

CORINTHIA R. BLACK

NSF Postdoctoral Researcher

Smithsonian National Museum of Natural History

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EDUCATION

- Aug 2022 Ph.D. in Biology, Auburn University
Advisor: Dr. Jonathan Armbruster
Evolutionary Ecology of Loricariid Catfishes
- May 2014 M.S. in Biology, University of Northern Iowa
Advisor: Dr. Peter Berendzen
Geometric morphometric analysis of skeletal shape variation across the Pleuronectiformes
- May 2011 B.A. in Biology, University of Northern Iowa
- May 2008 A.A. and A.S. in Liberal Arts, Clinton Community College, Iowa

PROFESSIONAL POSITIONS

- 2022 – NSF Postdoctoral Researcher, Smithsonian National Museum of Natural History
Department of Entomology
Principal Investigator: Dr. Hannah Wood
- 2017 – 2022 Graduate Research/Teaching Assistant at Auburn University, AL
- 2021 – 2022 Data Service Consultant at I&RC in Ralph Brown Draughon Library, AL
- 2015 – 2017 Biology Laboratory Manager at Clarke University, Dubuque, IA
- 2014 – 2015 Biology Instructor at Highland Community College, Highland, KS
- 2013 – 2014 In-House Clinical Research Assistant at PRA, Lenexa, KS
- 2011 – 2013 Graduate Teaching Assistant at the University of Northern Iowa, Cedar Falls, IA

PUBLICATIONS

Peer Reviewed

Black CR., Armbruster JW. Revision under review. *Integration and modularity in the diversity of the suckermouth armored catfishes*. *Royal Society Open Science*.

Black CR., Armbruster JW. In press. Chew on this: Oral jaw shape is not correlated with diet type in Loricariid catfishes. *PLOS ONE*.

Berendzen P., Holmes S., Abels J. **Black CR.** 2021, November. Morphological diversity within the Ozark minnow (*Notropis nubilus*: Cyprinidae). *Journal of Fish Biology*.

Black CR., Armbruster JW. 2021, May. New method of isotopic analysis: Baseline Standardized Isotope Vector Analysis show trophic partitioning in loricariids. *Ecosphere*.

Black CR., Berendzen P. 2020, April. Shared ecological traits influence shape of the skeleton in flatfishes (Pleuronectiformes). *PeerJ*.

PUBLICATIONS

Reports

Lawson KM, Schotz, AR, Jenkins AJ, Armbruster JW, **Black CR**, Callahan M, Goertzen L, Hansen C, Stephen CDR, Werneke D, Mendonca M, and Molina E. 2021, May. Planning Level Survey of Redstone Arsenal for At-Risk Species and Ecologically Significant Communities. Environmental Management Division, U.S. Army Garrison Redstone Arsenal.

RESEARCH FUNDING

2019	£2300	Company of Biologists Travelling Fellowship: <i>Novelty of Feeding Mechanisms in a Species of Armored Catfish (Loricariidae)</i> .
2018	\$2000	Society of Systematic Biologists Graduate Student Research Award: <i>Phylogenomics and Shape Analyses of the Armored Catfishes (Loricariidae: Hypostominae) with a Focus on the Marañon Drainage in Peru</i> .
2018	\$750	Meredith Birchfield Endowed Fund for Excellence: <i>Expedition to the Marañon drainage in Peru for Hypostominae (Armored Catfish) and Other Freshwater Ichthyofauna</i> .
2011 – 2012	\$1500	University of Northern Iowa's College of Natural Sciences Graduate Research Awards for Student Projects: <i>Geometric Morphometric Analysis of Skeletal Shape Variation Across the Pleuronectiformes</i> .

AWARDS

2022	\$1000	American Society of Ichthyologists and Herpetologists' Cashner Student Award
2019	\$350	College of Sciences and Mathematics Travel Award
2019	\$400	Auburn Graduate School's Graduate Research and Travel Fellowship
2018		Neotropical Ichthyological Association Best Student Poster
2017 – 2018	\$200	Southeastern Fishes Council Student Travel Award
2012	\$1300	Intercollegiate Academic Travel Award
2012	\$400	Intercollegiate Academics Research and Creative Activity Award

INVITED PRESENTATIONS

Black C. The Evolution of Shape in the Suckermouth Armored Catfishes. University of Northern Iowa. November 2021. Cedar Falls, IA.

SELECT CONFERENCE PRESENTATIONS

Black C., and JW Armbruster. 2022, July. Modularity Drives Diversity in Armored Catfishes. Presentation. Joint Meeting of Ichthyologists and Herpetologists. Spokane, WA.

Black C., and JW Armbruster. 2021, July. Chew on this: Oral jaw shape is not correlated with diet type in Loricariid catfishes. Presentation. Joint Meeting of Ichthyologists and Herpetologists. Virtual and Phenix, AZ.

SELECT CONFERENCE PRESENTATIONS

Black, C., Armbruster J. 2021, January. Automated landmarking captures complex shapes in armored catfish jaws. Presentation. Society of Integrative and Comparative Biology. Virtual Conference.

Black, C., Armbruster J. 2020, January. Shape Variation of Armored Catfishes in a Phylogenomic and Ecological Context Using 3D Geometric Morphometric Techniques (Loricariidae). Poster. Society of Integrative and Comparative Biology. Austin, TX.

Black C., Berendzen P. 2019, June. Convergence of Body Depth and Jaw Length of the Skeleton in Flatfishes (Pleuronectiformes). Presentation. Evolution Meeting. Providence, RI.

Black, C., Armbruster J. 2018, July. Shape Analyses of the *Peckoltia* Clade Using 3D Geometric Morphometric Techniques (Loricariidae: Hypostominae). Poster. Joint Meeting of Ichthyologist and Herpetologist. Rochester, NY.

Black C., Werneke D., Bauer E., Helms B., Armbruster J. 2018, May. Aquatic Refuge and Recovery in the Face of Drought in a Biodiversity Hotspot. Poster. Society for Freshwater Science. Detroit, MI.

Black C., Werneke D., Bauer E., Helms B., Armbruster J. 2017, November. Aquatic Refuge and Recovery in the Face of Drought in a Biodiversity Hotspot. Presentation. Southeastern Fishes Council. Chattanooga, TN.

Black C., Berendzen P. 2016, July. Geometric Morphometric Analysis of Skeletal Shape Variation Across the Pleuronectiformes. Poster. Joint Meeting of Ichthyologist and Herpetologist. New Orleans, LA.

Black C., Berendzen P. 2013, January. Geometric Morphometric Analysis of Skeletal Shape Variation Across the Pleuronectiformes. Presentation. Society for Integrative and Comparative Biology. San Francisco, CA.

TEACHING EXPERIENCE

Instructor of Record

2019 – 2022 Auburn University, Auburn, Alabama

Comparative Anatomy (BIOL 3010-D01) – Summer 2022

Evolution and Systematics (BIOL 3033) – Summer 2020

Organismal Biology (BIOL 1030) – Fall 2019

2014 – 2015 Highland Community College, Highland, Kansas

Human Anatomy (BS 104) – Fall 2014, Spring & Summer 2015

Human Physiology (BS 105) – Fall 2014, Spring & Summer 2015

Exercise Physiology (PE 250) – Spring 2015

Nutrition (BS 110) – Fall 2014, Spring 2015

Guest Lecture

2020 Howard University, Washington, D.C.

Comparative Anatomy – Digestive System lecture

Teaching Assistant

2017 – 2022 Auburn University, Auburn, Alabama

Comparative Anatomy Lab (BIOL 3011) – Fall 2017-2018,2020 &
Spring 2017-2019,2022

Anatomy and Physiology II Lab (BIOL 2511) – Fall 2021

TEACHING EXPERIENCE

Teaching Assistant

2011 – 2013 University of Northern Iowa, Cedar Falls, Iowa
Life: Continuity and Change Lab (BIOL 1015) – Fall 2012 & Spring 2013
Evolutionary Biology (BIOL 3100) – Spring 2012
Cell Structure and Function (BIOL 2052) – Fall 2011

STUDENT MENTORING

Graduate Students

Megan Ma, University of Maryland, Aug 2022 – present

Puncture analysis of the fangs in true spiders

Mariom Adriana Carvajal, University of Maryland, Aug 2022 – present

Evolution of venom glands in the true spiders

Jeremy Abels, University of Northern Iowa, Aug 2020 – Dec 2020

*Evolution of shape in the Ozark minnows (Notropis nubilus) *Published in J. Fish Biol.*

Undergraduate Students

Alexandria Brown, Auburn University, Aug 2020 – Dec 2021

Meta-analysis of stable isotopes in herbivorous fishes

Kyla Sanders, Auburn University, Aug 2019 – May 2020

Morphological and ecological diversification of the neurocranium in catfishes

Teri Hodge, Auburn University, Aug 2019 – May 2019

XROMM for a species of armored catfish (Loricariidae)

Logan Enman, Auburn University, Aug 2019 – Nov 2019

*Allopatric speciation of *Hypostomus niceforoi**

Harrison Michaels, Auburn University, May 2018 – July 2018

Diversity of the suckermouth armored catfishes through stereo photography

Drew Douthit, Auburn University, Jan 2018 – May 2018

Diversity of the suckermouth armored catfishes through stereo photography

FIELD EXPERIENCE

2018 *Stable Isotope Sampling of Loricariid Fishes in Peru*

Collected loricariid fishes using dipnets, electrofishers, and seining with a focus on tissue sampling for stable isotope and molecular analysis in the Marañon and Tumbes drainages.

2018 *Red Stone Arsenal Survey*

Collected fishes and crayfishes using dipnets, electrofishers, and hook and line in the Tennessee River watershed, Alabama.

2017 *Post Drought Survey of the Bankhead National Forest*

Collected fishes and crayfishes using electrofishing in the Tallapoosa and Black Warrior drainages, Alabama.

OUTREACH AND VOLUNTEER

- 2020 – Skype a Scientist
- 2018 – 2019 Boos and Bones, Auburn University Museum of Natural History
- 2017 – 2021 Fall Open House, Auburn University Museum of Natural History
- 2019 STEM Minority High School Visitation Day, Auburn University
- 2018 Destination STEM, Auburn University
- 2017 Barbour County Natural Resources Youth Camp

PROFESSIONAL MEMBERSHIPS

- 2019 – Society for the Study of Evolution (SSE)
- 2017 – Society of Systematic Biologists (SSB)
- 2017 – 2021 Southeastern Fishes Council (SFC)
- 2016 – American Society of Ichthyologists and Herpetologists (ASIH)
- 2013,2019 – Society for Integrative and Comparative Biology (SICB)

SERVICE

Reviewer for: Environmental Biology of Fishes, Ichthyology and Herpetology, Journal of Fish Biology, Society of Systematic Biologists GSRA, Zootaxa

- 2020 – ASIH Diversity, Equality, Inclusion, and Belonging Committee
Committee member
- 2020 – 2021 Our STEM Story Seminar Series Committee, Auburn University
Marketing and Technology Officer
- 2020 – 2021 College of Mathematics and Science Diversity Committee, Auburn University
Committee Member
- 2020 Introduction to Geometric Morphometrics Workshop at SFC 2020, Virtual
Creator and leader
- 2019 – English checker for non-native authors
- 2014 – 2015 Assessment Committee, Highland Community College
Committee Member
- 2014 – 2015 Go Green Team, Highland Community College
Committee Member
- 2011 – 2012 Plinian Society (Evolution Club), University of Northern Iowa
Founder and President
- 2010 – 2011 Student Nature Society, University of Northern Iowa
Public Relations Officer

OTHER SKILLS

Programming languages: Bash (Unix shell), HTML, R.

3D data processing: 3DSlicer and SlicerMorph, Horos, Meshlab, XMAlab, Stereo photography, Surface scanning.

Techniques: Clear and staining, Manual and digital X-ray, X-ray film processing, XROMM, DNA extraction, PCR, Gel electrophoresis.

Field work: Electrofishing, Seining, Museum specimen preparation, Field note collection, PADI Advanced Open Water certified.