

Master Thesis Project

Functional traits and phenotypic plasticity of alpine plants

As a part of ongoing research on climate change effects on alpine biota (<http://microclim.mountainresearch.at/>), an MSc thesis project is available on phenotypic plasticity of alpine plants at the Department of Botany and Biodiversity Research. The aim is to analyse whether plasticity of above-ground height is correlated with functional traits, especially those indicating stress tolerance, and the elevational distribution of ca. 60 species. The underlying hypothesis is that more stress-tolerant species of higher elevations are less plastic and hence at particular risk of suffering light competition by neighbours if climate change ameliorates abiotic conditions in these cold-adapted ecosystems.

Data on species distribution and traits already exist. The MSc student is expected to:

- Sample individuals of the species following a pre-defined sampling strategy – this includes measurements made directly in the field as well as harvesting of the plants' above-ground biomass
- Storing, drying and weighing biomass of individuals
- Statistical analysis of the collected data
- Writing the thesis, preferably in the form of an English manuscript (15 – 20 pages)

Field work shall be done between 25/07 and 31/08/2022 on Mt. Schrankogel, Stubai Alpen. The MSc student will be part of a larger research team based on Amberger Hütte (<https://www.ambergerhuette.at>) at 2100 m. The work requires physical fitness and willingness to spend several weeks in an alpine environment characterized by steep slopes, with often unpredictable weather. Basic knowledge of alpine plants and of statistical methods 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).

