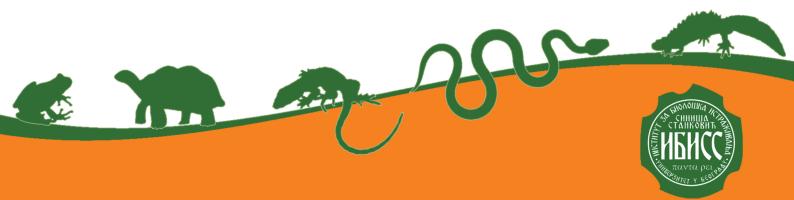


# Program & Book of Abstracts

Belgrade 2022



## Institute for Biological Research "Siniša Stanković" National Institute of Republic of Serbia University of Belgrade, Serbia

### **PROGRAM & BOOK OF ABSTRACTS**

21st European Congress of Herpetology



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#### **Conservation and population genetics**

#### Poster presentation

# Phylogeographic substructuring of the common frog (*Rana temporaria*) in Serbia

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The common frog (*Rana temporaria* Linnaeus, 1758) is one of the most widespread and abundant amphibians in Europe, except in the southern parts of the continent, where distribution is apparently fragmented. It has the greatest genetic variability of all western Palearctic brown frogs and it is extremely variable in morphology and ecological preferences, also. The Republic of Serbia is a country of particular interest in terms of amphibian conservation because of the genetically and morphologically diverse populations of several amphibian species.

We analysed nucleotide variability of mitochondrial DNA sequences of partial MT-CYTB gene (461 bp) of 27 specimens of *R. temporaria* species. Samples (eggs and tail tips of adult individuals) were collected in two periods, 1986-2007 and 2013-2017, in 14 localities in Serbia. The analyses revealed nine different haplotypes separated into two main clusters: north-eastern and eastern (localities Bela Crkva, Grza, Bigar, Đerdap, Stara planina) and central, west, south-western, and south-eastern Serbia (localities Jagodnja, Lučani, Zlatibor, Goč, Kopaonik, Prokletije, Šar planina, Oštrozub, and Vlasina). Lučani and Grza populations had two different haplotypes each.

Our results confirmed previous findings that the common frog shows phylogeographic substructuring. The existence of two genetically diverged population groups on the territory of Serbia suggests that these populations should be adequately protected in terms of the conservation of their breeding places and suitable terrestrial habitats. In Serbia, *R. temporaria* habitats are currently not only fragmented but also under intensive anthropogenic pressure, due to intensive urbanization, particularly in the mountain areas and the promotion of non-sustainable tourism, which makes them highly vulnerable. Therefore, there is a need for more precise data about species' phylogeny and distribution, both at the national and regional level, to define conservation priorities in the near future.