BOOK OF ABSTRACTS

10TH WORLD CONGRESS OF HERPETOLOGY

5–9 August 2024

Compiled by

Indraneil Das

World Congress of Herpetology (WCH)

Institute of Biodiversity and Environmental Conservation
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Sarawak, Malaysia

2024

COMPILER'S NOTES

The 10th World Congress of Herpetology is being held at the Borneo Convention Centre Kuching, in the State of Sarawak, Malaysia, 5–9 August 2024. The Congress is organised by the World Congress of Herpetology (https://www.worldcongressofherpetology.org) and the Institute of Biodiversity and Environmental Conservation (https://www.ibec.unimas.my), Universiti Malaysia Sarawak. The event is supported by Business Events Sarawak, Ministry of Tourism, Creative Industry and Performing Arts Sarawak, Sarawak Forestry Corporation, Sarawak Biodiversity Centre, AGARK DGHT, the Institute of Agriculture, University of Tennessee (UT AgResearch) and the Society for the Study of Amphibians and Reptiles.

A total of 1,481 abstracts of oral and poster papers were received at the website of the Congress (https://2024wch10.com), through an online conference management system (KonferenceX Content Management System), or came in via email. Only those submitted by registered delegates were included in this book of abstracts. Poster presentations include the full spectrum of herpetological topics, including subject material corresponding to Symposia. Also included are abstracts of Plenary Lectures, Special Presentations and Official Side Events.

Abstracts were formatted and lightly edited for content and style but did not undergo a full peer review. Any new taxon descriptions or other nomenclatural acts contained in this book of abstracts and programme should not be considered published in the sense of Article 8 of the International Code of Zoological Nomenclature (1999).

We welcome all delegates to the beautiful city of Kuching, Sarawak and to the 10th World Congress of Herpetology.

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interdisciplinary approach helps us better understand the evolutionary rescue potential of this threatened tortoise and aids in improving management plans for it.

A-1150 (Oral)
Species and Lineage Richness of Amphibians and Reptiles of the Balkan Peninsula in Light of Current and Past Environmental Factors

Márton Szabolcs[1], Edvárd Mizsei[1,2], Bálint Wenner[3], Barnabás Bancsik[3], Dan Cogălniceanu[4], Ruben Iosif[4], Ilias Strachinis[5], Elias Tzoras[6], Tibor Sos[7], Jeroen Speybroeck[8], Çetin Ilgaz[9], Ivona Burić[10], Tamás Malkócs[1], Judit Vörös[11], Emina Šunje[12,13], Adnan Zimić[12,14], Ana Ćurić[12,15], Georgi Popgeorgiev[16], Yurii Kornilev[16,17], Daniel Jablonski[18] and Szabolcs Lengyel[1]

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The Balkan Peninsula is one of the most biodiversity rich areas in Europe, with many endemic species and lineages of amphibians and reptiles. Due to its high geomorphological and climatic complexity, the Balkans served both as a speciation center and as an important refugium during glacial periods. Consequently, the Balkans is an excellent area for the study of evolutionary processes. In this study, we compiled a dataset of occurrence records of every amphibian and reptile species in the area and then calculated species richness in 25 × 25 km cells. To estimate lineage richness, we reconstructed phylogenetic trees for the species separately and with phylogenetic interpolation we split their occurrence records into allopatric lineages, which we then summed in the 25 × 25 km cells. We also calculated average branch length and average phylogenetic endemism for the species and lineages respectively. We then compared these biodiversity variables to environmental factors, as terrain ruggedness, current climate as

temperature and precipitation, past climate changes in the last 5.4 million years and climate change velocity from the Last Glacial Maximum. We found that terrain ruggedness always positively influenced the biodiversity variables. Current climate usually better explained current patterns of biodiversity than past processes, however branch length and phylogenetic endemism were usually higher in areas with more stable climate. Our study suggests that a better understanding of phylogenetic processes can greatly help in interpreting current patterns in biodiversity, which underlies their effective conservation.

A-1151 (Oral)
Effects of Anti-predator Netting on a Reptile Community in Central Hungary

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The Hungarian Meadow Viper (*Vipera ursinii rakosiensis*) was once abundant in the steppe meadows of the Carpathian basin, but the transformation of its habitats to arable land made most of its populations disappear by the second half of the twentieth century. In the past decades several conservation measures have been implemented to preserve these vipers, but despite the efforts no significant increase was detected in the population sizes of these snakes, partly because of predation pressure. As many of the predators of the viper are protected and threatened, their control by culling is not possible. In order to establish a strong subpopulation a total predator exclusion site was created at four hectares of one of the most important habitats of the viper. A 3 meters tall mesh net was built over the area in 2020, reinforced at the sides by a 1 meter tall steel fence that is able to keep out both avian and mammalian predators. Reptile habitat occupancy was monitored in a BACI design in 50 x 50 m sampling quadrats (n = 4 under the netting, n = 26 in control sites) between 2020 and 2023. We used multi-season occupancy models to estimate changes in habitat occupancy for the species inhabiting the area. The habitat occupancy of the Eastern Green Lizard (*Lacerta virdis*), the Smooth Snake (*Coronella austriaca*) and the Hungarian Meadow Viper increased through the years and was significantly higher under the anti-predator netting than in control areas. On the other hand, the habitat occupancy of the Sand Lizard (*Lacerta agilis*) significantly decreased throughout the years, and was lower at the predator exclusion site than in control sites. Based on these results we conclude that predator exclusion can be an effective way to increase population sizes of species highly threatened by predation.

A-1152 (Poster)
Integrating Research and Education to Understand How Salinization and Ranavirus Interact to Alter Amphibian-mediated Nutrient Cycling

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