

Bedirhan Avdancı

Personal Information

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Research Interests

Soil Ecology, Environmental Pollution, Computational Ecology, Microbial Ecology,

Language

Turkish (Native)	Azerbaijani (Native)	English (C2 - 8.0/9.0 IELTS)	Persian (Beginner)
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Education

2021 – 2025	Bachelor of Science (B.Sc.) in Biology, Hacettepe University , Ankara, Türkiye Gpa: 3.94/4.00, valedictorian, highest ever in the whole faculty
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Projects

[1] Soil Organisms Under Global Change: Effects of Climate Change and Land Use on Belowground Communities (*Bachelor's Thesis*)

German Centre for Integrative Biodiversity Research (iDiv), Experimental Interaction Ecology Laboratory (Eisenhauer Lab.)

Supervisors: Dr. Marie Sünemann, Prof. Nico Eisenhauer

Focus:

Responses of microorganisms, nematodes, mesofauna, and macrofauna under different climate-change scenarios and land-use treatments, based on a 12-year long-term experiment.

[2] Community Composition and Resistance Levels of Soil Bacteria and Fungi in a Mediterranean Forest Under Varying Wildfire Severities

Hacettepe University Functional Ecology Laboratory & Ankara University Evolutionary Genetics Laboratory

Supervisors: Prof. Emine Ertekin, Prof. Emre Keskin, Prof. Çağatay Tavşanoğlu

Focus:

Evaluating the impacts of moderate and high wildfire severities on soil bacterial and fungal communities using eDNA metabarcoding approaches.

Research Experience

2022 July - 2025 June



Functional Ecology Lab, Hacettepe University Undergraduate Internship

- Participated in ecological research projects focusing on steppe and Mediterranean ecosystems.
- Assisted with fieldwork, soil and plant sampling, and laboratory processing of ecological samples.
- Contributed to data organization, preliminary data analysis, and the preparation of research materials.

Advisors: Prof. Çağatay Tavşanoğlu

2025 February - 2025 March



Evolutionary Genetics Lab, Ankara University Undergraduate Researcher

- Conducted DNA extraction, PCR amplification, and library preparation for an eDNA metabarcoding study on post-wildfire soil microbial communities.
- Processed soil samples and carried out laboratory workflows for high-throughput sequencing.
- Organized the dataset and performed independent analyses of bacterial and fungal community responses to varying wildfire severities.

Advisors: Prof. Emre Keskin

2024 July - 2024 September



Eisenhauer Lab, German Centre for Integrative Biodiversity Research (iDiv) Erasmus+ Traineeship Programme Internship

- Contributed to long term ecological experiments (DroughtNet) investigating the effects of drought and mineral fertilization on soil bacterial and fungal communities.
- Conducted soil sampling, PLFA laboratory analyses, and soil processing for microbial community assessment.
- Performed data organization, data analysis, and contributed to scientific writing within the EIE group.

Advisors: Dr. Marie Sünemann, Prof. Nico Eisenhauer

2023 April - 2023 November



TUBITAK (Scientific and Technological Research Council of Türkiye) Research Assistant (TÜBİTAK 1002-A Scholarship Holder)

Project: The Impact of Post-Fire Restoration Practices on Plant Communities in Turkish Pine (*Pinus brutia*) Forests of Muğla, Marmaris, Türkiye

- Contributed to fieldwork and data collection for assessing post-fire restoration impacts on *Pinus brutia* forest communities.
- Assisted with vegetation sampling, ecological assessments, dataset preparation, and data analysis.

Advisor : Prof. Çağatay Tavşanoğlu, Gökhan Ergan

Publications

1. Usta, N., Tüfekcioğlu, İ., **Avdancı, B.**, Tavşanoğlu, Ç. (2025) The effect of elevation on forest structure and tree community composition in Trojan Fir forests in Kazdağları (NW Anatolia, Türkiye). *Applied Ecology and Environmental Research. In Press*

Oral and Poster Presentations

1. **Avdancı B.**, Ediş G., Deniz S. A., Yıldızcan E. E., Keskin E., Tavşanoğlu Ç., *Community Composition and Resistance Levels of Soil Bacteria and Fungi in a Mediterranean Forest Under Varying Wildfire Severities*
Oral presentation at: XI. Ecology and Evolutionary Biology Symposium, 8-11 July, Ankara, Türkiye

Skills

Programming Languages:	R (Advanced level), Python (Intermediate level)
Methodological Expertise:	<i>eDNA Metabarcoding</i> (DNA extraction, PCR amplification, gel electrophoresis, library preparation, high-throughput sequencing, and bioinformatic analysis) <i>Phospholipid Fatty Acid Analysis</i> (lipid extraction, methylation, gas chromatography, and microbial community profiling)

Memberships

2021 – 2022	Co-Founder of the Ankara University Biological Sciences Society
2024 –	Ecology and Evolutionary Biology Society of Türkiye (<i>Member of the Current Supervisory Board</i>)

Fieldworks

2022 / 1 / 17 – 2022 / 1 / 19	Mushroom Diversity Assessment, Abant National Park, Bolu, Türkiye
2022 / 9 / 05 – 2022 / 9 / 08	Soil Sample Collection for Abiotic Property Analysis, Anatolian Steppes, Sivrihisar, Eskişehir, Türkiye
2023 / 4 / 18 – 2023 / 4 / 23	Vegetation diversity Assessment in Artificial Terraced and Planted Regions, After Wildfires in Mediterranean Ecosystems of Türkiye [1]
2023 / 4 / 29 – 2023 / 5 / 13	Post-fire Plant Diversity Assessment, Phrygana Vegetation areas, burnt in 2009, 2010, 2016 and 2020, Mediterranean Ecosystems of Türkiye
2023 / 6 / 18 – 2023 / 6 / 23	Vegetation diversity Assessment in Artificial Terraced and Planted Regions, After Wildfires in Mediterranean Ecosystems of Türkiye [2]
2023 / 8 / 24	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [1]
2023 / 9 / 7	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [2]
2023 / 9 / 11 – 2023 / 9 / 25	Assessment of Recruitment Interactions of Woody Plant Species in Trojan Fir Forests of Kazdağları, Northwest Türkiye
2023 / 9 / 26 – 2023 / 9 / 29	Soil Sample Collection for Analysis of Wildfire Intensity Impact on Bacterial and Fungal Communities
2024 / 6 / 12	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [3]

Academic Courses, Workshops, and Certificates

- 2025 Land Ethics Education Project, 10-11 May, Ankara, Türkiye
- 3rd introduction to R programming in Natural Sciences Workshop (Ecology and Evolutionary Biology Society of Türkiye)
- R Programming A-Z™: R For Data Science with Real Exercises! (UDEMY)
No: UC-d8cbdf48-79fa-41a8-94e0-81173-b35a201

Scientific Meetings

- 2025 XI. Ecology and Evolutionary Biology Symposium, 8-11 July, Ankara, Türkiye
- 2025 International Wildlife Documentary Film Festival, 15-18 May, Ankara, Türkiye
- 2025 Birds and Words: Tracing biocultural diversity in sub-Saharan Africa, 27 April, Ankara, Türkiye
- 2024 IUCN red list from past to present and new approaches and trends in conservation biology, 4 November, Ankara, Türkiye
- 2024 Effects of global climate change on Salt Lake plants, and habitat diversity Conference, 5 March, Ankara, Türkiye
- 2024 Biodiversity of Anatolia, from Steppes to Mountains Conference, 14 February, Ankara, Türkiye
- 2023 VIV. Ecology and Evolutionary Biology Symposium, Istanbul, Türkiye
- 2022 VIII. Ecology and Evolutionary Biology Symposium, Ankara, Türkiye
- 2022 III. Multidisciplinary neuroscience conference, Ankara, Türkiye
- 2022 Levontin's Legacy, Science, Philosophy and Policy Conference, Ankara, Türkiye
- 2021 5th Biogeography Conference, Ankara, Türkiye
- 2021 16th Aykut Kence Evolution Conference, Ankara, Türkiye

Science Communication & Writing

- Unutulmuş bir Tanrı: Benim Sadık Yârim Kara Topraktır. [Link](#)
- Diana Wall. [Link](#)
- Super-Small Predators in Soils: Who Are They and What Do They Do?
(Translation from English to Turkish; published in Frontiers for Young Minds). [Link](#)
- The Fascinating World of Belowground Communication
(Translation from English to Turkish; published in Frontiers for Young Minds). [Link](#)

Hobbies and Interests

Poetry, Literature, Playing violin, Camping