

Balkan biodiversity across spatial and temporal scales - patterns and mechanisms driving vascular plant diversity
BalkBioDrivers



Project title:

Balkan biodiversity across spatial and temporal scales - patterns and mechanisms driving vascular plant diversity

Acronym:

BalkBioDrivers

Participating Scientific and Research Organizations (SROs);

University of Belgrade – Faculty of Biology – FBUB

University of Belgrade - Faculty of Pharmacy – UB-PharmP

University of Nis, Faculty of Agriculture in Krusevac – UNFAK

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Total requested budget in **310,475.00 €**

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Abstract: Biodiversity, as the most extraordinary feature of life, plays a key role in the global functioning of ecosystems, whose manifestations are drinking water, breathable air and fertile soils, indicating that human well-being is closely linked to the biodiversity. There is now clear evidence that the impact of biodiversity loss could be large enough to compete with the effects of climate change, water and air pollution or desertification. The fact that biodiversity loss is an irreversible process makes it imperative to intensify research on biodiversity as a natural phenomenon that is unexpectedly poorly understood, and on biodiversity as a phenomenon that meets several human needs in a variety of ways.

Although the Balkan Peninsula is one of the centers of biodiversity in Europe, knowledge about its plant diversity is still scarce and incomplete. For this reason, the main objectives of this project are the study of different aspects of plant diversity in the Central Balkans, including the mechanisms of species diversification. Patterns of plant diversity will be studied using different models to identify species-rich areas and various novel methods to assess the relationship between taxa richness and components of ecological heterogeneity. The diversification process will be elucidated using a wide range of state-of-the-art molecular techniques in combination with flow cytometry, chromosome number estimation, pollination experiments, morphometry, and niche modeling. The main expected results are the identification of hotspots and potential areas of high conservation value, the identification of environmental drivers of plant diversity, the assessment of the negative impact of invasive alien species and the identification of centers of origin and/or diversification of model plant groups. The results obtained will form the basis for nature conservation efforts, in particular those targeting endangered and rare plant species in the central Balkan Peninsula.