

**Katherine L. Slack**  
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## Education

**Virginia Polytechnic Institute and State University. May 2022**

Master of Science

Major: Fisheries and Wildlife Science

**Mississippi State University. December 2019**

Bachelor of Science

Major: Wildlife, Fisheries, and Aquaculture Science

Minor: Geospatial and Remote Sensing Technology

GPA: 3.38/4.0

## Research Experience

**Visiting Scientist- Aquatic Ecology**

U.S. Army Engineer Research and Development Center Environmental Laboratory

January-March 2020

- Dissected multiple species of *Machrybopsis sp.*
- Extracted stomach contents using microscopy
- Identified genus of aquatic invertebrates found within stomach contents

**Undergraduate Research Scholars Program**

Project: *Visually and genetically identifying blood-borne parasites and their histopathology among Passerines*

Mississippi State University

August 2018-May 2019

- Identified and quantified parasite burdens using microscopy
- Used mist nets for capture
- Collected blood samples under varying field conditions and prepared blood smears
- Verified polymerase chain reactions using gel electrophoresis imaging
- Extracted, amplified, and purified parasite DNA using a variety of commercial DNA extraction and polymerase chain reaction kits

**Research Experience for Undergraduates**

Project: *Does experimentally elevated stress exposure influence heterophil-lymphocyte ratios in developing chicks (Passer domesticus)?*

North Dakota State University

May-August 2018

- Developed independent research project
- Identified leukocytes and counted from stained blood smears
- Conducted field work using mist nets
- Incorporated blood sample collection techniques

## Previous Employment

**Oregon State University, HJ Andrews Experimental Forest**

*Geospatial Avian Ecology Intern*

May 2019-July 2019

- Conducted point-count procedures
- Recorded and entered biometric and point-count data
- Assembled mist nets

- Extracted and banded Passerines
- Hiked under strenuous conditions across rough terrain with sampling gear
- Accessed Remote field locations using GPS navigations and waypoints
- Executed solo off-trail navigation
- Measured biometrics and banded Hermit Warblers
- Retrieved Geotag data from individual birds
- Retrieved data from HOBO data logger and performed maintenance
- Traveled forest roads in rough mountainous terrain with 4-wheel drive vehicle

## **United States Forest Service, De Soto National Forest**

### *Endangered Species Wildlife Ecology Intern*

May 2017-August 2017

- Conducted regular meetings and develop outreach programs
- Data collection and interpretation using GPS and mapping
- Worked under field conditions with high humidity and temperature
- Habitat management for federally listed endangered species

Dusky Gopher Frog- *Lithobates sevosus*

- Managed habitat around research facility
- Maintained breeding pond and research enclosures
- Manually prepared habitat for upcoming contract inserts
- Surveyed for potential natural cavities

Gopher Tortoise- *Gopherus polyphemus*

- Field training with The Nature Conservancy collecting Gopher Tortoise eggs for head start program and research
- Conducted Gopher Tortoise burrow surveys on Forest Service property

Black Pine Snake- *Pituophis melanoleucus*

- Installed and maintained equipment and prototype reptile live capture traps
- Handled reptiles, amphibians, and rodents
- Collected and recorded data including measurements (weight and length) and PIT tagging reptiles

Red Cockaded Woodpecker- *Leuconotopicus borealis*

- Used telescopic camera to monitor nesting cavity condition
- Used scope to track movement and reproduction
- GPS for navigation and spatial data collection
- Climbed using Swedish ladders and rope harness
- Surveyed for Federally Threatened species for future Red Cockaded Woodpecker Recruitment sites on Forest Service property

Additional experience

- Checked water quality of local creeks and streams
- Conducted field safety meetings
- Surveyed for rare upland Citronelle pond depression (Grady ponds) for future research
- Gained familiarity with longleaf ecosystem and endangered fauna
- Lead educational programs and presentations for outreach programs
- Assisted in prescribed burn in critically endangered species habitat

## Skills

- GPS navigation and data collection
- Navigation with topographic maps and compass
- ArcGIS
- Microsoft Word, Access, and Excel
- Mist netting
- Bird banding
- Handling wild animals in field conditions

## Professional Experience/Certifications

*Bankhead National Forest- May 2018*

- Birding by Ear Boot Camp
- United States Forest Service

*De Soto National Forest- July 2017*

- Completion of S-130 Firefighter Training
- United States Forest Service

## Involvement

Delta Gamma sorority- Delta Lambda Chapter (2015-2018)

- Director of Sorority and Fraternity events
- Director of Environmental Awareness

Shadowing at Mississippi State University School of Veterinary Medicine (2015-2016)

- Over one-hundred hours under multiple Veterinarian instructors

College Ambassador- College of Forest Resources (2016-2019)

- Liaison between perspective students, current students, and alumni
- Professional contact with faculty and potential students

Volunteer hours for the Wildlife Department at The College of Forest Resources (2016)

- Identifying and tagging species based on taxonomy
- Individually classify specimens in order to form a digital catalog that would be used for a public collection, capable of online access
- Identifying bat roosts using mapping and GPS unit
- Invertebrate tissue analysis within soil samples

## Presentations

**Slack, Katherine L.**, Thomas G. Rosser, Scott A. Rush. 2019. Mississippi State University *Morphological and molecular survey of avian haemosporidians of Passerine hosts banded in Oktibbeha County, Mississippi* Southeastern Society of Parasitology, April 2019. Athens, Georgia

**Slack, Katherine L.**, Thomas G. Rosser, Scott A. Rush. 2019. Mississippi State University *Morphological and molecular survey of avian haemosporidians of Passerine hosts banded in Oktibbeha County, Mississippi* [Poster] Mississippi State University's 2019 Summer Undergraduate Research Symposium, April 2019. Starkville, Mississippi

**Slack, Katherine L.**, Vangorder-Braid, Jennifer; Sirman, A.E.; Heidinger, Britt; Mississippi State University; North Dakota State University *Does experimentally elevated stress exposure influence*

*heterophil-lymphocyte ratios in developing chicks?* [Poster] Society of Integrative and Comparative Biology, January 2019. Tampa, Florida

**Slack, Katherine L.**, Vangorder-Braid, Jennifer; Sirman, A.E.; Heidinger, Britt; Mississippi State University; North Dakota State University *Does experimentally elevated stress exposure influence heterophil-lymphocyte ratios in developing chicks?* [Poster] North Dakota State University Undergraduate Research Symposium, August 2019. Fargo, North Dakota

