CURRICULUM VITAE

Edward D. Burress
Assistant Professor
Department of Biological Sciences
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## Education

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| 2017 | Ph.D. | Biology, Auburn University |
| 2012 | M.S. | Biology, Appalachian State University |
| 2009 | B.S. | Biology and Psychology, Lees-McRae College |

## Appointments

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| 2022- | Assistant Professor, Department of Biological Sciences, University of Alabama |
| 2020 -2022 | Postdoctoral Associate, Department of Ecology and Evolutionary Biology, Yale University |
| 2017-2020 | Postdoctoral Scholar, Department of Evolution and Ecology, University of California, Davis |

## Publications

**Metrics**: 750 citations; H-index = 18; i10-index = 23 (via Google Scholar)

34) Burress, E.D. and M.M. Muñoz. 2023. Phenotypic rate and state are decoupled in response to river-to-lake transitions in cichlid fishes. Evolution. In Press.

(33) Roberts-Hugghis, A.S., B. Lam, E.D. Burress, and P.C. Wainwright. 2023. The cichlid pharyngeal jaw novelty enhances evolutionary integration in the feeding apparatus. Evolution, In Press, p.qpad109.

(32) Burress, E.D. & M.M. Muñoz. 2022. Functional trade-offs asymmetrically promote phenotypic diversification. Systematic Biology, syac058.

(31) Corn, K.A., S.T. Friedman, E.D. Burress, and P.C. Wainwright. 2022. The rise of biting during the Cenozoic fueled reef fish body shape diversification. PNAS 119: e2119828119.

(30) Ghezelayagh, A. R.C. Harrington, E.D. Burress et al. (20 authors). 2022. Prolonged morphological expansion of spiny-rayed fishes following the end-Cretaceous. Nature Eco. Evo. 6: 1211-1220.

(29) Burress, E.D., L. Piálek, J.R. Casciotta, A. Almirón, and O. Říčan. 2022. Rapid parallel morphological and mechanical diversification of South American pike cichlids (*Crenicichla*). Systematic Biology, syac018.

(28) Burress, E.D. & M. M. Muñoz. 2021. Ecological limits on the decoupling of prey capture and processing in fishes. Integrative and Comparative Biology, icab148. In Press.

(27) Burress, E.B. & M.M. Muñoz. 2021. Ecological opportunity from innovation, not islands, drove the anole lizard adaptive radiation. Systematic Biology, syab031. In Press.

(26) Corn, K.A., C.M. Martinez, E.D. Burress, & P.C. Wainwright. 2020. A multifunction trade-off has contrasting effects on the evolution of form and function. Systematic Biology, syaa091.

(25) Burress, E.D., C.M. Martinez, & P.C. Wainwright. 2020. Decoupled jaws promote trophic diversity in cichlid fishes. Evolution 74: 950-961.

(24) Burress, E.D. & P.C. Wainwright. 2020. A Peacock Bass (*Cichla*) functional novelty relaxes a constraint imposed by the classic cichlid pharyngeal jaw innovation. Biological Journal of the Linnean Society 130: 382-394.

(23) Hart, P.B., M.L. Niemiller, E.D. Burress, J.W. Armbruster, W.B. Ludt, & P. Chakrabarty. 2020. Cave-Adapted Evolution in the North American Amblyopsid Fishes Inferred Using Phylogenomics and Geometric Morphometrics. Evolution 74: 936-949.

(22) Burress, E.D., M. Tan, & P.C. Wainwright. 2019. Head shape modulates the diversification of a classic cichlid pharyngeal jaw innovation. American Naturalist 194: 693-706.

(21) Burress, E.D. & P.C. Wainwright. 2019. Adaptive radiation in labrid fishes: a central role for functional innovations during 65 My of relentless diversification. Evolution 73:346-359.

(20) Burress, E.D., L. Piálek, J.R. Casciotta, A. Almirón, M. Tan, J.W. Armbruster, O. Říčan. 2018. Lake- and island-like adaptive radiations replicated in rivers. Proceedings of the Royal Society B, 20171762.

(19) Burress, E.D., F. Alda, A. Duarte, M. Loureiro, J.W. Armbruster, P. Chakrabarty. 2018. Phylogenomics of pike cichlids (Cichlidae: Crenicichla): the rapid ecological speciation of an incipient species flock. Journal of Evolutionary Biology 31: 14-30.

(18) Piálek, L., E.D. Burress, K. Dragová, A. Almiron, J. Casciotta, O. Říčan. 2018. Phylogenomics of pike cichlids (Cichlidae: *Crenicichla*) of the *C. mandelburgeri* species complex: rapid ecological speciation in the Iguazú River and high endemism in the Middle Paraná basin. Hydrobiologia 832:355-375.

(17) Kokubun, E.E., K.O. Bonato, E.D. Burress, C.B. Fialho. 2018. Diet and body shape among populations of *Bryconamericanus iheringii* (Otophysi: Characidae) across the Campos Sulinos ecosystem. Neotropical Ichthyology 16, e170167.

(16) Burress, E.D. & M. Tan. 2017. Ecological opportunity alters the timing and shape of adaptive radiation. Evolution 71: 2650-2660.

(15) Bonato, K.O., E.D. Burress, C.B. Fialho, J.W. Armbruster. 2017. Resource partitioning among syntopic Characidae corroborated by gut content and stable isotope analyses. Hydrobiologia 805: 311-324.

(14) Burress, P.B.H., E.D. Burress, J.W. Armbruster. 2017. Body shape variation within the Southern Cavefish, *Typhlichthys subterraneus* (Percopsiformes: Amblyopsidae). Zoomorphology 136: 365-377.

(13) Bonato, K.O., Burress, E.D., & Fialho, C.B. 2017. Dietary differentiation in relation to mouth and tooth morphology of a neotropical characid fish community. Zoologischer Anzeiger 267: 31-40.

(12) Burress, E.D., Holcomb, J.M., Tan, M., & Armbruster, J.W. 2016. Ecological diversification associated with the benthic-to-pelagic transition by North American minnows. Journal of Evolutionary Biology 30: 549-560.

(11) Burress, E.D. 2016. Ecological diversification associated with the pharyngeal jaw diversity of Neotropical cichlid fishes. Journal of Animal Ecology 85: 302-313.

(10) Burress, E.D., Holcomb, J.M., Orlandi-Bonato, K., & Armbruster, J.W. 2016. Body size is negatively correlated with trophic position among cyprinids. Royal Society Open Science 3: 150652.

(9) Burress, E.D., Holcomb, J.M., & Armbruster, J.W. 2016. Ecological clustering within a diverse minnow assemblage according to morphological, dietary and isotopic data. Freshwater Biology 61: 328-339.

(8) Burress, E.D., Duarte, A., Serra, W.S., & Loureiro, M. 2015. Rates of piscivory predict pharyngeal jaw morphology in a piscivorous lineage of cichlid fishes. Ecology of Freshwater Fish 25: 590-598.

(7) Burress, E.D. 2015. Cichlid fishes as models of ecological diversification: patterns, mechanisms, and consequences. Hydrobiologia 748: 7-27.

(6) Burress, E.D., A. Duarte, W.S. Serra, M. Loureiro, M.M. Gangloff, & L. Siefferman. 2013. Functional diversification of a predatory species flock. PLOS One e80929.

(5) Burress, E.D., M.M. Gangloff, & L. Siefferman. 2013. Trophic analysis of two subtropical South American freshwater crabs using stable isotope ratios. Hydrobiologia 702: 5-13.

(4) Burress, E.D., A. Duarte, M.M. Gangloff, & L. Siefferman. 2013. Isotopic trophic guild structure of a diverse subtropical South American fish community. Ecology of Freshwater Fish 22: 66-72.

(3) Burress, E.D., A. Duarte, W.S. Serra, M.M. Gangloff & L. Siefferman. 2013. Species-specific ontogenetic diet shifts among Neotropical *Crenicichla*: using stable isotopes and tissue stoichiometry. Journal of Fish Biology 82: 1904-1915.

(2) Serra, W.S., M. Zarucki, A. Duarte, E.D. Burress, F. Teixeira-de-Mella, I. GonzálezBergonzoni & M. Loureiro. 2013. New records of characiform fishes (Ostariophysi: Characiformes) for Uruguay. Checklist 9: 1576-1579.

(1) Serra, W.S., A. Duarte, E.D. Burress, & M. Loureiro. 2011. Pisces, Perciformes, Cichlidae, *Crenicichla tendybaguassu* Lucena & Kullander, 1992: First record for Uruguay. Checklist: 7: 357-359.

## Academic Awards and Funded Grants

2017 Dean's Graduate Student Research Award, College of Science and Mathematics, Auburn University
2016 *Stoye General Ichthyology* Award for best student oral presentation, American Society of Ichthyologists and Herpetologists
2014 Best Student Talk, Southeastern Fishes Council
2012 M.S. Thesis nominated for Outstanding Thesis Award in Science, Technology, and Mathematics; Appalachian State University
2014 Jim Smith Fund
2013 Guy Jordan Endowment Fund.
2010 Sigma Xi Grants-In-Aid
2010 Paul V. Loiselle Conservation Fund
2010 Office of Student Research, International Research Grant, Appalachian State University
2009 Office of Student Research, International Research Grant, Appalachian State University

## Teaching Experience

**Department of Biological Sciences, University of Alabama**

2023 *Vertebrate Functional Morphology*, Instructor of Record

**Department of Biological Sciences, Auburn University**

2017 *Ecology*, Instructor of Record (Summer Semester)
2016 *Ecology*, Instructor of Record (Summer Semester)
2015 *Ecology*, Instructor of Record (Summer Semester)

## Additional Teaching Experience

**Department of Biological Sciences, Auburn University**

2017 *Ecology*, T.A.
2016 *Ecology*, T.A
2015 *Ecology*, T.A
2014 *Ecology*, T.A
2013 *Ecology*, T.A
2012 Ecology, T.A.

**Biology Department, Appalachian State University**

2012 *Ecology*, T.A.
2011 (F) *Ichthyology*, T.A.
2011 (S) *Concepts in Biology II*, T.A.
2010 (F) *Concepts in Biology I*, T.A.
2010 (S) *Animal Behavior*, T.A.
2009 (F) *Concepts in Biology I*, T.A.

## Conference Presentations

**Contributed Talks**

Burns, M.D., S.T. Friedman, K.A. Corn, O. Larouche, S.A. Price, P.C. Wainwright, and E.D. Burress. 2023. High latitude ocean habitats are a crucible of fish body shape diversification. Evolution, Albuquerque, NM.

Burress, E.D., M. Gade, E.A. Riddell, and M.M. Munoz. 2023. Innovations and mountains act synergistically to drive the evolution of lungless salamanders. Society of Integrative and Comparative Biology (1/5/2023). Austin, Texas.

Burress, E.D., C.M. Martinez, & P.C. Wainwright. 2020. Functional decoupling of the jaws promotes trophic diversity in cichlid fishes. Society for Integrative and Comparative Biology. Austin, Texas.

Burress, E.D. & Wainwright, P.C. 2019. Adaptive radiation in labrid fishes: a central role for functional innovations during 65 My of relentless diversification. Society for Integrative and Comparative Biology. Tampa, Florida.

Burress, E.D. & Tan, M. 2018. Ecological opportunity alters the timing and shape of adaptive radiation. Society for Integrative and Comparative Biology. San Francisco, California.

Burress, E.D., Tan, M., & Armrbuster, J.W. 2017. Evolution of pharyngeal jaw shape, size, and associated musculature across the Neotropical cichlid phylogeny. Society for comparative and integrative biologists. New Orleans, LA.

Burress, E.D., Oldrich, O., Pialek, P., Casciotta, J., Almiron, Tan, M., & Armbruster, J.W. 2016. Parallel phenotypic diversification and rapid speciation of Crenicichla species flocks: riverine analogs to the East African Great Lake cichlids. Joint Meeting of Ichthyologists and Herpetologists. Baton Rouge, LA. *Awarded ASIH Stoye General Ichthyology Award.

Burress, E.D., Oldrich, O., Pialek, P., Casciotta, J., Almiron, Tan, M., & Armbruster, J.W. 2016. Parallel phenotypic diversification and rapid speciation of Crenicichla species flocks: riverine analogs to the East African Great Lake cichlids. Evolution. Austin, TX.

Burress, E.D., Holcomb, J.M., Tan, M., & Armbruster, J.W. 2016. Ecological diversification associated with the benthic-to-pelagic transition by North American minnows. Southeastern Fishes Council. Jackson, MS. *Awarded 3rd Place student talk.

Burress, E.D., Tan, M., & Armbruster, J.W. 2015. Craniofacial diversification among cichlid fishes. Joint Meeting of Ichthyologists and Herpetologists. Reno, NV.

Burress, E.D., Holcomb, J.M., & Armbruster, J.W. 2015. Body size is negatively correlated with trophic position among minnows. Southeastern Fishes Council. Gainesville, FL.

Burress, E.D., J.M. Holcomb, J.W. Armbruster. 2014. The influence of phylogeny on minnow morphology, behavior, and physiology. Southeastern Fishes Council. Asheville, NC. *Awarded best student talk.

Burress, E.D., M. Tan, & Jonathan W. Armbruster. 2014. Ecological diversification among Neotropical cichlid fishes. Joint Meeting of Ichthyologists and Herpetologists. Chattanooga, TN.

## Reviewer contributions

*Evolution*, *Journal of Evolutionary Biology*, *Functional Ecology*, *Integrative and Comparative Biology*, *Oikos*, *Freshwater Biology*, *Freshwater Science*, *Journal of Fish Biology*, *Ecology of Freshwater Fish*, *Hydrobiologia*, *Biological Journal of the Linnean Society*, *Neotropical Ichthyology*, *Royal Society Open Science*, *PeerJ*, *Zootaxa*, *Ecology and Evolution*

## Society Affiliations

Society for the Study of Evolution
Society for Integrative and Comparative Biology

## Outreach

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| 2018-2020 | Biodiversity Museum Day, University of California, Davis |
| 2013-2016 | Writing Consultant, Auburn University Miller Writing Center |
| 2014-2016 | AU Explore, College of Science and Mathematics, Auburn University |
| 2014-2016 | Auburn University Museum of Natural History open house, Auburn University |

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| 2014-2015 | Mentoring Brazilian Intern in the use of stable isotopes in food web and dietary studies for her dissertation. |

## Administrative Positions

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| 2022-2024 | Communications Committee (Chair), Department of Biological Sciences, University of Alabama |
| 2022-2023 | Communications Committee, Department of Biological Sciences, University of Alabama |
| 2016-2017 | President. Biological Sciences Graduate Student Association. Auburn University. |
| 2014-2015 | Vice President. Biological Sciences Graduate Student Association. Auburn University. |

## Outreach: Online media

My wildlife photography is featured for educational purposes on the following websites:
http:/aquaesfera.org/
http://www.ciklid.org/
http://www.planetainvertebrados.com.br/

## References

Dr. Jonathan W. Armbruster
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*Jon was my doctoral advisor

Dr. Martha Muñoz
Yale University
165 Prospect Street
New Haven, CT 06510
martha.munoz@yale.edu
*Martha is my previous postdoctoral advisor

Dr. Peter C. Wainwright
University of California Davis
One Shields Ave.
Davis, CA 95616
pcwainwright@ucdavis.edu
530-752-6782
*Peter was my previous postdoctoral advisor