

Department of Biology and Ecology, Faculty of Natural Sciences,
Matej Bel University in Banská Bystrica
&
The Slovak Limnological Society

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Conference Abstracts

Tímea Chamutiová & Ladislav Hamerlík (eds.)



Kežmarské Žľaby, 23rd– 25th September, 2019



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Phylogeny of *Simulium reptans* (Linnaeus, 1758) and *Simulium reptantoides* Carlsson, 1962 – insights from Balkan populations

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Morphological similarity among certain species often leads to misidentification. Additionally, the lack of appropriate identification keys contributes to the gaps in knowledge of the distribution of many species. Molecular methods, nowadays, are widely used to solve this problem and to expand knowledge about genetic variability and phylogeny of certain species. *Simulium reptans* (Linnaeus, 1758) and *Simulium reptantoides* Carlsson, 1962 are two morphologically similar species of *Simulium reptans* group, whose distribution hasn't been clear. There is some information about these taxa in Northern and Central Europe, regarding their genetic variability, phylogeny and distribution. Nevertheless, there is no information about them in the Southern and Eastern Europe. The Balkan Peninsula is seen as one of Southern Europe's biodiversity hotspots. However, in the Balkan Peninsula, only *S. reptans* is reported in the current inventory (Adler, 2019). In this study, mtDNA was extracted from 19 individuals from 12 localities across the Balkans. Phylogenetic analysis using mitochondrial DNA barcoding (COI) gene, clearly showed the presence of both species in the area, supported by high genetic divergence (over 7%). Each of these species consist of two molecular forms: A and B, and throughout the Balkans only the B form of *S. reptans* was detected, while *S. reptantoides* occurs with both forms (A and B).

(poster)