Two Master Theses Projects

Functional diversity, ecosystem services and multitrophic interactions of arthropods in Italian olive agroforestry systems

As a part of our research project "ECO-OLIVES", we are offering two Master theses to study arthropods in Italian olive groves (https://bdc.univie.ac.at/research/current-projects/eco-olives/).

Each of the two master's theses will focus on spiders or ants. A combination of methods (i.e., pitfall traps, visual observations and predation experiments) will be used to record arthropods and associated pest control services on 12 established olive grove sites in our study area nearby Pisa, Italy. Data will be analysed with focus on community composition (alpha and beta diversity), as well as functional diversity (focus on habitat affiliations and foraging behaviour). The main hypotheses to be tested in these theses is whether community composition, functional diversity and provision of ecosystem services are affected by local and landscape parameters.

Each MSc student will have access to available data from the project (i.e. study area, functional traits and available arthropod recordings from 2022) and is expected to:

- Record arthropod and predation data following a pre-defined sampling strategy on 12 olive grove habitat clusters within 6-9 weeks of field work in Italy (~4-5h recording per day)
- Recording site-specific variables such as olive and landscape parameter (~ 2-3h per study site)
- Participating in other data recording tasks of our research team in Italy to complete available data sets from the study area that are relevant for this thesis (~ 2-3h per study site)
- Statistical analysis of the collected data using R
- Writing the thesis, preferably in the form of an English manuscript (~ 15 – 20 pages)

Field work shall be done between Mar/Apr and Oct/Nov 2023 (3-4 months in total) in our study area nearby the city Pisa in Italy. Candidates from the University of Vienna will be supported to apply for a travel grant (see "KWA" scheme for short-term grants abroad). The MSc students will be part of a larger research team based in the study area (see @AgroEcoDiv on Twitter). The work requires physical fitness and willingness to do field work in hilly landscapes. Prior knowledge of the topics, animal groups, and methods described, as well as Italian language skills are a plus. To do the field work, a car driving license is mandatory and the availability of an own car is a plus.

The thesis project is suitable for MSc students in ecology, zoology and conservation biology.

If you are interested, please contact Dr. Bea Maas (bea.maas@univie.ac.at) with a short motivation letter (max. 0.5 page) and an attached CV (max. 2 pages) under the subject "MSc ECO-OLIVES". Interviews o chosen candidates will be taken via Zoom between December 2022 and January 2023.