

Master thesis project



Susceptibility of cold- and warm-adapted butterfly species to global change

Insect decline has been observed for various insect groups and in different regions. While many potential drivers have been proposed, such as land use and climate change, only few studies experimentally related the observed declines to drivers.

There exist good data on historical records of butterflies in Switzerland. The data shows that depending on the species, the density has remained stable, increased, or decreased over the past 50 years. While decreases have been mainly observed for cold-adapted, alpine species, increases were found for warm-adapted species. This suggests that climate change and other global change drivers play an important role for past and future trends of butterfly populations in Switzerland, but there is not much experimental evidence proofing it. Filling this knowledge gap will be imminent for being able to forecast the effects of future climate change and to plan mitigation measures targeted at conserving diverse butterfly communities.

In this project, we aim to test the effect of climate change and other drivers on the larval survival and performance of both cold- and warm-adapted butterfly species. The study is planned to be conducted as a field experiment, in which caterpillars of different butterfly species are grown at different sites and under different global change treatments.

The results of the MSc-project are expected to be published in a peer-reviewed scientific journal. You should have a strong interest in global change ecology and be interested in doing field work, both as a team but also independently. Also, basic knowledge in statistics (R) is advantageous, so is a driver's license (but both is not mandatory). You should begin with your work at latest in February 2022. For application or additional information, please contact Dr. Felix Neff (mail@felixneff.ch) or PD Dr. Eva Knop (eva.knop@ieu.uzh.ch), www.knoplabor.ch.