

Griffin M. McDaniels

Department of Biological Sciences, University of Arkansas
Science and Engineering Hall, room 601 – 850 W. Dickson St., Fayetteville, AR 72701
gmmcdaniels@gmail.com | griffinmcdaniels.github.io

EDUCATION

Ph.D. Coursework, Biology 2020 – 2023 (GPA=4.0)

University of Arkansas, Fayetteville, AR

M. S., Biology 2018 (GPA=4.0)

Jacksonville State University, Jacksonville, AL

Thesis title: “The Phenology of the Symbiotic Association between *Ambystoma maculatum* and *Oophila amblystomatis* using Molecular Techniques”

Committee: James Rayburn, Chris Murdock, George Cline (Chair)

B. S., Zoology: Ecology, Evolution, & Behavior 2015 (GPA = 3.85)

Auburn University, Auburn, AL

TEACHING AND OUTREACH

Graduate Teaching Assistant, *University of Arkansas 2020-2023*: Principals of Biology, Human Anatomy, Global Change Biology

Adjunct Lecturer, *Jacksonville State University 2018-2019*: Intro to Biology II, Human A&P, Ecology lab

Graduate Teaching Assistant, *Jacksonville State University 2015-2018*: Intro to Biology I & II, Human A&P I & II, Ecology lab

Outreach Volunteer, *JSU Field Schools/Little River Canyon 2015-2019*: 25+ talks, displays, presentations to the public

National Parks Service Annual BioBlitz Leader at Little River Canyon National Park, AL, 2016-2018

Outreach Assistant, Alabama Natural Heritage Foundation, 2015

RESEARCH

Graduate Research, 2020-2023 | University of Arkansas

Phylogenomics and Environmental Niche analysis in the Western Rattlesnake Complex

Geometric morphometrics of head shape variation in Whiptail lizards

Field Assistant for Thesis, 2018-2019 | Jacksonville State University

Development of eDNA primers and survey for *Necturus* in AL waterways

Undergraduate Research Mentor 2017-2018 | Jacksonville State University

Co-led development of undergraduate research project on snake mouth bacteria, presented at ASB 2018 and ALAPARC 2019

Field Assistant for Thesis, 2016 | Jacksonville State University

Collection of invasive Apple Snails in AL and survey for trematode and nematode parasite

Field Assistant for Alabama Natural Heritage Foundation 2016 | Auburn University

Sample collection along Paint Rock River, AL for eDNA survey of Hellbender

Field Technician for the Alabama Natural Heritage Foundation 2014 | Auburn University

Line-distance transect survey for Gopher Tortoise burrows in Conecuh National Forest and Geneva State Forest

Undergraduate Research Assistant 2014 | Auburn University

Trapping small herpetofauna and aquatic turtles for long-term population assay and mark-recapture study on Auburn Campus

Undergraduate Research Assistant 2013 | Auburn University, Drug Development and Discovery Department

Group leader: Protein Synthesis for staphylococcal diseases and production of Green Fluorescent Protein with Tobacco-etch Virus

PUBLICATIONS

McDaniels, G. M., K. T. McDaniels, G. R. Cline, C. A. Murdock, and J. R. Rayburn. **2020**. The Phenology of the symbiotic association between *Ambystoma maculatum* and *Oophila amblystomatis* using molecular techniques. *Journal of Herpetology* 54(4) 485-491. doi: 10.1670/19-143

McDaniels, G. M., K. T. McDaniels, G. R. Cline. **2020**. *Ambystoma maculatum* (Spotted salamander) Polyembryony. *Herpetological Review* 51(3) 554.

ORAL PRESENTATIONS

McDaniels, G. M., K. T. McDaniels, G. R. Cline, C. A. Murdock, and J. R. Rayburn. **2020**. Phenology of the symbiotic relationship between *Ambystoma maculatum* and *Oophila amblystomatis* using molecular techniques. -American Fisheries Society symposium on eDNA, Little Rock, AR

McDaniels, G. M., K. T. McDaniels, G. R. Cline, C. A. Murdock, and J. R. Rayburn. **2019**. Phenology of the symbiotic relationship between *Ambystoma maculatum* and *Oophila amblystomatis* using molecular techniques. -Association of Southeastern Biologists, Memphis, TN

McDaniels, G. M., G. R. Cline. **2018**. A broader approach to the ecology and timing of the symbiosis between the Spotted Salamander (*Ambystoma maculatum*) and a unicellular green alga. - Jacksonville State University (JSU) Student Symposium.

POSTER PRESENTATIONS

Canturbury, D., S. Elliott, K. T. McDaniels, and **G. M. McDaniels**. **2019**. Preliminary study of culturable bacteria from the mouths of individuals from the family Natricinae in Northern Alabama. -Alabama Partners in Amphibian and Reptile Conservation, Nauvoo, AL.

McDaniels, G. M., and G. R. Cline. **2018**. Putative effects of recent drought on reproductive ecology of several reptile and amphibian populations in Northeast Alabama. -Southeastern Partners in Amphibian Conservation conference, Helen, GA.

McDaniels, G. M., and G. R. Cline. **2017**. Clutch Data and Hatchling Morphometrics in the Queen Snake, *Regina septemvittata*. - Student Symposium, Jacksonville State University, Jacksonville, AL.

McDaniels, G. M., and G. R. Cline. **2016**. An eDNA approach to investigating the ecology and timing of the endosymbiotic relationship between the Spotted Salamander (*Ambystoma maculatum*) and green algae. -Southeastern Partners in Amphibian Conservation, Nauvoo, AL.

SKILLS

- Lab and Cell Procedures: DNA isolation, eDNA filtration and extraction, media prep, plate streaking. PCR, primer design
- Museum specimen preparation and preservation
- Safe wildlife trapping and handling, including venomous snake certification (through Rattlesnake Conservancy, 2018)
- Data organization and visualization
- Uni- and multivariate statistics
- Geometric morphometric analysis of shape
- Programming in Unix, R, and Python
- ArcGIS Pro
- Remote cluster computing
- Genomic sequence data organization and manipulation

PROFESSIONAL SERVICE AND SYNERGY

- Part of two-person team developing Course-based Undergraduate Research Experience (CURE) labs for Ecology at JSU
- Served on Biology Department Head search committee & organized graduate student participation at JSU
- Part of two-person team that organized and lobbied graduate teaching assistant contract revision and pay increase with Dean of School of Science at JSU
- Trained new Biology GTAs for JSU Biology Department, 2016 to 2019
- Interviewed by NASA to promote STEM jobs and jobs within National Park Service
- Co-advised undergraduate independent research projects on salamander communities and snake mouth bacterial flora
- Wrote lab exercises and materials for Introduction to Biology Labs

WORKSHOPS ATTENDED

2021	Introduction to SNP Data Analysis via Cyverse: AG2PI
2020	Geometric morphometrics in R by Cori Black, Southeastern Fishes Council
2018	Venomous snake handling course level 1 certification by the Rattlesnake Conservancy
2018	Genetic and genomic tools for herpetological conservation. 2018. Southeastern Partners in Amphibian and Reptile Conservation, Helen, GA.
2016	FrogWatch USA. Auburn Chapter at Jacksonville State University Campus

GRANTS, HONORS AND AWARDS

2021	G. T. Johnson Memorial Scholarship for outstanding first year Ph. D. students.....	(\$3,250.00)
2020	Doctoral Academy Fellowship, University of Arkansas Graduate College.....	(\$44,000.00)
2019	Kinsaul Travel Grant for Excellence in STEM Research, Jacksonville State University.....	(\$500.00)
2018	Kinsaul Travel Grant for Excellence in STEM Research, Jacksonville State University.....	(\$500.00)
2018	Best Biology Presentation, Jacksonville State University Student Symposium	
2016	Kinsaul Travel Grant for Excellence in STEM Research, Jacksonville State University.....	(\$500.00)
2016	Best Graduate Poster, Jacksonville State University Student Symposium	
2014	Inducted into Tri-Beta Honor Society, Auburn University Chapter	
2012	Outstanding Freshman award in Biological Sciences, Auburn University, Biology Department	
2011	Spirit of Auburn Scholarship, Auburn University.....	(\$34,000.00)

References

Dr. Chris Murdock	Professor, Jacksonville State University	murdock@jsu.edu
Dr. James Rayburn	Professor, Jacksonville State University	jrayburn@jsu.edu
Dr. Lori Hensley	Professor & Chair, Jacksonville State University	lhensley@jsu.edu
Dr. Sarah Wofford	Teaching Faculty, Florida State University Panama City	sw22ba@fsu.edu
Mr. Brian Becker	Instructor & Academic Coach, University of Arkansas	bmbecker@uark.edu