THE STEINHARDT museum of natural history
ISRAEL NATIONAL CENTER FOR BIODIVERSITY STUDIES

היוזמה לטקסונומיה בישראל
ISRAEL TAXONOMY INITIATIVE

Tel Aviv University
12 Klausner St., POB 39040
Tel Aviv, 6139001 • Israel
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Systematics and ecology of Israeli grasshoppers (Orthoptera: Acrididae)

Scheduled for 18-22 June, 2023

Instructor: Dr. Martin Husemann, Universität Hamburg, Centrum für Naturkunde, Dept. Entomology, Hamburg, Germany
Israeli Host: Prof. Netta Dorchin, School of Zoology and the Steinhardt Museum of Natural History, Tel Aviv University
Dates: 18-22 June 2023
Hours: 9:00-17:00 daily
Location: Tel Aviv University
Prerequisites: None. the course will be taught in English
Course materials: Papers and taxonomic keys will be distributed in advance
Credit: 3 academic points
Grading: Final exam and participation in lab work, fieldwork and discussions.

Introduction

Acrididae is a specious family of Orthoptera, which includes some of the most common and also detrimental species to agriculture. Members of the family represent an important protein source for many vertebrates, and hence have an important place in the food web. The family currently includes more than 6,700 extant species in several subfamilies, several of which of uncertain status. The most recent phylogenies suggest many taxonomic problems at higher systematic levels, and identification at the species level is often difficult. Integrative taxonomy using morphological, as well as morphometric and genetic methods allows to distinguish species and resolve the phylogeny and taxonomy of the group. The family includes many thermophilic taxa and is particularly diverse in the Mediterranean Region, hence Israel lies within one of the major acridid diversity centers. The course is designed to provide a general understanding of the family with a focus on modern taxonomic methods applied to the fauna of Israel and neighboring countries.

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Course syllabus

Day 1 **Introduction / Identification**

- Overview of Acrididae and major subfamilies
- Morphological traits important for identification
- Familiarization and hands-on use of keys

Day 2 **Systematics / Collection work**

- Systematics and phylogeny of Acrididae
- DNA barcoding
- Work on collection material

Day 3 **Evolution / field work**

- Biogeography and evolution
- Fieldwork (sites to be determined)

Day 4 **Ecology / Preparation and identification**

- Biology, ecology and behavior of Acrididae
- Work with collected material - Mounting and preparation techniques
- Species identification
- Preparation of species lists

Day 5 **Work with collected specimens, examination, course summary**

- Further work with collected materials
- Examination
- Questions, comments, course evaluation

Bibliography

Cigliano, M.M., Braun, H., Eades, D.C., Otte, D. Orthoptera Species File. Version 5.0/5.0. [19.02.2020].

Fishelson, K. (1985) Fauna Palaestina, Insecta III. Orthoptera: Acridoidea. The Israel Academy of Sciences.