

L. Ruth Rivkin

CURRICULUM VITAE

A. ACADEMIC HISTORY

Research Appointments

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
University Guelph

B. SCHOLARLY AND PROFESSIONAL WORK

Refereed Publications (*Total = 14; h = 8; Citations = 287*)

14. **Rivkin LR**, MTJ Johnson. The impact of urbanization on mating system and population genetic variation in the native wildflower, *Impatiens capensis*. In review at *Journal of Urban Ecology*. JUECOL-2021-0102.
13. KM Winchell, KJ Aviles-Rodriguez, EJ Carlen, LS Miles, A Charmantier, LF De León, KM Gotanda, **LR Rivkin**, M Szulkin, and BC Verrelli. Moving past the challenges and misconceptions in urban adaptation research. In review at *Evolutionary Applications*.
12. 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. A global horizon scan for urban evolutionary ecology. In review at *Trends in Ecology and Evolution*.
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 Keyzer, 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)*)

2022-2024	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 Nhan, 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)

Supervisory Experience

2018 Vanessa Nhan, Honors Thesis (BIO481)

Thesis: The effect of urbanization on plants and plant-pollinator interactions in rapid cycling *Brassica rapa*

Published in *Oecologia*

2016 Zahra Sina, Research Project (BIO299)

Thesis: Pollinator community composition of *Impatiens capensis* 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 *Proceedings of the Royal Society B*.
 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