SEAN A. S. ANDERSON

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EMPLOYMENT

July 2022-Present – Postdoctoral Research Associate, Department of Biology, University of North Carolina at Chapel Hill (Daniel R. Matute lab)

EDUCATION

PhD, Ecology and Evolutionary Biology, University of Toronto (2016*-2022)
Thesis Title: "Divergent ecological adaptation in the speciation cycle"
Advisor: Jason T. Weir
**a change in labs in 2018 re-set my thesis; PhD research listed here began in 2018.*

BSc, Biology (With Distinction) University of Victoria (2005-2009)

ACADEMIC RECOGNITIONS

2021 – Peter Abrams Prize for Sustained Research Excellence, University of Toronto
2021 – Harold Harvey Prize for Sustained Contribution to Intellectual Life in the Department (Runner Up), University of Toronto
2009 – President's Scholarship, University of Victoria
2009 – Bev Glover Memorial Scholarship, University of Victoria

PEER-REVIEWED PUBLICATIONS

5. **Anderson, S. A. S.**, J. T. Weir. *In Press.* The role of divergent ecological adaptation during allopatric speciation in vertebrates. ***Science.***

4. **Anderson, S. A. S.**, H. López-Fernández, J. T. Weir. *Accepted.* Ecology and the origin of non-ephemeral species. ***American Naturalist.***

3. Bemmels, J. B., A. C. Bramwell, **S. A. S. Anderson**, V. E. Luzuriaga-Aveiga, E. K. Mikkelsen, J. T. Weir. (2021). Geographic contact drives increased reproductive isolation in two cryptic *Empidonax* flycatchers. ***Molecular Ecology***, 30: 4833-4844. https://doi.org/10.1111/mec.16105

2. **Anderson, S. A. S.**, J. T. Weir. (2021). Character displacement drives trait divergence in a continental fauna. ***Proceedings of the National Academy of Sciences****, 118: e2021209118. https://doi.org/10.1073/pnas.2021209118

*Article was the PNAS cover story

1. **Anderson, S. A. S.**, J. T. Weir. (2020). A comparative test for divergent adaptation: inferring speciation drivers from functional trait divergence*. ***American Naturalist***, 196: 429-442. https://doi.org/10.1086/710338
   * Article made the journal's 'Most Read' list in Fall 2020.

PUBLISHED SOFTWARE

1. **Anderson, S. A. S.** and J. T. Weir. (2022). *diverge*: evolutionary trait divergence between sister species and other paired lineages. R package version 2.0.4. https://cran.r-project.org/web/packages/diverge/index.html

OTHER WRITING & PUBLISHING

FEATURES

Anderson, S. A. S., C. M. Thaysen, R. Turner. (2020). The arctic by land and sea. *The EEB Quarterly*, Vol 2, Fall/Winter, pp. 72-91.

Anderson, S. A. S. (2019). Meet the keynote: interview with Atwood Colloquium keynote lecturer Sharon Strauss. *The EEB Quarterly*, Vol 1, Spring, pp. 48-54.

Anderson, S. A. S. (2018). Massively parallel: tutorial for running R scripts on the Niagara supercomputer. *The EEB Quarterly*, Vol 1, Winter, pp. 88-101.

EDITORIALS

Anderson, S. A. S. (2020). Black Lives Matter: EEB Quarterly's statement on solidarity with the BLM movement. *The EEB Quarterly*, Vol 2, Spring/Summer, pp. 1-3.

Anderson, S. A. S. (2018-2020). A Letter from the Editors. *The EEB Quarterly*, Vols 1 & 2, (I wrote this recurring editorial in all five issues of volumes 1 and 2).

NEWSLETTER BRIEFS & REPORTS

Anderson, S. A. S. (2019). Department news. *The EEB Quarterly*, Vol 1, Spring, pp. 22-27.

Anderson, S. A. S. (2019). Student appreciation. *The EEB Quarterly*, Vol 1, Spring, pp. 37-38.

Anderson, S. A. S. (2020). Department news. *The EEB Quarterly*, Vol 2, Fall/Winter, pp. 24-27.

RESEARCH PRESENTATIONS

Anderson, S. A. S., H. López-Fernández, and J. T. Weir. 2021. Does ecological speciation generate continental biodiversity? Canadian Society for Ecology and Evolution Meeting, Vancouver, B.C. (digital).

Anderson S. A. S. and J. T. Weir. 2021. Revisiting the role of divergent selection in the evolution of species richness. UTSC Biology Department Seminar (invited) *I was the first non-PhD-holder to be invited to deliver a talk in this seminar series.

Anderson, S. A. S. and J. T. Weir. 2020. Character displacement drives trait divergence in a continental fauna. Atwood Colloquium, University of Toronto.

Anderson, S. A. S. and J. T. Weir. 2020. Ecological character displacement across a latitudinal gradient. American Naturalist Standalone Meeting, Asilomar, CA.

Anderson, S. A. S. and J. T. Weir. 2019. Modelling divergent adaptation between sister species using the Ornstein-Uhlenbeck process. Evolution Conference, Providence RI.

Anderson, S. A. S. 2017. Continental constraints on the diversification of cichlid fishes. University of Toronto Student Seminar Series.

Anderson, S. A. S. 2017. Neotropical fishes and global diversity patterns: correcting the island-study bias in diversification studies. Royal Ontario Museum Incubator Series (Invited).

Anderson, S. A. S. 2017. Modes of diversification in a hyper-diverse system: the neotropical fishes, Atwood Colloquium (Lightning), University of Toronto.

Anderson, S. A. S. and D. Laird. 2010. A test of aposematic colouration in *Calliostoma annulatum*. Pacific Ecology and Evolution Conference, Bamfield BC.

Anderson, S. A. S. and D. Laird. 2009. A comparison of the behavioural defenses of *Calliostoma annulatum* and *C. ligatum* against two invertebrate predators. Bamfield Fall Symposium, Bamfield Marine Sciences Centre.

Academic Community Involvement

2019-2020 – **Graduate Student Representative**, Canadian Union for Public Employees.
2020-Present – **Newsletter Editor**, *The EEB Quarterly*, University of Toronto.
2018-2020 – **Founder, Editor in Chief**, *The EEB Quarterly*, a departmental review and full-length digital magazine written by and for graduate students. This magazine has directly inspired similar publications at Canadian institutions including the University of Ottawa's *Biomatters Magazine*, whose editors I advised, and the University of Toronto at Scarborough's *The Valley*.
2018-19, 19-20 – **Scarborough Campus Representative**, EEB Graduate Students Association executive committee.
2017, 2018 – **Graduate Student Mentor**, EEB Mentorship Program.
2017, 2018 – **Volunteer**, Atwood Colloquium Selection Committee, EGSA.

Public Outreach

2020 – **Backyard Birding Tutorial** – Koffler Scientific Reserve at Joker's Hill
2017 – **March Break at the ROM** – Public interpretation of fishes collection at the Royal Ontario Museum
2017 – **Halloween Friday Night Live** – Public interpretation of fishes collection at the Royal Ontario Museum
2017 – ***ROM Magazine* Spring Issue** – Photos published in story "Up the River" by Hernán López-Fernández and Mary Burridge

TEACHING

A. UNIVERSITY COURSES

2022, 20, 19, 18 – University of Toronto (Scarborough), **Tutorials**, "Macroevolution"
2021, 19, 18 – University of Toronto (St. George), **Lab Tutorials**, "Diversity of Birds"
2020 – University of Toronto (Scarborough), **Invited Guest Lecturer**, "Ornithology".
Lecture title: Character displacement and the latitudinal diversity gradient
2020 – University of Toronto (St. George), **Course Development**, "Macroevolution"
2020 – University of Toronto (St. George), **Lab Tutorials**, "Evolutionary Ecology"
2019 – University of Toronto (Scarborough), **Invited Guest Lecturer**, "Ornithology".
Lecture title: Character displacement in birds
2017 – University of Toronto (St. George), **Lab Tutorials**, "Diversity of Fishes"
2017 – University of Toronto (St. George), **Lab Tutorials**, "From Genomes to Ecosystems"
2016 – University of Toronto (St. George), **Lab Tutorials**, "Adaptation and Biodiversity"
2016 – University of Toronto (St. George), **Invited Guest Lecturer**, "Diversity of Fishes".
Lecture title: "Issues in Marine Fisheries from Canadian and Global Perspectives".

B. HIGH SCHOOL COURSES

2011-2014 – **Instructor**, Forest Hill Tutoring and Academy: Physics 11, Physics 12, Mathematics 10, Mathematics 12, Chemistry 11

FIELD RESEARCH EXPERIENCE

2019 – Bird sampling transect from Coastal BC to northern Rocky Mountains, **Canada**. University of Toronto.
2018 – Biodiversity sampling of **Rewa River, Guyana**. University of Michigan.
2016 – Biodiversity sampling of **Upper Saramacca River, Suriname**. Royal Ontario Museum.
2010 – Data collection and monitoring, Shark Bay Ecosystem Research Project, **Shark Bay, WA, Australia**. Florida International University.
2009 – Data collection and field courses, **Bamfield, BC, Canada**. Bamfield Marine Sciences Centre.
2007 – Data collection, population ecology of juvenile steelhead trout, John Day River Basin, **Eastern Oregon, USA**. Utah State University.

PRE-GRAD-SCHOOL EMPLOYMENT

2014-2016 – **Archipelago Marine Research, Victoria BC**
Position: Data Technician, Dockside and At-Sea catch Validator
Purview: Identified and quantified catch for the British Columbia commercial ground fish fleet. Analyzed and summarized data for use in quota management and enforcement in partnership with Fisheries and Oceans Canada

2011-2014 – **Forest Hill Tutoring and Academy, Toronto ON**
Position: Tutor and Instructor of Ontario Credit Courses in Math, Chemistry, and Physics

2010 (Feb-August) – **Shark Bay Ecosystem Research Project, WA, Australia**
Position: Field Research Assistant

2008, 2014 – **Orca Spirit Adventures, Victoria BC**
Position: Marine Naturalist
Purview: Natural history interpretation of Vancouver Island marine wildlife for eco-tourism company

2007 – **Utah State University**
Position: Field Research Assistant

PROFESSIONAL DEVELOPEMENT

2018 – Evolutionary Quantitative Genetics Workshop, Friday Harbor Labs

PROFESSIONAL SERVICES

Peer reviewer for *Proceedings of the Royal Society B: Biological Sciences*, *Ecology Letters*, *Journal* of *Evolutionary Biology*, *American Naturalist*, *Evolution*.

SOCIETY MEMBERSHIPS

Canadian Society for Ecology and Evolution, Society for the Study of Evolution, American Society of Naturalists, Toronto Field Naturalists