

Master thesis project in Conservation Biology of Insects



Loss of insect biomass – threat or hype?

Recent studies indicate a dramatic loss of insects, not only in species numbers but also in their total abundance and therefore biomass. Consequences of such a decline would be drastic, as they affect many ecosystem services, from pollination to insectivore birds and bats to decomposition. While mainly anecdotal knowledge on declines exists, there are no monitoring schemes in place to observe insect biomass, and long term studies on insects are very scarce. Hard numbers on a decline in number of individuals are missing in Switzerland.

Together with partners WSL strives to shed light on the topic. WSL has a long tradition in invertebrate biodiversity research. One of the research projects was extensively investigating invertebrates in 1987 along an transect of 20 trap sites spanning 5 km through agricultural and natural areas of the Limpach valley. A partial repetition of this project took place in 1997 on four sites. We now intend to repeat this work to reach at a comparable insect collection spanning 32 years.

The master candidate will sample invertebrates at preset locations and intervals with different trap types through May to July in 2019. Work will involve sorting the catches into taxonomic groups, count and weigh them, and identify selected groups to the species level. Statistical analyses will test for effects of trap type, habitat and other environmental variables on abundance and diversity of taxonomic groups. Finally the data will be set into relation to the historic data to search for a long term temporal trend. The student should strive for a scientific publication of the thesis' results.

Prerequisites: organizing skills; driving license and experience; experience in english writing; interest and skills in Entomology; knowledgeable in R.

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