

Master Thesis

Starting Date: February/March 2024

Do ground-nesting bees like living in hedgerows?



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. Ground nesting bees are highly important to drive pollination services in agricultural landscapes, there are almost 70% living in the ground. However, there are not many habitats for ground nesting bees and it is not known if ground nesting bees find nesting habitats in hedgerows.

Aim of this work

The Master opportunity is to participate in a team:

- 1) to understand the abundance and diversity of ground nesting bees in hedgerows
- 2) transfer this knowledge to enhance pollinator health in agricultural landscapes and if and how ground nesting bees are attracted to floral resources in hedgerows.

Requirements

Your master thesis will be embedded in a larger BW funded project about the integration 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 ground nesting bees 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 plant side by collecting traits and floral resources 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, interests and competences to identify bee species in the lab. Additionally a solid basis of statistics and the handling of R would be a plus. 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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