

Ground spiders (Araneae) of Israel: Revisiting the taxonomy of a highly diverse group

Learning goals. Students of the course will be able:

- A. To recognize the main spider families occurring in the region by sight and by using family keys.
- B. To apply the proper sampling methods according to the question posed.
- C. To understand the basics of ground spider taxonomy and to separate them to sub-families, genera and species or morpho-species.

Day 1

1. Introduction to spiders: biodiversity and natural history.
2. Morphology I: Prosoma, opisthosoma and appendages.
3. Morphology II: Reproductive system and sex separation.
3. Getting familiarized with the stereomicroscope and the specimen preparation for microscopic observation.
4. Morphology III: diagnostic characters for spider infraorders and families.
5. Working without a microscope: how to separate the main families at a glance.

Day 2

1. Introduction to collecting methods: hand collection, sifting litter, beating and pitfall traps.
2. Choosing the right method according to the scientific question and aim.
3. Choosing the right method according to the taxon of focus.
4. Introduction to spider guilds.
5. Field excursion and practicing all sampling methods.

Day 3

1. Why Gnaphosidae? An overview of the family's diversity, ecology and biogeography.
2. Using a family key to separate the main families found in Israel, and especially Gnaphosidae and allied families (with preserved material).
3. Diagnostic features and keys to the families of ground spiders (Gnaphosidae and allied families): how to tell them apart.
4. Sexual dimorphism and matching sexes in ground spiders.

Day 4

1. Getting into details I: diagnostic features of the subfamilies Drassodinae, Gnaphosinae, and other smaller species groups (*Echemus*, *Herpyllus* etc).
2. Getting into details II: diagnostic features and keys to main Gnaphosidae generic groups.
3. Collect pitfall traps and compare material with material from hand collecting.

Day 5

1. Getting into details III: diagnostic features of the zelotine genera (*Zelotes*, *Trachyzelotes*, *Drassyllus*, *Urozelotes*, *Civizelotes*, *Setaphis* etc)
2. Ground spider diversity in Israel: an overview
3. Continue comparing pitfall material with material from hand collecting.

Exam/practical

- Make one's own taxonomic key for the taxa found during field work.
- Interchange keys and test their practicality.