

**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.

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. Celestin, and **M.A. McCary**. Spatiotemporal patterns of urban mosquitoes are modulated by socioeconomic status and environmental traits. *Ecological Applications*, in revision.

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.

**In review:**

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

Gaynor, K.M, A.C. Moore, S.J. Cheng, K. Darragh, C.O. Estien, J.W. Hammond, K.L. Mills, C. Lawrence, M.D. Baiz, L. Khadempour, **M.A. McCary**, D. Ignace, M.M. Rice, S.J. Tumber-Dávila, and J.A. Smith. Championing inclusive terminology in ecology and evolution. *Trends in Ecology and Evolution*, in review.

**AWARDS, HONORS, AND FELLOWSHIPS**

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2022-present	Early Career Award, Ecological Society of America
2022-present	Sigma Xi International Scientific Research Honor Society
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), 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.

2022-2024 Creative Ventures Fund (\$50,000), Rice University, Sustainable futures in a biodiversity hotspot: Assessing conservation values of traditional use forests in Madagascar. A. Dunham, C. Masiello, **M.A. McCary**, J. Blackburn, A. Pinn.

2015-2016 Graduate Research Grant (\$10,000), Department of the Institute for Environmental Science and Policy, UIC. **M.A. McCary**.

2014 Elmer Hadley Graduate Research Award (\$600), Department of Biological Sciences, UIC. **M.A. McCary**.

### INVITED PROFESSIONAL PRESENTATIONS

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#### Invited research seminars:

**M.A. McCary**. 2022. Department of Biology. Southwest University, Georgetown, TX.

**M.A. McCary**. 2022. Department of Biology. University of North Carolina, Chapel Hill, NC.

**M.A. McCary**. 2022. Goldschmidt Lecture Series. Sigma Xi, Houston, TX Chapter.

**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.

Heneghan, L., L. Umek, M.A. McCary, J.C. Martinez, and D.H. Wise. 2013. A celebration of Chicago's biodiversity: how many species in our region? DePaul University, Chicago, IL.

Wise, D.H., L. Heneghan, M.A. McCary, and J.C. Martinez. 2013. Updates from field and lab: some recent projects conducted as part of the Chicago Wilderness Science Team. Chicago Wilderness Wild Things Conference, 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                      Laboratory Assistant, Botany, Department of Biology, NCC, Naperville, IL (1 semester)

**GUEST LECTURER**

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**M.A. McCary.** 2021. Meta-analysis in global change ecology. *Biostatistics*, University of Illinois, Chicago, IL.

**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), Department of Energy Office of Science (DOE)