



**PARIS
LODRON
UNIVERSITY
SALZBURG**

Environment and Biodiversity

Guest Lecture

Seminar Series

Environment and Biodiversity

Prof. Dr. Jana Eccard

Universität Potsdam

AG Tierökologie

Host: Dr. Sophie von Merten



The timid invasion: behavioural adjustments of rodents to range expansion

Animal behaviour can moderate biological invasion processes, and the native fauna's ability to adapt. We investigated behavioural responses associated with risk-taking and exploration, both in non-native bank voles (*Myodes glareolus*) accidentally introduced to Ireland a century ago, and in native wood mice (*Apodemus sylvaticus*), that decline in numbers with vole expansion. We repeatedly sampled behavioural responses in three colonization zones: established bank vole populations for greater than 80 years (2 sites), expansion edge vole populations present for 1–4 years (4) and pre-arrival (2). All zones were occupied by wood mice. Individuals of both species varied consistently in risk-taking and exploration, indicating that these variables are part of a behavioural syndrome. Mice had not adjusted their behaviour to the presence of non-native voles, as it did not differ between the zones. Male voles at the expansion edge were initially more risk-averse but habituated faster to repeated testing, compared to voles in the established population. Results thus indicate spatial sorting for risk-taking propensity along the expansion edge in the dispersing sex, since selection pressures at the edge favour dispersal abilities, while at the established sites competitive individuals are favoured. In non-native prey species the ability to develop risk-averse phenotypes may thus represent a fundamental component for range expansions.

Vortragssprache: Englisch

Invasive Bank Vole
Clethrionomys glareolus

Friday, June 6, 2 PM

NLW-Faculty, Room 414, 1st floor



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