

International Association of Astacology Symposium 24



BOOK OF ABSTRACTS

September 16 – 20, 2024, Zagreb, Croatia

BOOK OF ABSTRACTS
International Association of Astacology Symposium 24

Editor

Ivana Maguire

Croatian Ecological Society

Zagreb, 2024

ISBN 978-953-6202-16-4

Title: BOOK OF ABSTRACTS of International Association of Astacology Symposium 24

Short title: IAA24 - Book of abstracts

Logo on cover – Adam Peter Maguire

Organiser of the Congress and Publisher of the Book of Abstracts

Hrvatsko ekološko društvo / Croatian Ecological Society
Rooseveltov trg 6, HR-10000 Zagreb, Hrvatska
e-mail: hed@ekolosko-drustvo.hr
URL: <http://www.ekolosko-drustvo.hr/>

Co-organisers of the Congress

Department of Biology, Faculty of Science, University of Zagreb
The International Association of Astacology

Organizing and Programme Committee (in alphabetic order)

Ana Bielen, University of Zagreb, Faculty of Food Technology and Biotechnology
Sanja Gottstein, University of Zagreb, Faculty of Science
Sandra Hudina, University of Zagreb, Faculty of Science
Goran Klobučar, University of Zagreb, Faculty of Science
Ivana Maguire, University of Zagreb, Faculty of Science
Dora Pavić, University of Zagreb, Faculty of Food Technology and Biotechnology
Matej Vucić, University of Zagreb, Faculty of Science
Karolina Pipinić, University of Zagreb, Faculty of Science

Scientific Committee (in alphabetic order)

Susan B. Adams, USDA Forest Service, Southern Research Station, USA
Ana Bielen, University of Zagreb, Faculty of Food Technology and Biotechnology, Croatia
Quinton Burnham, Edith Cowan University, Australia
Javier Dieguez Uribeondo, Real Jardín Botánico, CSIC, Spain
James M. Furse, Griffith University, Coastal and Marine Research Centre, Australia
Frederic Grandjean, Université de Poitiers, UFR Sciences Fondamentales et Appliquées, France
Sandra Hudina, University of Zagreb, Faculty of Science, Croatia
Japo Jussila, Department of Environmental and Biological Sciences, University of Eastern Finland
Goran Klobučar, University of Zagreb, Faculty of Science, Croatia
Pavel Kozák, University of South Bohemia in České Budějovice, Czech Republic
Ivana Maguire, University of Zagreb, Faculty of Science, Croatia
Lucian Pârvulescu, West University of Timisoara, Timisoara, Romania
Adam Petrusek, Charles University, Department of Ecology, Czech Republic
Chris A. Taylor, Prairie Research Institute, Illinois Natural History Survey, USA
Kathrin Theissing, LOEWE Centre for Translational Biodiversity Genomics, Germany

Technical support: Tihomir Husnjak, AlpeAdria d.o.o.; Renata Horvat, Eva Janeković, University of Zagreb, Faculty of Science; Tin Škugor, Ela Šarić, University of Zagreb, Faculty of Food Technology and Biotechnology

Morphological variability among populations of *Austropotamobius torrentium* (Schrank, 1803) from central Balkan

Marković V¹, Đuretanović S², Roljić R³, Nikolić V^{1,3}, Zorić K⁴

¹University of Belgrade, Faculty of Biology, Department of Zoology, Studentski trg 16, 11000 Belgrade, Serbia

²University of Kragujevac, Faculty of sciences, Institute for Ecology, Radoja Domanovića 12, Kragujevac, Serbia

³University of Banja Luka, Faculty of Natural Sciences and Mathematics, Department of Biology, dr Mladena Stojanovića 2, 78000 Banja Luka, Bosnia and Herzegovina

⁴University of Belgrade, Institute for Biological Research “Siniša Stanković” – National Institute of the Republic of Serbia, Department for Hydroecology and Water Protection, Bulevar despota Stefana 142, 11108, Belgrade, Serbia (katarinas@ibiss.bg.ac.rs)

The Balkans is *Austropotamobius torrentium* (Schrank, 1803) hotspot. In its central parts (Serbia) three main stone crayfish phylogroups are present: CSE (Central and South-East European), SB (Southern Balkans) and LD (Lika and Dalmatia). In order to assess the morphological variability of the stone crayfish we analyzed ten populations from the central Balkans. A total of 145 adult crayfish (total length over 60 mm) were measured during our 2017 field study and 21 linear parameters and individual weight were taken. All measurements were standardized by postorbital length. Of analyzed crayfish 80 were males and 65 females. Performed non-parametric tests (Kruskal-Wallis) have shown that males and females differ in majority of parameters, including those related to weight. Discriminant analysis showed that abdominal and claw widths were the most important for sex separation, with the first one having larger values in females, while the second one being larger in males. Regarding populations, non-parametric tests showed that only stable parameters among male populations were a few characteristics of abdomen, claws and weight, while in female populations those were a bit more numerous. Canonical discriminate analysis was used to assess spatial morphological variability among studied populations (10 populations for males, and 8 for females). The results have shown that separation among male samples is more pronounced than in females. Alongside the first root a clear distinction of Uvac (CSE phylogroup) and Rasina (SB phylogroup) populations from the rest can be observed, while along the second root these two populations differ. Considering that analyzed populations belong to all three main phylogroups

our results suggest that morphological variability of the stone crayfish is related more to specific environmental conditions (adaptations) than to separate phylogenetic lineages.

Keywords: linear morphometry, sexual dimorphism, endangered species, Serbia stone crayfish