je u zapadnim djelovima Evrope, a u pojedinim zemljama vrsta se smatra iščezmom. Nastanjuje vlažne i mezofilne livade i čistine u listopadnim šumama, naročito one sa mladim stablima jasena. Ženke obično polažu jaja sa donje strane listova jasena (*Fraxinus excelsior*), mada se larve hrane i vrstama rodova *Lonicera*, *Veronica*, *Rhinanthus*, *Plantago*, *Valeriana*. U različitim djelovima njenog rasprostranjenja postoje variranja u odabiru biljke-domaćina, pa se osim jasena pominje i *Melampyrum pratense* u Finskoj i *Viburnum opulus* u nekim drugim djelovima Evrope (Wahlberg, 1998). Uočeno je da se odrasle jedinke hrane nektarom *Crepis biennis* i *Ranunculus acris*. Prezimljuje u stadijumu polurazvijene larve, s tim što može imati i drugi stadijum hibernacije nakon kratke aktivnosti. Ovo omogućava vrsti da produži životni ciklus i opstane pri lošim vremenskim uslovima. Odrasle jedinke su aktivne od sredine maja do sredine jula.

Ugroženost na nacionalnom i međunarodnom nivou: Na evropskom nivou vrsta je svrstana u kategoriju VU, kriterijum A2c. Ugrožena je u velikom broju evropskih zemalja, sa opasnošću od izumiranja, naročito u centralnim djelovima Evrope.

U Crnoj Gori vrsta je zabilježena na više različitih lokaliteta, većinom u centralnim djelovima. Uzimajući u obzir specifičnost i osjetljivost staništa koje vrsta preferira, dodijeljena joj je kategorija ranjive (VU) vrste.

The species has been recorded in several localities in different parts of Montenegro, in habitats that correspond to the ecological requirements of the species. Taking into account the status of the species in the environment, as well as the pressures suffered by its preferred habitats, the species is assigned the status of vulnerable (VU).

Causes for endangered status: The main reason for the decline in population size of this species in Europe is habitat destruction (mainly through the land use change), and thus the host plants, as well as the problem of global warming.

Euphydryas maturna (Linnaeus, 1758)

– Scarce fritillary

Ecological traits: Scarce fritillary is widespread from eastern France, through parts of eastern Europe to parts of Asia, with a moderate climate (Lake Baikal, Mongolia). It is rare in the western parts of Europe, and in some countries, the species is considered extinct. It inhabits wet and mesophilic meadows and clearings in deciduous forests, especially those with young ash trees. Females usually lay their eggs on the underside of ash leaves (*Fraxinus excelsior*), although the larvae also feed on species of the genera *Lonicera*, *Veronica*, *Rhinanthus*, *Plantago*, and *Valeriana*. In different parts of its distribution, there are variations in the selection of the host plant, so in addition to ash, *Melampyrum pratense* is also mentioned in Finland and *Viburnum opulus* in some other parts of Europe (Wahlberg, 1998). Adults were observed feeding on the nectar of *Crepis biennis* and *Ranunculus acris*. It hibernates in the semi-developed larval stage, but it can also have a second stage of hibernation after a short period of activity. This allows the species to extend its life cycle and survive adverse weather conditions. Adults are active from mid-May to mid-July.

Conservation status at the national and international level: At the European level, the species is classified as VU, criterion A2c. It is endangered in a large number of European countries, with the threat of extinction, especially in the central parts of Europe.

In Montenegro, the species has been recorded in several different localities, mostly in the central parts. Taking into account the specificity and sensitivity of the habitat that the species prefers, it has been assigned the category of vulnerable (VU) species.



Razlozi ugroženosti: Brojni su faktori koji dovode do ugroženosti ove vrste, pri čemu su dobrim dijelom antropogenog porijekla (zagadjenja, eutrofikacija, drenaža tla, deforestacija i selektivna sječa, kao i druge aktivnosti koje dovode do mikroklimatskih promjena), a jedan od faktora je i gubitak biljaka-domaćina (npr. bolesti koje napadaju stabla jasena).

Causes of endangered status: There is a number of factors leading to the endangered status of this species, most of which are of anthropogenic origin (pollution, eutrophication, soil drainage, deforestation, and selective logging, as well as other activities that lead to climate change at the micro level), and one of the factors is loss of host plants (e.g., diseases attacking ash trees).

Nymphalis vaualbum (Denis & Schiffermuller, 1775) – mrki šarenac

Ekološke karakteristike: Osim u Sjevernoj Americi i centralnoj Aziji, mrki šarenac je rasprostranjen u Evropi, i to u djelovima centralne i istočne Evrope. Preferira listopadne šume, povremeno se nalazi i u četinarskim šumama, veoma često u blizini rijeka i potoka. Ima samo jednu generaciju godišnje i odrasle jedinke lete od juna do oktobra. Zabilježeno je da prezimljuju kao adulti, često u grupama, te se nakon dijapauze ponovo aktiviraju u proljeće, radi parenja. Ženke polažu jaja u grozdovima na granama biljaka-domaćina, na kojima kasnije žive i hrane se njihove larve, formirajući kolonije. Larve se mogu naći na listovima bukvi i vrba (*Betula spp.*, *Salix spp.*), kao i na vrstama rodova *Populus* i *Ulmus*.

Ugroženost na nacionalnom i medunarodnom nivou: Na evropskom nivou vrsta je svrstana u kategoriju LC. Ugrožena je u velikom broju evropskih zemalja, sa opasnošću od izumiranja, naročito u centralnim djelovima Evrope, a moguće je da je u nekim već izumrla.

U Crnoj Gori se smatra kritično ugroženom (CR) s obzirom na to da su do sada zabilježena svega dva primjerka ove vrste, i to na području Durmitora (jedan 1973, a drugi 2000. godine). Neophodna su dalja istraživanja kako bi se utvrdilo da li je vrsta još uvijek prisutna kod nas.

Razlozi ugroženosti: Jedan od osnovnih faktora koji dovode do smanjenja brojnosti ove vrste na evropskom i svjetskom nivou jeste uništavanje prirodnih staništa koja ova vrsta preferira.

Nymphalis vaualbum (Denis & Schiffermuller, 1775) – False Comma

Ecological traits: Apart from North America and Central Asia, False Comma is widespread in Europe, in parts of Central and Eastern Europe. It prefers deciduous forests; it is occasionally found in coniferous forests and very often near rivers and streams. There is only one generation per year, and the adults fly from June to October. It has been recorded that they hibernate as adults, often in groups, and after diapause, they become active again in the spring for mating. Females lay eggs in clusters on the branches of host plants, where their larvae later live and feed, forming colonies. Larvae can be found on leaves of birch and willow (*Betula spp.*, *Salix spp.*), as well as on species of the genera *Populus* and *Ulmus*.

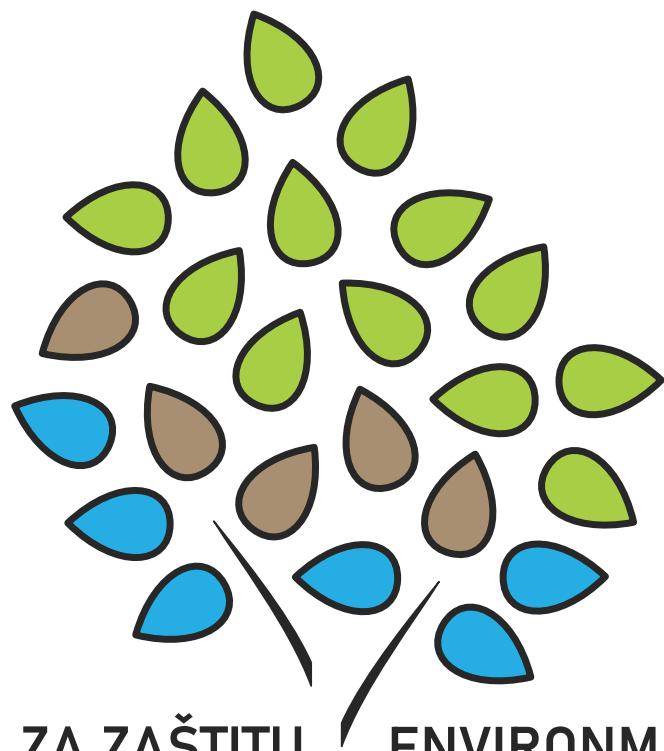
Conservation status at the national and international level: At the European level, the species is classified as LC. It is endangered in a large number of European countries, with the threat of extinction, particularly in the central parts of Europe, and it is possible that it has already become extinct in some.

In Montenegro, it is considered critically endangered (CR), given that only two specimens of this species have been recorded so far in the area of Durmitor (one in 1973 and the other in 2000). Further research is necessary to determine whether the species is still present here.

Causes for endangered status: One of the main factors that lead to a decline in the population size of this species at the European and global levels is its preferred habitat destruction.

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Crvena lista dnevnih leptira Crne Gore

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