

Andrew C. McCall
CURRICULUM VITAE

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Denison University
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EDUCATION

2006 Ph.D. University of California, Davis, Population Biology

Dissertation Title: “The Evolutionary Ecology of Floral Herbivory and Floral Defense”

Dissertation advisor: Dr. Richard Karban

2004 M.S. University of California, Davis, Population Biology

2001 M.Sc. Canterbury University, Christchurch, NZ, Botany, *with distinction.*

Dissertation Title: “Population Genetics of an Important *Chionochloa* Seed Predator from New Zealand”

Dissertation advisor: Dr. Dave Kelly

1998 B.A. Carleton College, Biology, *magna cum laude*

ACADEMIC POSITIONS

2014-present Associate Professor of Biology and Environmental Studies,
Denison University, OH

2013-2014 Visiting Scholar, Department of Ecology and Evolutionary
Biology, University of Arizona

2006- 2013 Assistant Professor of Biology and Environmental Studies,
Denison University, OH

Courses developed: Biostatistics, Introduction to the Science of Biology, Plant Evolution and Reproduction, Plant Ecology, Ecozoetics, Evolution and Ecology

2005

Visiting Assistant Professor of Biology, Carleton College, MN.

Courses developed: Animal Behavior, Plant-Animal Interactions

PEER-REVIEWED PUBLICATIONS

(* denotes Denison undergraduate co-authors)

29. **McCall, A.C.**, S.K. Richman, E. Thomson*, M. Edgerton*, S. Jordan*, J.L. Bronstein. 2018. Do honeybees act as pollen thieves or pollinators of *Datura wrightii*? *Journal of Pollination Ecology*, [S.l.], v. 23, dec. 2018. ISSN 1920-7603.
28. **McCall, A.C.**, S. Case*, K. Espy*, G. Adams*, S.J. Murphy*. 2018. Leaf herbivory induces resistance against florivores in *Raphanus sativus*. *Botany* 96: 337-343
27. **McCall, A.C.** 2017. Plant Population Ecology. *Oxford Bibliographies in "Ecology"*. Ed. David Gibson. New York: Oxford University Press. DOI: 10.1093/obo/9780199830060-0191
26. Eliyahu, D., **A. McCall**, M. Lauck, A. Trakhtenbrot. 2015b. Florivory vs. nectar robbing perforations in flowers of pointleaf manzanita *Arctostaphylos pungens* (Ericaceae) and their effects on plant reproductive success. *Arthropod-Plant Interactions* 9: 613-622
25. Eliyahu, D., **A. McCall**, M. Lauck, A. Trakhtenbrot, and J.L. Bronstein. 2015a. Minute pollinators: The role of thrips (Thysanoptera) as pollinators of pointleaf manzanita, *Arctostaphylos pungens* (Ericaceae). *Journal of Pollination Biology* 16: 64-71
24. **McCall, A.C.** 2013. Allocation of Reproductive Resources in Plants. In *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press DOI: 10.1093/OBO/9780199830060-0110
23. **McCall, A.C.**, and D.E. Carr. 2013. Does inbreeding affect tolerance to inflorescence damage in *Mimulus guttatus*? *The Open Ecology Journal* 6: 1-6.
22. **McCall, A.C.**, S.J. Murphy*, C. Venner*, and M. Brown*. 2013. Florivores prefer white over pink petal color morphs in wild radish, *Raphanus sativus*. *Oecologia* 172: 189-195.
21. **McCall, A.C.**, and C. M. Barr. 2012. Why do florivores prefer hermaphrodites over females in *Nemophila menziesii* (Boraginaceae)? *Oecologia* 170:147-157.
20. Forister, M.L., J.A. Fordyce, **A.C. McCall**, and A.M. Shapiro. 2011. Silvery blues: they came and went, a complete history of colonization and extinction. *Journal of Insect Science* 11: article 130. <http://www.insectscience.org/11.130/>
19. **McCall, A.C.**, J.A. Fordyce. 2010. Can optimal defense theory be used to predict the distribution of plant chemical defenses? *Journal of Ecology* 98: 985-992.
18. **McCall, A.C.** 2010. Does dose-dependent petal damage affect pollen limitation in a California annual plant? *Botany* 88: 601-606.

17. Forister, M.L., **A.C. McCall**, N. J. Sanders, J. A. Fordyce, J.H. Thorne, J. O'Brien, D.P. Waetjen, and A.M. Shapiro. 2010. Thirty years of climate change and habitat alteration shift patterns of butterfly diversity. *Proceedings of the National Academies of Science, USA* 107: 2088-2092.
16. **McCall, A.C.** 2008. Florivory affects pollinator visitation and female fitness in *Nemophila menziesii*. *Oecologia* 155: 729-737.
15. Lau, J.A., **A.C. McCall**, J.W. Wright, K.F. Davies, and J.K. McKay. 2008. Edaphic factors and herbivory help define the realized niche of a native annual. *Ecology* 89: 754-762.
14. **McCall, A. C.** 2008. Population cycles in herbivores and carnivores. *In The Encyclopedia of Ecology*, Elsevier Publishing.
13. **McCall, A.C.** 2007. Petal damage, leaf damage, and gender affect fitness and flower traits in *Nemophila menziesii* (Hydrophyllaceae). *American Journal of Botany* 94: 445-450.
12. **McCall, A.C.** and R.E. Irwin. 2006. Florivory: the intersection of pollination and herbivory. *Ecology Letters* 9: 1351-1365.
11. Wright, J.W., Davies, K.F., Lau, J.A., **McCall, A.C.**, and J.K. McKay. 2006. Experimental verification of ecological niche modeling in a heterogeneous environment. *Ecology* 87: 2433-2439.
10. Karban, R., Shiojiri, K., Huntzinger, P., and **A.C. McCall**. 2006. Damage-induced resistance in sagebrush: volatiles are key to intra- and interplant communication. *Ecology* 87: 922-930.
9. **McCall, A.C.**, and R. Karban. 2006. Induction of defense in *Nicotiana attenuata* flowers following leaf damage. *Oecologia* 146: 566-571.
8. **McCall, A.C.** 2006. Induced defense in *Nemophila menziesii* flowers. *Oikos* 112: 660-666.
7. Karban, R., M. Huntzinger, and **A.C. McCall**. 2004. The specificity of eavesdropping on sagebrush by other plants. *Ecology* 85: 1846-1852.
6. **McCall, A. C.**, D. Kelly, and H.C. Chapman. 2004. Population genetics of an important *Chionochloa* seed predator from New Zealand. *New Zealand Journal of Ecology* 28: 215-224.
5. Linksvayer, T.A., **A.C. McCall**, R.M. Jensen, C.M. Marshall, J.W. Miner, and M.J. McKone. 2002. The function of hitchhiking behavior in the leaf-cutting ant *Atta cephalotes*. *Biotropica* 34: 93-100.

4. McKone, M.J., K.K. McLauchlan, E.G. LeBrun, and **A.C. McCall**. 2001. An edge effect caused by adult corn-rootworm beetles on sunflowers in tallgrass prairie remnants. *Conservation Biology* 15: 1315-1324.
3. Singer, S., J. Sollinger, S. Maki, J. Fishbach, B. Short, C. Reinke, J. Fick, L. Cox, **A. McCall** and H. Mullen. 1999. Inflorescence architecture: a developmental genetics approach. *The Botanical Review* 65: 385-410.
2. Sessions, R.A., J.L. Nemhauser, **A.C. McCall**, J.L. Roe, K.A. Feldmann, and P.C. Zambryski. 1997. ETTIN patterns the *Arabidopsis* floral meristem and reproductive organs. *Development* 124: 4481-4491.
1. Singer, S.R., S.L. Maki, J. Sollinger, H. Mullen, J. Fick, and **A.C. McCall**. 1996. Suppression of terminal flower formation in pea - evolutionary implications. *Developmental Biology* 175: 4-4.

PUBLISHED ABSTRACTS

* denotes students at time of research

McCall, A.C., J.M. Drizin*, S.D. Fettig*, and K.A. Sparks*. 2007. Phenological differences in *Vernonia gigantea* affect seed predation but not pollination success. *Journal of the Ohio Academy of Sciences* 107: A28. *Peer-reviewed abstract*.

Singer, S.R., S.L. Maki, J. Sollinger, H. Mullen, J. Fick, **A. McCall**. 1996. Regulation of indeterminacy in pea inflorescences - evolutionary implications. *Plant Physiology* 111: 33 *Not peer-reviewed*.

Singer, S.R., S.L. Maki, J. Sollinger, H. Mullen, J. Fick, **A. McCall**. 1996. Suppression of terminal flower formation in pea - evolutionary implications. *Developmental Biology* 175: 377

BOOK REVIEWS

‘Encyclopedia of Evolution’ Rice, S. 2007. *Plant Sciences Bulletin* 53: 133-13

GRANTS

2017 Co-Primary Investigator on NSF preproposal “Local adaptation in milkweed (*not awarded*)

2016 NSF ROA supplemental award to work at Kellogg Biological Station, *funded* (\$8,000).

2015 GLCA Expanding Collaborations Initiative: Evolving Writers in Biology, *funded*.

- 2015 DURF grant from Denison University to help support research during the summer of 2015 (\$4 800)
- 2014 Collaborator on NSF Macrosystems grant proposal, *not funded*.
- 2013 DURF grant from Denison University to help support research in Arizona during the summer of 2013 (\$3 500)
- 2012 DURF grant from Denison University to help support research in Arizona during the summer of 2012 (\$2 600)
- 2007 National Science Foundation (NSF) Research Opportunity Award (ROA) to study pollination of *Echinacea angustifolia* in Minnesota during the summer of 2007. (\$24 000)

HONORS

- 2018 Fellow, Kenyon College Writing Workshops
- 2017 Peter Taylor Fellow, Kenyon College Writing Workshops
- 2000-2004 Ford Foundation Predoctoral Fellowship
- 2000-2001 Graduate Opportunity Fellowship, UC-Davis
- 1999-2000 Fulbright Fellowship, U.S.- New Zealand
- 1998 *Phi Beta Kappa, Sigma Xi*, Carleton College

TRAINING

- 2016-2017 Trained on intercultural competence using the IDI (Intercultural Development Inventory) framework (through Boston College)
- 2015 Trained in Mental Health First Aid (through Denison)
- 2014 Trained in Teaching English as Second Language (through Literacy Volunteers of Tucson, AZ)

RECENT PRESENTATIONS

* denotes undergraduate students at time of research

Emily Mohl, Julie Beston, Soren Brauner, John J. Couture, Michele Koomen, Abigail Kula, **Andrew C. McCall**, Jennifer Nesbitt Styrsky. 2017. Recruiting participants for a distributed research and education project investigating local adaptation in common milkweed, *Asclepias syriaca*. 102nd Ecological Society of America Annual Meeting, Portland, OR.

A.C. McCall. 2017. Fatal attraction: the fitness consequences of floral herbivory. Life sciences seminar series, College of Wooster.

A.C. McCall and Micaela Vivero. 2016. Invisible bee cities: a collaboration between studio art and biology students at Denison University. Ohio Urban Forestry Conference, Granville OH.

James A. Reding, G.R. Smith, J.E. Rettig, R.N. Homan, D.J. Spieles, T.D. Schultz **A.C. McCall**, and B. Sodergren. 2016. The Granville Schools Land Lab: a K-12/college/government teaching and research collaboration. 101st Ecological Society of America Annual Meeting, Ft. Lauderdale FL.

A.C. McCall. 2015. Pollination and the evolution of flowers. Cincinnati Nature Center

L. Kuehn, S. Vissa, J. Bean, R. Hoffman, L. Marino, J. Vela, and **A.C. McCall**. 2015. Can conspicuous leaf miner damage decrease other types of herbivory? 100th Ecological Society of America Annual Meeting, Baltimore MD.

A.C. McCall, S. Jordan*, and J. Bronstein. 2012. Intruders in a pollination mutualism: exploring the impacts of florivores and honeybees on the floral biology of *Datura wrightii*. 97th Ecological Society of America Annual Meeting, Portland OR.

L. Avery*, **A.C. McCall**, M.L. Forister, and A. Shapiro. 2012. Butterfly community dynamics in California over 30 years. 97th Ecological Society of America Annual Meeting, Portland OR.

A.C. McCall. 2012. What's in your flowers? Why are certain flowers eaten over others? University of Massachusetts-Amherst, invited seminar.

A.C. McCall, K.M. Espy*, and C. Venner*. 2011. Does leaf damage Induce anti-

herbivore defenses in *Raphanus sativus* petals or pollen? 96th Ecological Society of America Annual Meeting, Austin, TX.

L. Avery* and **A.C. McCall**. 2011. Do changes in temperature correlate with changes in butterfly communities over a 30-year period in California? 96th Ecological Society of America Annual Meeting, Austin, TX.

A.C. McCall, and J.A. Fordyce. 2010. Can Optimal Defense Theory explain patterns of intraplant chemical defense? 95th Ecological Society of America Annual Meeting, Pittsburgh, PA.

M.L. Forister, **A.C. McCall**, N.J. Sanders, J. A. Fordyce, J. H. Thorne, J. O'Brien, D.P. Waetjen, and A. M. Shapiro. 2010. Patterns of richness and decline: 35 years of butterflies along an altitudinal transect in Northern California. Sixth International Conference on the Biology of Butterflies, Alberta, Canada.

H. Robertson*, and **A.C. McCall**. 2010. The effects of leaf damage on petal and pollen defense in wild radish, *Raphanus sativus*. Midwest Ecology and Evolution Conference, Ames, IA.

C. Splawski*, and **A.C. McCall**. 2010. Abiotic effects on species richness and diversity in a newly-created tallgrass prairie. Midwest Ecology and Evolution Conference, Ames, IA.

J. Bury*, J.Rotramel*, L. Keny*, A. Boemi*, K. Buttermore*, T.Lan*, H. Robertson*, C. Splawski*, and **A. C. McCall**. 2010. Does *Alliaria petiolata* or its extracts affect invertebrate abundance or behavior? Ohio Invasive Plant Council Conference, Columbus, OH.

NATIONAL SERVICE

2018. Mentor for Preparing Future Faculty Program at Ohio State University

2017. Examiner for Earlham College's Biology Comprehensive Exam.

2018-present. Subject Matter Editor for PLOS One

2010-2018. Subject Matter Editor (Plant-animal interactions) for Ecosphere, an open-access journal published by the Ecological Society of America

2006-2008. Organized and coordinated “How to land and keep a job at a liberal arts college” sessions at the 93rd Ecological Society of America Annual Meeting, Milwaukee, Wisconsin, the 92nd Ecological Society of America Annual Meeting, San Jose, California and at the 91st Ecological Society of America Annual Meeting, Memphis, Tennessee.

2010. Co-organized “Arriving, Surviving, and Thriving as an Ecological Educator/Scientist at a Primarily Undergraduate Institution” workshop at the 95th Ecological Society of America Annual Meeting, Pittsburgh, Pennsylvania

Member: 2006-present, Ecological Society of America Award Committee for Buell and Braun Awards: Awards given to the finest graduate student lecture and poster at the annual national meeting of the Ecological Society of America. *Committee Chair*, 2009-present.

Member: 2014-present, Statistics without Borders: A group working on designing experiments and analyzing data from international health studies.

Journal reviewer for: American Journal of Botany (3), The American Naturalist (1), Annals of Botany (1), Biotropica (2), Ecology (2), Ecological Entomology (3), Journal of Ecology (3), Environmental Entomology (2), Evolutionary Ecology (2), Global Change Biology (1), Journal of Apiculture (1), Journal of Plant Ecology (1), New Zealand Journal of Ecology (1), Teaching Issues in Ecology and Evolution (2), The New Phytologist (1) Oecologia (4), Oikos (3), The Plant Bulletin (1)

Participant: Global Garlic Mustard Survey, Ecological Research as Education Network (EREN)

Member: Ecological Society of America, *Sigma Xi*, *Phi Beta Kappa*

UNIVERSITY SERVICE

Active Minds Faculty Liaison (2015-2017)

Data Analytics Committee (2016-present)

Denison Bioreserve Committee (Chair, 2013-present)

Denison Outdoor Orientation (DOO) faculty participant (2007-2016), faculty coordinator (2013-2016)

Environmental Studies Program Committee (2006-2016)

Faculty of Color and International Faculty (FOCIF) member (2008-present), leadership team (2014-16), leadership team (2017-18)

Initiated and conducted Admissions tours of the Bioreserve (2015-present)

Information Technology Committee (2012 - 2014; Vice-Chair, 2014-2015)

Phi Beta Kappa Historian (2009-2016)

Wells Scholarship Committee, 2012, 2015

Campus Sustainability Committee (2008-2011; Chair, 2009-2011)

Women's Studies Program Committee (2012-2013)

Board of Trustees Admissions Committee (2006-2009)

Denison University Biological Society (DUBS) Faculty Liaison (2006-2013)

Denison Asian American Student Union (AASU) Faculty Liaison (2010-2014)

Denison University Homestead Advisory Board (HAB) (2007-2010; 2012-2013)

Faculty of Color and International Faculty (FOCIF) (2008-present), Leadership team (2014-2016)

Phi Beta Kappa 100 year Anniversary Committee (2010-2011)

Denison Scientific Association coordinator (2009-2010)

Anderson Scholarship Committee (2010)

COMMUNITY SERVICE

Licking County Parks District - Workshop on native bees and bee houses (March 2017)

Greenhouse tours for Newark OH elementary school students (2016)

Granville Land Management Committee (2006-2008; 2011-present)

Licking County Science Fair mentor and judge (2014, 2015)

Licking Land Trust Nature Walk leader (2010-present)

Mentor for two students in Licking County Science Fair (2 students, 2014-2015, 1 student 2015-2016)

Nature Walk leader, Licking County Parks (2015-present)

Ohio Pollinator Habitat Initiative representative from Denison (2016-present)

Utica High School science fair judge (2008, 2015)

Volunteer, Dawes Arboretum (2012-present)

Science Advisor, Friends of Cranberry Bog (2012)

Volunteer, Ohio Department of Agriculture Gypsy Moth trapping program (2012)

Work included making moth traps, placing traps on appropriate trees in Central Ohio, and surveying traps and trees for signs of damage and caterpillars

Denison student directed studies, summer research, or senior thesis projects

Monique Brown, 2009, worked on how and if past herbivory affects resistance in wild radish

Josh Drizin, 2009, worked on pollination biology in *Echinacea angustifolia*

Stephen Murphy, 2009, Senior Thesis: "The effects of induction on petal palatability in radish"

Jameson Pfeil, 2009, worked on pollination and seed predation in *Echinacea angustifolia*

Colin Venner, 2009, Senior Thesis: "How does pollinator activity affect fitness in *Echinacea angustifolia*?"

Heather Robertson, 2010, Senior Thesis: "Does petal color affect florivores in wild radish?"

Caitlin Splawski, 2010, Senior Honors Thesis: "Plant recruitment in a restored prairie in Ohio"

Luke Avery, 2011, worked on why butterfly communities change over time in California

Grant Adams, 2011, Thesis: "Does variation in herbivore pressure affect the evolution of inducible resistance in wild radish?"

Kelsy Espy, 2011, Senior Thesis: "Does leaf damage induce resistance in wild radish flowers?"

Brian Jackson, 2011, Senior Thesis: "How do abiotic factors affect succession on Mt. St. Helens?"

Eric Thomson, 2011, Senior Thesis: "Floral visitors and florivory in *Datura wrightii*"

Luke Avery, 2012, Senior Thesis: "Does climate change affect butterfly communities in Northern California?"

Samantha Case, 2012, Senior Thesis: "Does initial leaf damage induce defenses in flowers across Northern California populations?"

Monica Edgerton, 2012, investigated whether honeybees were capable of pollinating *Datura wrightii* in the Sonoran Desert (Summer Research)

Elyse Schultz, 2012, Senior Thesis: "Plant gender through a feminist lens" *co-advised with Dr. Clare Jen*

Shane Richmond, 2013, worked on a study testing whether inbreeding affected resistance to thrips in *Raphanus sativus*

Sneha Vissa, 2013, investigated whether leaves from exotic plant species decompose faster than leaves from native plant species

Leeann Kuehn, 2013, Senior Thesis: "Does leaf mining deter other herbivores in the *Ageratina altissima*?"

Evan Pugh, 2013, Senior Thesis: "The effects of population identity on thrips activity in *Raphanus sativus*"

Sneha Vissa, 2014, investigated if conspicuous leaf mines were related to other types of leaf damage in *Ageratina altissima*.

Daniel Fiorentini, 2015, Senior Thesis: "Does leaf and flower damage affect fitness in *Raphanus sativus*?"

Aedin Brennan, 2016, Senior Honors Thesis: "Phenotypic selection in *Lindera benzoin*"

Connor O'Neill-Dee, 2017, Senior Honors Thesis: "Investigating population differentiation in spicebush, *Lindera benzoin*"

Wendy Banta-Long, 2018, Senior Thesis: "Does intra-plant trait variation lead to declines in fitness in spicebush, *Lindera benzoin*?"

Peter Hine, 2018, Senior Thesis: "Edge effects on invasive species in the Denison bioserve"

Philip Hurst, 2018, Senior Honors Thesis: "Life history tradeoffs in spicebush, *Lindera benzoin*.

Alexandra Lake, 2018, Senior Thesis: "Do leafminer tracks deter herbivory in white snakeroot?"

Elizabeth Postema, 2018, Senior Thesis: "The effects of intra-annual resource accumulation and herbivory on fitness in spicebush, *Lindera benzoin*"