

Green roof: habitats facing climate change and the biodiversity crisis



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Aims

- How can green roofs support biodiversity?
- How do green roofs cope with extreme conditions?
- How can citizen scientists get involved in research on green roofs?

In the **Sparkling Science Project „Green Roof Habitats“**, school students and scientists collaborate to investigate how insect biodiversity, vegetation and habitat conditions on green roofs are interrelated. By conducting research at their own schools, the involved students get insights into scientific work and gain awareness for global change related topics.

Monitoring methods

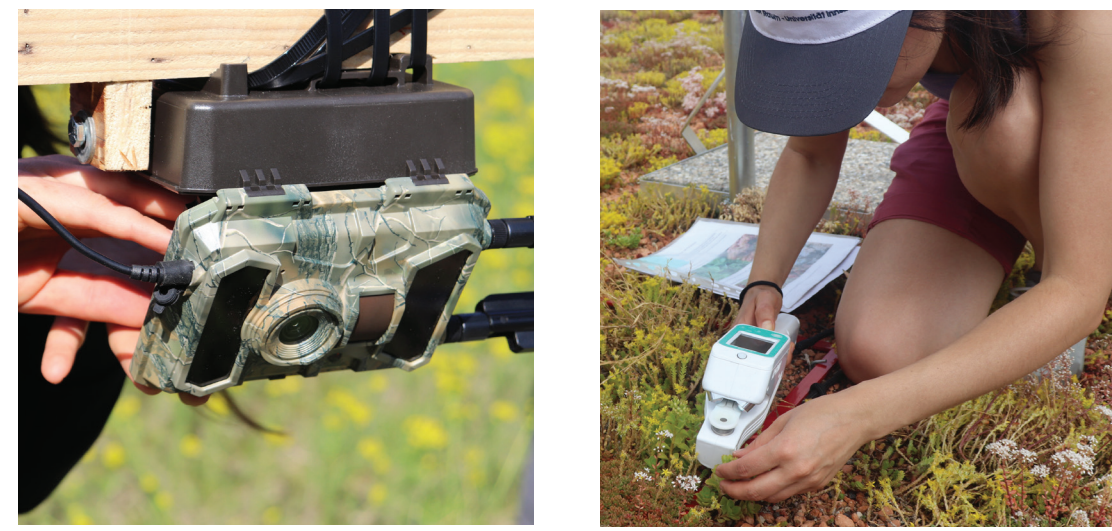
Conditions on the roof

- Climate station
- Soil sensors



Vegetation

- automated cameras
- physiological measurements
- experiments with dwarf shrubs



Insect biodiversity

- Malaise traps on green roofs, meadows and sealed areas



Supervision of monitoring sites

- weekly check of equipment
- change of sample bottles every other week
- additional images of the survey sites

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School involvement

- 202 students from 3 schools
- 30 workshops with scientists
- presentation of own work at a science festival

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Data

- 500 days of climate and soil measurements
- 3500 analysed images of the vegetation
- ecophysiological measurements of 6 plant species
- 240 samples from 12 malaise traps over 40 weeks
- 8123 BINs (barcode index number; a species proxy) detected with metabarcoding (1st year)

Data processing

- assessments of flower abundance, vegetation coverage and vitality from images

Citizen Science Award 2024

- 169 participants mapped 6000 green roofs in Austria

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