UNIVERSITÄT ZU KÖLN

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ÖKOLOGISCHES KOLLOQUIUM

of the Institute of Zoology in person in room 0.024

Wednesday, January 28, 2026, 01:15 pm

Prof. Dr. Markus Möst
Research Department for Limnology, Mondsee and Department of Ecology,
University of Innsbruck, Innsbruck, Austria

Host: Prof. Dr. Eric von Elert

From eco-to-evo to evo-to-eco with the *D. longispina* species complex

Rapid global change comprises multiple ecological changes affecting habitats and distributional ranges of species and, thus, also reproductive isolation among closely related species. Consequently, rapid ecological change can result in almost instant evolutionary change by favoring the generation of hybrids and backcrosses. Hybridization can in turn also result in ecological change by modifying local taxonomic composition and the distribution of ecological trait values. Understanding these eco-evolutionary interactions, their repeatability and reversibility and the role of pace and magnitude of ecological change is important to assess and predict global change effects. We are studying the *Daphnia longispina* species complex, small freshwater crustaceans and important grazers, to understand eco-evolutionary dynamics around strong ecological interactors. I will show, how we can leverage the *Daphnia* resting egg bank and single-embryo sequencing to reconstruct evolutionary change and genomic consequences of hybridization triggered by cultural eutrophication as well as subsequent restoration measures. Moreover, I will present ongoing work and future plans targeting a potential feedback loop in which past ecological change (eutrophication) and the resulting evolutionary change (hybridization and introgression) in the *D. longispina* complex are driving ecological change in the phytoplankton community which in turn may affect the evolution of *Daphnia*.

Gäste sind herzlich willkommen!
Die Mitarbeiter/innen der Ökologie

→ bei Rückfragen: 470-4013 (Ilić)