

NEW LOCALITIES FOR RARE BUTTERFLIES *MUSCHAMPIA CRIBRELLUM* AND *MELITAEA ORNATA* (LEPIDOPTERA: HESPERIIDAE, NYMPHALIDAE) IN SERBIA

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Abstract – During project related field survey, performed from 9th to 13th of May, 2020, in southeastern Serbia, two rare butterfly species were registered at locality Izvor, at Rudina planina Mt. – *Melitaea ornata* and *Muschampia cribrellum*. New records of these species and confirmation of *M. ornata* at locality Šaprance suggest huge potential and invite further faunistic research in southeastern Serbia.

KEY WORDS: Lepidoptera, HesperIIDae, Nymphalidae, fauna, Serbia

Izvešček – NOVA NAJDIŠČA REDKIH METULJEV *MUSCHAMPIA CRIBRELLUM* IN *MELITAEA ORNATA* (LEPIDOPTERA: HESPERIIDAE, NYMPHALIDAE) V SRBIJI

Med terenskimi raziskavami povezanimi s projektom, ki so potekale od 9. do 13. maja 2020 v jugovzhodni Srbiji, smo na najdišču Izvor na Rudini planini našli dve redki vrsti metuljev – *Melitaea ornata* in *Muschampia cribrellum*. Nove najdbe teh vrst in potrditev vrste *M. ornata* na najdišču Šaprance kažejo na velik potencial in vabijo k nadaljnim favnističnim raziskavam v jugovzhodni Srbiji.

KLJUČNE BESEDE: Lepidoptera, HesperIIDae, Nymphalidae, favna, Srbija

At locality Izvor, on Rudina planina Mt. in southeastern Serbia (42.513227 N 22.519799 E, 954 m.a.s.l.), we recorded two rare butterfly species – *Melitaea ornata* Christoph, 1893 and *Muschampia cribrellum* (Eversmann, 1841).

Spinose skipper (*Muschampia cribrellum*) is a rare and local species from family HesperIIDae. Its range includes large part of Asia and only small part of Europe, and its presence was confirmed from Romania, Bulgaria, North Macedonia and Serbia. (Tolman & Lewington 2008; Dincă *et al.* 2010; Haahtela *et al.* 2011). In Bulgaria

and North Macedonia, this species was registered at several dry steppe-like localities, similar to that in Serbia (Dincă *et al.* 2010). The species was found in Serbia only recently, and thus far was recorded only from few localities in Stara Planina Mt. (Popović *et al.* 2013). New record from Izvor village at Rudina Planina Mt. is also the southernmost point of its distribution in Serbia.



Figure 1. *Melitaea ornata*, Šaprance village: 10.05.2020. (photo: M. Djurić).

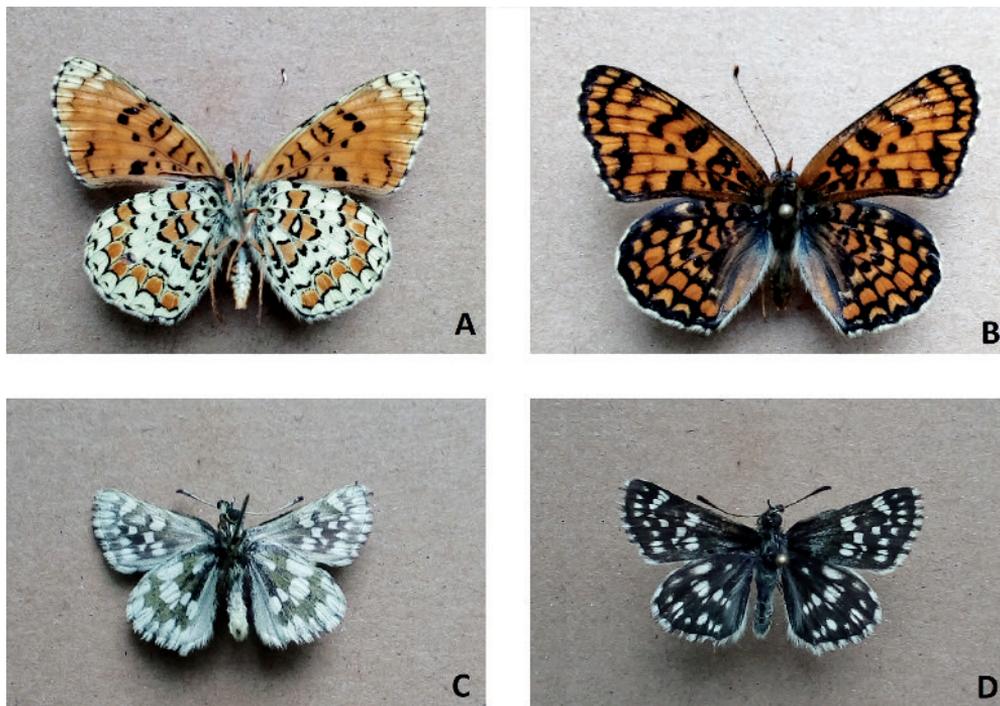


Figure 2. - *Melitaea ornata*, Izvor village, 12.5.2020. (A-B); *Muschampia cribrellum*, Izvor village, 12.5.2020. (C-D) (photos: I. Tot).

Eastern Knapweed Fritillary (*Melitaea ornata*) is a rare and local species of butterfly from family Nymphalidae whose distribution in Europe is not well understood due to confusion with similar species *Melitaea phoebe* (Denis & Schiffermüller, 1775), but also because certain authors ignore its presence in Europe (Russell & Tennent 2016). The most reliable method for identification of this species is observation of caterpillars, since they have red head, unlike congenial species *M. phoebe* whose caterpillars have black head. The other possibility is to perform DNA analysis. Russel *et al.* (2014) also described a potential hybridization of these species. Although the range of *M. ornata* isn't well known, this species is registered in many European countries, including Balkan Peninsula. This species was registered both in Bulgaria and North Macedonia, which are closest records to the localities in Serbia (Russel & Pateman 2019).

Melitaea ornata Christoph, 1893

Literature records: Stara Planina Mt. (Jakšić 2011), record very dubious (Russell & Tennent 2016); Stara Planina Mt. (Russell, pers. comm.); Trgovište, Šaprance (Popović & Verovnik 2018).



Figure 3. The distribution map of *Melitaea ornata* and *Muschampia cribrellum* in Serbia (A) and habitat of both mentioned species at Rudina Planina Mt., Izvor village (B) (photo: M. Vujić).

New records: 12.05.2020, Izvor village, leg. Tot I. & Vujić M. (Figure 2 A-B); The species has been confirmed in already known locality close to Šaprance village: 10.05.2020, leg. Djurić M. (Figure 1).

Muschampia cribrellum (Eversmann, 1841)

Literature records: Dimitrovgrad, Vidlič Mt. (Dincă *et al.* 2010) This publication includes the first record for Serbia, leg. Dodok I., 17.05.2007.; Stara Planina Mt., villages Dojkinci, Gornji Krivodol (Popović *et al.* 2013; Popović & Djurić 2014; Beshkov 2017).

Online databases: a few records on Stara Planina Mt., villages Rsovci, Dojkinci, Gornji Krivodol (Miljević & Djurić 2014–2020; Popović *et al.* 2020), Svrlijske planine (Popović *et al.* 2020)

New record: 12.05.2020, Izvor village, leg. Vujić M. (Figure 2 C-D).

Notes

New records extended the known distribution of both mentioned species. For *M. cribrellum* this is the southernmost record in Serbia that substantially extends its known distribution towards south and connects localities at Stara Planina and North Macedonia. For *M. ornata* this is the easternmost record in Serbia, although this species is probably much more widespread in Bulgaria and Serbia (Figure 3 A). In both cases for Serbia these are earliest records in the season.

Conclusion

In just a few field days spent in southeast Serbia a lot of rare butterflies and other insects were recorded. Among them special attention deserve rare and extremely

local species, such as *Melitaea ornata* and *Muschampia cribrellum*, so far known just from a few localities in the country. New records of these species and confirmation of *M. ornata* at locality Šaprance undoubtedly suggest huge potential and invite further insect research in southeast Serbia. Among visited localities special attention deserves Izvor village at Rudina Planina Mt. (Figure 3 B), due to existence of interesting habitats where many rare species were registered, inter alia *M. ornata* and *M. cribrellum*.

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