

# Biodiversity in urban areas

## Development of biodiversity-promoting measures and networking aids between Zürichberg and Käferberg in

Student

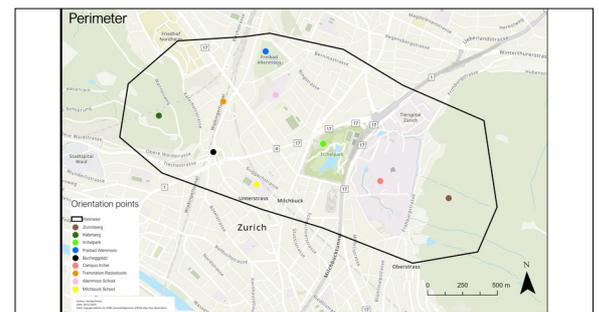
Annika Drews

**Introduction:** This thesis aims to identify gaps in Zurich's ecological connectivity in the face of rapid environmental and climatic changes, specifically addressing the critical issue of habitat fragmentation. Urban areas, despite being hotspots of biodiversity, often lack sufficient connectivity between habitats, leading to a decline in species diversity. This study analyses a range of organisms and their life-history traits in the area between Zurich's Käferberg and the foothills of Zürichberg.

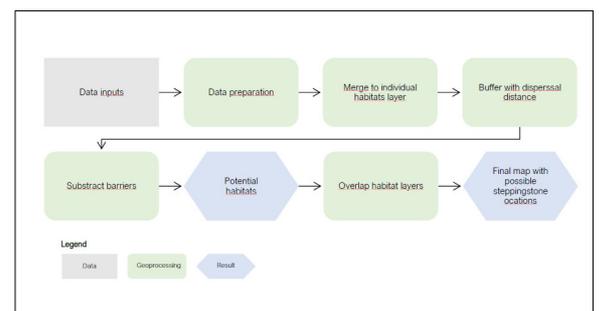
**Approach:** The study provides insights into habitat requirements and connectivity barriers and suggests practical measures to enhance habitat connectivity. The methodology comprised an extensive literature review and a GIS analysis in which twelve different species and their life-history traits including dispersal distances were examined in detail.

**Result:** The results show that small structures and biotope trees in urban areas can act as connectivity enhancers and stepping stones for various species. The study identifies *Picus viridis* and *Quercus* as umbrella species whose promotion could not only be beneficial for them but also for many other species. The study highlights the challenges posed by urban developments, such as the by public and private transport heavily frequented Bucheggplatz and the roads around Irchelpark. Due to the aforementioned traffic-intensive use these areas were identified as noteworthy for further specific research. Furthermore, it is important to strengthen the involvement of the public in biodiversity conservation efforts and recognize the role of private gardens and urban green spaces in creating a more interconnected and resilient urban ecosystem. Further research is required, particularly on how various species react to urban environments and climate change and how they can be supported in adapting to these changes. The feasibility of using advanced technologies, such as machine learning algorithms, is suggested to efficiently plan and implement ecological infrastructures.

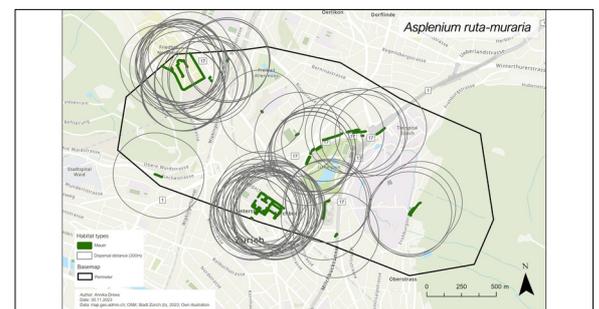
Perimeter of the study within the city of Zurich  
Own presentation



Visualisation of the data process  
Own presentation



Dispersal distance and possible habitat types for *Asplenium ruta-muraria*  
Own presentation



Advisor  
Prof. Dr. Jasmin Joshi

Subject Area  
Spatial Development  
and Landscape  
Architecture