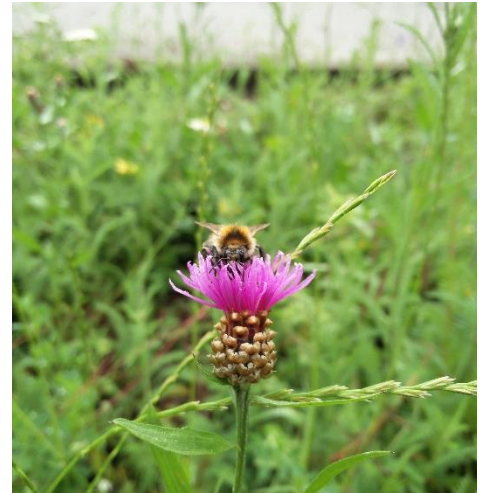


Wildflower patches as restoration measures for pollinators: Investigating ecosystem functions in urban landscapes

Topics: *Urban ecology, movement ecology, landscape ecology, pollination, ecosystem functioning, urban ecological restoration*

Species: *Solitary wild bees, bumblebees, hoverflies*



Context

Wild bees and other pollinators belong to a group of insects that are evidently decreasing in their abundance and diversity worldwide. **Urbanization** is one of the major drivers of global land use change which variably influences **the occurrence and diversity** of different groups of pollinating insects. Non the less, cities provide suitable habitats for different pollinator species and can be considered, in some cases, as **refuges**. As urban habitats are oftentimes rare and fragmented in their distribution, the question rises how isolated pollinator populations can be (re-) connected within the urban matrix, which environmental factors play a role in their **movement, distribution and diversity** and how especially **food habitats can be designed or restored** to meet the needs of a variety of different city dwelling pollinators.

Project

In the project of the **“Blooming Bands”**, we are testing a **city-wide blooming-band network** to promote pollinator diversity and movement. We will measure local effects of blooming patches **on wild bees, bumblebees, hoverflies and solitary wasps** within differently urbanized surroundings. Furthermore, the wildflower plots will be examined for their effects on **pollination success** as a major **ecosystem function**.

Thesis: Effects of restored urban roadside green on pan trapped pollinating insects

In this thesis, we want to test the effects of blooming wildflower patches on three major pollinating groups: **solitary wild bees, bumble bees and hoverflies**. We are using pan traps to gain insights into **abundance and diversity** of pollinating insects occurring along a gradient of urbanization. Trapping will take place once a month for at least 4 times. Insects will be sorted and **identified to species level** in the lab. Besides the **effects of the wildflower patches** on abundance and diversity, also **trait specific data** will be analyzed concerning the pollinators` presence or absence in different types of urban landscapes.

Requirements

- Fieldwork in summer 2021
- Basic knowledge in statistical analysis in R
- Advantageous: Experiences in species identification of plants and/or insects, experiences in GIS applications and analysis
- **Driver`s license** and car available



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