**LILY MARGESON**

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*Professional Summary*

I am interested in insect and community ecology, with a focus on host-associated microbiomes and how interactions across scales impact the ecology of both macroorganisms and microorganisms. My work with the Bewick Lab at Clemson University combined work in the field, in the lab, and *in silico* to analyze the metapopulation structure of Zoraptera microbiomes, as well as correlations between planthopper microbiomes and planthopper specialization on certain host plants. My PhD with Dr. Medina at Texas A&M University focuses on the role of the microbiome in the invasion ecology of the sorghum aphid.

*Education*

* B.S., Clemson University, Environmental and Natural Resources, May 2024

*Relevant coursework: Taxonomy of Immature Insects, Systematics & Biodiversity, Geographic Information Systems*

* PhD, Texas Agricultural & Mechanical University, Entomology, anticipated May 2029

*Advisor: Raul F. Medina*

*Relevant coursework: Bioinformatics, Principles of Biological Control*

*Work Experience*

* Undergraduate Researcher, Department of Biological Sciences, Clemson University, 2022-2024  
   *Principal Investigator: Sharon Bewick*
* Control Room Operator, Atlantic Coast Conference Network, Clemson, SC, 2021-2024

*Anticipated Publications*

**Margeson, L.**, Malagon, D., Camper, B. and S. Bewick. “The *Usazoros hubbardi* Caudell (Insecta: Zoraptera) Microbiota: Characterizing the Bacterial and Fungal Associates of a Rare and Cryptic Insect.”

**Margeson, L.**, Malagon, D., Caterino, M. and S. Bewick. “Microbiota Characterization of Hoppers (Hemiptera: Auchenorrhyncha) with Respect to Host Plant Specificity.”

Kanes, D., **Margeson, L.**, and S. Bewick. “Stable Isotope Analysis of *Ambystoma talpoideum* Tissues Reveals Dietary Differences Between Life Stages of a Paedomorphic Salamander.”

*Grants, Scholarships, and Fellowships*

2024 Texas A&M Department of Entomology Fall Travel Assistance

2024 Texas A&M Graduate Recruitment, Enhancement, and Travel (GREAT) supplemental funding

**2024 National Science Foundation Graduate Research Fellowship Program**

2023–24 College of Agriculture, Forestry and Life Sciences undergraduate research initiative

2022–23 College of Agriculture, Forestry and Life Sciences undergraduate research initiative

2022 Clemson University Summer CI + UR

2022 Entomological Society of America Chrysalis Grant

*Submitted Grants*

2024 $29,801; Medina, R., Helms, A., Bernal, J.

Exploring the Role of Honeydew Microbiota in Attracting Natural Enemies to Sorghum Aphid Honeydew. Southern Integrative Pest Management Center.

2025 $2,000; Margeson, L.

Graduate Student Research Enhancement Award. The Coleopterists Society.

*Presentations*

**Margeson, L.**, Malagon, D., Camper, B., and S. Bewick. (2024, November). The *Usazoros hubbardi* Caudell (Insecta: Zoraptera) microbiota: Characterizing the bacterial and fungal associates of a rare and cryptic insect Graduate 10-Minute Student Competition at Entomology 2024, Phoenix, AZ.

**Margeson, L.**, Gilmore, G., Malagon, D., Bewick, S., Caterino, M. (2024, April). Hopper (Insecta: Hemiptera) microbiota characterization with reference to host plant specificity. Poster presentation at the 7th Annual Clemson University Student Research Forum, Clemson, SC.

**Margeson, L.**, Bewick, S., Malagon, D. (2022, August). Macro-scale Microbiology: Analyzing the Effect of Distance on Zoraptera Colony Microbiome Similarity. Poster presentation at the 6th Annual Summer Creative Inquiry + Undergraduate Research Showcase, Clemson, SC.

*Journal Referees*

* Pest Management Science, January 2025

*Invited Lectures*

February 2025. Augmentative Biocontrol, ENTO 608 - Principles of Integrated Pest Management

*Outreach*

* October 2024 “Boonville Days” at the Brazos Valley Museum of Natural History

*Skills*

* Adult and immature insect sampling, familial identification, and labeling
* Wet lab techniques (DNA extraction, gene amplification, and gel electrophoresis)
* Data processing using command line, including Qiime2
* Planning and conducting analysis in R using vegan and phyloseq
* Intro-level vector and raster analysis, remote sensing, and model building in ArcGISPro