

CURRICULUM VITAE

Edward D. Burress
Assistant Professor
Department of Biological Sciences
University of Alabama
email: edburress@ua.edu
website: www.edwardburress.com

Education

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

Appointments

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: 571 citations; H-index = 15; i10-index = 20 (via Google Scholar)

- (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. Almirón, 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 tandybaguassu* 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. Loisel 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, 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 (as presenting author)

- 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.

- Burruss, 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.
- Burruss, 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.
- Burruss, 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.
- Burruss, E.D., Tan, M., & Armbruster, J.W. 2015. Craniofacial diversification among cichlid fishes. Joint Meeting of Ichthyologists and Herpetologists. Reno, NV.
- Burruss, E.D., Holcomb, J.M., & Armbruster, J.W. 2015. Body size is negatively correlated with trophic position among minnows. Southeastern Fishes Council. Gainesville, FL.
- Burruss, 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.
- Burruss, 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

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

Administrative Positions

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

Auburn University
331 Funchess Hall
Auburn University, AL 36849
armbrjw@auburn.edu
334-844-9258
*Jon was my doctoral advisor

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