Elizabeth Sicking

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**Education**

**Virginia Polytechnic Institute and State University**, Blacksburg, VA

Master of Science in Life Sciences

* Concentration: Entomology

Expected December 2024

**Virginia Polytechnic Institute and State University**, Blacksburg, VA

Bachelor of Science: Biological Sciences

* Concentration: Ecology, Evolution, and Behavior
* Minor in Entomology

 December 2022

 Cum Laude

**Research**

**Metzgar Lab, Virginia Tech Biological Sciences Department**, Blacksburg, VA, *2021- present*

Undergraduate Research with Dr. Jordan Metzgar in the Massey Herbarium

***Project****:* Characterizing the ecological preferences and geographic distributions of the *Opuntia humifusa* complex in Virginia

* Proficient in identifying phenotypically difficult species in the field and using herbarium specimens
* Conducted multi-day field work collecting and preparing cacti for preservation
* Manage data collection/formatting for usage in modeling and mapping
* Presented at university and national conferences with both posters and oral presentations
* Curated an iNaturalist project to increase engagement with members of the community for conservation interest
* Currently working on a manuscript for journal publication

**Field Ecology Research Course, Virginia Tech,** Blacksburg, VA, *Fall 2021*

***Project****:* Investigating the diversity and abundance of microfauna in southwestern VA mosses

* Conceived project idea and became familiar with moss and microfauna identification
* Conducted field work to collect samples of multiple moss species
* Worked extensively in a lab setting examining samples and recording data
	+ Gained substantial experience with microscopy and data management
	+ Performed numerous statistical analyses of collected data
* Resulting research paper was published in [VTechWorks](https://vtechworks.lib.vt.edu/handle/10919/106996) in December 2021

**Independent Science Research, Tuscarora HS,** Leesburg, VA, *Fall 2018-Spring 2019*

***Project****:* Usage of tree xylem as a natural water filtration system

* Developed idea for project
* Conducted field work to collect bark and xylem samples from multiple species of trees
* Presented findings at county science fair and GMU Independent Science Research fair

**Conferences/Presentations**

**Sicking, E.,** Metzgar, J. Characterizing the ecological preferences and geographic distributions of the *Opuntia humifusa* complex in Virginia. [Oral Presentation](https://botanyconference.org/engine/search/index.php?func=detail&aid=315)- Botany 2022, Anchorage, AK, *July 25, 2022*

**Sicking, E.,** Metzgar, J. Determining the range and distribution of the *Opuntia humifusa* complex in Virginia. Poster- Dennis Dean Undergraduate Research Conference, Blacksburg, VA, *May 29, 2022*

**Sicking, E.,** Metzgar, J. *Opuntia* in Virginia: Where to find and how to ID and differentiate the *Opuntia humifusa* complex. Oral Presentation for Virginia Native Plant Society- Blacksburg, VA, *April 12, 2022*

**Honors and Funding**

**Inclusive Excellence Summer Research Fellowship**

* $3000 to support *Opuntia* undergraduateresearch, *Summer 2022*

**Virginia Tech OUR (Office of Undergraduate Research) Travel Grant**

* $500 for Botany 2022 Conference in Anchorage, AK *July 2022*

**American Society of Plant Taxonomists (ASPT) Travel Grant**

* $500 for Botany 2022 Conference in Anchorage, AK *July 2022*

**College of Science Dean’s List**, GPA of 3.4 or above

* *Spring 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022*

**Certifications**

**Society of Freshwater Science Taxonomic Certification**

* Image identification of North American aquatic macroinvertebrates to family

**Coursework**

* Aquatic Entomology (*Spring 2022*)
* Freshwater Biomonitoring (*Fall 2022*)
* Insect Biology (lecture and lab, *Fall 2022*)
* Organic Chemistry I & II (*Fall 2020-Spring 2021*)
* Field Ecology Research (*Fall 2021*)
* Biological Statistics (*Fall 2020*)
* Evolutionary Biology (*Spring 2021*)
* Bees and Beekeeping (*Spring 2020*)
* Ecology (*Spring 2021*)
* Zoology (*Fall 2021*)
* Insects in Human Society (*Spring 2021*)
* Ornithology (*Spring 2022*)

**Research Interests**

Ecology, Trophic Relationships, Aquatic Macroinvertebrates, Anthropogenic Change, Stream-Riparian Area Interactions, Urbanized Streams

**Employment**

**Field/Lab Assistant, Entrekin Lab,** Blacksburg, VA, *May 2022- present*

* Work in conjunction with graduate students supporting their projects
* Utilize and understand standard protocols for picking/processing samples for aquatic macroinvertebrates
* Identify aquatic macroinvertebrates to family level
* Experience with freshwater field techniques and sampling protocols

**Nature Program Director, Camp Quinebarge,** Moultonborough, NH, *June 2021*

* Taught campers basics of organism identification, ecosystems, species interactions, biomes, and other ecological concepts
* Researched and implemented effective teaching methods and outdoor education strategies
* Created lesson plans with interactive activities to engage campers
* Made organizational decisions for the program and collaborated with other departments
* Led nature hikes and walks
* Created order lists for replenishing supplies

**Camp Counselor, Camp Cody,** Freedom, NH, *July-August 2021*

* Instructed on multiple topics including basic chemistry, survival techniques, organism identification, ecosystems, and species interactions
* Led nature hikes and walks
* Collaborated with other counselors on lesson ideas and teaching methods

**Skills**

- Proficient in aquatic insect collection, preservation, and identification

- Familiarity with macroinvertebrate sampling protocols and biomonitoring standards

- Experience writing research papers and formatting for journal submissions

- Intermediate experience using R studio to conduct analyses and create figures

- Extensive eastern tree, plant, and animal identification knowledge