

**MATTHEW A. MCCARY**

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**EDUCATION**

**Ph.D. Biological Sciences**, University of Illinois at Chicago (UIC), Chicago, IL, 12/2016  
Field of Study: Ecology and Evolution  
Title: Evaluating the Impacts of Invasive Plants on the Forest-floor Food Web  
Advisor: David H. Wise

**B.A. Biology**, North Central College (NCC), Naperville, IL, 6/2010

**CURRENT POSITION**

1/2017-12/2019 National Science Foundation (NSF) Postdoctoral Research Fellow in Biology, University of Wisconsin at Madison (UW)  
Advisors: Claudio Gratton (Department of Entomology), Anthony Ives (Integrative Biology), Randall Jackson (Department of Agronomy)

**PUBLICATIONS**

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* DOI: 10.1002/ece3.4892.

**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.

***Papers in preparation:***

**McCary, M.A.**, and D.H. Wise. Plant invader re-structures belowground food web via changes to soil fungal resources. To be submitted in the winter of 2019.

**McCary, M.A.**, J.S. Phillips, A. McCormick, L. Nell, and A. Ives. Duration and magnitude of resource pulses shift terrestrial food-web dynamics. To be submitted in the spring of 2019.

**AWARDS, HONORS, AND FELLOWSHIPS**

- 1/2017-12/2019 NSF Postdoctoral Research Fellowship in Biology (\$207,000), Department of Entomology, UW
- 8/2016-12/2016 Dean's Scholar Graduate Fellowship (\$22,000), Graduate College, UIC
- 8/2015-7/2016 Graduate Research Fellowship (\$10,000), Department of the Institute for Environmental Science and Policy, UIC
- 8/2016-9/2016 Biological Sciences Travel Award (\$800), Department of Biological Sciences, UIC
- 7/2016-8/2016 LAS Graduate Travel Award (\$800), College of Liberal Arts and Sciences, UIC
- 8/2014-5/2015 Award for Excellence in Teaching (\$100), General Ecology Lab (BIOS 331), Department of Biological Sciences, UIC
- 5/2014-8/2014 Elmer Hadley Graduate Research Award (\$600), Department of Biological Sciences, UIC
- 8/2013-8/2014 Abraham Lincoln Graduate Fellowship (\$25,000), Graduate College, UIC
- 9/2008-6/2009 Tracy and Derrick Malone Minority Scholarship (\$5,000), NCC
- 9/2006-6/2010 Associated Colleges of Illinois Liberal Arts Scholarship (\$12,000), NCC

**TEACHING EXPERIENCE**

- 8/2017-12/2017 Co-Instructor, Basic and Applied Insect Ecology Lab (ENTO 451), Department of Entomology, UW (1 semester)
- 8/2014-5/2016 Teaching Assistantship, General Ecology Lab (BIOS 331), Department of Biological Sciences, UIC (4 semesters)

- 8/2012-5/2013 Teaching Assistantship, Biology of Populations and Communities (BIOS 101), Department of Biological Sciences, UIC (2 semesters)
- 8/2010-5/2011 Teaching Assistantship, Biology of Cells and Organisms (BIOS 100), Department of Biological Sciences, UIC (2 semesters)
- 9/2009-11/2009 Laboratory Assistant, Botany, Department of Biology, NCC, Naperville, IL (1 semester)

## MENTORING EXPERIENCE

### Primary mentor:

David Castillo (UIC), Christopher Guimney (UIC), Ibraheem Oguntade (UIC), Raed Oweisi (UIC), Ann Sabir (UIC), Heather Tran (UIC), and DeVondre Juzang (UIC), Devon Pierret (UW)

### Co-mentor:

Natalie Schmer (UW), Kristin Book (Emory University), Jennifer Harris (Wellesley College), Abigail Lewis (Pomona College), Kelvin Chen (Post-undergraduate), Karen Jorgenson (Post-undergraduate), Aspen Ward (Post-undergraduate), and Bethany Smith (Post-undergraduate)

## RESEARCH PRESENTATIONS

### Invited symposium presentations:

**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 (ESA) 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 (ESA) 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.

**McCary, M.A.** 2013. The Chicago Wilderness Land Management Program: A Long-term Evaluation of Restoration Management in the US Midwest. *New Science in Response to Perennial Challenges: Social Ecological Research in the Chicago Wilderness Region and Its Implications for Regional Restoration*, Fifth World Conference on Ecological Restoration, Madison, WI.

**Invited research seminars:**

**M.A. McCary.** February 2019. Understanding how aquatic insects can influence terrestrial food webs: an Icelandic case study. Center for Limnology Research Seminar, University of Wisconsin, Madison, WI.

**M.A. McCary.** 2018. Feast or Famine: How basal resource availability influences terrestrial arthropod food webs. Department of Entomology Research Seminar, Purdue University, West Lafayette, IN.

**M.A. McCary.** 2018. The impacts of an invasive plant on the soil fungal-based food web. Natural and Applied Sciences Seminar, University of Wisconsin, Green Bay, WI.

**M.A. McCary.** 2018. The impacts of an invasive plant on the soil fungal-based food web. Department of Entomology Research Seminar, University of Wisconsin, Madison, WI.

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 classroom lectures and outreach:**

**McCary, M.A.** 2019. Insect food webs and litter decomposition. Guest Lecturer in an undergraduate course, *Soil Science 101*, University of Wisconsin, Madison, WI.

**McCary, M.A.** 2017. Decomposition and Ecosystem Services. Guest Lecturer in a graduate course, *Basic and Applied Insect Ecology Lecture*, University of Wisconsin, Madison, WI.

**McCary, M.A.** 2015. Meta-analysis of ecological studies. Guest Lecturer in a graduate course, *Analyzing Ecological Data*, University of Illinois, Chicago, IL.

**McCary, M.A.** 2015. Life as a young scientist: school, teaching, and research. Science Alumni Seminar, North Central College, Naperville, IL.

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

**McCary, M.A.** 2015. Impacts of an invasive plant on the belowground fungal-based food web. Elmer Hadley Research Fund Seminar. University of Illinois, Chicago, IL.

**McCary, M.A.** 2013. How to be a successful biology student in college. Guest Lecturer, Bremen High School, Midlothian, IL.

**Contributed papers:**

**McCary, M.A.** 2010. The effects of nitrogen and phosphorus application on vegetation in a salt marsh in Yaquina Bay, Oregon. National Conference for Undergraduate Research, Missoula, MT.

**ACADEMIC AND PROFESSIONAL SERVICE**

Manuscript Reviewer: *Restoration Ecology, Landscape Ecology, Basic and Applied Ecology, Oikos, Ecology, Ecology Letters, Biological Invasions, Journal of Insect Conservation*

Mentor: Strategies for Education in Ecology, Diversity and Sustainability (SEEDS), 2017 Ecological Society of America (ESA) Meeting in Portland, OR

Member: Wisconsin Ecology Executive Committee at UW-Madison

Member: Ecological Society of America

Member: Entomological Society of America