



Conference Abstract

Comparison of carabid beetles assemblages (Coleoptera: Carabidae) after the 25-year period in protected forests of Mountain Risnjak

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Abstract

Ice storm, a type of winter storm characterized by freezing rain, in February of 2014 destroyed more than 680,000 m³ of wood mass in the Risnjak National Park. This natural disturbance and activities that followed in addition to remove some of the destroyed trees affected the ecosystem at a certain extent. Carabids, well-known bioindicators, have been selected as a study material. The study was conducted on three sites in the protected forests of the Risnjak National Park during the years 2015 and 2016. The data were compared with those sampled in 1990-1991 on the same three sites. A total of 4 110 individual ground beetles representing 15 genera and 29 species were collected. The mean individual biomass, wing morphology, temperature affinity, and moisture affinity were used for comparison of sites. Available climatic data didn't show any significant deviation in climatic conditions in the last 25 years but changes were detected in the reduced abundance of specialist species and the spread of generalist species. Observed lower abundance of some endemic species (*Pterostichus variolatus*, *Pterostichus unctulatus*, *Trechus croaticus*) requires further monitoring of these forest ecosystems in order to identify carabids' responses to extreme weather conditions and the development of possible mitigation strategies.

Keywords

Carabidae, forest ecosystems, extreme weather, Dinaric karst, mean individual biomass, wing morphology, moisture affinity, temperature affinity

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