

**Mackenzie Urquhart-Cronish**  
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## RESEARCH INTERESTS

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My PhD research explored the demography of range expansion and its genetic consequences for range edge populations. My work advances our conceptual understanding of the factors affecting species ranges by developing new theoretical models and conducting empirical studies with plants (i.e., fieldwork, greenhouse experiments, evolutionary genomics) in nature along contrasting spatiotemporal scales (e.g., latitude vs. elevation) to test and refine existing range expansion theory. Specifically, my work aims to identify when and where we expect range expansion to influence spatial variation in genetic load and/or mating-system traits and how these feedback to affect the long-term persistence of edge populations in nature.

## EMPLOYMENT

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<b>Post-doctoral fellow</b> University of Toronto Department of Ecology & Evolutionary Biology	<i>October 2024 - Present</i> Supervisor: Stephen Wright
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## EDUCATION

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<b>Ph.D.</b> University of British Columbia Department of Botany	<i>September 2018 - August 2024</i> Supervisor: Amy Angert
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<b>M.Sc.</b> University of Toronto Department of Ecology & Evolutionary Biology	<i>September 2014 - July 2016</i> Supervisor: Marla Sokolowski
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<b>B.Sc. Hon. with distinction</b> University of Toronto Double major: Ecology & Evolutionary Biology and Animal Physiology	<i>September 2009 - June 2013</i> Supervisor: Marla Sokolowski
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## PUBLICATIONS

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### Submitted

2. **M. Urquhart-Cronish**, K.A. Thomopson, and A.L. Angert. (Under Review at *Evolution Letters*) The historical biogeography of range expansion predicts spatial patterns in reproductive assurance. [manuscript ID: EVL3-24-0141].
1. **M. Urquhart-Cronish**, C.S. Berg, D. Moxley, O.J. Rahn, L. Fishman, and A.L. Angert. (Under review at *Molecular Ecology*) An alpine plant shows no decrease in genetic diversity associated with rapid post-glacial range expansion. [manuscript ID: MEC-24-1140].

### Peer-reviewed

5. **M. Urquhart-Cronish**, A.L. Angert, S. P. Otto, and A. MacPherson (2024). Density-dependent selection during range expansion affects expansion load in life-history traits. *The American Naturalist*. 203(3), 382-392. <https://doi.org/10.1086/728599>

4. R. Germain, **M. Urquhart-Cronish**, N. Jones, M. Mayfield, and M. Raymundo (2022). The strength and direction of (mal)adaptation depends on neighbour density and the environment. *Journal of Ecology* 110(3), 514-525. <https://doi.org/10.1111/1365-2745.13838>
3. K.A. Thompson, **M. Urquhart-Cronish**, K.D. Whitney, L.H. Rieseberg, and D. Schluter (2021). Patterns, predictors, and consequences of dominance in hybrids. *The American Naturalist*. 197(3), E72-E88. <https://doi.org/10.1086/712603> (*Honorable mention: Best student paper award 2022*)
2. **M. Urquhart-Cronish**, and S. P. Otto (2019). Gender and language use in scientific grant writing. *FACETS*. 4: 442-458. <https://doi.org/10.1139/facets-2018-0039>  
**press: University Affairs article**
1. **M. Urquhart-Cronish** and M. B. Sokolowski (2014). Gene-environment interplay in *Drosophila melanogaster*: chronic nutritional deprivation in larval life affects adult fecal output. *Journal of Insect Physiology*. 69: 95-100. <https://doi.org/10.1016/j.jinsphys.2014.06.001>

## AWARDS

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### Scholarships, fellowships, & awards

2024	SSE W.D. Hamilton Award winner	\$500 USD
2024	SSE W.D. Hamilton Award finalist	\$500 USD
2022	Kit Malkin Scholarship	\$775 CAD
2020–2021	NSERC CGS D	\$35 000 CAD
2020	L'Oréal - France-Canada Research Fund Fellowship	\$5 000 CAD
2019	Vladimir J. Krajina Prize in Plant Ecology	\$1 200 CAD
2019	Samantha Hicks Memorial Prize	\$1 050 CAD
2018–2020	NSERC PGS D	\$42 000 CAD
2018-2022	UBC Four-Year Doctoral Fellowship ( $\frac{3}{4}$ declined)	\$72 800 CAD
2015 & 2016	Frederick P. Ide Graduate Award	\$2 020 CAD
2015–2016	NSERC CGS M	\$17 500 CAD
2014	EEB Entrance Scholarship	\$1 000 CAD
2012	Victoria College In-Course Regents Scholarship	\$1 000 CAD

### Research grants

2022	Botanical Society of America Graduate Student Research Award	\$1 500 USD
2022	The American Society of Naturalists Student Research Award	\$2 000 USD
2021	Lewis and Clark Fund for Exploration and Field Research	\$5 000 USD
2020	RC Lewontin Award—Society for the Study of Evolution	\$2 500 USD

### Travel awards

2023	Graduate Student Travel Award (UBC)	\$500 CAD
2016	School of Graduate Studies Conference Grant	\$500 CAD
2016	Harold H. Harvey Travel Award	\$400 CAD
2014	Imperial College Travel Grant	£500 UK

## TEACHING EXPERIENCE

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### Mentorship

2023	Lauren McBurnie	Directed Studies (UBC)
2019–2020	Olivia Rahn	UBC ‘SURE’ Award, Directed Studies, & NSERC USRA (UBC)

### Courses taught

2024	Teaching assistant	Fundamentals of Ecology (UBC)
2023	Teaching assistant	Evolutionary Ecology (UBC)
2022, 2023	Teaching assistant	Integrative Science Research Development Project (UBC)
2021, 2022	Teaching assistant	Fundamentals of Biostatistics (UBC)
2020, 2021, 2022	Teaching assistant	Plant Ecology (UBC)
2020	Teaching assistant	Plants and People (UBC)
2015, 2016	Teaching assistant	From Genomes to Ecosystems (U of T)
2014	Teaching assistant	Adaptation and Biodiversity (U of T)

## PRESENTATIONS

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### Invited

2024	U of T EEB Internal Seminar Series	Toronto, ON, Canada
2024	Third SSE & ESEB Joint Congress <i>Symposium: Ecology and the Evolution of Reproductive Traits</i>	Montreal, QC, Canada
2024	Third SSE & ESEB Joint Congress <i>W.D. Hamilton Award Symposium</i>	Online

### Contributed

‡Talk †Poster \*Presentation award

2024	Canadian Society for Ecology & Evolution <sup>‡</sup>	Vancouver, BC, Canada
2023	Ecology & Evolution Retreat <sup>‡*</sup>	Brackendale, BC, Canada
2023	Evolution Meeting <sup>‡</sup>	Albuquerque, NM, USA
2022	Botany Graduate Student Symposium <sup>‡</sup>	Vancouver, BC, Canada
2021	Ecology & Evolution Virtual Retreat <sup>‡</sup>	Online
2019	Ecology & Evolution Retreat <sup>†</sup>	Brackendale, BC, Canada
2018	Ecology & Evolution Retreat <sup>†</sup>	Brackendale, BC, Canada
2016	Canadian Society for Ecology & Evolution <sup>‡</sup>	St. John's, NL, Canada
2016	Ontario Ecology, Ethology & Evolution Colloquium <sup>‡</sup>	Toronto, ON, Canada
2013	Ontario Ecology, Ethology & Evolution Colloquium <sup>†</sup>	London, ON, Canada
2013	U of T EEB Department Undergraduate Poster Fair <sup>†*</sup>	Toronto, ON, Canada

## PROFESSIONAL DEVELOPMENT

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### Technical experience

2022, 2023	Visiting Genomics Researcher with Dr. Lila Fishman	Missoula, MT, USA
2018	Field Crew Leader with Dr. Amy Angert	Vancouver, BC, Canada
2018	CIEE Website Developer with Dr. Diane Srivastava	Vancouver, BC, Canada
2017	Field and Greenhouse Technician with Dr. Rachel Germain	Vancouver, BC, Canada
2017	Grant Writer/Research Assistant with Dr. Sarah P. Otto	Vancouver, BC, Canada
2016-2017	Data Analyst with Dr. Jeannette Whitton	Vancouver, BC, Canada
2013-2014	Research Assistant with Dr. Marla B. Sokolowski	Toronto, ON, Canada
2012	Research Assistant with Dr. Don Jackson	Toronto, ON, Canada

## COMMUNITY INVOLVEMENT & SERVICE

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### Positions held

2022–2023	BRC Post-Doc Search Committee	UBC Biodiversity Research Centre
2021–	UBC Graduate Representative	Canadian Society for Ecology & Evolution
2018–	Webmaster	Angert Lab (UBC)
2020–2021	President	UBC Botany Graduate Students' Association
2020–2021	Office Space Use Committee	UBC Biodiversity Research Centre
2019	Co-director “Huts” Skit	UBC Botany & Zoology Departments
2019–2020	Wilderness First Aid Coordinator	UBC Botany & Zoology Departments
2017–2018	“Coexisting with Coyotes” Data Analyst	Stanley Park Ecology Society
2016–2017	Museum Outreach Education Volunteer	Beaty Biodiversity Museum
2016	Volunteer Tutor	U of T Saturday Program
2015–2016	Lead Plenary Coordinator	Ontario Ecology, Ethology & Evolution Colloquium

### Reviewer history

#### *Academic journals*

2024	<i>Journal of Evolutionary Biology, New Phytologist</i>
2022	<i>Oikos, Journal of Heredity</i>
2021	<i>Journal of Biogeography, Proc. Royal Soc. B.</i>
2020	<i>FACETS</i>