



Conference Abstract

Distribution model and habitat characteristics of *Morimus asper funereus* Mulsant, 1863 (Coleoptera: Cerambycidae) in Bulgaria

Rostislav Bekchiev[‡], Romyana Kostova[§], Georgi Popgeorgiev[‡], Maya Ilieva^l

[‡] National Museum of Natural History, Sofia, Bulgaria

[§] Professor (Assistant), Sofia University "St. Kliment Ohridski", Sofia, Bulgaria

^l Wrocław University of Environmental and Life Sciences, Wrocław, Poland

Corresponding author: Rostislav Bekchiev (bekchiev@nmnhs.com)

Received: 03 Sep 2019 | Published: 03 Sep 2019

Citation: Bekchiev R, Kostova R, Popgeorgiev G, Ilieva M (2019) Distribution model and habitat characteristics of *Morimus asper funereus* Mulsant, 1863 (Coleoptera: Cerambycidae) in Bulgaria. ARPHA Conference Abstracts 2: e39674. <https://doi.org/10.3897/aca.2.e39674>

Abstract

Morimus asper funereus is a protected longhorn beetle species of community interest and conservation importance. It is included in Annex II of the Habitats Directive (as *M. funereus*) and protected under the Bulgarian Biodiversity Act. Although this saproxylic beetle is widespread in old-growth forests or well-structured woodlands in Central and Southeast Europe, its populations are currently threatened by forest practices, such as the removal of wood (branches and logs) (Hardersen et al. 2017). The species is with limited dispersal ability (due to lack of wings) and is very likely to possess very isolated and localized populations. In addition, *M. asper funereus* is of considerable interest from a taxonomic point of view with unclear taxonomic status for as much as *Morimus asper* is a morphologically highly variable species. At present, at least three species/subspecies of the genus *Morimus* are known from the territory of Bulgaria - *Morimus asper*, *M. orientalis* and *M. vercundus bulgaricus* (Danilevsky et al. 2016). Although, it is considered *M. asper* to be met almost everywhere in Bulgaria, its distribution is still not sufficiently known. We started a systematic and more intensive study on the species distribution in 2012 with the mapping of NATURA 2000 sites. Until the present study 54 localities from the literature had been known, after 562 new records have been added. The available information is

organised in a database incorporated into the platform “SmartBirds Pro” - <https://smartbirds.org> (Popgeorgiev et al. 2015), part of which gives the possibility for registration of protected beetle species. In addition, the platform provides free access to all data (type, location, coordinates, date, observer). Here we present all available data for the species records, and its potential distribution and habitat preference for the territory of Bulgaria via deductive model, using the possibilities of GIS and MAXENT (Fourcade et al. 2014).

Keywords

distribution, Cerambycidae, Natura 2000, conservation

Presenting author

Rumyana Kostova

Presented at

Vth International Congress on Biodiversity: „Taxonomy, Speciation and Euro-Mediterranean Biodiversity”

Acknowledgements

The research was supported by the project “Cybertaxonomic approach to phylogenetic studies of model invertebrate genera (Invertebrata, Arachnida, Insecta) clarifying the problems of origin, formation and conservation of the Invertebrate Fauna of the Balkan Peninsula” (National Science Fund, Ministry of Education and Science of the Republic of Bulgaria, Grant KP-06-H21/1-17.12.2018).

References

- Danilevsky M, Gradinarov D, Sivilov O (2016) A new subspecies of *Morimus verecundus* (Faldermann, 1836) from Bulgaria and a new subspecies of *Morimus asper* (Sulzer, 1776) from Greece (Coleoptera, Cerambycidae). *Humanity space International almanac* 5 (2): 187-191.
- Fourcade Y, Engler JO, Rodder D, Secondi J (2014) Mapping species distributions with MAXENT using a geographically biased sample of presence data: a performance assessment of methods for correcting sampling bias. *PLoS One* 9 (5). <https://doi.org/10.1371/journal.pone.0097122>

- Hardersen S, Bardiani M, Chiari S, Maura M, Maurizi E, Roversi PF, Mason F, Bologna MA (2017) Guidelines for the monitoring of *Morimus asper funereus* and *Morimus asper asper*. *Nature Conservation* 20: 205-236. <https://doi.org/10.3897/natureconservation.20.12676>
- Popgeorgiev G, Spasov S, Kornilev Y (2015) SmartBirds – Information system with biological information. <http://www.smartbirds.org>. Accessed on: 2019-9-20.