



Conference Abstract

On the ecology and biology of two endogean millipedes (Diplopoda: Julida: Julidae) endemic to the Western Rhodope Mtn., Bulgaria

Boyan Lyudmilov Vagalinski ‡

‡ Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, Bulgaria

Corresponding author: Boyan Lyudmilov Vagalinski (boyan_vagalinski@excite.com)

Received: 11 Sep 2019 | Published: 12 Sep 2019

Citation: Vagalinski BL (2019) On the ecology and biology of two endogean millipedes (Diplopoda: Julida: Julidae) endemic to the Western Rhodope Mtn., Bulgaria. ARPHA Conference Abstracts 2: e46507.

<https://doi.org/10.3897/aca.2.e46507>

Abstract

Mountain slopes covered with stone debris have been of special interest for zoologists since the pioneer work of Juberthie et al. (1980) who defined and described the *Milieu Souterrain Superficiel*, most popularly referred to in English as the Mesovoid Shallow Substratum (MSS). Today this particular habitat is classified as one of the several types of MSS, namely the colluvial MSS. In a number of recent publications, the MSS is considered as one of the Superficial Subterranean Habitats (SSHs) within a broader concept of the subterranean domain. According to a widely accepted idea, the SSHs are different in their nature but are all characterized by the absence of light which is regarded as the main factor responsible for the occurrence of troglomorphic fauna in these habitats, along with epigeal species that are able to live in such conditions.

The present study focuses on two julid millipedes — *Typhloiulus orpheus* Vagalinski, Stoev & Enghoff, 2015 and a yet undescribed genus and species of the tribe Typhloiulini — occurring in the transitional layer of fine rubble between the soil stratum and the MSS in limestone taluses in the Western Rhodope Mtn. It was revealed that the spatial distributions of the two species in the studied sites were remarkably confined and follow the same pattern, which is suggested to reflect narrow microhabitat specialization. This assumption is further supported by certain traits in the morphology and biology of the two

diplopods. It can be concluded that both *T. orpheus* and the new genus and species are essentially stenotopic endogean elements with strict requirements for an aphotic, mesophilous, limestone environment. Given the specific ecological conditions, which differ from both the overlying soil layer and the underlying colluvial MSS, together with the existence of certain narrowly adapted species, it is worth considering the recognition of the intermediate “microvoid” breakstone layer as a separate shallow subterranean habitat.

Presenting author

Boyan Vagalinski

Presented at

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

References

- Juberthie C, Delay B, Bouillon M (1980) Extension du milieu souterrain en zone non-calcaire: description d'un nouveau milieu et de son peuplement par les coleopteres troglobies. Mémoires Biospéologie 7: 19-52. [In French].