Master Thesis Project

Persistence in fragmented landscapes

As a part of ongoing research on plant persistence strategies in remnant habitat fragments, a MSc thesis project is available on the response of woodland sage (*Salvia nemorosa* L.) populations to isolation and area of the habitat patch, as well as to local microclimate conditions at the Department of Botany and Biodiversity Research. The underlying hypothesis is that in small and isolated populations growth, reproduction and survival are limited, which may shift the population persistence strategy towards increasing investment in self-maintenance and improving chances of pollination and local recruitment; at the same time, stressful local environmental conditions may shift populations towards limited growth and faster reproduction, at the expense of survival.

The MSc student is expected to:

- Set up a study site in 2024 according to an available data collection protocol, which includes tagging 50-100 plants in permanent plots along transects
- Measure plant traits such as number of stems, length of the stem, width and length of a leaf pair, length of the main inflorescence, number of side inflorescences.
- Collect plant samples (stems and seeds) of 15 plants
- Statistical analysis of the data
- Writing the thesis, preferably in the form of an English manuscript (15 – 20 pages)

Field work shall be done during peak flowering in June, in a population in the native range of *Salvia nemorosa*, probably around Lake Neusiedl. The MSc student will be part of a larger research team network of 15+ sites in the European range of the species, and the student may access the data of the whole network. The work is led by Anna Maria Csergo from the Hungarian University of Agriculture and Life Sciences and will be co-supervised in Austria by Stefan Dullinger. The MSc student will have to visit sites set up on kurgans (ancient burial mounds of steppe cultures) in Hungary in early June prior to setting up their own site in Austria. The work requires willingness to work for about one week in likely hot weather while rain events may interrupt the work. Basic knowledge of statistical methods and interest in population biology of plants are an asset.

The thesis project is suitable for MSc students in ecology, botany and conservation biology.

Interested? If you are interested please contact Prof. Stefan Dullinger (stefan.dullinger@univie.ac.at) [or Karl Hülber, karl.hülber@univie.ac.at if I am out of office