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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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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based study, we examined the seasonal plasticity in nutritional composition of intakes as well as fecal matter of the Indian spiny-tailed lizard (*Saara hardwickii*), a predominantly herbivorous desert agamid inhabiting the Thar desert, to understand how animals regulate food consumption to match proximal biological demands, especially in extreme environments with limited resources. From field observations and elemental analysis of foods consumed, we found that the lizards consumed more nitrogen (a proxy for proteins) during their breeding season, and more carbon (a proxy for carbohydrates and lipids) before the winter season when they hibernate. The lizards achieved this by consuming insects only during the short breeding season, while resorting to herbivory during the rest of the active period. These changes in nutritional intakes were complemented by the changes in nutrients retained, such that the ratios of carbon to nitrogen in lizard feces were higher in the breeding season (higher N retention), whereas they were lower before hibernation (higher C retention). Our results show that in extreme environments such as the deserts, lizards can meet their seasonal nutritional demands both behaviourally, by preferentially eating specific foods, and physiologically, by preferentially retaining specific nutrients, across seasons.

A-0592 (Oral)
Investigating Trypanosomes of Herpetofauna in Southern Africa

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Species of *Trypanosoma* from African anuran and reptile hosts are of the least understood taxa in the genus. Research on this parasite group has not kept up with the pace of research on the hosts, in spite of the potential of aquatic and terrestrial trypanosome clades to provide insight into the evolutionary history of the genus, as well as complementary information for biomedical studies of medically and economically important species of *Trypanosoma*. The ecological interactions and phylogeny of aquatic trypanosomes are currently not well-understood, mostly due to their complex life cycles and a deficiency of data. This study aimed to address the gap in our knowledge of trypanosomes infecting African amphibian and reptile hosts, and to create a platform for future research on African trypanosomes. Frogs, lizards, snakes, tortoises, and freshwater turtles were collected from various localities in South Africa and screened with a combination of microscopy and molecular techniques. Descriptions of these trypanosomes with morphological and molecular data were provided to establish the current species diversity and phylogenetic relationships of the trypanosomes infecting African herpetofauna. This study described three new species of *Trypanosoma*, along with the redescription of five species. Ultimately, this study shows that the diversity of trypanosomes is higher than previously thought, and further research is necessary to expand our understanding of the true diversity and ecology of trypanosomes infecting herpetofauna.

A-0593 (Oral)
Phylogenomic Insights on the Diversity and Evolution of Palearctic Vipers

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Despite decades of molecular research, phylogenetic relationships in Palearctic vipers (genus *Vipera*) still essentially rely on a few loci, such as mitochondrial barcoding genes. Here we examined the diversity and evolution of *Vipera* with ddRAD-seq data from 33 representative species and subspecies. Phylogenomic analyses of ~1.1 Mb recovered nine major clades corresponding to known species/species complexes which are generally consistent with the mitochondrial phylogeny, albeit with a few deep discrepancies that highlight past hybridization events. The most spectacular case is the Italian-endemic *V. walser*,

which is grouped with the alpine genetic diversity of *V. berus* in the nuclear tree despite carrying a divergent mitogenome related to the Caucasian *V. kaznakovi* complex. Clustering analyses of SNPs suggest potential admixture between diverged Iberian taxa (*V. aspis zinnikeri* and *V. seoanei*), and confirm that the Anatolian *V. pontica* corresponds to occasional hybrids between *V.* (*ammodytes*) *meridionalis* and *V. kaznakovi*. Finally, all analyzed lineages of the *V. berus* complex (including *V. walser* and *V. barani*) form vast areas of admixture and may be delimited as subspecies. Our study sets grounds for future taxonomic and phylogeographic surveys on Palearctic vipers, a group of prime interest for toxinological, ecological, biogeographic and conservation research.

A-0594 (Oral)
Welfare Considerations and Challenges During Lizard Translocations: A Case Study

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There are welfare implications through all stages of a conservation translocation, however relatively little information has been published concerning translocation welfare for reptiles, especially lizards. Most translocations involve the movement of either wild caught or captive reared individuals, with more being known about the source population when they are reared in captivity. In reptiles, the majority of translocation articles focus on predatory species at the top of the food chain. Here, I will use a case study of a wild-to-wild translocation of a prey species, the lesser night gecko, in Mauritius. I will describe the translocation process, from planning through to release and post-release monitoring. I will highlight the areas where welfare was a key factor in our decision making and where information to make decisions was lacking. I will also illustrate the challenges faced during the translocation and the impacts they may have had on welfare.

A-0597 (Oral)
Unveiling Overlooked Mechanisms Shaping Vulnerability of Amphibians and Reptiles to Extreme Temperature Events

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Ongoing climate change increases the frequency and magnitude of thermally extreme weather events. Extremely high temperatures have a direct impact on the individual survival and population dynamics of amphibians and reptiles. While extensive research has focused on unraveling the temperature tolerance of various taxa, many behavioral and physiological mechanisms enabling amphibians and reptiles to mitigate individual exposure or enhance population resilience to temperature extremes remain underexplored. This knowledge gap hinders a comprehensive understanding of climate change impacts on amphibian and reptile