

CURRICULUM VITAE
SHANNON MARIE BESTON

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EDUCATION

- 2014 – 2019 Ph.D. in Quantitative Biology, University of Texas at Arlington
Advisor: Matthew R. Walsh, Ph.D.
- 2010 – 2014 B.S. in Biology *with honors*, Hobart and William Smith Colleges
Advisor: Susan F. Cushman, Ph.D.

ACADEMIC APPOINTMENTS

- 2018 – *present* American Fellow, American Association of University Women
- 2018 (*summer*) Graduate research assistant, National Science Foundation: CAREER: Does behavioral plasticity promote or constrain adaptation? A test using resurrection
PI: Matthew R. Walsh, Ph.D.
- 2014 – 2018 Graduate teaching assistant, Department of Biology, University of Texas at Arlington
- 2017 (*summer*) Graduate research assistant, National Science Foundation: Testing the influence of long-term ecological change on evolutionary response in zooplankton
PI: Matthew R. Walsh, Ph.D.
- 2013 Undergraduate research assistant, Hobart and William Smith Colleges
Supervisor: Susan F. Cushman, Ph.D.
- 2012 Undergraduate research assistant, Finger Lakes Institute
Supervisor: Susan F. Cushman, Ph.D.

PUBLICATIONS

* - invited manuscript, + - undergraduate author, ^δ - equally contributing authors

Submitted:

- (9) **Beston, S.M.**^δ, S. Stearns^{δ+}, K. Howell, and M.R. Walsh. (*in revision*) The evolution of vertebrate brain architecture in response to divergent natural selection: concerted vs. mosaic evolution? ***Journal of Animal Ecology*** MS ID: JAE-2019-00258

In revision:

- (8) Dunlap, K.D., J. Corbo⁺, M. Vergara⁺, **S.M. Beston**, and M.R. Walsh. (*in revision*) Predation drives evolution of brain cell proliferation and brain allometry in Trinidadian killifish, *Rivulus hartii*. **Proceedings of the Royal Society B** MS ID: RSPB-2019-0250
- (7) Howell, K.J., **S.M. Beston**, and M.R. Walsh. (*in revision*) Increased brain size is associated with increased propensity to engage in aerial jumping behavior in a Trinidadian killifish (*Rivulus hartii*). **Animal Behaviour** MS ID: ANBEH-D-18_00530

Peer reviewed:

- (6) **Beston, S.M.**, and M.R. Walsh. (*in press*) Natural selection favors a larger eye size in response to increased competition in natural populations of a vertebrate. **Functional Ecology**
- (5) **Beston, S.M.**, J.L. Dudycha, D.M. Post, and M.R. Walsh. **2019**. The evolution of eye size in response to increased fish predation in *Daphnia*. **Evolution** 73(4):792-802
- (4) Walsh, M.R., M. Packer, **S.M. Beston**, C. Funkhouser, M. Gillis, J. Holmes, and J.M. Goos. **2018**. *Daphnia* as a model for eco-evolutionary research. *Natural History of the Crustacea, Vol. 5: Life Histories*, Oxford University Press
- (3) **Beston, S.M.**, E. Wostl, and M.R. Walsh. **2017**. The evolution of vertebrate eye size across an environmental gradient: phenotype does not predict genotype in a Trinidadian killifish. **Evolution** 71: 2037-2049
- (2) **Beston, S.M.**, W. Broyles⁺, and M.R. Walsh. **2017**. Increased juvenile predation is not associated with evolved differences in adult brain size in Trinidadian killifish (*Rivulus hartii*). **Ecology and Evolution** 7(3): 884-894
- (1) Walsh, M.R., W. Broyles⁺, **S.M. Beston**, and S.B. Munch. **2016**. Predator-driven brain size evolution in natural populations of Trinidadian killifish (*Rivulus hartii*). **Proceedings of the Royal Society B** 283: 20161075

In preparation:

Beston, S.M. and M.R. Walsh. (*in prep*) The evolution of vertebrate brain size: where do we stand 100 years later? Invited review at *Ecology Letters**

Beston, S.M., K. Howell, and M.R. Walsh. (*in prep*) Tests of the behavioral and fitness correlates of predator driven brain size evolution in the wild.

Beston, S.M., K. Howell, and M.R. Walsh. (*in prep*) Competition as a selective mechanism for eye size evolution in Trinidadian killifish.

GRANTS, AWARDS, & FELLOWSHIPS

- 2018 American Fellowship, American Association of University Women; **\$20,000**
 Outstanding Graduate Research Award, Biology Department, University of Texas at
 Arlington; **\$500**
 Travel Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society, **\$750**

- 2017 Doctoral Dissertation Improvement Grant (DDIG), National Science Foundation, “DISSERTATION RESEARCH: The evolution of complexity: tests of the ecological drivers of eye size evolution in Trinidadian killifish (*Rivulus hartii*)”; **\$19,604**
 Travel Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society, **\$750**
- 2016 Research Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society; **\$3,000**
- 2015 Research Grant, Beta Phi Chapter of the Phi Sigma Biological Honor Society; **\$1,500**
- 2014 Environmental Research Fund Grant, Hobart and William Smith Colleges; **\$600**
 Student Travel Award, Great Lakes Research Consortium; **\$250**
 Biology Research Award, Hobart and William Smith Colleges; **\$100**
- 2013 Best Student Poster Presentation, Finger Lakes Research Conference; **\$100**

PRESENTATIONS

* - co-authored presentation, + poster presentation

Contributed talks –

- 2018 The American Society of Naturalists, Asilomar, CA
 2017 Evolution, Portland, OR
 2016 Evolution, Austin, TX
 NY Chapter of American Fisheries Society Annual Meeting, Cooperstown, NY*
 2015 Society for Freshwater Science, Milwaukee, WI+
 2014 Joint Aquatic Sciences Meeting, Portland, OR
 Senior Symposium, Hobart and William Smith Colleges, Geneva, NY
 NY Chapter of American Fisheries Society Annual Meeting, Geneva, NY
 2013 Finger Lakes Research Conference, Geneva, NY+
 Northeast Natural History Conference, Springfield, MA*
 2012 Annual Fall Paper Session of the Rochester Academy of Science, Rochester, NY+

Invited talks –

- 2018 2nd Joint Congress on Evolutionary Biology, Montpellier, France+ (*declined invitation*)
 2016 STEM Academy, Morristown High School

PROFESSIONAL ACTIVITIES

Reviewer: Animal Biology (1), Biological Journal of the Linnean Society (1), Evolution (2), PLoS One (1), Proceedings of the Royal Society B (2), Scientific Reports (1)

Symposium organizer: 2nd Joint Congress on Evolutionary Biology (2018)

Society membership: American Society of Naturalists (ASN), Society for Integrative and Comparative Biology (SICB), Beta Phi Chapter of the Phi Sigma Biological Honors Society, Society for the Study of Evolution (SSE)

SERVICE & OUTREACH

2018 EarthX, Dallas, Texas
2017 Ecofest, Arlington, Texas
2017 Earth Day TX, Dallas, Texas
2016-2017 Vice President, Beta Phi Chapter of the Phi Sigma Biological Honor Society
2016 Ecofest, Arlington, Texas
2015 Ecofest, Arlington, Texas
2014 Project coordinator, Day of Service, Hobart and William Smith Colleges
Student committee for department hire, Hobart and William Smith Colleges
Student committee for professor tenure review, Hobart and William Smith Colleges
2013 William Smith Judicial Board, Hobart and William Smith Colleges
2012 Castle Creek Water Quality Educational Outreach Experience, The Finger Lakes Institute
Cascadilla Creek Stream Health Educational Outreach Experience, Sciencenter of Ithaca

UNDERGRADUATES MENTORED

2018 Anum Zobairi; Undergraduate, University of Texas at Arlington
2016 – 2018 Sara Stearns; Honors College Undergraduate, University of Texas at Arlington
2016 Taryn Flink; Graduate Student, University of Texas at Arlington
Kaitlyn Howell; Graduate Student, University of Texas at Arlington
2015 Joseph Sanders; Watershed Stewards Program, California Conservation Corps, AmeriCorps

TEACHING ACTIVITIES

2018 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors
2017 (F) Teaching assistant, Ecology Laboratory
2017 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors
2016 (F) Teaching assistant, Molecules, Cells, & Disease Laboratory for non-majors
2016 (Su) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for majors
2016 (S) Teaching assistant, Evolution, Ecology, & Global Change Laboratory for non-majors
2015 (F) Teaching assistant, Introduction to Biostatistics
2015 (Su) Teaching assistant, Introduction to Biostatistics
2015 (S) Teaching assistant, Molecules, Cells, & Disease Laboratory for non-majors
2014 (F) Teaching assistant, Cell & Molecular Biology Laboratory for majors