MSc Environmental Sciences / Forest Sciences /Biology

Module (64121): “Identification of cavity nesting bees and wasps”

Module plan “Wintersemester” 2020/21

Preliminary Status: 03.10.2020

Module coordination: Nolan J. Rappa (Professur für Naturschutz und Landschaftsökologie)

Lectures: Nolan J. Rappa

Time: Introductory lecture: 4.11.2020, weekly lectures/excercises: 11.10.2020-16.12.2020, Holiday break: 23.12-06.01.2021, weekly lectures/guided exercises: 30.12-10.02.2020; time 17:00 – 20:00

Location: Herderbau seminar room 01 101

Examen form: Development of identification key for one taxon of cavity nesting bees or wasps, submitted no later than 12.02.2021

Date	Lecture/Presentation topic	Practical exercise
04-Nov	Introduction to cavity-nesting Hymenoptera and trap-nests	Removing occupied reeds from traps, identification of nesting material Assigning groups to individual students
11-Nov	Student presentation	Removing occupied reeds from traps, identification of nesting material
18-Nov	Student presentation	Removing occupied reeds from traps, identification of nesting material
11-Nov	Student presentation & Lecture on Insect diapause and Voltinism	Opening reeds and refrigerating specimens
25-Nov	Student presentation	Opening reeds and refrigerating specimens
2-Dec	Student presentation	Opening reeds and refrigerating specimens
9-Dec	Student presentation	Opening reeds and refrigerating specimens
16-Dec	Student presentation	Opening reeds and refrigerating specimens
13-Jan	Insect collection and preparation	Warming and emerging adults from reeds, collecting in EtOH
20-Jan	No Lecture	Warming and emerging adults from reeds, collecting in EtOH
27-Jan	Insect preparation	Pinning emerged adults/examining adults from collection
3-Feb	No Lecture	Identification of adults/development of individual keys
10-Feb	No lecture	Identification of adults/development of individual keys

Lecture topics

Lectures will be relatively short, and will prepare students for the tasks covered that day and subsequently in the course.

- Introduction to cavity-nesting hymenoptera and trap nests (4.11)
- Insect diapause and voltinism (9.12)
- Insect collection and preparation (13.01)

Individual student presentations

Each student will be randomly assigned a Family of solitary bees or wasps on the first day of the course. Each student will then give a presentation on the life history of that group. This will be the same group for which that student will construct an identification key.

~ 5 minutes long, describes (what, where, why and how) one of the following groups:

- Megachilidae
- Apidae
- Colletidae
- Crabronidae
- Pompilidae
- Sphecidae
- Chrysididae

Identification keys

Identification keys will use the groups already assigned to individual students. They must go to lowest taxonomic level possible with that group using the equipment we have available (i.e. species level for Megachilidae, genus level for Chrysididae). The grading criteria for the identification key will be announced and given to students during the course.

Course outcomes

It is my goal that by the end of this course all students will:

- Know how to construct a functioning insect-home/trap-nest
- Understand the uses of trap-nests in research
- Be able to identify the Hymenopteran occupants of insect-homes/trap-nests