



WORKSHOP HANDOUT – 15th April 2023

Dear participants, partners and stakeholders of ECO-OLIVES,

we are looking forward to the second field season and our collaboration this year!

With this short overview, we would like to inform you about our research activities planned for the spring season 2023 (April-June) and look forward to staying in touch with you about this.

Our optimized study design on 12 olive fields around Monte Pisano now includes 16 study trees per field: 4 controls, 4 bird/bat enclosures and each 4 trees that will be systematically pruned in February and April (see our 2022-report for details and sketches). This design allows us to study the functions of birds, bats and arthropods in relation to local management, landscape composition and seasonal differences to improve our understanding and ability of combining biodiversity conservation and sustainable olive farming.

Our research activities this year include the following:

1) Local field and harvest data will be studied within a landscape context using three approaches:

(a) detailed assessments of all study trees (including size/biomass, microclimatic data, soil and vegetation, canopy cover); (b) habitat monitoring data from the entire study area (with high-resolution data in a 500-meter radius around each project field); and (c) data on olive harvest quantity and quality for all study trees (features of harvested olives including pest infestation rates).

2) Birds and bats will be studied using four approaches: (a) Systematic point counts of birds; (b) systematic monitoring of bat caves and roosts; (c) acoustic recordings of birds and bats and (d) scientific capture-release surveys in which we also extract DNA-samples of birds and bats. The combination of these methods allows us to not only find out which species and functions occur in the study area, but also to identify the activity and diet composition of insect eating birds and bats that are potentially important for pest control services as well as for biodiversity conservation.

3) Predation experiments using artificial caterpillars made of plasticine will allow us to quantify the numbers of bird-attacks on arthropods/caterpillars on both tree- and farm-level and thus get an idea of predation pressure on each farm. These data will be linked to all biodiversity and farm data.

4) Arthropods (insects and spiders) are recorded with four approaches: (a) repeated visual observations on all study trees; (b) pitfall traps for ground-dwelling arthropods; (c) honey traps for arthropods in the canopy – targeting ants; (d) DNA-analyses of arthropods from canopy-fogging experiments conducted in 2022.

5) With our project “COMPASS” we study the effects of systematic pruning of olive trees in February and April on biodiversity, ecosystem services and production. All study trees will be studied in detail, which allows us to also study these potential effects of systematic tree pruning which follows a large set of considerations that are individually adapted to each tree and farm.

General project updates:

Analytic approach: We will combine the (a) data from biodiversity assessments of bird, bat and arthropods (number and abundance of species including a focus on their different diets and functions, as well as results from DNA-analyses from each group resulting from the last years' canopy fogging experiment and the capture-release surveys from this year) with (b) the data from olive field, tree and landscape surveys (data of olive harvest quantity and quality as well as local management/ vegetation data, landscape composition) and (c) data from our experiments on the effects of olive pruning, predation pressure by birds in statistical models that help us to understand the effects of biodiversity on olive farming and vice versa in a seasonal context (spring versus autumn).

Implementation approach: In addition, we will use assessments of regional and international stakeholder perspectives to better understand how targeted management measures to combine biodiversity conservation and sustainable olive farming can be better designed and implemented (identification of opportunities and challenges in this process on both regional and European level). Our implications for improved implementation approaches will be based on the results of our mutual exchange, interviews, and app-developments in both the study area and in close cooperation with several, international project partners of ECO-OLIVES, including the wide networks of:

OLIVARES VIVOS – based in Spain (www.olivaresvivos.com)

CIBIO – based in Portugal (<https://cibio.up.pt/en/>)

BESLab – based in Spain (<https://beslab.net/>)

The Bat Lab – based at IZW Leipzig in Germany (<https://www.batlab.de/>)

BioEcoLab – based in Greece (<http://bioecolab-aegean.blogspot.com>)



cibio

BESLab



We are also honored to collaborate with several research institutions, projects and partners within Italy. The collaboration with these partners will especially benefit our project COMPASS as well as our new project SOUNDS WILD (PhD project of our bat expert Rym Nouioua using data from ECO-OLIVES as well as from > 100 workshops and interviews with school children in Austria focused on the conservation of birds and bats and their related ecosystem services). Our partners include biodiversity experts and stakeholder networks associated with the projects of the institutions shown below. A more detailed update on our networks will follow before the summer break.



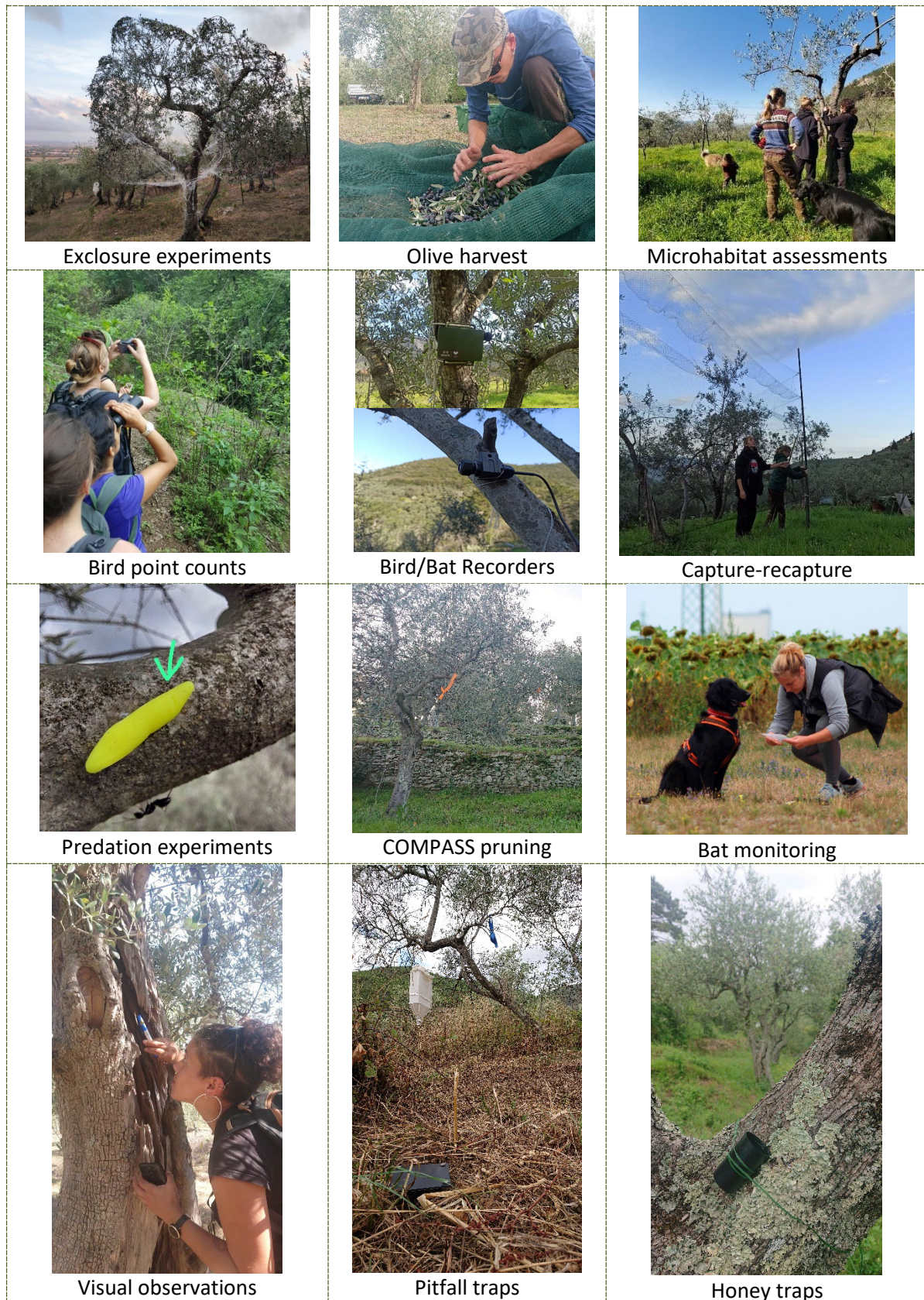
UNIVERSITÀ DEGLI STUDI
DI NAPOLI FEDERICO II



UNIVERSITÀ
DEGLI STUDI
FIRENZE

Our website with an overview of all project information will be available by May. In the meantime, feel free to follow the Twitter Account of Bea Maas' project group (<https://twitter.com/AgroEcoDiv>) and the Instagram Account of SOUNDS WILD (<https://www.instagram.com/sounds.wild/>)

Some impressions from our field research approaches demonstrated during the workshop:



The research approaches above will be conducted throughout our fieldwork season in spring (April until June) and in autumn (September to November), in which we will also record olive production and harvest data and take down the exclosure experiments for birds and bats.

Our team of ECO-OLIVES

is very grateful for your interest and support!

We are especially grateful for the trust and the inspiring, instructive exchange with the olive grove owners who participate in our project and let us do research on their fields. It is especially important to us that you always feel well informed about our project and know that you can contact us at any time with questions, feedback and for joint exchanges.



CONTACTS

Lead of ECO-OLIVES and COMPASS:

Dr. Bea Maas

Email: bea.maas@univie.ac.at

Mobile/WhatsApp: +43 650 4200 494

Co-lead of COMPASS and pruning expert/contact:

Tommaso Nardi

Email: ilpendolino1993@gmail.com

Mobile /WhatsApp: +39 348 419 3298

Local communication/coordination contact:

Virginia Bagnoni

Email: Virginia.Bagnoni@santannapisa.it

Mobile /WhatsApp: +39 340 679 783