

Katie Giltner

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EDUCATION

Master of Science in Biology

University of Alabama in Huntsville

Coursework Highlights: Bioinformatics I, Biological Data Skills, Biostatistics, GIS Applications

GPA: 4.0

Huntsville, AL

Bachelor of Science in Biology

University of Alabama in Huntsville

Coursework Highlights: Organismal Biology, Genetics, Cell and Developmental Biology, Ecology, Biogeography, Evolution, Animal Behavior, Vertebrate Zoology, Technical Writing, Technical Editing, Theory & Practice in Technical Communication

GPA: 4.0

Huntsville, AL

EXPERIENCE

Graduate Teaching Assistant

UAH Biological Sciences Department

- Teach laboratory concepts and lead lab activities for 20+ students in the Genetics and Evolution Laboratory (BYS 221)
- Grade and provide feedback on weekly lab submissions for laboratory students
- Lead a team of six teaching assistants to coordinate the BYS 221 lab course
- Develop all-new TA, student, and lab preparation manuals for BYS 221

August 2022 – present

Huntsville, AL

Undergraduate Teaching Assistant

UAH Biological Sciences Department

- Provided guidance on weekly lab activities for 40+ students in the Principles of Biology Laboratory (BYS 119L)
- Tested and troubleshoot activities for in-person sections of the Principles of Biology Laboratory with other TAs weekly
- Led six hours of weekly help sessions for students in Fundamentals of Biology (BYS 109), Principles of Biology (BYS 119), and the Principles of Biology Laboratory during the Fall 2021 semester
- Graded and provided feedback on weekly lab submissions for a section of 20 students in the BYS 119 laboratory during Fall 2021

August 2021 – May 2022

Huntsville, AL

PASS Leader

UAH Student Success Center

- Planned and led three one-hour study sessions per week, typically with around five to ten students, for Cell and Developmental Biology (BYS 300)
- Independently developed a variety of activities for Cell and Developmental Biology students, including practice tests, worksheets, diagramming activities, and collaborative tasks, to reinforce student understanding of course material
- Created and curated study resources for students in Google Drive, including extra study guides, flashcard sets, and other materials for use outside of PASS sessions
- Corresponded with students and professor regularly to answer questions and discuss course material

August 2020 – May 2022

Huntsville, AL

Undergraduate Research Assistant

UAH Culumber Evolutionary Biology Lab

- Performed routine fish care, lab maintenance, and collect research data for six to nine hours per week
- Led groups of 2-3 undergraduates in data collection for multiple projects
- Troubleshoot potential experimental designs for new research projects and developed written instructions for other students to follow

September 2019 – May 2022

Huntsville, AL

PROJECTS

1. Potential Mechanisms Maintaining a Conspicuous Polymorphism in Eastern Mosquitofish

UAH Culumber Evolutionary Biology Lab

August 2022 - present

- Aiming to elucidate mechanisms for the persistence of rare color morphs in wild populations of Eastern Mosquitofish, *Gambusia holbrooki*
- Testing male Eastern Mosquitofish of two different color morphs (normal color vs. melanistic color) to evaluate the effects of stress from different social environments on sperm quality

2. Developing Methods to Identify Genes under Selection or Constraint in Different Ancestries

HudsonAlpha Barsh Lab

June 2022 – July 2022

- Developed a series of R scripts to process human genomic data and calculate population genetics statistics
- Assembled a computational pipeline to process human genomic data from gnomAD and analyze for ancestry-specific signatures of selection or constraint on over 7,000 genes

3. Metabolism, Cognition, and Male Coloration in Eastern Mosquitofish

UAH Culumber Evolutionary Biology Lab

January 2020 – April 2022

- Aimed to evaluate potential physiological and cognitive mechanisms underlying the persistence of a rare male color in wild populations of Eastern Mosquitofish, *Gambusia holbrooki*
- Tested 18 male Eastern Mosquitofish of two different color morphs each (normal color vs. melanistic color) for differences in size, metabolic rates, and cognitive flexibility

4. Underrepresented Cave Species in Genetic Databases

UAH Niemiller Lab

June 2021 – April 2022

- Producing a program in R to parse genetic data from online databases for underrepresented subterranean species
- Assembling results into a report to recommend greater efforts in documenting and publishing genetic data for these subterranean species and other underrepresented species in public databases like GenBank and Barcode of Life

5. Using Environmental DNA to Detect and Monitor Alabama Cavefish and Alabama Cave Shrimp

UAH Niemiller Lab

June 2021 – August 2021

- Assembled and tested a quantitative PCR assay with Dr. Matthew Niemiller to detect mitochondrial DNA from the highly endangered Alabama Cavefish, *Speoplatyrhinus poulsoni*
- Performed the quantitative PCR assay on 95 water samples from 28 different groundwater sources in North Alabama to detect populations of the Alabama Cavefish
- Won Best Poster in the College of Science during UAH's Summer Community of Scholars poster presentation in September 2021
- Submitted report of results to Alabama Department of Conservation and Natural Resources and the Alabama Division of Wildlife and Freshwater Fisheries

CAMPUS INVOLVEMENT

Beta Beta Beta Honor Society

University of Alabama in Huntsville

February 2020 – present

Huntsville, AL

Invited Talks

Biological Sciences Department Journal Club

Summary & Discussion of Weiss et al. 2023: Personality Traits & Siring Success in Gombe National Park – June 27, 2023

Summary & Discussion of Hori 1993: Frequency-Dependent Selection & Handedness in Cichlids - November 6, 2023

Biological Society

Introduction to Fish Care and Research in the Culumber Evolutionary Biology Lab – March 29, 2023