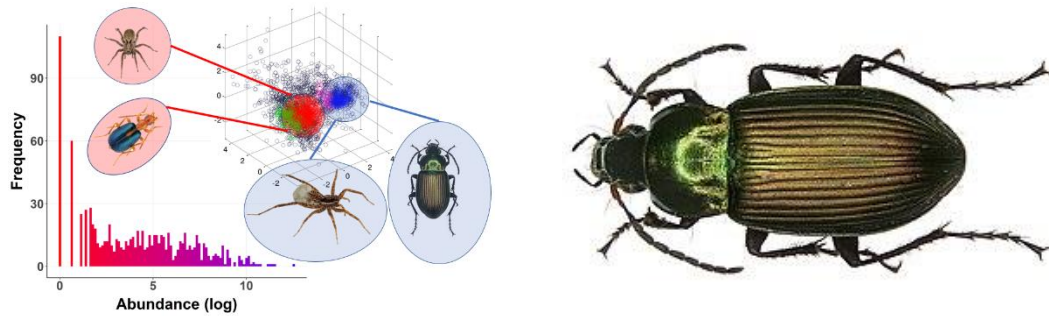


## Master thesis project



### Dominant and rare arthropod species: what characterizes them?

**Dominant species are disproportionately important** for ecosystem functioning and the supply of ecosystem services. Understanding why some species are dominant while most of them are very infrequent is a key unanswered question in ecology.

In Switzerland, we have one of the most **impressive datasets** in the world **to study carabid and spider communities**. With more than **50125 samples** (pitfall traps) that collected **1.73 million individuals** and **890 different species**. Interestingly, **40% of carabid individuals in this dataset belonged to just three species: *Poecilus cupreus* (24%), *Pterostichus melanarius* (8%), and *Anchomenus dorsalis* (7%)**. Similarly, **only two spider species: *Oedothorax apicatus* (17%) and (12%) accounted for 29% of the total abundance**.

We offer an **MSc project** that focuses on **understanding the specific factors and traits leading to some arthropod species to be dominant, and others to be rare**. For this, we will compare the traits, phenology, ecology and other possible differences that characterize dominant species, compared to rare ones. The hypothesis is that dominant species will share some characteristics that give them an evolutionary advantage against rare species. Alternatively, it is possible that legacy effects or stochastic events are strongly determining their role in nature.

This **project strongly relies on data analysis** and office work, but it may be possible to conduct **some lab experiments** to investigate better some aspects about the ecology or tolerance of these species.

The results of the MSc-project are expected to be published in a peer-reviewed scientific journal. Ideally, you should have **data analysis skills** (in R), be **interested** in pursuing a career **in science** (research oriented), and **working in a team**.

For application or additional information, please contact Dr. Carlos Martínez Núñez

([carlos.martineznunez@agroscope.admin.ch](mailto:carlos.martineznunez@agroscope.admin.ch)) or PD Dr. Eva Knop ([eva.knop@ieu.uzh.ch](mailto:eva.knop@ieu.uzh.ch)), [www.knoplabor.ch](http://www.knoplabor.ch).