

Bedirhan Avdancı

PERSONAL INFORMATION

EMAIL: bedirhan.avd@gmail.com
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RESEARCH INTEREST

Soil Ecology, Environmental Pollution, Global Change, Computational Ecology, Microbial Ecology

LANGUAGE

Turkish (Native) Azerbaijani (Native) English (8.0/9 IELTS) Persian (Beginner)

EDUCATION

2022 – 2025 Bachelor of Science (B.Sc.) in Biology, **Hacettepe University**, Ankara, Türkiye
CGPA: 3.94/4.00, valedictorian, highest ever in the whole faculty

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 Research Group (Eisenhauer Lab)

SUPERVISORS: DR. MARIE SÜNNEMANN, 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 (GCEF).

[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 ERTEKİN YILDIZCAN, PROF. EMRE KESKİN, PROF. ÇAĞATAY TAVŞANOĞLU

FOCUS:

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

PUBLICATIONS

2. Sünemann, M., **Avdancı, B.**, Ferlian, O., Huang, Y., Lochner, A., Constantinou, I., Gajona, V., Meiners, A., Merk, J., Smolarek, E., Tremmel, R., Ziebart, E., Eisenhauer, N. Long-term Drought and Fertilization Reduce the Soil Microbial Respiration Response to a Simulated Heatwave. *Soil Biology and Biochemistry*. Under Review
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 Kazdağıları (NW Anatolia, Türkiye). *Applied Ecology and Environmental Research*. In Press

RESEARCH EXPERIENCE

2022 JULY – 2025 JUNE



Functional Ecology Lab, Hacettepe University Undergraduate Internship

Engaged in ecological investigations within steppe and Mediterranean ecosystems, conducting field-based soil and plant sampling alongside laboratory processing of ecological specimens. Organized, cleaned, and analyzed preliminary datasets, applying ecological and statistical methods to extract meaningful patterns. Contributed to the preparation of research materials, supporting the development and refinement of ongoing ecological research.

ADVISOR: PROF. ÇAĞATAY TAVŞANOĞLU

2025 FEBRUARY – MARCH



Evolutionary Genetics Lab, Ankara University Undergraduate Researcher

Performed DNA extractions, PCR amplifications, and library preparation for an Edna metabarcoding investigation of post-wildfire soil microbial communities. Processed soil samples and executed laboratory workflows for high-throughput sequencing. Organized the dataset and independently analyzed bacterial and fungal community responses across gradients of wildfire severity.

HOST: PROF. EMRE KESKIN

2024 JULY – SEPTEMBER



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

Contributed to long-term ecological experiments (DroughtNet) evaluating the effects of drought and mineral fertilization on soil bacterial and fungal communities. Conducted soil sampling, PLFA-based laboratory analyses, and soil processing for microbial community characterization. Organized and analyzed experimental datasets and contributed to scientific writing within the Experimental Interaction Ecology group.

ADVISORS: DR. MARIE SÜNNEMANN, PROF. NICO EISENHAUER

2023 APRIL – 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 assessing post-fire restoration impacts on *Pinus brutia* forest communities. Assisted with vegetation sampling, ecological assessments, dataset preparation, and the analysis of plant community responses to restoration practices.

ADVISORS: PROF. ÇAĞATAY TAVŞANOĞLU, GÖKHAN ERGAN

ORAL AND POSTER PRESENTATIONS

1. **Avdancı B.**, Edis 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 2025, Ankara, Türkiye

SKILLS

PROGRAMMING LANGUAGES: R (Advanced), Python (Intermediate), Bash (Intermediate)

SCRIPTING AND TYPESETTING: L^AT_EX

METHODOLOGICAL EXPERTISE: Targeted Amplicon Sequencing / NGS (DNA extraction, PCR amplification, gel electrophoresis, library preparation, high-throughput sequencing, and bioinformatic analysis)

Phospholipid Fatty Acid Analysis / PLFA (lipid extraction, methylation, gas chromatography, and microbial community profiling)

MEMBERSHIP

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

FIELD WORKS

2024 / 6 / 20 – 2024 / 6 / 23	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [4]
2024 / 6 / 12	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [3]
2023 / 9 / 26 – 2023 / 9 / 29	Soil Sample Collection for Analysis of Wildfire Intensity Impact on Bacterial and Fungal Communities
2023 / 9 / 11 – 2023 / 9 / 25	Assessment of Recruitment Interactions of Woody Plant Species in Trojan Fir Forests of Kazdağları, Northwest Türkiye
2023 / 9 / 7	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [2]
2023 / 8 / 24	Collection of Anatolian Steppe Plant Roots for Functional Character Assessment [1]
2023 / 6 / 18 – 2023 / 6 / 23	Vegetation diversity Assessment in Artificial Terraced and Planted Regions, After Wildfires in Mediterranean Ecosystems of Türkiye [2]
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 / 4 / 18 – 2023 / 4 / 23	Vegetation diversity Assessment in Artificial Terraced and Planted Regions, After Wildfires in Mediterranean Ecosystems of Türkiye [1]
2022 / 9 / 05 – 2022 / 9 / 08	Soil Sample Collection for Abiotic Property Analysis, Anatolian Steppes, Sivrihisar, Eskisehir, Türkiye
2022 / 1 / 17 – 2022 / 1 / 19	Mushroom Diversity Assessment, Abant National Park, Bolu, Türkiye

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

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](#)

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

REFERENCES

Prof. Dr. Çağatay Tavşanoğlu
Hacettepe University, Department of Biology, Division of Ecology, Functional Ecology Laboratory
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Prof. Dr. Emre Keskin
Ankara University, Department of Fisheries and Aquaculture, Evolutionary Genetics Laboratory
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