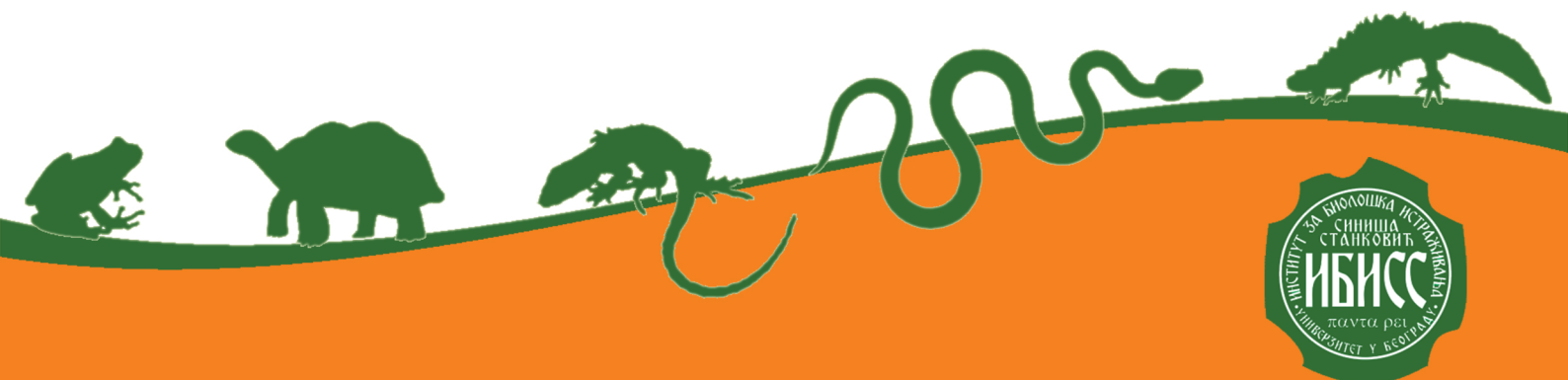




Program & Book of Abstracts

Belgrade
2022



Institute for Biological Research “Siniša Stanković”
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Our logo

The logo for the XXI SEH meeting was envisioned as the silhouette of a head of the most common Serbian venomous snake, the Nose-horned viper (*Vipera ammodytes*) incorporated into the traditional Pirot carpet or Pirot kilim (Pirotski ćilim) pattern. Pirot is a town in southeastern Serbia known for its rich history, geography, and biological diversity. Carpet and tapestry weaving in this region date back to the Middle Ages, and Pirot was for a long time recognized as the most important rug-making center in the Balkans. This tradition is listed as the Intangible cultural heritage of Serbia and Pirot carpet is regarded as one of our national symbols.



Oral presentation

Desiccation stress response of *Bombina variegata* tadpoles

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Many amphibian species inhabit temporary aquatic habitats for reproduction to maximize larval growth under favorable conditions but accelerate developmental rate to rapidly undergo metamorphosis under stress conditions when high desiccation risk exists. Corticosterone, one of the most important vertebrate stress hormone controls development, metabolism, and skeletal growth and together with thyroid hormone have a critical role in anuran metamorphosis under stress conditions. Here we compare the hormonal variation of corticosterone (CORT) in the yellow-bellied toad *Bombina variegata* tadpoles in response to different water levels (constant high-control, constant low, constant high+exogenous CORT) and the corticosterone inhibitor- metyrapone (MET) (treatment constant low water level+MET). Also, we investigated the effects of CORT and MET on life-history and morphological traits at metamorphosis. We found that *B. variegata* tadpoles cannot accelerate the developmental rate in response to pond drying. The constant low water level did not alter whole-body content of CORT and it did not significantly differ from high water level treatment with exogenous CORT. However, individuals from high water level with exogenous CORT have prolonged development, the highest mortality rate, the smallest body size and mass, and the widest but the shortest tails at metamorphosis. Constant low water level with MET decreased the whole-body content of CORT and it was significantly different between all groups, but it did not affect the developmental rate and tail shape although these tadpoles have intermediate size and mass between high water levels with exogenous CORT and control. We show that responsiveness to pond drying of *Bombina variegata* and its short larval period is probably associated with modified endocrine signaling pathway that control tadpole metamorphosis. Constitutively high whole-body content of CORT which was unaltered by pond drying leads us to conclusion that *Bombina variegata* development may be canalized but more research is needed.