

MSc Project

Discovering the underground: Occurrence and biodiversity of macroinvertebrates in Swiss groundwater systems

We are looking for an enthusiastic MSc student who will be working on the ecology, diversity and faunistics of groundwater macroinvertebrates. The project involves extensive macroinvertebrate identification and is part of a larger research program (based in the Altermatt lab at Eawag/UZH).

Background

A diverse range of organisms inhabits groundwater ecosystems. However, due to difficulty in accessing subterranean habitats, these organisms are still understudied. To gain samples from groundwater macroinvertebrates, we have collaborated with many drinking water providers all over Switzerland (citizen science approach). The drinking water providers sampled their spring wells for any macroinvertebrates found in the water, which enabled us to build up an extensive collection of macroinvertebrates. With this collection, we would like to shed light on the occurrence, biodiversity and ecology of the hidden groundwater fauna in Switzerland.

Aim

In this MSc project, you would work on the macroinvertebrates collected for the project “AmphiWell”. You would identify all macroinvertebrates using morphological tools and potentially complement with molecular tools (barcoding).

With the dataset, you would then analyze the biodiversity and composition of macroinvertebrate communities found in the groundwater across Switzerland and link it to different environmental/biogeographic variables. Additionally, you would investigate co-occurrence patterns between different taxonomic groups. The data will eventually be integrated into public databases (InfoFauna/CSCF). In the project, you will have the opportunity to interact with stakeholders, such as BAFU or cantonal environmental agencies. More details see: <https://grundwasserfauna.amphipod.ch>

Requirements

Interest in ecology and faunistics of aquatic invertebrates and interest/skills in morphologic identification of invertebrates, interest in spatial modeling and GIS, interest to work on a stakeholder relevant project (BAFU funded). **The MSc project can start any time.**



Contact/Supervision:

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Dr. Roman Alther, and PhD student Mara Knüsel (mara.knuesel@eawag.ch, day-to-day supervisor)

More info: www.altermattlab.ch and <https://grundwasserfauna.amphipod.ch>

We are looking forward to meeting you!