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ÖKOLOGISCHES KOLLOQUIUM

of the Institute of Zoology in person in room 0.024

Wednesday, May 14, 2025, 01:15 pm



Dr. Maja Ilić University of Cologne, Institute for Zoology, AG Fink - General Ecology

Host: Prof. Dr. Fink

Quantifying and understanding the effects of climate change and biodiversity loss on aquatic and terrestrial ecosystems

To predict consequences of ongoing biodiversity loss and climate change on ecosystems, it is crucial to identify and further investigate ecologically relevant traits, functions and keystone species, which play a central role in the studied ecosystems. In this talk, I will briefly present the main results from projects I worked on in the past few years.

First, I will present a recently developed experimental setup to measure heat tolerance in water fleas (*Daphnia*) – a keystone freshwater species – using video tracking, discuss results obtained from temperature assays using different *Daphnia* species, and introduce some of the research ideas for the upcoming years.

Second, I will present my work on aquatic-terrestrial habitats in forests. Although often studied separately, these habitats are linked through nutrient and matter fluxes, as well as species interactions, but may respond differently to stressors. To address (di)similarities in the response of aquatic, terrestrial and interconnected ("blue-green") habitats to land-use and climate change, we conducted field meso-and microcosm experiments in forests across Switzerland, and determined the effects of forest management, temperature and water availability on leaf litter decomposition. Additionally, we estimated dietary preferences of riparian spiders by implementing mixing models based on fatty acids and carbon isotopes of amino acids using the R package MixSIAR. We showed that riparian spiders rely on blue, green and brown carbon sources, but in very different proportions.