

## Dr. Jens Ulrich (née Johnson)

**Postdoctoral Researcher, University of Ottawa, Ottawa, ON**

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## Current Position

Postdoctoral Researcher in Biology  
University of Ottawa, Ottawa, ON.  
Supervisor: Dr. Heather Kharouba

2025 – present

## Education

**PhD – Plant Science** (2025), University of British Columbia, Vancouver, BC.

Dissertation title: “*Insect pollinators in urban landscapes: Impacts of city design and management on species abundance and occurrence*”.

Supervisor: Dr. Risa Sargent

**MSc – Geography** (2018), University of British Columbia, Vancouver, BC.

Thesis title: “*A native annual forb locally excludes a closely related introduced species that co-occurs in oak-savanna habitat remnants*”.

Supervisor: Dr. Jennifer Williams

**BSc (Honors) – Biology** (2015), University of Washington, Seattle, WA.

Undergraduate honors thesis title: “*Mechanisms of polyploidy and their effects on flower diversification in *Thalictrum* (meadow-rues)*”.

Supervisors: Dr. Veronica Di Stilio and Dr. Valerie Soza

## Fellowships, Honors, and Awards

- 2025, Canadian Society for Ecology and Evolution ‘Excellence in Doctoral Research’ Award (\$600 + \$1200 for conference travel).
- 2022 – 2025, National Postgraduate Doctoral Fellowship (PGS-D) - Natural Sciences and Engineering Research Council of Canada (originally \$21K, now \$40K, over 3 years)
- 2020-2024, Four Year Doctoral Fellowship (4YF), University of British Columbia (\$18,200 + tuition, over 4 years)
- 2020, Mahesh K. Upadhyaya Plant Science Scholarship, University of British Columbia (\$1000)
- 2015, Undergraduate Research Scholarship, Botanical Society of America (\$200)
- 2015, BEACON Lab Research Award, University of Washington (\$1000)
- 2014, May Garret Hayes Plant Biology Scholarship, University of Washington (\$1000)

- 2013, Frye-Hotson-Rigg Award, University of Washington (\$500)
- 2013 and 2015, Mary Gates Research Scholarship, University of Washington (\$4000 each)

## Peer-reviewed Publications

10. **Ulrich, J.**, and Sargent R. (2025). Estimating the ecological drivers of insect abundance when detection is imperfect. *Journal of Animal Ecology* 00, 1-14 [DOI](#).
9. Platsko, M., **Ulrich, J.** and Sargent, R. (2025). Niche overlap between the introduced species *Bombus impatiens* (Apidae) and native bumblebees in Southwestern British Columbia. *Biological Invasions* 27(9), 1 – 12. [DOI](#).
8. Roulston, T., Armstrong, C., Batstone, M., Bobiwash, K., Borda, S., Bunsha, D., Ciotir, C., Husband, B., Manning, P., Moreau, T., Singh, A., Smith, T., **Ulrich, J.**, and Migicovsky, Z. (2025). Conservation challenges and opportunities for native apple (*Malus*) species in Canada. *Plants, People, Planet*, 1, 1 – 23. [DOI](#).
7. **Ulrich, J.**, and Sargent, R. (2025). Urban landscapes with more natural greenspace support higher pollinator diversity. *Ecological Applications* 35(1), e70005. [DOI](#).
6. **Ulrich, J.**, and Sargent, R. (2024). Habitat restorations in an urban landscape rapidly assemble diverse pollinator communities that persist. *Ecology Letters* 28(1), e70037. [DOI](#).
5. **Ulrich, J.**, Moreau, T., Luna-Perez, E., Beckett, K., Simon, L., Migicovsky, Z., Diederichsen, A., and Khoury, C. (2022). An inventory of crop wild relatives and wild-utilized plants in Canada. *Crop Science*, 62(6), 2294 – 2318. [DOI](#).
4. Migicovsky, Z., Amyotte, B., **Ulrich, J.**, Smith, T.W., Turner, N.J., Pico, J., Ciotir, C., Sharifi, M., Meldrum, G., Stormes, B. and Moreau, T. (2022). Berries as a case study for crop wild relative conservation, use, and public engagement in Canada. *Plants, People, Planet*, 4(6), 558 – 578. [DOI](#).
3. **Johnson, J.**, Williams, J. (2020). A native annual forb locally excludes a closely related introduced species that co-occurs in oak-savanna habitat remnants. *Annals of Botany Plants*, 12(5), plaa045. [DOI](#).
2. Wang, T. N., Clifford, M. R., Martínez-Gómez, J., **Johnson, J.**, Riffell, J. A., and Di Stilio, V. S. (2018). Scent matters: differential contribution of scent to insect response in flowers with insect vs. wind pollination traits. *Annals of Botany*, 123(2), 289 – 301. [DOI](#).
1. Blischak, P. D., Latvis, M., Morales-Briones, D. F., **Johnson, J.**, Di Stilio, V. S., Wolfe, A. D., and Tank, D. C. (2018). Fluidigm2PURC: automated processing and haplotype inference for double-barcoded PCR amplicons. *Applications in Plant Science*, 6(6), e01156. [DOI](#).

## Manuscripts in Review or in Preparation

- **Ulrich, J.**, Cheung, J., Cosma, C., and Guzman, L.M. (In Preparation). Urban island biogeography: How to design a city that promotes butterfly diversity. (Anticipated submission: Fall, 2025).
- **Ulrich, J.**, Knoerr, S., Zhang, Y., ... and Sargent, R. (In Preparation). Urbanization, elevation, and spatial population dynamics influence the range expansion of an introduced bumble bee species. (Anticipated submission: Winter, 2025).

## Academic Speaking Invitations

- **Ulrich, J.** (accepted invitation, 2025). **Invited speaker for the CSEE Excellence in Doctoral Research Award.** “Insect pollinators in urban landscapes: Impacts of city design and management on species abundance and occurrence”. Canadian Society for Ecology and Evolution Annual Meetings (July 6-9), Sherbrooke, QC.
- **Ulrich, J.** (accepted invitation, 2025). **Invited symposium speaker.** “Challenges and opportunities for urban pollinator conservation: co-designing and applying results from a study of habitat restorations”. (Symposium Title: Implementing urban ecology: Case studies in conservation and sustainability; organized by Dr. Elsa Youngsteadt and Melina Keighron), Ecological Society of America Annual Meetings (Aug. 10-15), Baltimore, MD.
- **Ulrich, J.** (2024). **Invited symposium speaker** “Developing a conservation strategy for crop wild relatives and wild utilized plants in Canada”. U.S. Botanic Garden North American Crop Wild Relative Symposium (Sep. 17-19), Denver, CO.
- **Ulrich, J.** (2023). **Invited symposium speaker.** “Monitoring insect pollinator trends: Methodological advances and best practices”. (Symposium Title: Trends in North American Insect Populations and Diversity: Recent Findings and the Importance of Public Engagement; organized by Dr. Jayme Lewthwaite), Ecological Society of America Annual Meetings (Aug. 6-11), Portland, OR.

## Knowledge Translation:

### Presentations and Reports to Conservation Practitioners

- “Effects of No-Mow Meadow Management on Pollinators”. Invited through my partnership with the City of Vancouver Park Board’s lead landscape architect (Jack Tupper) to present my PhD research to the BCRPA Parks Professional Pathways Annual Conference, Langley, BC. (2023). This forum allowed me to share the key implications of my research on park management strategies for bee conservation in cities and followed with a Q&A.
- Annual pre- and post-season meetings (2020-2024) with lead landscape architects from the City of Vancouver Park Board’s. In pre-season meetings, I presented field work plans and received feedback and recommendations for implementing field work. In post-season meetings, I provided preliminary reports and final reports on findings and management recommendations.

### Public Media Contributions

- CBC What on Earth Podcast audio interview – ([web link](#)). 2025.
- CBC News BC: video interview on urban park pollinator restorations – ([web link](#)). 2025.
- Canada’s National Observer: “Why Bees and Butterflies are Buzzing Back to Vancouver Parks” (news article) – ([web link](#)). 2025.

## Leading Conservation Partnerships:

- **Investigating the Drivers of Range Spread for an Introduced Bumble Bee Species.** Currently I am leading a project to determine the drivers of range spread for an introduced bumble bee species in western Canada and the U.S., including collaborators from academia as well as federal government: Agriculture and Agri-food Canada and the United States

Department of Agriculture. I organize monthly meetings, curate data, design and implement analyses, and will lead the writing of a manuscript for peer-review.

- **Urban island biogeography: How to design a city that promotes butterfly diversity.** Currently I am leading a project to understand how city-context shapes the effects of urban greenspace properties on the dynamics of butterfly populations across 24 U.S. cities. For this project, I am leading collaborators from academia as well as conservation practitioners from the Conservation Biology Institute. I organize monthly meetings, curate data, design and implement analyses, and will lead the writing of a manuscript for peer-review.

## Contributed Academic Conference Presentations

- **Ulrich, J.,** and Sargent, R. (2024). “Habitat restorations in an urban landscape rapidly assemble diverse pollinator communities that persist”. BC Entomological Society Annual Meetings (Nov. 13-16), Vancouver, BC.
- **Ulrich, J.,** and Sargent, R. (2024). “Habitat restorations in an urban landscape rapidly assemble diverse pollinator communities that persist”. Ecological Society of America Annual Meetings (Aug. 4-9), Long Beach, CA.
- **Ulrich, J.,** and Sargent, R. (2024). “Habitat restorations in an urban landscape rapidly assemble diverse pollinator communities that persist”. Canadian Society for Evolutionary and Ecological Biology Annual Meetings (May 27-29), Vancouver, BC.
- **Ulrich, J.,** and Sargent, R. (2023). “Urban landscapes with more natural habitat support higher pollinator diversity”. UBC/SFU Annual Eco-Evo Retreat, Squamish, BC.  
*\*Awarded best presentation.*
- **Ulrich, J.,** and Sargent, R. (2023). “Urban landscapes with more natural habitat support higher pollinator diversity”. Ecological Society of America Annual Meetings (Aug. 6-11), Portland, OR.
- **Ulrich, J.,** and Sargent, R. (2022). “*Impacts of urban wildflower enhancements on pollinator population size and site occupancy*”. Entomological Society of America Annual Meetings (Nov. 13-16), Vancouver, BC.
- **Ulrich, J.,** Moreau, T., Luna-Perez, E., Beckett, K., Simon, L., Migicovsky, Z., Diederichsen, A., and Khoury, C. (2022). “Towards and Integrated Conservation Strategy for Crop Wild Relatives and Wild Utilized Plants in Canada”. Ecological Society of America Annual Meetings (Aug 14-19), Montreal, QC.
- **Johnson, J.,** and Williams, J. (2018). “Mechanisms of Coexistence Between Native and Exotic Plant Species”. Canadian Society for Evolutionary and Ecological Biology Annual Meetings (July 18-21), Guelph, ON.
- **Johnson, J.,** Soza, V., and Di Stilio, V. (2014). “Mechanisms of Polyploidy in *Thalictrum* (Ranunculaceae)”. Botany Annual Meetings (July 26-30), Boise, ID.

## Related Professional Work Experience

**Graduate Research Assistant,** University of British Columbia, 2020 – 2025.

- Assisted an MSc student in applying Bayesian statistical approaches to her thesis data.
- Guided an MSc student through data visualization for thesis chapter.

- Assisted with pollinator specimen identification and curation; designed/led a wild bee identification workshop for graduate students and work learn students.

**Graduate Research Assistant**, University of British Columbia, 2016 – 2018.

- Collected and digitized plant demography data.

**Pollination Ecology Field and Lab Technician**, Winfree Lab, Rutgers University, 2016.

- Conducted plant and pollinator field surveys and assisted with pollinator identification.

**Biological Science Technician (Botany)**, U.S. Forest Service, Tahoe National Forest, 2015.

- Prepared spatial occurrence maps and reports for invasive and sensitive plant populations.
- Implemented invasive plant control.

**National Science Foundation R.E.U. Intern**, University of Idaho, 2014.

- Conducted pollinator field surveys and DNA extractions for microsatellite data.

**Undergraduate Research Assistant**, Di Stilio Lab, University of Washington, 2013 – 2015.

- Conducted plant DNA extractions and phylogenetic analyses.

## Teaching and Mentoring Experience

- Led statistics reading group discussions, University of Ottawa, 2025 – present.
- Led reading group exercises in Bayesian Hierarchical Modeling for population and community ecology, University of British Columbia, Biodiversity Research Centre. 2025.
- Co-mentored a group of students for a graduate course (RES 509) project focusing on crop wild relative conservation (2023).
- Graduate Teaching Assistant, University of British Columbia, 2016 – 2018; 2020 – 2024:
  - Pollination ecology (APBI 490) (2022, 2023).
  - Agroecology II: Application and analysis (APBI 360) (2021, 2022, 2023, 2024).
  - Agroecology I: Introduction to principles and techniques (APBI 260) (2020).
  - Introduction to Entomology (APBI 327) (2021).
  - Biogeography (GEOB 201) (2018).
  - Our Changing Environment: Climate and Ecosystems (GEOB 102) (2016, 2017).
- Undergraduate Teaching Assistant, University of Washington, 2013 – 2014:
  - Trends in land plant evolution (BIOL 448) (2014).
  - Plant taxonomy and identification (BIOL 317) (2013).
- Supervised (6) undergraduate work-learn students and (1) international work-learn student in field and lab data collection (2020 – 2024).
- Supervised (2) undergraduate students for a research methods course (APBI 398) (2023 – 2024).
- Guest lectures:
  - “Impacts of urbanization on pollinators and plant-pollinator interactions” Guest lecture for UFOR 495 – Biodiversity in Urban Areas, University of British Columbia, Vancouver, BC. (2022, 2023).
  - “Impacts of urbanization on pollinators and plant-pollinator interactions” Guest lecture for ABPI 490 – Pollination Ecology, University of British Columbia, Vancouver, BC. (2022, 2023).

## Outreach and Community Contributions

### Volunteer Activities:

- Pollinator Garden Volunteer, Memorial South Park, Vancouver, BC. 2024 – 2025.
- Board Member-at-Large, The Native Bee Society of British Columbia. 2020 – 2022.
- Herbarium Volunteer, Burke Museum, University of Washington, Seattle, WA. 2014 – 2016.
- Biodiversity Days Bee Walk pollinator identification and information activities. UBC Botanical Garden (2025).
- “Gardening for beneficial insects”. Invited presentation for Deep Cove Garden Club, North Vancouver, BC. (2022).

### Software and Data Visualization Tools:

- RShiny app for viewing predicted range shifts of wild apple species under various climate change scenarios – ([web link](#)). 2025.
- RShiny app for obtaining provincial or biogeographic lists of Canadian crop wild relatives, and for viewing geographic origins of current germplasm holdings – ([web link](#)). 2023.

### Society Memberships and Service

Member of: CSEE (Since 2017); ESA (Since 2020).

Volunteer Session Moderator (Ecological Society of America Annual Conference, 2024).

Volunteer Session Moderator (Entomological Society of America Annual Conference, 2023).

### Professional Service

#### *Invited manuscript reviews:*

2025: *Ecology* (1), *Science* (1 – co-review with supervisor), *Urban Ecosystems* (1), *Plants, People, Planet* (1), *Biological Conservation* (1).

2024: *Ecology* (1 – co-review with supervisor), *Science* (1 – co-review with supervisor), *Crop Science* (1).

2023: *The American Naturalist* (1), *Science* (1 – co-review with supervisor).