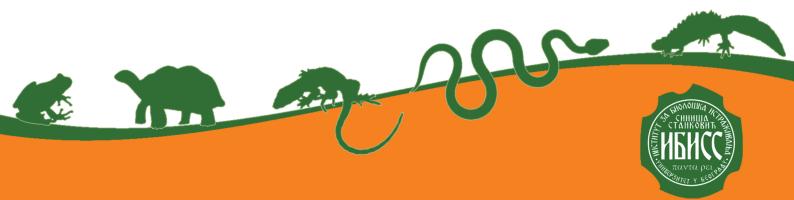


# Program & Book of Abstracts

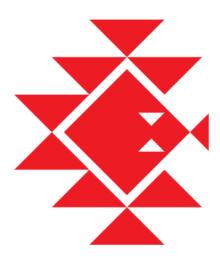
Belgrade 2022



## 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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#### Population, community and ecosystem ecology

#### Poster presentation

# More than a decade of monitoring population abundance in three anuran species from Central Serbia

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Amphibians are the most endangered of all vertebrates; therefore, maintaining a long-term monitoring of local populations is important even for the widespread species. Neglecting the research on common species might result in many silent local extinctions. The negative effects of environmental changes can be reflected in a reduction of a population's size, with a strongest impact on species that reproduce during early spring (like *Bufo bufo* – common toad and *Rana dalmatina* – agile frog), although other species (*Pelophylax esculentus* complex – green frogs) could also be affected. Decrease in size of common toad populations was recorded in parts of Great Britain, the Czech Republic, Italy and Switzerland, while agile frog populations have usually been reported as stable. Declines in population size of some green frog populations were reported in parts of Poland and Turkey.

These three taxa were monitored from 2011 to 2021 in a permanent pond near village Zuce, at the southern outskirts of Belgrade (Serbia). Population size of the common toad seems to be declining over the years (Kendall's Tau = -0.60; Z = -2.57; p = 0.01). Number of females was constantly low, which raises concern. Fluctuation in population size was registered for both agile frogs and green frogs, with 2021 being the best year as most egg clutches and individuals were spotted. Density dependence effect on population size was confirmed for the agile frog (Kendall's Tau = -0.56; Z = -2.09; p = 0.04). Within a year, the activity of green frogs was increasing over the months until May/June and then it was decreasing until December. The largest number of individuals was spotted in May. There was a slight inversion in that decline in September, when maximum and minimum numbers of individuals were higher than in August. There were no correlations among the species regarding population size fluctuations.