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# FIRST FINDING OF RIPART'S ANOMALOUS BLUE *POLYOMMATUS (AGRODIAETUS) RIPARTII* (FREYER, 1830) (LEPIDOPTERA, LYCAENIDAE) IN CROATIA

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The first record of Ripart's Anomalous Blue *Polyommatus (Agrodiaetus) ripartii* (Freyer, 1830) (Lepidoptera, Lycaenidae) in Croatia is presented. A single specimen was found during field research in August 2010 between the village of Zrmanja and Zrmanja spring (300 m a.s.l.). This record at least partially fills the gap in the distribution of *P. ripartii* in Europe and indicates a possibility that more unrecorded species will be found in Croatia. Ripart's Anomalous Blue is the 194th butterfly species recorded in Croatia.

**Key words:** *Polyommatus (Agrodiaetus) ripartii*, faunistics, butterflies, Zrmanja, first record

**Koren, T.: Prvi nalaz Ripartijevog smeđeg plavca *Polyommatus (Agrodiaetus) ripartii* (Freyer, 1830) (Lepidoptera, Lycaenidae) u Hrvatskoj. Nat. Croat., Vol. 19, No. 2., 463–467, 2010, Zagreb.**

U ovom radu opisuje se prvi nalaz Ripartijevog smeđeg plavca *Polyommatus (Agrodiaetus) ripartii* (Freyer, 1830) u Hrvatskoj. Vrsta je pronađena tijekom terenskih istraživanja danjih leptira u kolovozu 2010. godine na 300 metara nadmorske visine između sela Zrmanja i izvora rijeke Zrmanje. Ovaj nalaz donekle upotpunjuje prazninu u distribuciji ove vrste u Europi te otvara mogućnost pronalaska novih vrsta danjih leptira u Hrvatskoj. Ripartijev smeđi plavac je 194. vrsta danjeg leptira zabilježena u Hrvatskoj.

**Ključne riječi:** *Polyommatus (Agrodiaetus) ripartii*, faunistika, danji leptiri, Zrmanja, prvi nalaz

According to TOLMAN & LEWINGTON (2008) the subgenus *Agrodiaetus* is in Europe represented by 16 species; however, in recent revision some of the species have been lumped together (VILA *et al*., 2010). TOLMAN & LEWINGTON (2008) list the following species of this subgenus for Croatia: *Polyommatus damon* (Denis & Schiffermüller, 1775) and *Polyommatus (Agrodiaetus) admetus* (Esper, 1783). *P. ripartii*, although present in nearby Herzegovina (SIJARIĆ, 1971; JAKŠIĆ, 1988), was not mentioned by any of the more recent publications discussing the butterfly fauna of Croatia (HAFNER, 1994;

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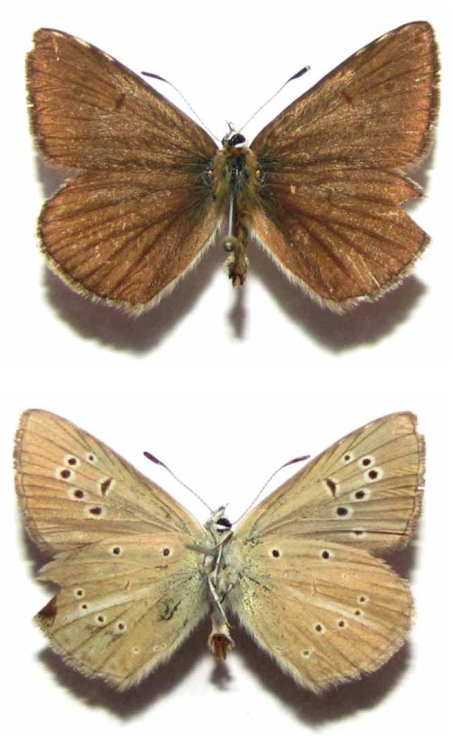
HABELER, 1976, 2003; KOSMAČ & VEROVNIK, 2009; KUČINIĆ *et al*., 1999; LORKOVIĆ, 2009; MICEVSKI & MICEVSKI, 2004/05; MIHOCI *et al*., 2005; MIHOCI *et al*., 2006; MIHOCI & ŠAŠIĆ, 2009; PERKOVIĆ, 2006; ŠAŠIĆ & MIHOCI, 2007; WITHRINGTON & VEROVNIK, 2008).

According to TOLMAN & LEWINGTON (2008) and the WEB portal Fauna Europaea (2010) *P. ripartii* has a fragmented distribution from Spain, through south and south-eastern Europe, Poland, Turkey, Urals to Siberia, China (Tian Shan) and Altai. In the main part of Europe it is present in Spain, France, Italy, Poland, Republic of Macedonia, Bulgaria, Albania, Greece and European Turkey, Bosnia and Herzegovina, Hungary and Serbia. Riparts Anomalus Blue prefers dry, bushy places, often grassy and sometimes light woodland where its larvae feed on *Onobrychis* spp. plants, including species *O. viciifolia*, *O. arenaria*, *O. saxatilis*, *O. alba* and *O. montana* (TOLMAN & LEWINGTON, 2008). It is listed as a Low Concern species (LC) in the European Red list of butterflies and near threatened in the EU27 countries (VAN SWAAY *et al*., 2010).

A single specimen of *P. ripartii* (Figs. 1-2) was observed and collected on August 12th 2010 in the vicinity of Zrmanja spring, Croatia (Fig. 3). The specimen is now placed in a private butterfly collection (Koren, Pazin). It was discovered on a macadam road leading from the village of Zrmanja to the Zrmanja spring, at approximately 300 m a.s.l. (UTM: WJ89). The butterfly flew around a small rain puddle on



**Figs. 1-2.** Male specimen of *Polyommatus ripartii* (Freyer, 1830)

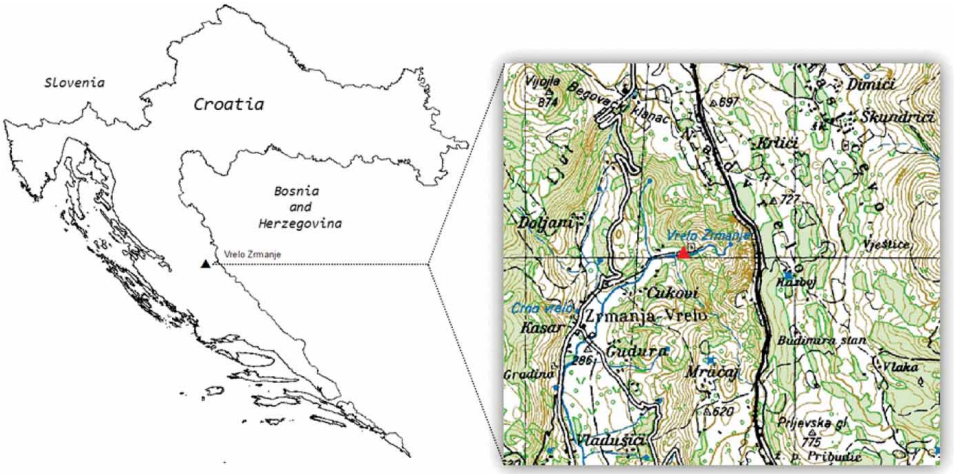



**Fig. 3.** Map of Croatia with the finding locality of Ripart's Anomalous Blue *Polyommatus (Agrodiaetus) ripartii* (Freyer, 1830)

the macadam road, and only occasionally stopped to drink. The road was surrounded by white willow trees (*Salix alba*) on one side and a dry stone wall on the other. At the time the presence of *P. ripartii* was not registered as many specimens of *P. admetus* were flying around the same puddle. Only after the return from the field trip did a detailed observation of collected specimens reveal the presence of *P. ripartii*. Although this finding in Croatia is very interesting, biogeographically speaking it was expected, because the species is also present in nearby Herzegovina (SIJARIĆ, 1971). One more interesting thing is the occurrence of three similar species in the same locality: *P. ripartii, P. admetus* and *P. damon*. This is the second confirmed finding site of *P. damon* in Croatia (MIHOCI & ŠAŠIĆ, 2006) and the first known locality in which all three species are present.

During field trips to the Zrmanja River, a great abundance of cattle, goats and especially sheep were noticed. This scene is indeed rare in Croatia, because sheep are becoming less frequent every day. As the plants of the genus *Onobrychis* are very palatable to sheep, heavy grazing limits the growth and expansion of the genus, sometimes leading to the local extinction of the plant (LAFRANCHIS *et al*., 2007). From a comparison of irregularly grazed, regularly grazed and ungrazed pastures done in Greece (LAFRANCHIS *et al*., 2007) it seems that irregularly grazed pastures support the greatest butterfly diversity, including abundant populations of *P. ripartii*. On the other hand pastures completely abandoned by sheep contain no *Onobrychis* plants, and as such no species of the subgenus *Agrodiaetus*. The meadows in the vicinity of the village Zrmanja are grazed irregularly which is the best option for the long-term survival of *P. ripartii*.

With the addition of *P. ripartii*, 194 butterfly species are now known for Croatia. Further studies regarding distribution, abundance and ecology of *P. ripartii* in Croatia are needed to determine its threat status and the risk of extinction in Croatia.

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## REFERENCES


CARNELUTTI, J., 1994: Modernisiertes »Verzeichnis der bei Knin gesammelten Schmetterlinge« von I. Hafner. Nat. Croat., **3**(2), 185–223.

FAUNA EUROPAEA, 2010: http://www.faunaeur.org., accessed September 2nd, 2010.

HABELER, H., 1976: Beiträge zur Lepidopterenfauna Dalmatiens. Acta Ent. Jug., **13**(1-2), 67- 87.

HABELER, H., 2003: Die Schmetterlinge der Adria-Insel Krk. Esperiana, Buchreihe zur Entomologie, Graz, 152 pp.

HAFNER, I., 1994: Verzeichnis der bei Knin gesammelten Schmetterlinge (Lepidoptera). Nat. Croat., **3**(2), 119–184.

JAKŠIĆ, P., 1988: Privremene karte rasprostranjenosti dnevnih leptira Jugoslavije. Jugoslavensko entomološko društvo. Posebna izdanja, **1**, 214 pp.

KOSMAČ, W. & VEROVNIK, R., 2009: First record of *Cacyreus marshalli* (Lycaenidae) from the Balkan Peninsula. Nota Lepidopterologica, **32** (1), 81–82.

KUČINIĆ, M., TVRTKOVIĆ, N. & KLETEČKI, E., 1999: The False ringlet (*Coenonympha oedippus* F.) is a member of the Croatian butterfly fauna after all. Nat. Croat., **8**(4), 399–407.

LAFRANCHIS, T., GIL-T, F. & LAFRANCHIS A., 2007: New data on the ecology of 8 taxa of *Agrodiaetus* Hübner, 1822 from Greece and Spain: hostplants, associated ants and parasitoids (Lepidoptera: Lycaenidae. Hymenoptera. Diptera). Atalanta, **38** (1/2), 189–197.

LORKOVIĆ, Z., 2009: The Rhopalocera Fauna of Croatia with Special Respect to the Fauna of Plitvice Lakes. Entomol. Croat., **13**, 15–78.

MICEVSKI, N. & MICEVSKI, B., 2004/05: Contribution to the knowledge of the fauna of butterflies of Cres (Republic of Croatia). Biologia Macedonica, **57/58**, 99–105.

MIHOCI, I., TVRTKOVIĆ, N. & ŠAŠIĆ, M., 2005: Grecian copper *Lycaena ottomanus* (Lefèbvre, 1830) (Lepidoptera, Lycaenidae) – A new species in the Croatian butterfly fauna. Nat. Croat., **14**(4), 255–262.

MIHOCI, I., VAJDIĆ, M. & ŠAŠIĆ, M., 2006: The status of the Damon Blue *Polyommatus (Agrodiaetus) damon* (Denis and Schiffermüller, 1775) (Papilionoidea: Lycaenidae, Polyommatini) in the Croatian butterfly fauna. Nat. Croat., **15**(1–2), 15–25.

MIHOCI, I. & M. ŠAŠIĆ, 2009: Occurrence of the satyrine butterfly *Lasiommata petropolitana* (Fabricius, 1787) confirmed in Croatia. Nat. Croat., **18**(1), 175–180.

PERKOVIĆ, D., 2006: *Danaus chrysippus* (Linnaeus, 1758) (Lepidoptera, Nymphalidae, Danainae), a new species in the fauna of Croatia. Nat. Croat., **15**(1–2), 61–64.

SIJARIĆ, R., 1971: Faunistička istraživanja Rhopalocera (Lepidoptera) na kompleksu hercegovačkih visokih planina (Prenj, Čvrsnica i Čabulja). GZM (PN) NS 10, 163–184.

ŠAŠIĆ, M. & KUČINIĆ, M., 2004: The Red Data List of Croatian Butterflies. In MARKOVIĆ, D. (ed.). State Institute for Nature Protection

ŠAŠIĆ, M. & MIHOCI, I., 2007: New findings of the wood brown *Lopinga achine* (Scopoli, 1763) (Lepidoptera: Nymphalidae: Satyrinae) in Croatia. Entomol. Croat., **11**(1–2), 63–67.

TOLMAN, T. & LEWINGTON, R., 2008: Butterflies of Britain & Europe. Harper Collins Publishers, London, 384 pp.

VAN SWAAY, C., CUTTELOD, A., COLLINS, S., MAES, D., LOPEZ MUNGUIRA, M., ŠAŠIĆ, M., SETTELE, J., VEROVNIK, R., VERSTRAEL, T., WARREN, M., WIEMERS, M. & WYNHOF, I., 2010: European Red List of Butterflies, Luxembourg: Publications Office of the European Union.

VILA, R., LUKHTANOV, V., TALAVERA, G., GIL, F., PIERCE, N., 2010: How common are dot-like distributions? Taxonomical oversplitting in western European *Agrodiaetus* (Lepidoptera: Lycaenidae) revealed by chromosomal and molecular markers, Biological Journal of the Linnean Society, **101**, 130–154.

WITHRINGTON, D. K. J. & VEROVNIK, E., 2008: Butterflies (Rhopalocera) of the Croatian islands. Entomologist's Gazette, **59**, 3–25.

# SAŽETAK

## Prvi nalaz Ripartijevog smeđeg plavca *Polyommatus (Agrodiaetus) ripartii* (Freyer, 1830) (Lepidoptera, Lycaenidae) u Hrvatskoj

T. Koren

U proteklih desetak godina detaljnijim istraživanjima na području Hrvatske pronađeno je šest dosad nezabilježenih vrsta danjih leptira: *Coenonympha oedippus* (Fabricius, 1787), *Lycaena ottomanus* (Lefèbvre, 1830), *Polyommatus damon* (Denis & Schiffermüller, 1775), *Danaus chrysippus* (Linnaeus, 1785), *Cacyreus marshalli* (Butler, 1898) i *Lasiommata petropolitana* (Fabricius, 1787) (KUČINIĆ *et al*., 1999; MIHOCI *et al*., 2005, 2006; PERKOVIĆ, 2006; KOSMAČ & VEROVNIK, 2009; MIHOCI & ŠAŠIĆ, 2009) čime se dobiva ukupan broj od 193 vrste (MIHOCI & ŠAŠIĆ, 2009).

Tijekom istraživanja danjih leptira uzduž rijeke Zrmanje, u kolovozu 2010. godine pronađena je još jedna nova vrsta danjeg leptira za faunu Hrvatske – Ripartijev smeđi plavac *Polyommatus ripartii* (Freyer 1830). Jedna jedinka ove vrste pronađena je na bijelom putu između sela Zrmanja i izvora rijeke Zrmanje na približno 300 m nadmorske visine.

Pregledom Privremenih karata rasprostranjenosti dnevnih leptira Jugoslavije (JAKŠIĆ, 1988) i dostupne literature publicirane nakon tog perioda (CARNELUTTI, 1994; HAFNER, 1994; HABELER, 1976, 2003; KOSMAČ & VEROVNIK, 2009; KUČINIĆ *et al*., 1999; LORKOVIĆ, 2009; MICEVSKI & MICEVSKI, 2004/05; MIHOCI *et al*., 2005, 2006; MIHOCI, & ŠAŠIĆ, 2009; PERKOVIĆ, 2006; ŠAŠIĆ & MIHOCI, 2007; WITHRINGTON & VEROVNIK, 2008) nije pronađen niti jedan podatak o prisutnosti Ripartijevog smeđeg plavca u Hrvatskoj te se sa sigurnošću može reći da je ovo prvi nalaz ove vrste u Hrvatskoj. Areal ove vrste proteže se od Španjolske na istoku, preko jugoistočne Europe, Poljske, Turske, Rusije do Kine (TOLMAN & LEWINGTON, 2008).

Pronalazak *P. ripartii* u Hrvatskoj mogao se očekivati zbog toga što je vrsta dosad pronađena u Hercegovini (Sijarić, 1971), no ovim se nalazom do neke mjere upotpunjuje poznata distribucija ove vrste na Balkanskom poluotoku.

Veliki dio Hrvatske još je uvijek nedovoljno faunistički istražen te postoji velika vjerojatnost pronalaska još nekoliko novih vrsta za faunu danjih leptira. Daljnja istraživanja trebala bi se usmjeriti na pronalazak drugih populacija ove vrste te na procjenu rizika od izumiranja u Hrvatskoj. Ripartijev smeđi plavac dodaje se kao 194. vrsta na popis danjih leptira Hrvatske.