

# David Murray-Stoker

Ph.D. Candidate

University of Toronto

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Research (Meta)community Ecology — Evolutionary Ecology — Mutualisms —  
Interests Plant-Microbe Interactions — Pedagogy — History & Philosophy of Science

Education      **University of Toronto**      2018–Present  
                 **Ph.D. in Ecology & Evolutionary Biology**  
                 Advisor: Marc Johnson  
                 Committee: Megan Frederickson, John Stinchcombe  
                 Title: *Coevolutionary ecology of legume-rhizobia interactions in urban environments.*

**University of Georgia**      2011–2016  
                 **B.S. in Ecology**  
                 Undergraduate Research Advisor: Catherine Pringle

**Gainesville State College**      2010–2011  
                 Prerequisites while dual-enrolled in high school and community college

## Publications

8. Barnum, T., R., J. T. Wootton, R. J. Bixby, J. M. Drake, **D. Murray-Stoker**, C. Colon-Gaud, A. T. Rugenski, T. C. Frauendorf, S. Connelly, S. S. Kilham, M. R. Whiles, K. R. Lips, and C. M. Pringle. 2022. Mechanisms underlying lack of functional compensation by insect grazers after tadpole declines in a Neotropical stream. *Limnology & Oceanography* 67: S198-S210. DOI: [10.1002/lno.11904](https://doi.org/10.1002/lno.11904)
7. **Murray-Stoker, D.**, and M. T. J. Johnson. 2021. Ecological consequences of urbanization on a legume-rhizobia mutualism. *Oikos* 130: 1750-1761. DOI: [10.1111/oik.08341](https://doi.org/10.1111/oik.08341) — [Data & Code](#)
6. **Murray-Stoker, D.** 2021. On the efficacy of restoration in stream networks: comments, critiques, and prospective recommendations. *Peer Community Journal* 1: e52. DOI: [10.24072/pcjournal.52](https://doi.org/10.24072/pcjournal.52) — [Data & Code](#)
5. **Murray-Stoker, D.**, and K. M. Murray-Stoker. 2020. Consistent metacommunity structure despite inconsistent drivers of assembly at the continental scale. *Journal of Animal Ecology* 89: 1678-1689. DOI: [10.1111/1365-2656.13220](https://doi.org/10.1111/1365-2656.13220) — [Data & Code](#)
4. Santangelo J. S., L. S. Miles, S. T. Breitbart, **D. Murray-Stoker**, L. R. Rivkin, M. T. J. Johnson, and R. W. Ness. 2020. Urban environments as a framework to study parallel evolution. In: *Urban Evolutionary Biology*. Edited by Marta Szulkin, Jason Munshi-South and Anne Charmantier: Oxford University Press. DOI: [10.1093/oso/9780198836841.003.0003](https://doi.org/10.1093/oso/9780198836841.003.0003)

3. Murray-Stoker, K. M., D. P. Batzer, **D. Murray-Stoker**, and J. V. McHugh. 2020. Shifts in the community composition of caddisflies (Insecta: Trichoptera) in a subtropical river over three decades. *Ecological Entomology* 45: 514-524. DOI: [10.1111/een.12822](https://doi.org/10.1111/een.12822) — [Data & Code](#)
2. Murray, K. M., **D. Stoker**, C. M. Pringle, and T. N. Simon. 2018. Is spatial variation in population size structures of a stream-dwelling caddisfly due to the altered effects of a predator by a third-party species? *Hydrobiologia* 820:65-77. DOI: [10.1007/s10750-018-3674-0](https://doi.org/10.1007/s10750-018-3674-0) — [Data & Code](#)
1. **Stoker, D.**, A. J. Falkner, K. M. Murray, A. K. Lang, T. R. Barnum, J. Hepinstall-Cymerman, M. J. Conroy, R. J. Cooper, and C. M. Pringle. 2017. Decomposition of terrestrial resource subsidies in headwater streams: Does consumer diversity matter? *Ecosphere* 8:e01868. DOI: [10.1002/ecs2.1868](https://doi.org/10.1002/ecs2.1868) — [Data & Code](#)

## Manuscripts (In Prep/Under Review)

3. Miles, L. S.<sup>+</sup>, **D. Murray-Stoker**<sup>+</sup>, V. J. Nhan, and M. T. J. Johnson. Effects of urbanization on specialist herbivorous insect communities of milkweed are mediated by spatial and temporal variation. To be submitted to *Ecosphere*.
2. **D. Murray-Stoker**, K. M. Murray-Stoker, F. P. Kong\*, and F. Amanat\*. Environmental filtering and habitat (mis)matching of riverine invertebrate metacommunities. In review at *Journal of Biogeography*. Submitted on 12 April 2022.
1. Murray-Stoker, K., J. V. McHugh, A. C. Benke, K. A. Parsons, **D. Murray-Stoker**, A. D. Rosemond, S. J. Wenger, and D. P. Batzer. Taxon-specific biomass declines in the Ogeechee River (GA, USA): the importance of a community approach to understanding invertebrate loss. In review at *Freshwater Biology*. Submitted on 9 March 2022.

\* Undergraduate co-author <sup>+</sup> Co-first authors

## Honours & Awards

Rustom H. Dastur Graduate Scholarship in Ecology & Evolutionary Biology	2018—Present
University of Toronto Faculty of Arts & Science Program-Level Fellowship	2018—Present
Josh Laerm Memorial Outstanding Undergraduate Award	2015
Zell Miller Scholarship	2011—2016

## Funding

University of Toronto Ecology & Evolutionary Biology Research Grant (2000 CAD)	2021
American Society of Naturalists Student Research Award (2000 USD)	2021
Centre for Urban Environments Research Fund (2000 CAD)	2021
CURO Undergraduate Research Assistantship (2000 USD)	2015

Society for Freshwater Science Undergraduate Travel Award (600 USD)	2015
Thelma Richardson & Frank Golley Undergraduate Support Award (500 USD)	2013

## Presentations

**Murray-Stoker, D.**, and M. T. J. Johnson. 2022. Local adaptation between white clover and rhizobia in the urban mosaic. Annual Meeting of the Society for the Study of Evolution, Cleveland, OH. (*Oral*)

**Murray-Stoker, D.**, and M. T. J. Johnson. 2021. Ecological consequences of urbanization on a legume-rhizobia mutualism. Annual Meeting of the Ecological Society of America, Virtually Anywhere. (*Oral*)

**Stoker, D.**, A. J. Falkner, K. M. Murray, A. K. Lang, T. R. Barnum, J. Hepinstall-Cymerman, M. J. Conroy, R. J. Cooper, and C. M. Pringle. 2016. Decomposition of terrestrial resource subsidies in headwater streams: Does consumer diversity matter? Odum School of Ecology Graduate Student Symposium, Athens, GA. (*Poster*)

**Stoker, D.**, A. J. Falkner, K. M. Murray, A. K. Lang, T. R. Barnum, J. Hepinstall-Cymerman, M. J. Conroy, R. J. Cooper, and C. M. Pringle. 2015. Decomposition of terrestrial resource subsidies in headwater streams: Does consumer diversity matter? Annual Meeting of the Society for Freshwater Science, Milwaukee, WI. (*Poster*)

**Stoker, D.**, A. J. Falkner, K. M. Murray, A. K. Lang, T. R. Barnum, J. Hepinstall-Cymerman, M. J. Conroy, R. J. Cooper, and C. M. Pringle. 2015. Decomposition of terrestrial resource subsidies in headwater streams: Does consumer diversity matter? Annual Southeastern Ecology and Evolution Conference, Athens, GA. (*Oral*)

Barnum, T. R., J. T. Wootton, R. J. Bixby, J. M. Drake, C. Colon-Gaud, **D. Stoker**, A. T. Rugenski, T. C. Frauendorf, S. J. Connelly, S. S. Kilham, M. R. Whiles, K. R. Lips, and C. M. Pringle. 2014. Examining why grazing mayflies do not functionally compensate for the top-down control of algal communities following disease-driven tadpole declines in a Neotropical stream. Annual Meeting of the Ecological Society of America, Sacramento, CA. (*Oral*)

## Teaching & Mentoring

### Teaching Experience

#### Teaching Roles

Duties: lab instruction, facilitating group learning, marking research papers

BIO205: Ecology	2018—2020
BIO360: Biometrics I	2019-2020

#### Administrative Roles

Duties: exam preparation, extension requests, accessibility, gradebook management

BIO205: Ecology (c. 300 students)	2021
BIO153: Diversity of Organisms (c. 900 students)	2022

## **Mentoring Experience**

Elana Maria, Research Opportunity Program

2021

Project: *Evo-eco feedbacks in a legume-rhizobia mutualism*

## Pedagogical Training

### **Advanced University Teaching Preparation**

2021—Present

University of Toronto, Teaching Assistant Training Program

Training sessions & workshops:

- Identify, Assist, Refer Plus (IAR+) Training
- Identifying and Addressing Microaggressions in the University Classroom
- Introduction to Active Learning: Theory & Strategy
- Avoiding Crickets: Discussion Strategies and Activities
- Engaging in Quantitative and Qualitative Data Interpretation
- Building Community in Online Learning Environments
- Undergraduate Mentorship and Training in the Research Laboratory
- Teaching & Learning in Uncertainty: The Role of Care and Kindness in the Classroom
- Grading Strategies for Teaching Assistants
- Online, In-Person, and In Between: Navigating the Changing Educational Landscape
- Personal & Pedagogical Value of Failure

### **Ecological Society of America Short Courses**

2021

Annual Meeting of the Ecological Society of America

- Diversity, Equity, Inclusion, and Social Justice into Ecology Curricula
- Bringing Computational Data Sciences to Undergraduate Ecology Classroom

## Academic Service

### **Departmental Steward**, Canadian Union of Public Employees 3902

2021—Present

- Handle grievances by union members in the department
- Liaise between the department and the Local

### **Secretary**, UTM Biology Graduate Student Society

2021—Present

### **Member**, UTM Biology Equity, Diversity, & Inclusion Committee

2020—Present

- Founding graduate student member
- Led the development, analysis, and report on EDI in the department
- Led qualitative and mixed-method analyses on survey responses

### **Member**, EEB Wellness Committee, University of Toronto

2020—2021

- Assisted with developing the EDI survey
- Led qualitative and mixed-method analyses on survey responses

## Professional Experience

### **Research Assistant**, Department of Biology

5/2018—8/2018

University of Toronto Mississauga

Supervised by Connor Fitzpatrick, Ph.D. and Marc Johnson, Ph.D.

<b>Lab Manager</b> , Odum School of Ecology University of Georgia Supervised by Catherine Pringle, Ph.D.	1/2013—7/2016
<b>Research Assistant</b> , Odum School of Ecology University of Georgia Supervised by Amanda Rugenski Ph.D.	1/2016—5/2016
<b>Lab Technician</b> , Odum School of Ecology University of Georgia Supervised by Andrea Silletti, M.Sc. and John Drake, Ph.D.	11/2014—8/2015
<b>Field Technician</b> , Odum School of Ecology University of Georgia	5/2013

## Professional Engagement

**Reviews:** Journal of Animal Ecology (1), Oecologia (1), Ecosphere (2), Peer Community in Ecology (2)

**Member:** Ecological Society of America, Society for the Study of Evolution, American Society of Naturalists, Canadian Society for Ecology & Evolution