

**Matthew A. McCary**

Assistant Professor  
Program in Ecology & Evolutionary Biology  
Department of BioSciences  
Rice University

**EDUCATION**

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- 2010-2016      **Ph.D. Biological Sciences**, University of Illinois, Chicago, IL  
Field of Study: Ecology and Evolution  
Thesis: Evaluating the impacts of invasive plants on the forest-floor food web  
Advisor: David H. Wise
- 2006-2010      **B.A. Biology**, North Central College, Naperville, IL

**PROFESSIONAL APPOINTMENTS**

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- 2021-present      Assistant Professor of Global Change Biology  
Program in Ecology & Evolutionary Biology  
Department of BioSciences, Rice University, Houston, TX
- 2020              Ford Foundation Postdoctoral Research Fellow  
Yale University, New Haven, CT  
Advisor: Dr. Oswald Schmitz
- 2017-2019      National Science Foundation Research Fellow in Biology  
University of Wisconsin, Madison, WI  
Advisors: Drs. Claudio Gratton, Randall Jackson, and Anthony Ives

**PUBLICATIONS**

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- K. Ferraro, O.J. Schmitz, and **M.A. McCary\***. 2022. Effects of ungulate density and sociality on landscape heterogeneity: a mechanistic modeling approach. *Ecography* 2022: e06039. \*Senior author.
- Kuebbing, S. ‡, **M.A. McCary‡**, D. Lieurance, M.A. Nuñez, M.C. Chiuffo, B. Zhang, H. Seebens, D. Simberloff, and L.A. Meyerson. 2022. A self-study of editorial board diversity at *Biological Invasions*. *Biological Invasions* 24: 321-332. ‡ co-first authors
- Nuñez, M.A., M.C. Chiuffo, H. Seebens, S. Kuebbing, **M.A. McCary**, D. Lieurance, B. Zhang, D. Simberloff, and L.A. Meyerson. 2022. Two decades of data reveal that *Biological*

*Invasions* needs to increase participation beyond North America, Europe, and Australasia. *Biological Invasions* 24: 333-340.

Lieurance, D., S. Kuebbing, **M.A. McCary**, and Martin A. Nuñez. 2021. Words matter: How to increase gender and LGBTQIA+ inclusivity at *Biological Invasions*. *Biological Invasions* 24: 341-344.

Yitbarek, S., K. Bailey, S. Tyler, J. Strickland, **M.A. McCary**, and N. Harris. 2021. Inclusive sustainability approaches in common-pool resources from the perspective of blackologists. *Bioscience* 71: 741-749.

**McCary, M.A.**, M.D. Kasprzak, J.C. Botsch, D. Hoekman, R.D. Jackson, and C. Gratton. 2021. Aquatic insect subsidies influence microbial composition and processing of detritus in near-shore subarctic heathland. *Oikos* 130: 1523-1534.

**McCary, M.A.**, and O.J. Schmitz. 2021. Invertebrate functional traits and terrestrial nutrient cycling: insights from a global meta-analysis. *Journal of Animal Ecology* 90: 1714-1726.

**McCary, M.A.**, R.D. Jackson, and C. Gratton. 2021. Vegetation structure modulates ecosystem and community responses to spatial subsidies. *Ecosphere* 12: e03483.

**McCary, M.A.†**, J.S. Phillips†, T. Ramiadantsoa, L.A. Nell, A.R. McCormick, and J.C. Botsch. 2021. Transient top-down and bottom-up effects of resources pulsed to multiple trophic levels. *Ecology* 102: e02593. † co-first authors

**McCary, M.A.**, and D.H. Wise. 2019. Plant invader alters soil food web via changes to fungal resources. *Oecologia* 191: 587-599.

Hoekman, D., **M.A. McCary**, J. Dryer, and C. Gratton. 2019. Reducing allochthonous resources in a subarctic grassland alters arthropod food webs via predator diet and density. *Ecosphere* 10: e02593.

**McCary, M.A.**, M. Zellner, and D.H. Wise. 2019. The role of plant-mycorrhizal mutualisms in deterring plant invasions: insights from an individual-based model. *Ecology and Evolution* 9: 2018-2030.

**McCary, M.A.**, E. Minor, and D.H. Wise. 2018. Covariation between local and landscape factors influences the structure of ground-active arthropod communities in fragmented metropolitan woodlands. *Landscape Ecology* 33: 225-239.

**McCary, M.A.**, R. Mores, M. Farfan, and D.H. Wise. 2016. Invasive plants have different effects on trophic structure of green and brown food webs in terrestrial ecosystems: a meta-analysis. *Ecology Letters* 19: 328-335.

**McCary, M.A.**, J.C. Martinez, L. Umek, L. Heneghan, and D.H. Wise. 2015. Effects of woodland restoration and management on the community of surface-active arthropods in the metropolitan Chicago region. *Biological Conservation* 190: 154-166.

**In revision:**

Yitbarek, Y., K. Chen, M. Celestine, and **M.A. McCary**. Spatiotemporal patterns of urban mosquitoes are modulated by socioeconomic status and environmental traits. *Ecological Applications*, revision submitted.

Potapov, A.M., C.A. Guerra [et al., including **M.A. McCary**]. Globally invariant metabolism but density-diversity mismatch in springtails. *Nature Communications*, in revision.

**Submitted:**

Nunez-Mir, G., and **M.A. McCary**. All roots lead to bacterial dominance: A macroscale study of invasive plant roots and soil microbial communities. Submitted to *Ecology Letters*. Co-first authors

**AWARDS, HONORS, AND FELLOWSHIPS**

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2022-present	Early Career Fellowship, Ecological Society of America
2021	Diversity, Inclusion, Equity, and Belonging Honorarium (\$750), Department of Ecology and Evolution, Rutgers University
2020	Ford Foundation Postdoctoral Research Fellowship (\$50,000), Forestry and Environmental Science, Yale University (Advisor: Dr. Oswald Schmitz)
2017-2019	NSF Postdoctoral Research Fellowship in Biology (\$207,000), Department of Entomology, UW
2016	Dean's Scholar Graduate Fellowship (\$22,000), Graduate College, UIC
2014-2015	Award for Excellence in Teaching (\$100), General Ecology Lab (BIOS 331), Department of Biological Sciences, UIC
2013-2014	Abraham Lincoln Graduate Fellowship (\$25,000), Graduate College, UIC

**Grants Awarded**

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2022-2024	NSF (Biodiversity on a Changing Planet, \$517,312),
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Functional divergence between females and males: consequences of climate-induced shifts in composition of dioecious plant populations. T. X. Miller, **M.A. McCary**, A. Keiser, K. Crawford, J. H. Leebens-Mack.

- 2015-2016 Graduate Research Grant (\$10,000), Department of the Institute for Environmental Science and Policy, UIC
- 2014 Elmer Hadley Graduate Research Award (\$600), Department of Biological Sciences, UIC

#### INVITED PROFESSIONAL PRESENTATIONS

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##### Invited research seminars:

- M.A. McCary.** 2022. Goldschmidt Lecture Series. Sigma Xi, Houston, TX Chapter.
- M.A. McCary.** 2022. Department of Biological Sciences. Wichita State University, Wichita, KS.
- M.A. McCary.** 2022. Department of Ecology, Evolution, and Organismal Biology. Ohio State University, Columbus, OH.
- M.A. McCary. 2022. Department of Biology. North Central College, Naperville, IL.
- M.A. McCary.** 2021. Department of Biology. Indiana University, Bloomington, IN.
- M.A. McCary.** 2021. Department of Biological Sciences. University of Illinois, Chicago, IL.
- M.A. McCary.** 2021. Department of Biology. Stanford University, Stanford, CA.
- M.A. McCary.** 2021. Natural Sciences Seminar series. Washington State University at Vancouver, Vancouver, WA.
- M.A. McCary.** 2021. Biological and Environmental Science Colloquium. University of Rhode Island, Kingston, RI.
- M.A. McCary.** 2021. Department of Ecology and Evolution. Rutgers University, New Brunswick, NJ.
- M.A. McCary.** 2021. Department of Ecology, Evolution, and Organismal Biology, Kennesaw State University, Marietta, GA.
- M.A. McCary.** 2021. Department of Biology and Biochemistry, University of Houston, Houston, TX.

**M.A. McCary.** 2020. Department of Ecology, Evolution, and Marine Biology, University of California, Santa Barbara, CA.

**M.A. McCary.** 2020. Department of Entomology, Kansas State University, Manhattan, KS.

**M.A. McCary.** 2020. School of the Environment, Yale University, New Haven, CT.

**M.A. McCary.** 2019. Department of BioSciences, Rice University, Houston, TX.

**M.A. McCary.** 2019. Department of Botany, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2019. Department of Biology, Pittsburgh University, Pittsburgh, PA.

**M.A. McCary.** 2019. Department of Biology, Lawrence University, Appleton, WI.

**M.A. McCary.** 2019. Center for Limnology, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2018. Department of Entomology, Purdue University, West Lafayette, IN.

**M.A. McCary.** 2018. Department of Natural and Applied Sciences, University of Wisconsin, Green Bay, WI.

**M.A. McCary.** 2018. Department of Entomology, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2015. Elmer Hadley Research Fund. University of Illinois, Chicago, IL.

**Invited symposium presentations:**

**M.A. McCary.** 2022. Do resource subsidies alter energy flows through soil food webs? Implications for C and N cycling in subarctic Iceland. *The Next "Black Box": The Role of Soil Invertebrates in Plant-Soil Interactions*, Ecological Society of America, Montreal, Canada.

**M.A. McCary.** 2019. Aquatic insects alter terrestrial ecosystems: lessons from subarctic Iceland. *Recent Approaches to Studying Invertebrate Responses to Rapid Environmental Change*, Entomological Society of America Meeting, St. Louis, MO.

**M.A. McCary.** 2018. Emergent aquatic insects alter plant composition and litter decomposition: lessons from subarctic Iceland. *Wisconsin Ecology Fall Symposium*, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2017. A mechanistic model to explain how plant-mycorrhizal disruptions can lead to invasion success: implications for biodiversity conservation and management. *Linking Management, Biodiversity, and Ecosystem Services Via Mechanistic Models*, Ecological Society of America Meeting, Portland, OR.

**M.A. McCary.** 2016. Consequences of invasion: evaluating how invasive alien plants alter the structure of food webs in woodland ecosystems. *Invaders in Food Webs: Using Trophic Structure to Predict Invasibility and Invader Impact*, Ecological Society of America Meeting, Fort Lauderdale, FL.

**M.A. McCary.** 2015. The cascading effects of invasive alien plants on the structure of belowground food webs in woodland ecosystems. *Invasive Plant Symposium: Biotic Interactions with Invasive Species*, Annual North Weed Science Society, Indianapolis, IN.

## TEACHING EXPERIENCE

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Fall 2022	Instructor, Topics in Ecology (BIOS 563), Department of Biosciences, Rice University
Fall 2017	<u>Co-Instructor</u> , Basic and Applied Insect Ecology Lab (ENTO 451), Department of Entomology, U.W. (1 semester)
2014-2016	<u>Teaching Assistantship</u> , General Ecology Lab (BIOS 331), Department of Biological Sciences, UIC (4 semesters)
2012-2013	<u>Teaching Assistantship</u> , Biology of Populations and Communities (BIOS 101), Department of Biological Sciences, UIC (2 semesters)
2010-2011	<u>Teaching Assistantship</u> , Biology of Cells and Organisms (BIOS 100), Department of Biological Sciences, UIC (2 semesters)
Fall 2009	<u>Laboratory Assistant</u> , Botany, Department of Biology, NCC, Naperville, IL (1 semester)

## GUEST LECTURER

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**M.A. McCary.** 2021. Forest nutrient cycling. Forest Ecology, Wesleyan University, Middletown, CT.

**M.A. McCary.** 2020. Insects in Conservation. *Restoration Ecology*, University of Rhode Island, RI.

**M.A. McCary.** 2019. Insect food webs and litter decomposition. *Soil Science*, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2017. Decomposition and ecosystem services. *Basic and Applied Insect Ecology Lecture*, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2015. Meta-analysis of ecological studies. *Analyzing Ecological Data*, University of Illinois, Chicago, IL.

**M.A. McCary.** 2015. Surviving in an urban landscape: evaluating the impacts of human activity on soil invertebrates. *Soil Ecology*, Northwestern University, Evanston, IL.

## **LAB PERSONNEL (graduate students, post-docs, and undergraduates)**

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### **Graduate students**

Modeline Celestin, PhD Student (2022 Ford Foundation Predoctoral Fellow)  
Amoi Campbell, PhD Student (2022 Ford Foundation Predoctoral Fellow Honorable Mention)

### **Undergraduates**

Ling DeBellis (Spring 2022-present [Honor's Thesis])  
Lily Burdett (Summer 2022-present)  
Ashley Fitzpatrick (Spring 2022 [graduated])

## **PROFESSIONAL SERVICE**

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Chair: Black Ecologist Section of the Ecological Society of America (September 2021 – September 2023)

Faculty Advisor: Black Graduate Student Association, Rice University (April 2022-present)

Associate Editor: *Biological Invasions* (August 2020 – present)

Invited Feature Editor: Broadening the Impacts of Applied Ecology, *Ecological Applications* (Forthcoming Issue)

Manuscript reviewer: *Ecology and Evolution*, *Soil Biology and Biochemistry*, *Ecosystems*, *Scientific Reports*, *Biology Letters*, *Ecological Modelling*, *Restoration Ecology*, *Landscape Ecology*, *Basic and Applied Ecology*, *Oikos*, *Ecology*, *Ecology Letters*, *Biological Invasions*, *Journal of Insect Conservation*, *Soil*, *Food Webs*

Grant reviewer: National Science Foundation – Division of Environmental Biology, Women in Science National Fellowship Program, Walder Foundation Biota Award Program, United States Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA)