

# Brittany Latrice McCall

PhD Candidate, Environmental Science Program  
Arkansas State University, Department of Environmental Sciences  
Diversity Fellow, Environmental Studies  
Augustana College, Department of Environmental Studies  
(O): 309-794-7817  
[brittanymccall@augustana.edu](mailto:brittanymccall@augustana.edu)

## Education

---

- Doctor of Philosophy, Environmental Sciences May 2023 (anticipated)  
Arkansas State University – Jonesboro, AR  
Dissertation: “Small cats matter: the potential use of madtom catfish as conservation tools for the southeastern U.S.”  
Advisor: Dr. Brook Fluker
- Master of Science, Biology 2017  
Arkansas State University – Jonesboro, AR  
Thesis: “Stability at low densities or endangered? Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*)”  
Advisor: Dr. Brook Fluker
- Bachelor of Science, Biology 2014  
Austin Peay State University – Clarksville, TN  
SURF thesis: “Seeking taxonomic resolution: Is *Orconectes cf. barrenensis* from the Red River (Cumberland River) of Tennessee a distinct species of crayfish?”  
Advisor: Dr. Rebecca Blanton-Johanson

## Research Interest

---

Freshwater aquatic ecology; Population genomics; Phylogeography; Systematics; Conservation

## Publications

---

- McCall, Brittany L** and Fluker, BL. 2022. Population characteristics of *Etheostoma pallididorsum* Distler and Metcalf (Paleback Darter), a narrowly distributed endemic in the Ouachita Highlands, Arkansas. *Southeastern Naturalist*, 21: 140-157. DOI: 10.1656/058.021.0208
- McCall, Brittany L** and Fluker, BL. 2021. Conservation genetic assessment of the Paleback Darter (*Etheostoma pallididorsum*), a narrowly distributed endemic in the Ouachita Highlands. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 31: 1817-1830. DOI: 10.1002/aqc.3510
- McCall, Brittany L** and Fluker, BL. 2020. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*), a narrow endemic of the Ouachita Highlands. *Conservation Genetics*, 21: 431-442. DOI: 10.1007/s10592-020-01260-y
- Bloom, Erin T, **McCall, BL**, Schuster, GA, and Blanton, RE. 2019. Systematics and description of a new species of *Faxonius*, Ortmann, 1905 (Decapoda: Astacidea: Cambaridae) from the Red River system of Kentucky and Tennessee, USA. *Journal of Crustacean Biology*, 39: 40-53. DOI: 10.1093/jcobiol/ruy100

### ***Other publications***

**McCall, Brittany L.** Book review: Fishes of Arkansas, 2<sup>nd</sup> Edition. *Ichthyology & Herpetology*, 110: 425-428. DOI: 10.1643/t2022011

### ***Manuscripts in review (available upon request)***

**McCall, Brittany L** and Fluker, BL. Status survey and habitat assessment of the Caddo Madtom (*Noturus taylori*), a narrow endemic of the Ouachita Highlands. *Southeastern Fishes Council Proceedings*

### ***Manuscripts in development (available upon request)***

**McCall, Brittany L**, Cooper, R, and Fluker, BL. Critical thermal maxima of two Interior Highland endemic catfishes, the Caddo Madtom (*Noturus taylori*) and the Black River Madtom (*Noturus maydeni*).

### **Unpublished reports**

---

Fluker, Brook L and **McCall, BL** (2021) Occupancy modeling, detection probability, and thermal tolerance of the Caddo Madtom. Arkansas Game and Fish Commission Section 6 Grant Program

Fluker, Brook L and **McCall, BL** (2017) Status survey and population characteristics of the Paleback Darter (*Etheostoma pallididorsum*) and the Caddo Madtom (*Noturus taylori*). Arkansas Game and Fish Commissions

### **Presentations**

---

#### ***Invited symposiums***

Joint Meeting of Ichthyologists and Herpetologists: DEI Symposium      Spokane, WA, July 2022  
**McCall, Brittany L.** Code-switching: countering identity-based discrimination in fieldwork.

#### ***Conference oral presentation***

Southeastern Fishes Council      Athens, GA, November 2022  
**McCall, Brittany L**, Sweat, S, and Fluker, BL. The potential use of madtom catfishes as conservation tools for southeastern U.S. headwater streams.

Hale, Clayton W, **McCall, BL**. Utilizing genetically informed habitat suitability models to delineate hybridization zones between Chattahoochee and Alabama bass.

Southeastern Fishes Council      Columbus, GA, November 2021  
**McCall, Brittany L**, Egge, J., and Fluker, BL. An evolutionary analysis of lineage diversification among madtom catfishes (Siluriformes: Ictaluridae: *Noturus*).

**McCall, Brittany L** and Fluker, BL. Occupancy of the Caddo Madtom (*Noturus taylori*): the good, the bad, and the unknown.

Hale, Clayton W., and **McCall, BL**. Modeling habitat suitability for the globally imperiled Etowah Darter (*Etheostoma etowahae*).

Southern Division of the American Fisheries Society      Virtual Conference, April 2021  
**McCall, Brittany L**, Sweat, S., and Fluker, BL. The effect of climate change on southeastern U.S. headwater systems.

Arkansas Chapter of the American Fisheries Society      Pine Bluff, AR, January 2018

\* Cancellations due to the Covid-19 pandemic

**McCall, Brittany L** and Fluker, BL. Status survey and conservation genetic assessment of the Paleback Darter (*Etheostoma pallidorsum*).  
Southeastern Fisheries Council Chattanooga, TN, November 2017

**McCall, Brittany L** and Fluker, BL. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*).  
Joint Meeting of Ichthyologist and Herpetologist Austin, TX, July 2017

**McCall, Brittany L** and Fluker, BL. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*).  
Arkansas Academy of Science Conway, AR, April 2017

**McCall, Brittany L** and Fluker, BL. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*).

### **Poster Presentations**

Joint Meeting of Ichthyologist and Herpetologist Spokane, WA, July 2022

**McCall, Brittany L**, Egge, J, and Fluker, BL. An evolutionary analysis of lineage diversification among madtom catfishes (Siluriformes: Ictaluridae: *Noturus*).

\*Joint Meeting of Ichthyologist and Herpetologist Norfolk, VA, July 2020

Emily Field, **McCall, BL**, and Neuman-Lee, LA. Detection of snake fungal disease in Arkansas before 2006 using historical museum specimens.

\*Joint Meeting of Ichthyologist and Herpetologist Norfolk, VA, July 2020

**McCall, Brittany L**, Wijerante, A, Egge, J, and Fluker, BL. We are all mad here: an evolutionary analysis of lineage diversification among madtom catfishes (Ictaluridae: *Noturus*).  
Catfish Symposium Little Rock, AR, February 2020

**McCall, Brittany L** and Fluker, BL. Applications of hydrologic-climatic, genetically informed species distribution modeling for headwater conservation.  
Southeastern Fishes Council McCormick, SC, November 2018

Canada, Hilary K, **McCall, BL**, and Fluker, BL. Phylogeographic analyses suggest cryptic diversity within the Bluntnose Darter, *Etheostoma chlorosoma*.  
International Association of Astacology Pittsburgh, PA, July 2018

Bloom, Erin T, **McCall, BL**, Schuster, G, and Blanton, R. A new species of *Faxonius* crayfish from the Red River system of Kentucky and Tennessee.

Southeastern Fishes Council Chattanooga, TN, November 2017

**McCall, Brittany L** and Fluker, BL. Status survey and conservation genetic assessment of the Paleback Darter (*Etheostoma pallidorsum*).  
Joint Meeting of Ichthyologists and Herpetologists Austin, TX, July 2017

**McCall, Brittany L** and Fluker, BL. Status survey and conservation genetic assessment of the Paleback Darter (*Etheostoma pallidorsum*).  
Arkansas Chapter of the American Fisheries Society Texarkana, AR, January 2017

**McCall, Brittany L** and Fluker, BL. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*).  
Southeastern Fishes Council Jackson, MS, November 2016

**McCall, Brittany L** and Fluker, BL. Spatiotemporal population dynamics of the Caddo Madtom (*Noturus taylori*).  
Southeastern Fishes Council Gainesville, FL, November 2015

Buford, Jessica, **McCall, BL**, and Fluker, BL. The importance of georeferencing small natural history collections and their contributions to large online databases.

\* Cancellations due to the Covid-19 pandemic

Southeastern Fishes Council

Asheville, NC, November 2014

**McCall, Brittany L**, Bloom, E, and Blanton-Johansen, R. Seeking taxonomic resolution: Is *Orconectes cf. barrenensis* from the Red River (Cumberland River) of Tennessee a distinct species of crayfish?

### **Awards and Honors**

---

Southeastern Fishes Council Dave Etnier Best Student Oral Presentation, Awarded 3<sup>rd</sup> place: 2022

American Fisheries Society Best Graduate Student Poster: 2017

Southeastern Fishes Council Suttkus Best Poster Award, Awarded 3<sup>rd</sup> place: 2017; 2016; 2013

Southeastern Fishes Council Boschung Travel Award: 2022; 2021; 2019; 2017

### **Grants/Fellowships**

---

*Total = \$200,547*

\$40,000 Augustana College Diversity Fellowship; 2022

\$93,547 United States Fish Wildlife Services Section 6 Research Grant; 2021

*Though I am not the PI, this was a grant that I wrote and was supported by my PI, Dr. Brook Fluker.*

\$20,000 Southern Regional Education Board (SREB) Doctoral Fellowship; 2020

\$30,000 Upper Delta Region Biodiversity Scholarship (renamed SUPERB); 2017

\$16,000 Arkansas Game and Fish Commission Conservation Scholarship; 2016

\$1,000 Summer Undergraduate Research Fellowship; 2013

### **Attempted funding sources**

Arkansas State Wildlife Grant, 2019

National American Native Fishes Association Grant, 2016

National Science Foundation Graduate Fellowship, 2015

### **Teaching Experience**

---

#### ***Courses as a Teaching Fellow***

Augustana College, Rock Island, IL

ENVR 150 – Variation and Conservation: 4 credits, 20 students

Jterm 2023

ENVR 100 – Introduction to Environmental Studies and lab: 4 credits, 30 students

Spring 2022; Spring 2023

#### ***Courses as a Teaching Assistant***

Arkansas State University, Jonesboro, AR

BIO 4641 - Environmental Biology Laboratory: 1 credit, ~15 students

Fall 2019

BIO 1001 - Biological Science Laboratory: 1 credit, ~30 students (\*~18 students during the 2020/2021 pandemic year)

Spring 2021; Fall 2020; Fall 2015

BIO 4601/5601 - Limnology Laboratory: 1 credit, ~15 students

Fall 2015,

Alabama State University, Montgomery, AL

Diversity of Fishes; Summer 2015, 1 credit, ~15 students

\* Cancellations due to the Covid-19 pandemic

### ***Guest Lecturer***

Arkansas State University, Jonesboro, AR, August 2020

Lecture topic: "Mapping and spatial models in R"

Arkansas State University, Jonesboro, AR, June 2016

Lecture topic: "Acoelomates"

### ***Invited Speaker***

Blytheville Elementary School, Blytheville, AR; March 2018

I was invited by a 5<sup>th</sup> grade instructor, Jared Swenson, to present my research in an effort to demonstrate alternative options in biology careers outside of the inferred careers in medicine.

Arkansas Tech University, Russellville, AR; March 2018

I was invited to present past and current research for ATU's Biology Seminar Series.

### **Services**

---

#### ***University/Department Association***

Biological Sciences DEI Committee Graduate Student Representative	2018 – 2021
Biology Department Graduate Student Representative	2016 – 2018
Academic Calendar Committee Graduate Student Representative	2017 – 2018
Graduate Student Council Member	2016 – 2021

#### ***Professional Associations***

American Association for the Advancement of Science ( <i>Scholarship membership</i> )	2019 – 2020
Arkansas Academy of Science	2017 – 2021
American Society of Ichthyologists and Herpetologists	2015 – present
Southeastern Fishes Council	2013 – present
DEI Committee	2021 – present
American Fisheries Society	2012 – present

#### ***Student Organizations***

American Fisheries Society subunit at Arkansas State University; <i>Co-founder</i>	2017 – 2021
Arkansas State University EnvironMentors (NSF program); <i>Mentor</i>	2015 – 2016
Natural History Collection Curation Club (NHC <sub>3</sub> ) at Arkansas State University	2015 – 2019

#### ***Mentored Students***

Arkansas State University, Jonesboro, AR

Kylee Wood; 2021

Kylee Wood is an undergraduate student training to become a veterinarian and was seeking research experience. We are currently collaborating on a thermal tolerance experiment assessing the thermal range of several madtom catfishes that are species of greatest conservation need for Arkansas to better inform conservation management decisions for these imperiled species. Her research will be presented at a regional conference.

River A. Watson; 2018 – 2020

River Watson was an undergraduate student I mentored under the SUPERB scholarship. Her research was presented at state, regional, and national conferences,

\* Cancellations due to the Covid-19 pandemic

and is in the process of being published to describe a new species of fish. She is currently in the Masters program at Austin Peay State University.

Tyler B. Brown; 2019 – 2020

Tyler Brown was an undergraduate student I mentored under the SUPERB scholarship. Her research was presented at state and regional conferences. Tyler has graduated and is now assisting with propagation research in Australia.

Hilary K. Canada; 2016 – 2018

Hilary Canada was my first mentee as a Master student. I taught her field and laboratory techniques as she worked through an independent project. Her research was presented at state, regional, and national conferences and is currently in the process of being published. Hilary has graduated and is currently in the Masters program at Arkansas State University.

### ***Community Outreach***

\*Girls in STEM Activity Leader – University of Central Arkansas, Conway, AR; 2020

Career Day – Brookland Middle School; Brookland, AR; 2019

Career Preview Night – Health, Wellness, & Environmental Studies JPS Magnet School; Jonesboro, AR; 2019

NEA Regional Science Fair Judge – Northeast Arkansas high schools; 2018; 2019

Girls in STEM Summer Program Activity Leader – Arkansas State University, Jonesboro, AR; 2018

Natural history exhibition of fishes – STEM Festival; Jonesboro, AR; 2015; 2016

### **Media Coverage**

---

#### ***Articles***

“Getting a PhD in the USA – Brittany McCall” by Functional Ecology, Functional Ecologists – A Blog for the People Behind the Research. September 30, 2019.

“Austin Peay-led research team names new crayfish species for 101<sup>st</sup> Airborne” by Brian Dunn, Clarksville Now. Clarksville, TN, March 6, 2019.

#### ***News Media***

KAIT8 – “Girls in STEM” August 2018; [kait8.com/clip/14476880/girls-in-stem/](http://kait8.com/clip/14476880/girls-in-stem/)

### **References**

---

**Dr. Brook Fluker**, Associate Professor of Aquatic Ecology  
bfluker@astate.edu; (870) 972-3253

**Dr. Lori Neuman-Lee**, Assistant Professor of Physiology  
lneumanlee@astate.edu; (870) 972-3111

**Dr. Travis Marsico**, Associate Chair – Biology and Professor  
tmarsico@astate.edu; (870) 972-3082