

L. Ruth Rivkin

CURRICULUM VITAE

A. ACADEMIC HISTORY

Research Appointments

- 2023 Data Scientist
Environment Canada and Climate Change Canada
Contract #3000757259
- 2021-2025 NSERC Postdoctoral Research Fellow
University of Manitoba (UM), Polar Bears International (PBI), and San Diego Zoo Wildlife Alliance (SDZWA)
Supervisors: Colin Garroway (UM), Evan Richardson (Environment Canada and Climate Change), Geoff York (PBI), and Megan Owen (SDZWA).

Education

- 2015-2021 *Degree:* Ph.D. Ecology and Evolutionary Biology
University of Toronto
Thesis: The effects of urbanization on the ecology and evolution of species interactions
Supervisor: Marc Johnson
- 2010-2015 *Degree:* Hon. B.Sc. Wildlife Biology-Statistics
University Guelph

Significant Gaps in Research

- 2022-2023 Parental leave (1 year)

B. SCHOLARLY AND PROFESSIONAL WORK

Refereed Publications (*Total = 15; h = 9; Citations = 485*)

15. **Rivkin LR**, AC Andrade. 2023. Increased herbivory but not cyanogenesis is associated with urbanization in a tropical wildflower. *Austral Ecology*. <https://doi.org/10.1111/aec.13274>
14. **Rivkin LR**, MTJ Johnson. 2022. The impact of urbanization on mating system and population genetic variation in the native wildflower, *Impatiens capensis*. *Journal of Urban Ecology*. juac009. <https://doi.org/10.1093/jue/juac009>.
13. Verrelli, BC, A Alberti, S Des Roches, NC Harris, AP Hendry, MTJ Johnson, AM Savage, A Charmantier, KM Gotanda, L Govaert, LS Miles, **LR Rivkin**, KM Winchell, KI Brans, Cn Correa, SE Diamond, B Fitzhugh, NB Grimm, S Hughes, JM Marzluff, J Munshi-South, C Rojas, JS Santangelo, CJ Schell, JA Schweitzer, M Szulkin, MC Urban, Y Zhou, C Ziter.

2022. A global horizon scan for urban evolutionary ecology. *Trends in Ecology and Evolution*. 37:1006-1019. <https://doi.org/10.1016/j.tree.2022.07.012>
12. KM Winchell, KJ Aviles-Rodriguez, EJ Carlen, LS Miles, A Charmantier, LF De León, KM Gotanda, **LR Rivkin**, M Szulkin, and BC Verrelli. 2022. Moving past the challenges and misconceptions in urban adaptation research. *Ecology and Evolution*. 12:ee9552. <http://doi.org/10.1002/ece3.9552>
 11. **Rivkin LR**, RA Johnson, JA Chaves, MTJ Johnson. 2021. Urbanization alters ecological and evolutionary interactions between Darwin's finches and *Tribulus cistoides* on the Galápagos Islands. *Ecology and Evolution*. 11:15754–15765. <http://doi.org/10.1002/ece3.8236>
 10. **Rivkin, LR**, V Nhan⁺, AE Weis, MTJ Johnson. 2020. Variation in pollinator-mediated plant reproduction across an urbanization gradient. *Oecologia*. 192:1073–1083. <https://doi.org/10.1007/s00442-020-04621-z>
⁺ Undergraduate researcher
 9. Des Roches, S, K Brans, M Lambert, **LR Rivkin**, A Savage, C Schell, C Correa, L De Meester, S Diamond, N Grimm, N Harris, A Hendry, L Goevart, MTJ Johnson, J Munshi-South, E Palkovacs, M Szulkin, M Urban, B Verrelli, M Alberti. 2020 Socio-eco-evolutionary dynamics in cities. In *Evolutionary Applications*. 14:248– 267. <https://doi.org/10.1111/eva.13065>
 8. Santangelo JS, **LR Rivkin**, C Advenard, KA Thompson. 2020 Multivariate phenotypic divergence along an urbanization gradient. *Biology Letters*. 16:20200511. <https://doi.org/10.1098/rsbl.2020.0511>
 7. Santangelo, JS, LS Miles, ST Breitbart, D Murray-Stoker, **LR Rivkin**, MTJ Johnson, RW Ness. 2020. Urban environments as a framework to study parallel evolution. In Szulkin, M, Munshi-South, J, Charmantier, A, eds. *Urban Evolutionary Biology*. Oxford University Press.
 6. **Rivkin, LR**, JS Santangelo, M Alberti, MF Aronson, CW de Keyser, SE Diamond, M Fortin, LJ Frazee, AJ Gorton, AP Hendry, Y Liu, JB Losos, JS MacIvor, RA Martin, M McDonnell, LS Miles, J Munshi-South, R Ness, AE Newman, MR Stothart, P Theodorou, KA Thompson, BV Verrelli, A Whitehead, KM Winchell, and MTJ Johnson. 2019. A roadmap for urban evolutionary ecology. *Evolutionary Applications*. 12:384–398. <https://doi.org/10.1111/eva.12734>
 5. Miles, LM, **LR Rivkin***, MTJ Johnson, J Munshi-South, BC Verrelli. 2019. Gene flow and genetic drift in urban environments. *Molecular Ecology*. 28:4138-4151. <https://doi.org/10.1111/mec.15221>
^{*}Co-first author
 4. **Rivkin, LR**, SCH Barrett, MTJ Johnson. 2018. The effects of plant sexual system and latitude on resistance to herbivores. *American Journal of Botany*. 105:977-985. <https://doi.org/10.1002/ajb2.1098>

3. Santangelo, JS, **LR Rivkin**, MTJ Johnson. 2018. The evolution of city life. *Proceedings of the Royal Society B*. 20181529. <https://doi.org/10.1098/rspb.2018.1529>
2. **Rivkin, LR**, AL Case, CM Caruso. 2016. Why is gynodioecy a rare but widely distributed sexual system? Lessons from the Lamiaceae. *New Phytologist*. 211:688-696. <https://doi.org/10.1111/nph.13926>
1. **Rivkin, LR**, AL Case, CM Caruso. 2015. Frequency-dependent fitness in gynodioecious *Lobelia siphilitica*. *Evolution*. 69:1232-1243. <https://doi.org/10.1111/evo.12654>

Refereed Special Issues as Guest Editor

Santangelo, JS, **LR Rivkin**, MTJ Johnson. 2018. The evolution of city life. Special Issue in *Proceedings of the Royal Society B*.

Honours, Awards, and Scholarships (Total funding: \$250,000; Academic (A); Leadership (L))

2022-2025	NSERC Postdoctoral Research Fellowship (\$90,000; A)
2021	UTM Graduate Student Research Award (\$2,500; A)
2021	EEB Department Harold Harvey Award Honorable Mention (\$250; L)
2020	Roberta Bondar Graduate Student Excellence Award (\$1,126.43; L/A)
2020	Canadian Society of Ecology and Evolution Excellence in Doctoral Research Award (\$500; L/A)
2020	EEB Department Peter Abrams Award Honorable Mention (\$250; A)
2019-2020	Queen Elizabeth II Graduate Scholarship in Science and Technology (\$15,000; A)
2019	EEB Department Ramsay-Wright Award Honorable Mention (\$250; A)
2018	UTM Graduate Training Award (\$500; A)
2016-2019	NSERC Canada Graduate Scholarship Doctoral (\$105,000; A)
2016	Sigma Xi Grant-in-Aid of Research (\$900; A)
2016	Best Graduate Talk, Canadian Society for Ecology and Evolution (\$500; A)
2016-2019	UTM Conference Travel Grant (\$400/year; A)
2016-2019	UTM Biology Travel Award (\$1000/year; A)
2015-2016	NSERC Canada Graduate Scholarships –Master’s Program (\$17,500; A)
2015	Botanical Society of America Young Botanist Award (A)
2014	Best Undergraduate Talk, Ontario Ecology, Ethology, and Evolution Colloquium (\$150; A)

Papers Presented at Meetings, Symposia, and Institutions (Total: 14)

Invited Talks

Rivkin LR. 2021. The effects of urbanization on the ecology and evolution of species interactions University of Toronto Mississauga Biology Department Seminar Series. Virtual

- Rivkin LR.** 2020. The effects of urbanization on the ecology and evolution of species interactions. Doctoral Excellence Award Talk. Canadian Society for Ecology and Evolution. [Virtual](#).
- Rivkin LR.** 2020. A roadmap for urban evolutionary ecology. Caribaea Initiative Research & Conservation Conference. Bridgetown, Barbados. Plenary. *Cancelled due to COVID-19*
- Rivkin LR, V Nahn, AE Weis, MTJ Johnson.** 2019. The strength of plant-pollinator interactions varies along an urbanization gradient. Urban Eco-Evolutionary Dynamics Workshop. Seattle, WA.
- Contributed Conference Presentations (Oral presentation (T), Poster presentation (P))*
- Rivkin LR, RA Johnson, JA Chaves, MTJ Johnson.** 2021. Urbanization alters ecological and evolutionary interactions between Darwin's finches and *Tribulus cistoides* on the Galápagos Islands. Society for the Study of Evolution (Evolution). Virtual. (T)
- Rivkin LR, V Nahn, AE Weis, MTJ Johnson.** 2019. The strength of plant-pollinator interactions varies along an urbanization gradient. Society for the Study of Evolution (Evolution). Providence, RI. (T)
- Miles LS, **Rivkin LR, Johnson MTJ, J Munshi-South, BC Verrelli.** 2020. Gene flow and genetic drift in urban environments. Evolution. Providence, RI. (T)
- Rivkin LR, V Nahn, MTJ Johnson.** 2018. The influence of urbanization on plant fitness and pollinator communities. II Joint Congress on Evolutionary Biology. Montpellier, FR. (P)
- Rivkin LR, MTJ Johnson.** 2017. The role of urbanization on the evolution of selfing and population genetic structure in *Impatiens capensis*. Evolution. Portland, OR. (P)
- Rivkin LR, SCH Barrett, MTJ Johnson.** 2016. The role of sexual system and latitude on insect herbivory in *Sagittaria latifolia* (Alismataceae). Canadian Society for Ecology and Evolution. St. John's, NL. (T)
- Rivkin LR, SCH Barrett, MTJ Johnson.** 2016. The role of sex-biased herbivory on the evolution of dioecy in *Sagittaria latifolia* (Alismataceae). Ontario Ecology, Ethology and Evolution Colloquium. Toronto (OE3C), ON. (T)
- Rivkin LR, AL Case, CM Caruso.** 2015. Why is gynodioecy a rare but widespread sexual system? Lessons from the Lamiaceae. OE3C. Toronto, ON. (T)
- Rivkin LR, AL Case, CM Caruso.** 2014. Mechanisms of frequency dependent fitness in gynodioecious *Lobelia siphilitica*. Evolution. Raleigh, NC. (T)
- Rivkin LR, AL Case, CM Caruso.** 2014. Mechanisms of frequency dependent fitness in gynodioecious *Lobelia siphilitica*. OE3C. (T)

C. TEACHING AND SUPERVISORY EXPERIENCE

Undergraduate Course Instructor

2021 Evolutionary Biology (BIO342; 150 students; sole instructor)

Teaching Assistantships and Course Development

Teaching Assistantships

2020	Ecology (BIO205)
2019	Evolution (BIO152)
2018	Biology behind the news (BIO201)
2017	Ecology (BIO205)
2016-2020	Evolutionary Biology (BIO342)
2015-2018	Biometrics II (BIO361)

Course Development

2019	Biometrics II (BIO361)
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Supervisory Experience

2018	Vanessa Nhan, Honors Thesis (BIO481) <i>Thesis:</i> The effect of urbanization on plants and plant-pollinator interactions in rapid cycling <i>Brassica rapa</i> Published in <i>Oecologia</i>
2016	Zahra Sina, Research Project (BIO299) <i>Thesis:</i> Pollinator community composition of <i>Impatiens capensis</i> an urban-rural gradient.

D. ACADEMIC SERVICE**Academic and Community Service**

2022-2023	Steering Committee; NSF-RCN: Urban Eco-Evo Dynamics
2021-2022	Advisory Council, NSF-DCL LTER Urban Evolution Workshop
2021-2022	Lead organizer, NSF-RCN: Urban Eco-Evo Dynamics Workshop Series
2020	Panel Judge, Global Undergraduate Awards
2020	Volunteer, St. John's Ambulance Therapy Dog Program
2018-2020	Graduate student representative, Canadian Society for Ecology and Evolution
2017-2018	Co-organizer, The evolution of city life. Special Issue in <i>Proceedings of the Royal Society B</i> .
2016-2017	Executive, Synthesis in the City: Urban Evolutionary Ecology of Plants Workshop Organizing Committee
2015-2016	Executive, Ontario Ecology, Ethology, and Evolution Colloquium Organizing Committee

Departmental and University Service

2020	Graduate representative, UTM Biology Executive Committee
2019	Graduate Representative, UTM Health and Counselling Committee
2018-2020	Founder, Path to Resilience: UTM Graduate Peer Support Group
2018-2020	Organizer, Path to Resilience: UTM Grad Wellness Workshop Series

- 2018-2020 Treasurer, UTM Association of Graduate Students
- 2016-2017 President, UTM Biology Graduate Student Society
- 2016-2017 Graduate representative, UTM Biology Executive Committee
- 2016-2017 Graduate representative, UTM Biology faculty meetings
- 2015-2016 Graduate representative, Information & Technology Student Advisory Committee

External reviews

Botany
 Plant Ecology
 Scientific Reports
 Journal of Ecology
 Bioscience
 New Phytologist
 Urban Ecosystems
 American Journal of Botany
 Evolutionary Applications
 PeerJ
 Frontiers in Ecology and Evolution
 Industrial Crops and Products
 Journal of Evolutionary Biology
 Molecular Ecology

E. RELEVANT EXPERIENCE

Media Interviews

- 2021 City Animals. Frick, I love Nature. Season 1, episode 2. CBC Gem.
<https://gem.cbc.ca/media/frick-i-love-nature/s01e02>
- 2020 Ruth Rivkin wins Excellence in PhD Research Award. U of T Celebrates.
<https://www.utoronto.ca/celebrates/ruth-rivkin-wins-excellence-phd-research-award>
- 2018 Why house sparrows can eat starch: the evolution of city wildlife. The Environment Report. Michigan NPR Radio.
<https://www.michiganradio.org/post/why-house-sparrows-can-eat-starch-evolution-city-wildlife>

Research Experience

- 2015 Technician, EvoEco Lab
 University of Toronto Mississauga
 Supervisor: Marc Johnson
- 2013-2015 Technician, Plant Evolutionary Ecology Research

- University of Guelph
Supervisor: Christina Caruso
- 2012 Technician, Marine Benthic Lab Research Technician,
Memorial University
Supervisor: Paul Snelgrove
- 2011 Technician, Laboratoire Environnemental de Géochimie Organique Research,
Concordia University
Supervisor: Yves Gelinas