universität freiburg

Nature Conservation and Landscape Ecology (AG Klein)

Master Thesis

Starting Date: February/March 2024

Quantifying floral resources of hedgerows and the effect on pollinators

Background

Pollinators play a key role in ecosystem functioning because they mediate interactions between species and facilitate ecological and economic impacts. However, pollinator health is globally declining in agricultural landscapes largely due to the use of insecticides, reduced habitat and lack of nutritional resources. Thus, the availability and distribution of floral resources in agricultural landscapes, especially from different landscape structures such as hedgerows, determines pollination services by attracting different pollinators based on the amount or concentration of floral resources. However, it is not known how this composition of floral resources affects pollinator behavior and services.

Aim of this work

The Master opportunity is to participate in a team:
1) to understand how pollination services, contribute to ecosystem functioning of hedgerows
2) transfer this role of pollinator services to policy development aimed at enhancing pollinator health.

Requirements

Your master thesis will be embedded in a larger BW funded project about the **integra**tion of habitat structures in agricultural areas for the promotion of pollinator insects. You will be working with existing data sets and collect new samples of plant traits within different hedgerows in the larger surroundings of Freiburg. Ideally, this work will be done in collaboration with another Master thesis focusing more on the pollinator side by collecting ground nesting bees in hedgerows. Therefore, there is the opportunity to exchange between colleagues and team members. You should embrace field-based research as well as have some background or interest in large data and or landscape approaches, which should include a solid basis of statistics and the handling of R. Most importantly, you should be passionate about biology and should have an interest in sustainable agriculture and the consequences of various land-use policies for ecosystem services.

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