Grant E. Haines

CURRENT POSITION

Hólar University, Sauðárkrókur, Iceland
Postdoctoral Researcher (January 2023-present)

EDUCATION

Colgate University, Hamilton, NY
BA, May 2015, *magna cum laude*
Majors: Biology (*with honors*), Political Science
The College of William & Mary,
Williamsburg, VA
MSc in Biology, May 2017
McGill University, Montréal, QC
PhD in Biology, May 2022

HONORS

Colgate University
Graduated Magna cum Laude with Honors in Biology
Beta Beta Beta National Biology Honors Society
Pi Sigma Alpha National Political Science Honors Society

AWARDS, GRANTS, & FELLOWSHIPS

The College of William & Mary
2015-2016 and 2016-2017 Graduate Studies and Research Recruitment Fellowship (2000 USD)
2016 – Arts & Sciences Graduate Research Grant (300 USD)
2017 – Carl J. Strikwerda Award for Excellence in the Natural and Computational Sciences (250 USD)
McGill University
2017 – QCBS Excellence Award (1009 CAD)
2017 – Department of Biology Research Travel Award (2000 CAD)
2017-2018 – Alexander Cowie Fellowship (5000 CAD)
2017-2018 – Biology Excellence Award (10 000 CAD)
2020 – Biology Writing Year Award (6 000 CAD)
2020 – Mitacs Research Training Award (6 000 CAD)

2024 – NSERC Alliance Grant (298,490 CAD), "*Discovering and Protecting Unique Freshwater Diversity in Eastern Canada, With Special Focus on Threespine Stickleback Fish in Quebec Parks."* I was not eligible to serve as the PI, and I am leading the funded work with Andrew Hendry (the PI; McGill University). Olivier Morisette (Université du Québec à Chicoutimi), Alison Derry (Université du Québec à Montréal), and Rowan Barrett (McGill University) are co-PIs.

Research Interests

- Patterns of morphological integration and modularity in trophic structures, and integration with function.
- Contemporary evolution of trophic and defensive traits, in response to habitat change and species introductions.

- Geographic and environmental patterns of phenotypic variation, and how these are affected by ecological change.
- Intra-annual environmental variation, life history traits, and their effects on patterns of selection through ontogeny.

PUBLICATIONS

Preprint

- **Grant E. Haines**, Joseph S. Phillips, Bjarni K. Kristjánsson, Camille A.-L. Leblanc. Weather and landscape morphology drive thermal regime variation among Mývatn ponds, and implications for resident Arctic charr. *EcoEvoRxiv.* doi.org/10.32942/X2GG96.

In Review

- **Grant E. Haines,** Sarah Sanderson, Rosalie Morin-Nadeau, Andrew P. Hendry. Evolution of threespine stickleback (*Gasterosteus aculeatus*) following the stocking of brook trout (*Salvelinus fontinalis*). In 2nd round of review at *The American Naturalist*.

Accepted

- Sarah Sanderson, **Grant Haines,** Thomas Reimchen, Christopher Beirne, Cole Burton, Andrew P. Hendry. Inferring bird communities on remote freshwater lakes through time-lapse imagery. *Canadian Journal of Zoology*.

Published

2025

- Lucas Gorné, Andrew Hendry, Fanie Pelletier, Sarah Sanderson, Cristian Correa, Carlos Arias, Marc-Olivier Beausoleil, Maryse Boisjoly, Erika Crispo, Daniel Berner, Luis Fernando De León, Joseph DiBattista, **Grant Haines**, Benjamin Haller, Michael Kinnison, Shahin Muttalib, Ann McKellar, Rose O'Dea, Winer Daniel Reyes-Corral, Yanny Ritchot, Krista Oke, Zachary Wood, Thomas Farrugia, Kiyoko Gotanda. PROCEED v6.1: Phenotypic rates of change evolutionary and ecological database. *Ecology*, 106(3):e70009. doi.org/10.1002/ecy.70009.

2024

- Andrew P. Hendry, Rowan D. H. Barrett, Alison M. Bell, Michael A. Bell, Daniel I. Bolnick, Kiyoko M. Gotanda, **Grant E. Haines**, Åsa Lind, Michelle Paccard, Catherine L. Peichel, Christopher R. Peterson, Hilary A. Poore, Robert L. Massengill, Kathryn Milligan-McClellan, Natalie C. Steinel, Sarah Sanderson, Matthew R. Walsh, Jesse N. Weber, and Alison M. Derry. (2024). Designing eco-evolutionary experiments for restoration projects: Opportunities and constraints revealed during stickleback introductions. *Ecology and Evolution*, 14:e11503. doi.org/10.1002/ece3.11503.

2023

- **Grant E. Haines**, Louis Moisan, Alison Derry, Andrew P. Hendry (2023). Dimensionality and Modularity of Adaptive Variation: Divergence in Threespine Stickleback from Diverse Environments. *The American Naturalist*, 201(2):175-199. doi.org/10.1086/722483.
    - *Corrected in* **Grant E. Haines**, Louis Moisan, Alison Derry, Andrew P. Hendry (2024) Corrigendum. *The American Naturalist*, 203(1):147-159. doi.org/10.1086/728406.
- Robert J. Scott, **Grant E. Haines,** Nate R. Biedak, John A. Baker (2023). Variation in morphology among populations of threespine stickleback (*Gasterosteus aculeatus*) from

western Newfoundland, Canada. *Environmental Biology of Fishes*, 106:1889-1905. doi.org/10.1007/s10641-023-01464-4.

- Robert J. Scott, **Grant E. Haines**, Chelsea A. Trask (2023). Armour reduction and pelvic girdle loss in a population of threespine stickleback (Gasterosteus aculeatus) from western Newfoundland, Canada. *Environmental Biology of Fishes,* 106:685-695. doi.org/10.1007/s10641-023-01407-z.
- Sarah Sanderson, Louis Astorg, **Grant E. Haines**, Sandrine Beaumont-Courteau, R. Brian Langerhans, Alison M. Derry, Andrew P. Hendry. (2023). Freshwater fishes maintain multi-trait phenotypic stability across an environmental gradient in aqueous calcium. *Journal of Fish Biology*, 103 (1): 143-154. doi.org/10.1111/jfb.15412.

2022

- Sarah Sanderson, Marc-Olivier Beausoleil, Rose E. O'Dea, Zachary T. Wood, Cristian Correa, Victor Frankel, Lucas D. Gorné, **Grant E. Haines**, Michael T. Kinnison, Krista B. Oke, Fanie Pelletier, Felipe Pérez-Jvostov, Yanny Ritchot, Freedom Sorbara, Winer Daniel Reyes-Corral, Kiyoko M. Gotanda, and Andrew P. Hendry (2022). The Pace of Modern Life, Revisited. *Molecular Ecology*, 31(4): 1028-1043. doi.org/10.1111/mec.16299.
- **Grant E. Haines** (2022). Intraspecific diversity of threespine stickleback (*Gasterosteus aculeatus*) populations in eastern Canada. *Environmental Biology of Fishes*. 106(5):1177-1194. doi.org/10.1007/s10641-022-01362-1.

2020

- Jessica Ford, David A.G. Hunt, **Grant E. Haines**, Micaela Lewis, Yael Lewis, and David M. Green (2020). Adrift on a sea of troubles: can amphibians survive in a human-dominated world? *Herpetologica,* 76(2):251-256. doi.org/10.1655/0018-0831-76.2.251.
- **Grant E. Haines**, Yoel E. Stuart, Dieta Hanson, Tania Tasneem, Daniel I. Bolnick, Hans C.E. Larsson, Andrew P. Hendry (2020). Adding the third dimension to studies of parallel evolution of morphology and function: an exploration based on parapatric lake-stream stickleback. (2020). *Ecology and Evolution*, 10:13297-13311. doi.org/10.1002/ece3.6929.

2018

- Hannah Brooks, **Grant E. Haines**, M. Carly Lin, and S. Laurie Sanderson (2018). Physical modeling of vortical cross-step flow in the American paddlefish, *Polyodon spathula*. *PLoS ONE*, 13(3): e0193874. doi.org/10.1371/journal.pone.0193874.

2017

- **Grant E. Haines** and S. Laurie Sanderson (2019). Integration of swimming kinematics and ram suspension feeding in a model American paddlefish, *Polyodon spathula*. *The Journal of Experimental Biology,* 220:4535-4547. doi.org/10.1242/jeb.166835.

Conference Presentations

- **Grant Haines,** Bjarni Kristjánsson, Camille Leblanc**.** "*Body condition, competition, and survival in replicated wild charr populations*". Oral Presentation at Mývatn Research Anniversary Conference. Skútustaðir, Iceland. September 16-19, 2024.
- **Grant Haines,** Bjarni Kristjánsson, Camille Leblanc. "*Body condition, survival, and temporal variation in replicate Arctic charr populations*". Oral Presentation at 3rd Joint Conference on Evolutionary Biology. Montréal, Québec. July 26-30, 2024.

Grant E. Haines

- **Grant Haines,** Bjarni Kristjánsson, Camille Leblanc. "*Body condition in replicate charr populations: trends through time & implications*". Oral Presentation at Líffræðiráðstefnan/Meeting of the Icelandic Biological Society. Reykjavík, Iceland. October 12-14, 2023.
- **Grant Haines**. "*Population dynamics, demographics, and individual small arctic charr populations*", Oral Presentation at Evolution, Diversity and Disease Symposium. Hólar, Iceland. August 17-19, 2023.
- **Grant Haines,** Bjarni Kristjánsson, Camille Leblanc. "*Environment, life history, and demography in cave charr*". Oral Presentation at Vistís 2023 (Meeting of the Icelandic chapter of the Nordic Society Oikos). Lugarbakki, Iceland. March 24-26, 2023.
- **Grant Haines** "*Threespine stickleback diversity and contemporary evolution in Eastern Canada*" Oral Presentation at 10th International Conference on Stickleback Behaviour and Evolution. Hólar, Iceland. July 28, 2022.
- **Grant Haines**. *"Contemporary change of trophic morphology and integration in threespine stickleback, following introduction to a novel environment."* Oral presentation at Ecological and Evolutionary Ethology of Fishes meeting. Online. July 12, 2021.
- **Grant Haines**, Andrew Hendry, Thomas E. Reimchen. *"Contemporary change of trophic morphology and integration in threespine stickleback, following introduction to a novel environment."* Oral presentation at Evolution, joint meeting of ASN, SSE, and SSB. Online. June 24, 2021.
- **Grant Haines**. "*Refracted form and function in flattened fish: 2D projections of 3D structures alter interpretations of phenotypic parallelism in threespine stickleback."* Oral presentation at the Montreal Eco-Evo Symposium. Montreal, QC. December 2, 2019.
- **Grant Haines** and S. Laurie Sanderson. "*Integration of swimming kinematics and ram suspension feeding in American paddlefish."* Oral presentation at The Meeting of The American Society of Naturalists. Asilomar, CA. January 7, 2018.
- **Grant Haines**. "*Swimming kinematics facilitate ram suspension-feeding in a model American paddlefish*." Oral presentation at The College of William & Mary Graduate Research Symposium. Williamsburg, VA. March 24-25, 2017.
- **Grant Haines**, Wesley Morgan, Randy Fuller, James Paris. "*Impact of Lime Amendments on Macroinvertebrate Community Dynamics in Acid-Stressed Adirondack Mountain Streams*." Poster presented at Society for Freshwater Science Annual Meeting, Milwaukee, WI. May 2015.

Invited Symposium Talk
2019 Internation Congress of Vertebrate Morphology, Skeletons in Moving Fluids symposium. Prague, Czech Republic (unable to attend)

Society Memberships:
Society for the Study of Evolution
Líffræðifélag Íslands / The Icelandic Biological Society

Reviewing
I have reviewed manuscripts for the following journals:
Biological Journal of the Linnean Society
Biological Invasions

Evolutionary Ecology
Herpetologica
Evolutionary Ecology Research
Evolutionary Applications
Evolution
Ecology and Evolution

Teaching
Statistics using R – STA1306180 (Fall 2023) – Co-taught with Bjarni Kristjánsson

Mentorship
Undergraduate Honors Students
Rebecca Pahulje (2020-2021, McGill)
Capucine Lechartre (2019-2020, McGill)
Louis Moisan (2018-2019, McGill)
Madeline Riddler (2022, McGill)
Graduate Students
Daison Weedop (2023-2024, Hólar)
Erika Jessen (2024-present, McGill)
Hélène Pfister (begins May 2025, UQàM)

ADDITIONAL WORK EXPERIENCE

Post-doctoral Researcher
McGill: Lab of Andrew Hendry (June-Dec. 2022)

Teaching Assistant
W&M: Labs: *Intro to Organisms, Ecology, and Evolution* (Fall 2015); *Intro to Molecules, Cells, and Development* (Spring 2016); *Integrative Biology: Animals* (Fall 2016)
Lab Prep: *Principles of Animal Physiology* and *Immunology* (Spring 2017)
Lecture: *Integrative Biology: Animals* (Fall 2016)
McGill: Lab: *Principles: Organismal Biology* (Fall 2017), FRezCa tutorials (optional tutorials for reviewing lecture materials) for *Principles: Organismal Biology* (Fall 2018, 2019, and 2021)

Laboratory Assistant
Lab of Randy Fuller, Colgate University Biology Department, Hamilton, NY (Spring 2014-2015).
Non-academic Conservation Science Communication
Counselor, Ecology/Conservation, Camp Minsi, BSA, Pocono Summit, PA (June-Aug 2009-2013)