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Pedro Anastácio, Pedro Brandão, Paula Chainho,  
Helena Trindade, Filipe Ribeiro

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Session 5 – Conservation issues and biological invasions

### **FACTORS INFLUENCING THE DISTRIBUTION AND ABUNDANCE OF NON-NATIVE AND INVASIVE PLANT SPECIES IN THE MOUNTAINOUS AREAS: A CASE STUDY FROM MT. ZLATIBOR (SERBIA)**

Vladan Djordjević<sup>1</sup>, Vera Stanković<sup>2</sup>, Eva Kabaš<sup>1</sup>, Predrag Lazarević<sup>1</sup>, Jasmina Šinžar-Sekulić<sup>1</sup>

1- University of Belgrade, Faculty of Biology, Institute of Botany and Botanical Garden "Jevremovac", Takovska 43, 11000 Belgrade, Serbia; 2- Institute of Criminological and Sociological Research, Gračanička 18, 11000 Belgrade, Serbia;

The distribution of non-native and invasive plant species in the mountainous areas of the Central Balkans has not been sufficiently explored. The aim of this study was to determine the overall species richness, the number of occurrences and the main factors influencing the distribution and abundance of these species on Mount Zlatibor (Western Serbia). This area is known as a large serpentine massif and an important tourist centre in Serbia. Distance-Based Redundancy Analysis (db-RDA) was used to explore the influence of environmental factors on the distribution and abundance patterns of 18 non-native plant species, including some with invasive status. Data concerning geographical coordinates, altitude, habitat type, bedrock type, climatic factors, light regime, soil moisture, acidity, nitrogen and temperature of the habitats were used as explanatory variables. Habitat types, temperature and precipitation were found to be the factors most effectively affecting the distribution and abundance of the studied species. *Reynoutria x bohemica*, *Erigeron annuus*, *Robinia pseudoacacia*, *Amaranthus retroflexus* and *Galinsoga parviflora* occurred most frequently and had the highest abundances. This study highlights the predominant role of habitat types in partitioning the ecological niches of non-native plant species. The results provide a useful basis for the successful design of strategies to protect native habitats from invasion by non-native plants and for planning the control and removal of invasive species.

Keywords: allochthonous plant species, ecology, Balkan Peninsula, environmental factors, habitat types

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NEOBIOTA is an international scientific organization dedicated to the study of biological invasions. It promotes collaboration among researchers, policymakers, and practitioners to understand and mitigate the impacts of invasive species on biodiversity, ecosystems, and human well-being.

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