

# SEAN A. S. ANDERSON

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<http://seanasanderson.github.io>

## EMPLOYMENT

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### 2025-Present – Assistant Professor

School of Biological Sciences, Georgia Institute of Technology

### 2022-2024 – Postdoctoral Research Associate

Department of Biology, University of North Carolina at Chapel Hill (Daniel Matute lab)

## EDUCATION

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**PhD**, Ecology and Evolutionary Biology, University of Toronto, November 2022.

Advisor: Jason T. Weir

**BSc**, Biology (With Distinction) University of Victoria, 2010.

## ACADEMIC RECOGNITIONS

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2026 – Dobzhansky Prize (Honorable Mention), Society for the Study of Evolution

2023 – Best Graduate Student Paper, Biology Department, University of Toronto at Scarborough

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

## PUBLICATIONS (\*corresponding author)

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Anderson, S. A. S.\*, Kaushik, S., Matute, D. R. (2025). The comparative analysis of lineage-pair traits. *Systematic Biology*, <https://doi.org/10.1093/sysbio/syaf061>

Anderson, S. A. S.\*, Matute, D. R. (2025). Secondary sympatry as a sorting process. *Ecology Letters*. E70108. <https://doi.org/10.1111/ele.70108>

Kim, B. Y., ..., Anderson, S. A. S., ... Petrov, D. A. (2024). Single-fly genome assemblies fill major phylogenetic gaps across the Drosophilidae tree of life. *PLoS Biology*, 22: e3002697. <https://doi.org/10.1371/journal.pbio.3002697>

Anderson, S. A. S.\*, Anspach, T. (2023). (Digest) The non-redundancy of non-ephemeral reproductive isolation. *Evolution*, <https://doi.org/10.1093/evolut/qpac060>

Anderson, S. A. S.\*, López-Fernández, H., Weir, J. T. (2023). Ecology and the origin of non-ephemeral species. *American Naturalist*, <https://doi.org/10.1086/723763>

Anderson, S. A. S.\*, Weir, J. T. (2022). The role of divergent ecological adaptation during allopatric speciation in vertebrates. *Science*, 378: 1214-1218. <https://doi.org/10.1126/science.abo7719>

Bemmels, J. B., Bramwell, A. C. Anderson, S. A. S. Luzuriaga-Aveiga, V. E. Mikkelsen, E.

K. Weir, J. T. (2021). Geographic contact drives increased reproductive isolation in two cryptic *Empidonax* flycatchers. *Molecular Ecology*, 30: 4833-4844.  
<https://doi.org/10.1111/mec.16105>

**Anderson, S. A. S.\***, Weir, J. T. (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 cover of PNAS

**Anderson, S. A. S.\***, Weir, J. T. (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

## SOFTWARE

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**Anderson, S. A. S.** (2025). *phylopairs*: comparative analyses of lineage-pair traits. R package version 0.1.1. <https://cran.r-project.org/web/packages/phylopairs/index.html>

**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.rproject.org/web/packages/diverge/index.html>

## NON-TECHNICAL WRITING

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### 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

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### Invited Seminars

**Anderson, S. A. S.** (Feb 2026). Ecological and genomic consequences of secondary

contact. Yale University, New Haven, CT.

**Anderson, S. A. S.** (2025) Speciation continua, independent evolution, and the genomic perspective. University of Georgia, Athens, GA.

**Anderson, S. A. S.** (2023). Speciation and the genesis of regional biodiversity. University of Toronto.

**Anderson, S. A. S.** (2023). The ecology of intrinsic reproductive isolation. Gordon Speciation Conference (GRC), Lucca, Italy.

**Anderson, S. A. S.** and J. T. Weir. (2021). Revisiting the role of divergent selection in the evolution of species richness. University of Toronto at Scarborough, Biology Department Seminar

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

#### Conferences

**Anderson, S. A. S.** (2025). The comparative analysis of lineage-pair traits. Jacques Monod Conference in Speciation, Roscoff, France.

**Anderson, S. A. S.** (2025). The comparative analysis of lineage-pair traits. Evolution Conference, Athens, GA.

**Anderson, S. A. S.**, S. Kauchik, D. R. Matute (2025). Phylogenetic correction in comparative studies of speciation. Gordon Speciation Conference, Ventura, CA (poster).

**Anderson, S. A. S.**, B. Lerch, D. R. Matute. (2024). Tracking changes in the stability of postzygotic isolation. Evolution Joint Congress, Montreal QC. (Talk Accepted for Symposium 'On the completion of speciation').

**Anderson, S. A. S.** (2023). Ecology and the origin of non-ephemeral species. Evolution Conference, Albuquerque, NM.

**Anderson, S. A. S.**, J. T. Weir (2023). Does adaptive ecological divergence drive allopatric speciation in vertebrates? Gordon Speciation Conference (GRC), Lucca, Italy (poster).

**Anderson, S. A. S.** (2023). The ecology of intrinsic reproductive isolation. Gordon Speciation Seminar (GRS)\*, Lucca, Italy

*\*Talks at GRC are generally reserved for faculty members. This talk originally appeared at the GRS. It was voted by GRS attendees to be one of the four non-faculty talks invited to the GRC.*

**Anderson, S. A. S.** and J. T. Weir. (2022). The role of adaptive ecological divergence during allopatric speciation in vertebrates. SICB Regional Conference, Duke University.

**Anderson, S. A. S.** and J. T. Weir. (2022). The ecology of allopatric speciation. Evolution Conference, Cleveland, OH.

**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, BC.

**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). 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 BC.

## TEACHING

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### A. WORKSHOPS

2025 – Bruce Weir Summer Institute in Statistical Genetics (Statistical Genetics Module), Atlanta, GA

### B. UNIVERSITY COURSES

2026 – Georgia Institute of Technology, Instructor of Record, “Communicating Biology”

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”.

### C. HIGH SCHOOL COURSES

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

## FIELD EXPEDITIONS (SPONSORING INSTITUTION)

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### AFRICA

2022 – *Drosophila* sampling across an interspecific hybrid zone and elevational gradient on Pico de São Tomé, **São Tomé and Príncipe**. (University of North Carolina at Chapel Hill).

### NORTH AMERICA

2019 – Fox sparrow transect, Coastal BC to Rocky Mountains, **Canada**. (University of Toronto).

- 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).

#### SOUTH AMERICA

- 2018 – Biodiversity sampling of fishes, **Rewa River, Guyana**. (University of Michigan).
- 2016 – Biodiversity sampling of fishes, **Saramacca River, Suriname**. (Royal Ontario Museum).

#### AUSTRALIA

- 2010 – Data collection and monitoring, Shark Bay Ecosystem Research Project, **Shark Bay, WA, Australia**. (Florida International University).

#### ACADEMIC COMMUNITY INVOLVEMENT

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- 2020-2022 – **Newsletter Editor**, [\*The EEB Quarterly\*](#), University of Toronto.
- 2019-2020 – **Graduate Student Representative**, Canadian Union for Public Employees.
- 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 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*.
- 2018-2020 – **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.

#### SCIENCE-RELATED PRE-GRAD-SCHOOL EMPLOYMENT

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- 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 – **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 ASSOCIATIONS

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Fellow, The Explorer's Club

Lifetime Member, Society for the Study of Evolution

Lifetime Member, Canadian Society for Ecology and Evolution

Member, American Society of Naturalists

## PROFESSIONAL DEVELOPMENT

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2023 – Workshop in Genomics, Český Krumlov, Czech Republic

2023 – Mentorship Training Series, UNC Office of Graduate Education

2018 – Evolutionary Quantitative Genetics Workshop, Friday Harbor Labs

## PROFESSIONAL SERVICES

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**Peer review of articles:** *Proceedings of the National Academy of Sciences of the USA (PNAS), Systematic Biology, Ecology Letters, American Naturalist, Molecular Ecology, Evolution, Proceedings of the Royal Society B, Scientific Reports, Journal of Evolutionary Biology, Journal of Biogeography, Biology Letters, Biological Journal of the Linnean Society*

**Peer review of grant applications:** Agence Nationale de la Recherche (France)