The University of Hong Kong
School of Biological Sciences

Public Seminar

Climate change, wildlife trade, and the ecophysiological consequences of nocturnal vs. diurnal activity in lizards

Date: June 28th, 2022

Time: 9am

Venue: KBSB 6N-11 + Zoom

About the speaker:

Pauline Dufour is a PhD candidate in the Bonebrake lab. She joined HKU in 2017 and has since been working on topics in climate change biology, conservation physiology, and wildlife trade.

Abstract:

The nighttime environment is under multiple threats, from an asymmetric increase in night temperatures with climate change, to the disappearance of natural night light levels, to darkness-facilitated overexploitation of its biodiversity.

In this PhD thesis, I demonstrate how important relevant spatio-temporal sampling and measurements are to understand diurnal and nocturnal responses to environmental change, focusing on lizards in particular. My thesis is divided into four data chapters. I first investigated the importance of daytime vs. nighttime measurements of diurnal and nocturnal lizard species in thermal tolerance and preference, two metrics widely used in thermal biology, and how they could challenge the prediction of ectotherm climate change responses. I then combined thermal tolerance and fine-scale temperature measurements to derive a vulnerability index – the warming tolerance – of several populations of widespread nocturnal and diurnal species, along a precipitation gradient in South Africa.

Finally, I looked into the origin of the tokay gecko, one of the most heavily traded reptile in the world, in both local populations and traditional medicine shops around Hong Kong.

Together, my thesis emphasizes how multi-facetted approaches, and the incorporation of conservation physiology are necessary to uncover consequences of multiple threats on biodiversity, and to determine pathways forward for effective management.