Small mammal dispersal project summer 2023

Dispersal is correlated with various morphological, physiological, and behavioral traits making dispersers better adapted to deal with the cost of dispersal. With a rising interest in among-individual variations in behavior, i.e. animal personalities, dispersers have increasingly been found to differ in levels of activity, exploration, boldness, aggressiveness, and sociability. Nevertheless, different contexts, e.g. population density, predation risk, and habitat quality, may benefit or be disadvantageous to different behavioral types and affect the association between dispersal and personality. This has especially been observed under competition for resources and safe space. Moving from a natal habitat and dispersing to a new breeding habitat can subsequently have major implications on individual fitness and population dynamics.

Because dispersal is a key mechanism in metapopulation and community ecology and has considerable effects on gene flow and species' ability to track environmental change, it becomes vital to understand why and how species disperse. In a world increasingly affected by anthropogenic changes such as habitat deterioration and fragmentation, this becomes even more vital to investigate.

In this project, we aim to investigate personality-dependent dispersal in bank voles (*Myodes glareolus*) and whether this is context-dependent. We will evaluate different levels of social context (population density) and environmental context (predation risk). This will be conducted in semi-natural habitats where we can manipulate these variables ourselves. Additionally, we will evaluate the fitness effects of personality-dependent dispersal by quantifying the reproductive output.

For this, we would happily want to include curious and motivated students eager to conduct a student project (Vertiefungsmodul, bachelor or master thesis, or internship/Erasmus) related to:

- among-individual variations in:
  - risk-taking, activity, and exploration
  - sociability
  - dominance
- stress-responsiveness
- movement
- population density and predation risk
- fitness effects

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